Thomas Aichner *Editor*

Serving the Customer

The Role of Selling and Sales

Springer

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Prof. Dr. Frank Jacob

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Foreword

A particularly subtle way of being reminded of how old you are is when you are asked to write a contribution for the Festschrift published to mark the 60th birthday of the first PhD student you supervised. Frank Jacob has already held up the mirror to me in this respect, or rather had it held up to me, when he made sure that I was invited by the President of Freie Universität Berlin to celebrate his "Silver Doctorate" in 2019 – which meant that it had been 25 years since he had successfully completed his doctorate. So, I am slowly getting used to it. But with doctoral students it's a bit like with your own children: once a doctoral supervisor – or "Doktorvater" as we say in German –, always a doctoral supervisor, and the first "kid" is simply the first and in this regard always represents something special.

But my personal sensitivities should not be of concern here. The point of the book at hand is rather to acknowledge and honor the scientist and the person Frank Jacob, and of thanking him for his friendship and for the manifold support he gave to the authors, whose contributions are united in this book, in the most diverse situations and phases of life.

In my case, the start of our relationship is unusual in that it was not I who chose Frank as my doctoral student, but rather him accepting me as his doctoral supervisor. This came about in 1992, when I was appointed as a professor to the Freie Universität Berlin and thus also became the director of the study program called "Weiterbildendes Studium Technischer Vertrieb (WSTV)" (Postgraduate Studies in Technical Sales), where Frank was already working as a research assistant and study supervisor. Together with his colleagues, he not only made it easy for me to get started, but also became very actively involved in the further development of the program in terms of content and organization. This was initially reflected in the textbooks, in which we presented the teaching material to a wider audience, and which thus contributed to the reputation of the program. Here, Frank not only contributed to various chapters himself, but also assisted me in coordinating the process, which took several years. An important milestone was also the edited book "Customer Integration", which we published together with Sabine Fließ in 1996, in which we presented our then novel view of B2B marketing and to which Frank contributed with two chapters. A significant input for the development of the concept of

customer integration was Frank's dissertation on the topic of "Product Customization", with which he received his doctorate in 1994, and which in turn has led to further joint publications on the topics of standardization and individualization.

From an organizational point of view, the transformation of the postgraduate study program into the master's program "Executive Master of Business Marketing" in 1997 was a huge step with which we all together entered new territory in many respects – especially as the program was the first of a public university in Germany that was financed solely by tuition fees. All this would never have been possible without Frank's participation and support. This led to a guest scholarship at the University of Western Sydney, I would later benefited greatly as well, to his professorial dissertation (Habilitation) on industrial business relationships in 2001, and finally to his appointment as Professor of Marketing at the ESCP Business School in Berlin. All this was not only a result of his talent, ambition and diligence, but also of his calm and level-headed manner, which I have always appreciated and still appreciate today. As one can easily imagine, the doctoral supervisor in me has always observed this development with great pleasure and satisfaction.

From the beginnings at the Freie Universität Berlin described above, a good and friendly collaboration has developed over the years, which found expression, among other things, in the joint supervision of doctoral students, the publication of edited books, and the organization of conferences. So, I am very pleased that seven years after Frank, together with Sabine Fließ, Michaela Haase and Michael Ehret, published a Festschrift for my 60th birthday, I am now able to contribute to the Festschrift that is being published in honor on this occasion for him. In this sense, dear Frank, I look forward to contributing as often as possible when there is something to celebrate in your life.

Michael Kleinaltenkamp
Emeritus Professor of Marketing
Ph.D. supervisor of Frank Jacob

Preface

The Honoree

This Festschrift is dedicated to the contributions and remarkable career of Prof. Dr. Frank Jacob, Professor of Marketing at ESCP Business School in Berlin, Germany. It is published in occasion of the honoree's 60th birthday.

Frank Jacob has been holding his current position at ESCP Business School since 2002. During this period, he also had teaching assignments at institutions in different regions including Western Europe, Central and Eastern Europe, India, the Middle East, and Southeast Asia. This includes, for example, ESA Business School in Beirut, Lebanon, and CFVG in Hanoi and Ho Chi Minh, Vietnam. Before joining his current employer, Frank Jacob worked at Freie Universität Berlin, Germany, and was a visiting academic at the University of Western Sydney, Australia. This international orientation is also reflected in his research, which often involves multinational samples and answers questions that are relevant for both researchers and companies around the globe. Frank Jacob is also involved in business consulting and worked with some of the largest corporations on both business and research projects. Finally, as an editorial review board member at *Industrial Marketing Management*, *Marketing ZFP - Journal of Research and Management*, and the *Business-to-Business-Marketing* book series, Frank Jacob is part of an international community of marketing researchers that impacts on both marketing theory and practice.

Since earning his doctorate in 1994 with a dissertation on product customization in the industrial sector, Frank Jacob wrote about 100 scientific articles, conference papers, book chapters, and books, of which many have become important references in their respective field of research. Notable outlets that published his research are *Industrial Marketing Management* (with 6 publications), *European Management Journal*, *Electronic Markets*, *Journal of Business and Industrial Marketing*, *Journal of Marketing Theory and Practice*, *International Journal of Market Research*, *International Business Review*, and *Journal of Business Research*. Some of his books include "Kundenintegration und Leistungslehre" (customer integration and performance theory),

"Produktindividualisierung" (product customization), and "Customer Integration," all published by Springer. Frank Jacob's works are widely cited in marketing literature and beyond. He has an h-index of 10 according to Scopus and an h-index (i10-index) of 27 (52) according to Google Scholar. Generally, his areas of research interest comprise the business of solutions, the link between service offerings and the application of modern digital technology, customer motivation, value-in-use, and negotiations as well as country of origin in B2B environments.

For his work on mobile marketing, in 2015, Frank Jacob received the *International Marketing Trends Award*, an award to honor researchers for their overall achievements in the fields of marketing trends with the purpose to "recognize and reward an outstanding lifetime contribution."

Frank Jacob's lifetime contribution is however not limited to research. He has shaped the lives and careers of many students, especially doctoral students – like the editor of this book – who all learned, under his supervision, how to succeed in their academic careers. Frank Jacob is an exceptionally professional, compassionate, and friendly person. At the same time, he is goal-oriented and determined, which spills over to those who have been working with him. He genuinely cares about the progress of his students and everyone who is around him, helping them to achieve or exceed their professional life goals.

Thomas Aichner
Associate Professor of Marketing
Former Ph.D. student of Frank Jacob

Acknowledgements

This Festschrift would not have been possible without the contribution of the many dedicated authors, who submitted original research and made the book an excellent source for learning and studying various relevant issues about selling and sales, both in B2C and B2B.

Particular credit and appreciation go to Michael Kleinaltenkamp, who supervised Frank Jacob when he was a doctoral student himself. He contributed to this book as an author, reviewer, and by writing the foreword. In this text, he shares a wonderful view of Frank Jacob's career and development.

Numerous marketing and management academics agreed to review the single chapters and provide valuable feedback to the authors before submitting their final versions, which was an important part in developing this book. In alphabetic order, many thanks to Markus Bick (ESCP Business School), Nicole Bulawa (ESCP Business School), Paolo Coletti (Free University of Bozen-Bolzano), Michael Ehret (Universität Graz), Matthias Grünfelder (South Tyrol Business School), Michaela Haase (Freie Universität Berlin), Kea Larissa Hartwig (ESCP Business School), Michael Kleinaltenkamp (Freie Universität Berlin), Julian Morgen (Universität Trier), Abdel Monim Shaltoni (Alfaisal University), Rolf Weiber (Universität Trier), Welf Weiger (Alfaisal University), and Robert Wilken (ESCP Business School).

Robert Wilken, in addition to reviewing a chapter, was also closely involved in selecting the title of this book and provided much additional support along its overall development.

On behalf of all former Ph.D. students, your co-authors, colleagues, and friends: Dear Frank, happy birthday!

Thomas Aichner
Associate Professor of Marketing
Former Ph.D. student of Frank Jacob

Book Contents

Renowned scholars and practitioners contributed to this book with a wide range of articles about how to serve customers and the role of selling and sales. The 13 chapters are organized in four parts, starting with (I) value creation and selling services, followed by (II) business negotiations and sales in B2B, (III) using technology and innovation to increase sales and study consumers, and finishing with two chapters about sales competencies on the one hand and a critical piece about consumption on the other hand under (IV) selling more or consuming less?

In Chap. 1 Michael Ehret and Rotimi Olanyian propose a new view on service institutionalization and develop an agenda for studying service systems as the institutionalization of cocreation. The authors provide an excellent overview of service research and the service economy, highlighting the role of information technology. Using a single case study, they shed light, for example, on the role of sales agent partners.

Chapter 2, authored by Nicole Bulawa and Kea Hartwig, is about the role of value-in-use in selling e-services. They provide a theory-based overview of the evolution of value and the meaning of value-in-use, with a particular focus on its implications on sales. According to the authors, value-oriented selling of services is becoming increasingly important. They describe several characteristics of value-oriented selling, e.g., that temporal and spatial aspects matter for the value emergence of e-services.

Michael Kleinaltenkamp is the author of Chap. 3, in which he chooses a particular approach to highlight, for example, how omnipresent services are, how to convince the customer, the role of pricing, customer participation, the responsibilities of front-line employees, service outcomes, and service failure. He selected 50 songs and shows that a surprisingly wide variety of service topics that are treated in research are also addressed in popular music. Music can therefore be seen as both a source of inspiration and proof that service research is relevant.

Chapter 4 connects part (I), which is focused on value creation and services, and part (II), about business negotiations and sales in B2B. In his chapter, Ingmar Geiger explores the transaction processes in knowledge-intensive business services like auditing. Through in-depth expert interviews, he generates unique insights about negotiating

the sale and purchase of three distinct types of business services. His results offer the reader evidence from practice that is useful to both managers and researchers.

Robert Wilken and Nathalie Prime were frequent co-authors of Frank Jacob. For writing Chap. 5, they selected three of their joint articles on intercultural business negotiations in order to assess their impact on the scientific community. To do so, they first summarize the three works, including their hypotheses, methods, and results. Second, they conduct an analysis of the studies' reception in the literature. The unique value of this article is mainly twofold: It uncovers the reasons for which specific studies are mostly cited, which can help other researchers to improve the receptivity of their works, and it allows to identify future research opportunities that were identified in the past but have still not been tackled.

With her contribution, Michaela Haase adds to the understanding of business relationships. In Chap. 6, she tackles three main topics, which are (a)symmetries in the relationship, coordination and cooperation problems, and the distinction between organizational actors and organized social interaction. Her detailed analysis of B2B relationships covers a deep and broad variety of literature and leads to insightful conclusions, referring to institutional economics, Austrian economics, and the *Leistungs* approach as separate perspectives that can be used to analyze business relationships.

The final chapter focusing on B2B is authored by Viktor Jarotschkin, Johannes Habel, Andreas Eggert, Bianca Schmitz, and Olaf Plötner. In Chap. 7, the authors conceptualize industrial software systems and analyze how they are brought to market. To this end, they conducted two focus groups with high-ranking executives from industrial manufacturers. The results are presented alongside five areas, including sales and consumer behavior. The overall results, as well as the individual statements by the study participants, are exceptionally insightful and lead to several future research opportunities and managerial implications.

The first chapter in part (III) about technology and innovation is authored by Thomas Aichner and Valentin Santa. The two authors investigate in Chap. 8, the opportunities and challenges of machine learning forecasting methods in contrast to traditional forecasting methods, specifically in the supermarkets and grocery stores industry. Using semi-structured expert interviews, they explore how, why, and under which circumstances retailers are considering machine learning forecasting methods to increase sales.

In Chap. 9, Rolf Weiber and Julian Morgen develop a conceptual proposal for an autonomous consumer business, which is about fully automating transactions between a seller and a buyer. The two authors first conceptualize and provide a new definition for the business model and related concepts. They continue by conducting a Delphi study to explore, for example, determinants that influence the probability of consumers adopting this solution in the years to come, the role of the technical infrastructure, and whether the concept could become the market-dominant concept.

Chapter 10 taps into neuromarketing, an emerging technology used to analyze and understand human behavior. The authors Jane Nikolitsch, Thomas Aichner, and Laura Da Ros conduct a systematic literature review about neuromarketing experiments. By

comparing the selected studies, they identify, for example, differences between neuroscientific experiments and neuromarketing studies or between stated and behavioral preferences. In addition, the authors assess the employed methods and the role of the product, which can either be the central protagonist or a background actor.

Jens Sievert describes how the Net Promoter Score works and why it can be both beneficial but also viewed skeptically. Chapter 11 is focused on making the best use of open-test answers, i.e., how to analyze texts efficiently and effectively. The author shows how data from a large number of insurance customers should be processed and how it can be studied. Using co-occurrence analysis, he identifies topics such as price/performance ratio and value-for-money, service quality, and claims handling.

In the final part (IV), we can first read an interesting article about sales competencies. Markus Bick and Matthias Murawski argue in Chap. 12 that sales professionals must possess specific competencies to succeed and sell well. In a two-step approach, they first discuss the results of a case study involving a company operating in the children's entertainment industry. Second, they triangulate their results with a survey using a student sample. The authors identify several key competencies, e.g., customer service orientation, relationship building, and digital competencies.

As a stark contrast to the previous chapter and the remaining book, Chap. 13 is about the downsides and threats of our economic system, of which, as Martin H. Oetting argues, marketing is an integral and supportive part. He voices concerns about a single-minded focus on the growth of sales, growth of revenues, etc. In this very personal piece, the author tells his story from being an advertising executive to becoming an outspoken critic of capitalism. He explains why this happened and how he plans to contribute to change.

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Part I: Value Creation and Selling Services

Service Marketing and the Institutionalization of Cocreation

Michael Ehret and Rotimi Olanyian

Abstract

The growth of the service economy is a pervasive phenomenon that drives attention and interest in service research. Some pioneering researchers have been using institutional theories for explaining particular service phenomena (e.g. Heide, 2003; Mishra et al., 1998; Ehret & Wirtz, 2010). Now, a growing range of scholars calls for a stronger consideration of fundamental aspects of institutions in stimulating the rise of services (Edvardsson et al., 2011; Vargo et al., 2022). This chapter proposes a fresh view on service institutionalization and proposes an agenda for studying service systems as the institutionalization of cocreation. The chapter proposes a taxonomy of key service institutions, drawing on Searle's theory of constitutive rules. The example of digital money shows the contribution of Searle's concept of constitutive rules by highlighting the interplay of technology and social action to fill institutional voids, enabling cocreation of services and economic development.

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1 Introduction: The Institutional Void and the Rise of Service Research

From its pioneering days, service research identified an institutional void in economic and management research. Service researchers make intensive use of institutional approaches in response to fundamental challenges such as information asymmetries in service business or the non-ownership value conveyed with service contracts, where service parties agree on exchange of benefits without the transfer of ownership. While this was a common notion in the service domain, it was a special feature of German service research approaches, perhaps rooted in the prominence of business-to-business in the German economy (Ehret & Haase, 2012; Kleinaltenkamp & Ehret, 2006; Kleinaltenkamp & Jacob, 2002). The quest for general service concepts moved to "actor-to-actor" perspectives (Lovelock & Gummesson, 2004; Grönroos & Voima, 2013) which aimed to move beyond one institutional element, a firm-consumer relationship that dominates much of goods-dominant marketing. While not necessarily neglecting the role of institutions, actor-centric approaches aimed to move beyond one central institutional feature of goods-dominant business research, which tends to treat the firm as the exclusive domain of value creation (see in particular: Grönroos & Voima, 2013; Vargo & Lusch, 2004). Cocreation approaches aim to capture active contributions by all types of actors and stakeholders. The rise of the global information infrastructure built around the internet is associated with another challenge on institutional perspectives: From a techno-libertarian perspective, information-technology might offer substitutes to established institutions (Pistor, 2019; Zuboff, 2019). Digital coins might substitute currencies issued by national reserve banks, blockchains might render legal enforcement of contracts redundant, digital autonomous corporations might replace the legal corporation. Against this background, service researchers are regaining an interest in institutional dimensions of shaping value cocreation, and call for systemic perspectives that allow capturing synergies between individual service actors, institutions, and technology (Barile et al., 2016; Maglio & Spohrer, 2008; Raisch & Karkowski, 2021; Vargo & Lusch, 2016; Vargo et al., 2022). In a service system perspective, human cocreation advances through re-configurations of technology and social institutions. Service researchers call for an emergence perspective that allows for the integration of the physical and social dimensions of service (Ehret, 2013; Vargo et al., 2022). However, besides rather general propositions regarding the interplay of different system levels in service cocreation, there is a dearth of concepts that explicitly capture the integration of the physical-technical and the human-social domains into service cocreation (Lowe et al., 2020).

Searle's institutional theory offers the framework for such an endeavor (see Lowe et al., 2020). According to Searle, institutions emerge from communication processes where human actors associate physical artifacts, like utterings, symbols or documents

with collective meaning in a particular social context (Searle, 1995, 2006). In that regard, language is the paradigmatic institution, as it represents collective intentions to associate meaning with particular signals. Searle's approach establishes a cultural cognitive perspective on institutions which explicitly considers the role of observer-independent physical reality, as well as observer dependent social reality. By acknowledging these multiple physical and social levels of service cocreation, Searle offers a viable foundation of service system concepts (e.g. Vargo et al., 2022), in particular money, contract, property and the legal corporation (see Searle, 1995, 2006). The purpose of this chapter is to elaborate on Searle's theory of institutions as a foundation for the role service institutions in organizing service systems. The chapter continues with a conceptualization of service systems drawing on the social emergence through the formation of constitutive rules proposed by Searle. Next, we will propose a taxonomy of service institutions that shape cocreation. We follow by illustrating the potential of a cultural-cognitive perspective on institutions with a discussion of the potential paths for digital money and its role in the growth of the service economy. The chapter concludes with discussion of research opportunities.

2 Service Institutions: The Emergence of Constitutive Rules of Cocreation

2.1 The Rise of the Service Economy

Service-Dominant Logic claims that service is a genuine condition of value creation, as all value creation resides on the mutual exchange of benefits (Vargo & Lusch, 2004). In the SDL perspective, goods-dominant businesses are boundary cases, where economic actors use goods for delivering service-benefits. However, service economies are a more recent phenomenon, where economic actors use service contracts to exchange benefits, rather than transfer of ownership of goods (Ehret & Wirtz, 2010; Lovelock & Gummesson, 2004). Service contracts are instrumental to services from a resource base. Examples are contracts that unbundle transportation services from cars, trucks or public infrastructures, manufacturing performance from industrial equipment, or medical services from a biopharmaceutical research laboratory.

Service researchers virtually agree that the rise of information technology plays a central role in the rise of service business (Ehret & Wirtz, 2017; Huang & Rust, 2017; Rust, 2004). Ubiquitous global information infrastructures empower humans to monitor, control and manipulate a growing range of resources and extract desired benefits. In terms of new institutional economics, lowering costs of information shifts cost–benefit-ratios from asset-ownership to service contracts, as information is the key to unbundling desired services from a resource base in line with user needs. IT-connectivity enhances

the options to rent, share or hire resources like cars, property space or machine capacity, as alternative or complement to own assets or resources to generate services (Ehret & Wirtz, 2010; Ng et al., 2013).

Pioneers of IT-driven business consider technology as a substitute for institutions (Pistor, 2019; Zuboff, 2019). In the techno-libertarian worldview, information technology makes social institutions redundant. Digital code may substitute almost any type of institution used to organize services, including legally-enforced contracts, federal-reserve currencies, ownership titles, or legally registered corporations. While the scale and power of digitization lend plenty of appeal to the idea that information works a substitute for institutions, there are strong reasons to consider synergies between IT and institutions. First, regardless of its capacity, IT-operations can be traced back to human decision making. At least in their intentions, humans aim to employ IT for augmenting their activities not to substitute it (Searle, 1983; Raisch & Karkowski, 2021). Second, IT does not preempt conflicts of interests and at times even adds systemic risks like data-fraud and technical safety that call for social mechanisms of conflict resolution cultivated by human law (Pistor, 2019). Not least, IT businesses create systemic asymmetries, manifest in the power of pioneering platform companies in the governance of data and the use of monopolizing competitive positioning (Philippon, 2019; Zuboff, 2019). Taken together, the rise of IT is conditioned by its legitimacy with human decision makers, who adopt IT for augmenting their operations, as support for conflict resolution, and aim to share benefits and balance the power associated with IT-networks.

Service researchers show an increasing interest in system perspectives on services. One key characteristics of the diverse set of systems approaches is that they allow for explicit considerations of physical and social dimension as constitutive levels of service systems (Barile et al., 2016; Maglio & Spohrer, 2008). Thus, one major challenge for institutional theories in service contexts is to consider the interplay of material-technological and social dimensions in the constitution of institutions.

2.2 Institutions and a Systems Perspective of Cocreation

A minimal viable definition considers institutions as the rules of the game (North, 1990; Scott, 2014). Institutions enable and constrain behavior, by sanctioning particular actions ways of conduct and incentivizing others. Institutions represent behavioral expectations held by individual actors. Such joint expectations enable and simplify social activity. According to Searle, human language is the fundamental human institution (Searle, 1995, 2006) in a cultural-cognitive conception of institutions (see Scott, 2014 pp. 55–86). By associating meaning with particular types of uttering or symbolic artifacts, human actors can share meaning and exchange knowledge. As a rules-based system, language requires constraints, like syntax, grammar and semantics. At the same

time, human actors extend their knowledge and related opportunities to act by mastering the rules of language. Not least, effective use of language builds on the collective intentions of human actors who recognize a common set of rules that convey shared meaning to the physical artifacts (Searle, 1995, 2006).

Not least, language is the key institution for the cocreation of value. Service actors reside IN language to exchange knowledge on resource capabilities and desired benefits in order to find configurations that render value for all parties (see Akaka et al., 2014). Now, assuming that such rules are instrumental in driving the effectiveness and efficiency of value cocreation, design of institutions is vital for service business.

In the context of economic development, scholars identify "institutional voids" are substantial delimiting factors in shaping the growth opportunities (Burlamaqui & Kattel, 2016; Khanna & Palepu, 1997, 1999, 2010; Sheth, 2011). Coordinating product, labor and capital markets resides in effective institutions that enable service actors to orchestrate human and non-human resources with human needs. In that view, institutions are instrumental in shaping value cocreation and subsequent growth and wealth.

2.3 Social Emergence and the Configuration of Institutions

While there is no shortage of service systems perspectives, there is no single approach that captures the physical-technological and social dimensions explicitly on the same footing. Searle's institutional theory offers a promising foundation, as it explicitly accounts for the physical ("observer-independent") realities considered in the physical sciences and the social ("observer-dependent") reality, considered in the social sciences (Searle, 1995, 2006). Social reality is an observer-dependent phenomenon: Social phenomena like monetary transactions, national states, commercial contracts, cultural artifacts or dinner parties become real by shared meaning of a social community. Such shared meaning becomes a constitutive rule that enables and constrains human action in social exchange. Adopting rules is instrumental in sharing information and meaning as well as arranging social affairs, like economic exchange or cocreations. Searle's concept builds on a physical dimension, as physically transmitted communication acts play one part in their emergence. However, the decisive condition is based on collective intentions that convey monetary value to a paper note, legitimize political power, define commercial exchange, associate meaning with an artifact or orchestrate behavior at the dinner party (Hodgson, 2015; Searle, 1995, 2006). Searle proposes a basic configuration of constitutive rules that are rooted in a physical artefact "X" that stands for a particular social value "Y" in a defined social context "C". For example, a dollar bill "X" constitutes financial exchange value "Y" in particular social contexts such as grocery purchases, business negotiations, or service orders (Scott, 2014; Searle, 1995). In absence of the social context, the dollar bill shows no particular value, thus the value is a social

fact, mediated by physical facts like coins, paper notes or digital signals. Language is the paradigmatic institution, as it operates on constitutive rules where actors associate a particular meaning or value with physical utterances or symbolic artefacts in certain social contexts.

2.4 A Taxonomy of Key Service Institutions

There is no shortage of calls and claims for an institutional dimension of services (Edvardsson et al., 2011; Maglio and Spohrer, 2008; Vargo et al., 2022). Against this background, actual discussion of particular institutions becomes rare. However, several paradigmatic institutions investigated by Searle play a central role in modern service economies and in the shaping of value cocreation. In the following section we offer a taxonomy of several key institutions at work in institutionalizing value cocreation: Money, contract, property, and the corporation.

2.4.1 Money and the Specialization of Cocreation

Money emerged as the medium of indirect exchange, unlocking economic actors from direct bartering of goods and services (Menger, 1891; Simmel, 1990). As a general-purpose good, money configures liquidity and broadens access to economy-wide offered goods and services. Thus, money is instrumental in fostering the specialization of economic actors on cultivating their "operant" resources (in contrast to physical, passive "operand" resources) that show potential for enhancing value creation (Vargo & Lusch, 2016). Most fundamentally, the monetary exchange allows for specialization and exchange of labor services as operant resources into value cocreation in exchange for consumer goods and services. Digitization offers the infrastructure for real-time monetary exchange, potentially on a global information infrastructure. Digitization offers to fill institutional voids, in particular in geographical domains that are not covered by traditional financial organizations such as brick-and-mortar banks (Economist, 2016; Han & Wang, 2021; PWC, 2016). Thus, emerging economies offer a fertile ground for digital money and its formative role in stimulating the emergence of service economies.

2.4.2 Contract and Cocreation Exchange

Contract is the central institution for regulating economic exchange relationships. In a market contract economic parties mutually agree on the exchange of services (Ehret & Wirtz, 2010; Hodgson, 2015; Varian, 2010). A contract specifies an exchange relationship, traditionally a physical good vs. money. Digitization facilitates and empowers the specification of contracts. In particular, information technology is instrumental in specifying property rights, like the time-slot to use equipment like vehicles, machines or real-

estate, as well as promised outcomes (Ehret & Wirtz, 2010, 2017; Ng et al., 2013). First, a global information infrastructure allows to specify and offer service contracts on a global level, and thus provides the inroad to transform virtually any industry, epitomized by the claim "Software eats the world." (Andreessen, 2011). With lowering costs and enhanced capabilities of digital sensors, a growing range of resources can be monitored and measured, while digitally connected actuators (e.g. electric motors or speaker systems) allow for remote control of processes.

2.4.3 Property Rights and the Sharing of Uncertainty of Resource Use

Property rights allow sharing rights and responsibilities in value cocreation (de Soto, 2000; Ehret & Wirtz, 2010; Hodgson, 2015). Particular pertinent components are the residual rights associated with uncertainty in value cocreation. By taking on uncertainty for hard to measure, and therefore non-contractible, domains of value creation, an owner can enable value cocreation. In the fortunate case, owners gain profit, in the unfortunate case they make losses. By the same token, specified rights like the right to use, abuse, transform or transfer an asset, delimit uncertainty. Thus, unbundling of specified rights is one particular driver of the service contracts. Information technology facilitates the unbundling of services from assets. This is one of the main explanations, why the rise of information technology goes in hand with the rise of the service economy (Ehret & Wirtz, 2010). One of the major value propositions of property rights arrangements is to share uncertainty with companies who take on ownership of the asset base of services for the benefit of nonowners who agree on service contracts for enjoying the benefits and delegating negative uncertainty to the asset owners.

2.4.4 Corporation and the Pooling of Capital

One of the most fundamental institutional inventions is the corporation, the idea of a legal person that constitutes a pool for capital formation (Hodgson, 2015; Micklethwait, 2005; Robé, 2011). Its basic institutional function is to serve as a pool of investments, thus extending the leverage of individual investors, as well as forming a resource base for resource users who are engaging in value cocreation by managing or operating on resources. Not least, corporations work as a shield against claims from both, owners and users of resources, and therefore offer the potential for sustainable legal domains of value creation. Once established, a corporation has the potential to outlive the fortunes of its founding entrepreneurs as capital is vested in the legal person and the legal governance structure works as a shield for capital against other persons, in particular debtors, investors and employees. As an institution, the corporation is instrumental in constituting a social domain of value creation that transcends the rights and responsibilities of individual persons. Digitization enhances the capability for the configuration of corporations.

The most fundamental example is the platform company that connects different types of markets, for example information from internet search or social networks with markets for commercial advertisements.

2.4.5 Summary: Constitutive Rules of Cocreation

Institutions play a vital role in cocreation: Conceived as constitutive rules they express collective intentions for cocreating value. In this section we have discussed four constitutive rules that are prominent in both, social institution concepts and institutional reflections on service cocreation. Money broadens opportunities for cocreation: As a general-purpose commodity, it opens the market beyond mutual barter of goods and services, thus enhancing the probability for matching exchange relationships and offering incentives to specialize and differentiate "operand" resources and capabilities. Contract establishes mutually binding commitments for exchange relationships. Property rights, in particular ownership, enable the sharing of resources, when owners expose themselves to potential downsides with the upside of potential profit. Thus, ownership is instrumental in the formation of service capital, equipment, infrastructure and intangible capital at work in service exchange. Not least, corporations work as a legal instrument for extending resources and capabilities of individual persons, in particular working as social domains for capital pools and legal interfaces for contracting. Techno-libertarian authors hold that digital technologies render legal institutions redundant, holding that digital money, blockchains, digital property registries and digital autonomous organizations work as perfect if not better substitutes for legal institutions. However, besides the potential substitution there is potential for complementing and augmenting relationships between digital and legal institutions, where digital technologies extend the reach of established legal institutions while legal institutions lend legitimacy and scope of digital constitutions. In the following study we exemplify the interplay of social and physical elements in the constitution of digital money.

3 Formation of Constitutive Rules: The Case of Mobile Money in Emerging Markets

3.1 Digital Payment Systems and Institutional Voids

Digital payment systems, digital infrastructures that are used for arranging monetary exchange, have been filling in institutional voids. The most prominent ones are internet-commerce, where PayPal pioneered digital transactions for clearing eBay-trades, and gradually extended the scope of the service (Zuboff, 2019). Another crucial domain is the use of digital payment systems to "bank the unbanked" in emerging economies, that lack traditional financial institutions but use technology to leapfrog into digital payments (Han & PWC, 2016; Wang, 2021). Research and consultant reports show evidence that mobile platforms play a vital role in the growth of market activity in emerging market

economies. Two billion adults do not have access to banking services, and the majority of unbanked persons live in emerging economies (PwC, 2016). Mobile payment platforms offer the option to "bank the unbanked" by opening access to services for actors who are excluded from established financial service infrastructure (McNutt et al., 2014; Wenner et al., 2018). In particular, mobile networks offer ease of access to unbanked locations, considerate lower service costs with high adoption rates of mobile service users in emerging economies (PwC, 2016). More recently, marketing researchers and consultancy reports find evidence that mobile payment systems in developing economies show considerate higher levels of innovation, broader service portfolios and higher adoption rates in comparison to developed economies (Kumar et al., 2019; PwC, 2016). The most prominent examples are mobile "super-app" platforms, such as AliPay, WeChat or MercadoLibre where payment functions are closely integrated with messaging services, advertising, mobile-retailing, financial and insurance services and many more (Economist, 2016).

Mobile services empower consumers even in rural areas to pay for purchases, transfer money, acquire micro-credit or insurance, invest and save or transmit or receive international remittances. Searle's concept of constitutive rules offers a framework for capturing salient aspects of the role of mobile money in filling institutional voids (see Fig. 1).

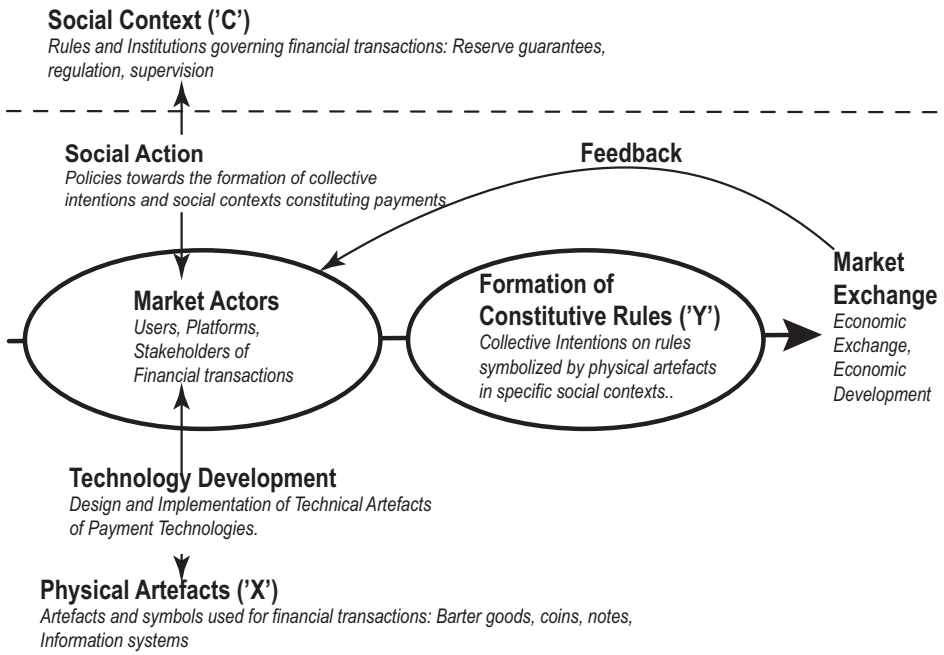

Fig. 1 Mobile money as a constitutive rule

Mobile technology extends the range of existing physical artifacts for organizing market exchange. Historically, general-purpose goods like grains, furs or gold have served as monetary media of exchange, followed by coins, paper notes and more recently digital signals. In emerging economies, mobile technologies provide the infrastructure for arranging payments. As Searle shows, on their own terms, technical artifacts have no capacity to constitute social rules. The monetary value of gold, coins, paper notes or digital signals resides on collective intentions of several individuals to associate a collective monetary value system with the particular artefacts. For example, religious places of worship played a central role in forming the institutional context "C" for linking particular grains (in this case "X") to a particular exchange value ("Y"). In present days, federal reserve banks take a role in shaping the social context for formation of collective rules that associate monetary value with coins, notes or digital code.

3.2 Research Design (Case Study Approach)

The study integrates the theory of constitutive rules (Lowe et al., 2020; Searle, 1995, 2006) with the proposition of Bagozzi & Dholakia (2002), that interactive technologies entail value propositions for social action to study the formation and institutionalization of key elements of a mobile payment service system over time (Maglio & Spohrer, 2008).

The research is approached through the methodological lens of a single case study design. Yin (2018) argues that case studies are well suited for explanatory theory building; They can be used to effectively test propositions, causal relationships and adjudicate across a range of rival explanations (Eisenhardt, 1989; Ridder, 2017). Being inductive in approach, the case is well suited to address 'grand challenges' such as to be found in what Eisenhardt et al. (2016) refer to as 'complex problems with significant implications involving intertwined technical and social interactions with unknown solutions'. The selected case is therefore chosen to establish relationships (Flyvbjerg, 2010; Siggelkow, 2007) of social action and technology within the context of the formation of payment systems in an emerging economy.

Three considerations guided our selection of a suitable case: We intended to study (1) a payment platform firm that achieved a reasonable level of organic growth within a primary developing market context over a period; (2) a technology application driven by an underlying premise of innovation; and (3) and the challenge to stimulate diffusion of a payment technology in an operating environment shaped by institutional voids and resource constraints. Given the challenges researchers face with access and reliable secondary data, within such environments, the choices were not that vast. Ultimately after an initial investigation and screening, we selected Paga - a mobile payment services firm, tackling the 'use of cash problem' within Africa's largest economy and consumer market. Table 1 shows the data sources used for the study.

Table 1 Data Sources

PRIMARY SOURCES			SECONDARY SOURCES	
Respondent Role/Title	**Respondent Code**	**Data Gathering Instrument**	**Artefact**	**Data Gathering Instrument**
Founder	R1	In depth Interview	https://www.mypaga.com/	Internet Research
Co-Founder	R2	In depth Interview	10th Year Anniversary Media slides	Desk Research
Co-Founder	R2	Follow up Questionnaire	Founders Personal Blog (https://medium.com/@oviosu)	Desk Research
Investor and Board Director	R3	In depth Interview	Corporate Videos & Media Reels https://youtu.be/-bd57aLz9Jo	Desk Research
Head Of Marketing	R4	Survey Questionnaire	https://techpoint.africa/2018/09/11/paga-dev-team-ethiopia/ https://digestafrica.com/ethiopia-based-apposit-paga-technology-provider/	
Sales Agent Oke Arin Market Lagos Nigeria	R5	Field Visit Observation Notes and in-depth Interview	https://qz.com/520115/nigerian-mobile-money-leader-paga-is-doubling-down-on-building-a-payments-giant	
Sales Agent Magodo Neighbourhood, Ikeja Lagos Nigeria	R6	Field Visit Observation Notes and in-depth Interview	https://www.washingtonpost.com/business/on-small-business/nigerian-payments-app-paga-may-be-africas-next-unicorn/2021/06/11/cbe631c0-ca7b-11eb-8708-64991f2acf28_story.html	
Sales Agent Agbowo Shopping Complex Ibadan Nigeria	R7	Field Visit Observation Notes and in-depth Interview		
Data Analyst	R8	Online Interviews		
Admin Manager	R9	Online Interviews		

3.3 Case Context: Constitutive Rules of Paga's mobile Payment Platform

In the following, we illustrate the formation of constitutive rules of mobile money with the case of Paga, the leading payment platform of Nigeria. Paga is a Nigerian direct consumer mobile payments financial services firm launched in April 2009. The company finally began trading in 2011 after winning the regulatory licenses and an initial (series A) round of funding from a range of impact investing firms and angels. Its mission is to solve the "use of cash problem" most Africans face and transform lives by delivering innovative and universal access to financial services across Africa, (Paga, 2020), focusing on the middle to lower tier consumer at the BOP. The platform allows users with mobile phones to transact electronically by turning the mobile phone into an electronic wallet. Its customers can use Paga to send cash, purchase airtime credit, pay bills and retailers, and more.

Aided by consistency of its messaging, by 2019 the company had grown its agent network to almost 20,000 through whom over 71 million payment transactions worth over $1.2 billion dollars had been handled (all within 8 years of startup) (Paga, 2020). However, it also faced a difficult operating environment. Traditional banks launched numerous initiatives with the aim to break into the mobile payments market and threatened Paga's first-mover advantage and market share leadership. Being an independent service network integrator neither owned by a bank nor a Mobile Network Operator, (MNO), Paga faced the continued challenge of new entrants and de-facto subsidiaries of these other players. Further threats were the entrance of other payment players such as international competitor PayPal into the Nigerian market and the 2019 regulation of the Central Bank of Nigeria which now allows wider participation of players within the payments market. The regulation stimulated the entry of a new generation of Fintech startups within the payments space. However, within 10 years, the firm had successfully generated and rapidly scaled up the mobile payment platform in an emerging market country known for its difficult operating conditions. The key pillars of the Paga platform are a stable yet evolving technology platform and a network of socially engaged sales agents. Sales agents play a vital role through their interactions with members of their local communities associate Paga as a payment alternative to the use of cash.

3.4 The Formation of Constitutive Rules of Paga's Payment System

We find evidence for a considerate role of social action in the formation of constitutive rules, and associated collective intentions in a sequence of mobile payment categories that constitute the social context for particular types of transactions (see Table 2 and Fig. 2).

We offer an overview of the findings of the crucial evolutionary stages or phases in the platform's emergence and institutionalization. These phases and their inherent characteristics are now discussed in detail (see also Fig. 2).

Table 2 Formation of constitutive Rules and the Diffusion of Paga services

	Collective Intentions	Evidence of Actions
Phase One (2009- 2011)	The pioneering rule and the formation of a minimum viable systems architecture	1. Platform testing of the 3G Network based on USSD technical standards 2. Launch of 4G standards globally 3. Licensing and venture formation
Phase Two (2011- 2014)	Constitutive rules for initial social institutionalization of mobile payments	4. Venture/platform rollout on a 3G mobile platform 5. Offshore servers and team of developers located in Addis Abba 6. Regulator launches cashless policy 7. First set of rules established as services around basic money transfer, mobile airtime top-up and cable TV bill payment
Phase Three (2014- 2016)	Constitutive Rules following the technological intervention of 4G	8. 4G network rollout commences 9. Offshore serve enhancement and integration into MNO 4G Networks 10. Critical/rapid platform growth through aggressive sales network expansion and optimization 11. Use of cash proposition extended to utilities and micro-savings
Phase Four (2016- 2019)	General institutionalization of the constitutive rule of mobile payment	12. Gradual regulator command of the fintech/mobile payment space and expanding regulatory environment 13. International non-resident remittances, and payment of critical government service added to services 14. MNO starts 5G testing 15. Rapid growth of the fintech space through new entrants

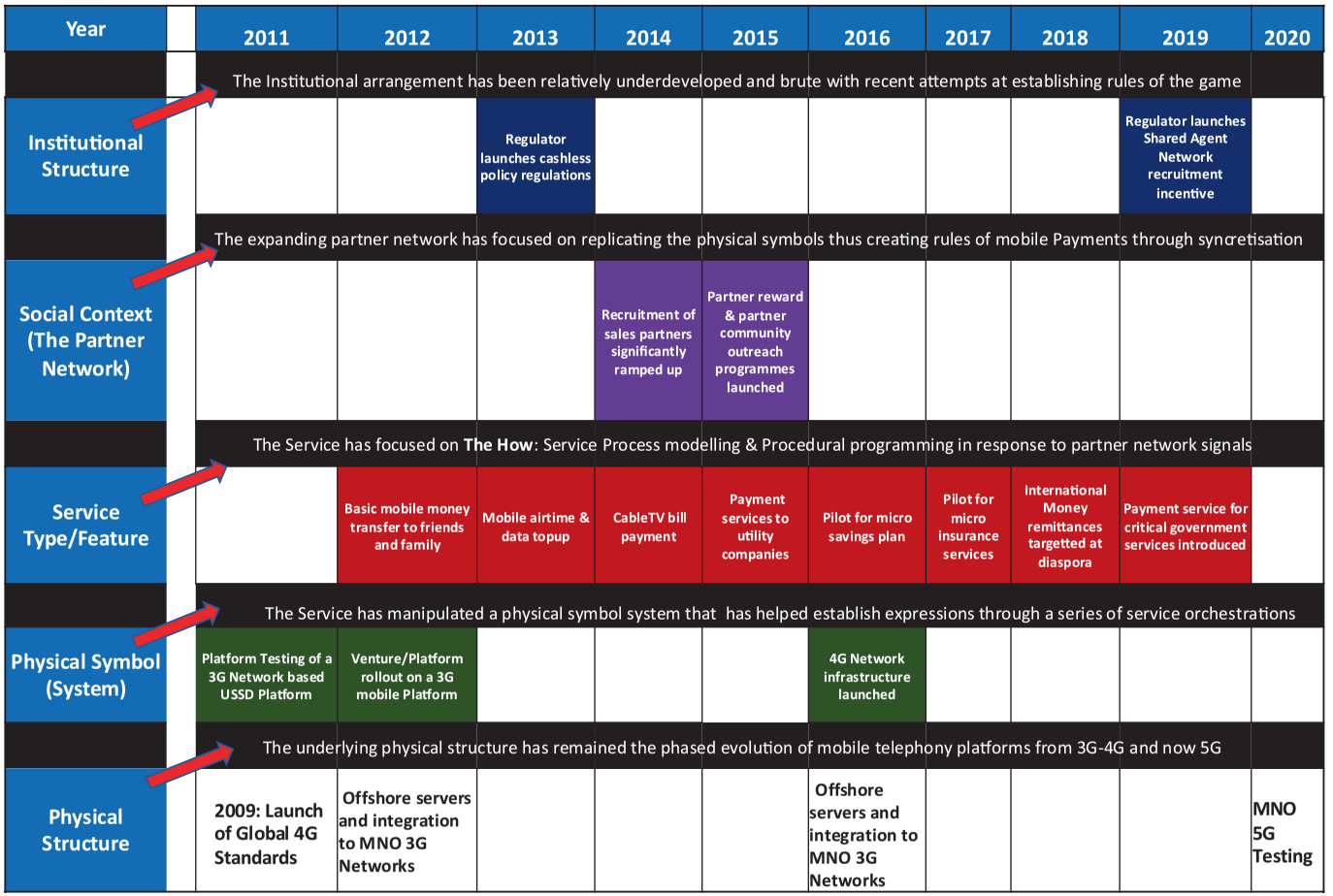

Fig. 2 The formation of Paga's mobile payment system

Phases and characteristics

- ***Phase 1: The pioneering rule and the formation of minimum viable system architecture (2009–2011)***

  At the initial stage, the Paga founders focused primarily on forming a venturing team and the design of a minimal viable system for the technical operation of mobile payments. This period served as the venture development phase of the service. At the pilot stage, Paga designed the pilot for the technical architecture of its payment system. The Paga founders engaged partners as lead users for piloting the processing of payment. One person paid in small amounts of money at one entry node into the system to transmit it to another exit-node for a payment receiver. The nodes were operated by Paga partners that handled the cash payments and operated the system interfaces. At this stage, Paga implemented a minimum viable system, building on core IT architecture and an initial group of users forming a constitutive rule for using the system. The first implementation was followed by an initial test phase before the launch in 2011. This is the first stage of technical interaction that offered the initial technological pillar for launching mobile payment routines.
- ***Phase 2: Constitutive rules for initial social institutionalization of mobile payments (2011- 2014)***

  In the initial months, the venture team faced the challenge of articulating a minimum viable service proposition sufficiently attractive enough to early adopters of the platform. In 2012, the Central Bank of Nigeria (which serves as the primary regulator of the mobile payment space) launched the 'Cashless Nigeria Pilot'. The intention was to curb the excesses in the handling of physical cash for transactions and encourage the use of more digital transactions in the payment space. The first type of transaction was the payments for cable TV bills. By implementing the sales of mobile airtime credits, Paga offered its first retailing category. These cable TV payments are the first incidents of a constitutive rule of the Paga service system; thus, the Central Bank of Nigeria offered the crucial step toward the formation of collective intentions associated with Paga's mobile platform. At this point, Paga also began to realize the critical role that sales agents would have to play in helping the platform scale through community engagement. The service platform thus readapted its business model to focus more attention on the rapid recruitment, training, and deployment of sales agents.
- ***Phase 3: Constitutive rules following the technological intervention of 4G (2014- 2016)***

  In the years between 2014 and 2016 Paga witnessed rapid consumer adoption. As key intervention in the social structure of its context, Paga invested in the growth of its network of sales agents in line with the rollout of the Central Bank

cashless program. The advent of 4G constituted novel technological capabilities, in the form of payment apps and multimedia user interfaces. Paga venture managers sought to grow aggressively at this time, interfering into the technological physical structure, by offering their mobile payment solution to a vast array of larger corporations and public-sector organizations. At this point the systems attractiveness was also marked by the entrance of PayPal and Visa which signaled a major validation of the growth potential and attractiveness of the system. The platform then attempted a pivot by introducing new non-bank branch financial products such as micro-savings products, while also intensifying its government benefits and payment services business. It also began to explore and build capacity to service e-commerce businesses at this time.

- ***Phase 4: General institutionalization of the constitutive rule of mobile payment (2016- 2019)***
  As one major step toward the institutionalization of mobile payments, the Nigerian Central Bank released in October 2018 new guidelines for the licensing and regulation of payment service banks in Nigeria. The new guidelines sought to further enhance financial inclusion within the country by encouraging a diverse range of business entities such as banking agents, telecommunication companies, postal and courier service providers, mobile money operators, financial technology companies, financial holding companies and any other entity approved by the Central Bank of Nigeria (CBN) to establish a payment service bank. This has once again increased the competitive nature of the payments space within Nigeria and placed additional pressure on the Paga service platform to find new areas for competitive advantage.

In March 2018 the Central Bank in concert with mobile payment operators established the Shared Agent Network Expansion Facilities (SANEF) to further drive the adoption of digital money in under- and unbanked areas. The initiative targets to recruit an additional 500,000 sales agents into a shared payment network. These agents (primarily small retailers) will offer basic banking services such as cash deposits and withdrawals, fund transfers, bill payments, airtime purchases and government benefits. (CBN, 2019). The Nigerian e-commerce market also recorded rapid growth within this period, rising from $448.56 m in 2014 to $1.27bn) in 2018. (Business Wire 2019). As of the end of 2019, Paga had recruited over 20,000 sales agents through whom over 12 million active users had been acquired, driven by the rapid adoption of digital payment platforms. Not least, the extension of the institutionalization went hand in hand with the adoption of novel types of routines from mere payment transactions to banking services, cash deposits and withdrawals, fund transfers, bill payments, airtime purchases and government benefits.

3.5 Interactive Technology Development

The emergence of the Paga service system was initially premised on the development of a suitable technology by its founders. This technology stack was primarily adapted around 3G mobile telephony interface protocols which were built from the ground up with the company owning 100% of the IP. At the time, the company chose to partner with an Addis-Abeba-based technology firm, founded by fellow Stanford alumni who had obtained significant US tech experience working in such institutions as Harvard University. The tech firm (Apposit) was already doing some significant work for the Ethiopian government's technology initiatives. Confident that they had built a deep-seated understanding of developing tech solutions for developing country markets, the team set out to develop a basic switching solution that first operated over a 3G telco network. The first generation of propositions which were introduced into the market in early 2009 were therefore very rudimentary digital interpretations of financial artifacts and symbols of payments and use of cash such as money transfer and bill payment services which used Simple SMS messaging codes to evidence the transfer of funds between parties, as reported by the service provider.

> *At an early stage in our development (in the 2009/2010 timeframe) we considered using off-the-shelf solutions and customizing, but we found that there was nobody doing it quite the way and planned scale that we wanted. A telco-agnostic platform (authors comment: independent of telecommunication network operators) that took into account infrastructure issues of emerging markets. (Respondent 2)*

This process offered the start-up team a significant amount of control, and adaptiveness and fast reaction time, to the various issues and problems that were faced in the course of the service network rollout. The entire IT Infrastructure (Particularly people and servers) remained located in Ethiopia for several years, and only in 2018 were the first set of developers recruited and stationed locally in Lagos where the firm's operational headquarters were located. This freed the firm from the associated challenges of managing the 'backend infrastructure' and allowed it to focus its attention on the front-end challenge of rolling out the service network and customer acquisition.

While the technology might not have been demanding, the establishment of a reliable infrastructural process is seen as being a critical factor. Indeed, the team sees the role that technology and the information systems play throughout the emergence of the service proposition and system as being not just critical, but also a defining core competency that the firm must protect.

> *IT/Technology is very critical to our system and operations, without a doubt. It is an important area of investment and it is an area that we must hold up as a core competency. However, the design/processes and team culture (style of execution) have an equal or even bigger role to play in keeping us ahead of competitors... we focus on having the best tech and also out-executing others where we can. (R2)*

3.6 Critical Role of the Business Partner (Sales Agent) Network in Driving Social Action for Mobile Payment

Perhaps equally if not most crucial to the emergence of Paga's service system has been the recruitment and subsequent scale-out of a partner (sales agent) network made up of community-based, small and microenterprise owners who offered an additional branded payment solution to their current retail customers within their geographical communities.

With 20,000 agents as at January 2019, which then grew to 27,000 by 2021 (Washington Post, 2021) Paga today has the single largest and most active network of financial access points in Nigeria. This complex network of community-based sales agent partners with their valuable community-based relationships and/or social assets, compares favorably with approximately 5,358 branches of all banks in Nigeria combined and remains the lynchpin to an adaptive strategy that has guided the successful rollout and customer adoption of mobile payment systems by a population of the largely underbanked at the bottom of the pyramid (Beinhocker, 1999).

The changing configuration of this partner network, the nature of the flow of information between the firm and the partners as well as the partners and the community-based users of the service have defined the emergent nature of the service value proposition (Vargo & Lusch, 2016; Vargo et al., 2022) through the consistent reproduction of basic payment service routines. This has defined the landscape that the service innovation has had to navigate and consequently established the emergence of the service eco-system by embedding the platform's physical symbols within their local communities as well as syncretizing the meanings and expressions of digitized money within local culture. The Founders themselves recognize this firm behavior:

> *…regarding our agent network structure and approach…. suffice to say that it is ever-evolving as we add more services to the platform and better understand the incentive structures that would keep agents loyal in a market where CBN (The regulator- Central Bank of Nigeria) prohibits agent-exclusivity arrangements and are active on Paga. (R2)*

The annualized data in Fig. 2 shows a successful trajectory of growth year on year for the agent network with the number of agents rising from 1,100 in 2014 to over 12,000 in 2020 on the back of equally aggressive growth in number of users (see Fig. 3).

3.7 Social Action at Paga

Beyond the assertion that they operate as 'human ATMs', sales agent partners also provided invaluable informational social influence, or social proofing that was required to encourage the adoption of digital payments by a class of people (BOP) usually associated with digital transaction phobias and mistrust. The founder himself has been very candid over time about the tremendous role and value that the distribution network provided by the sales agents had offered, acknowledging that…

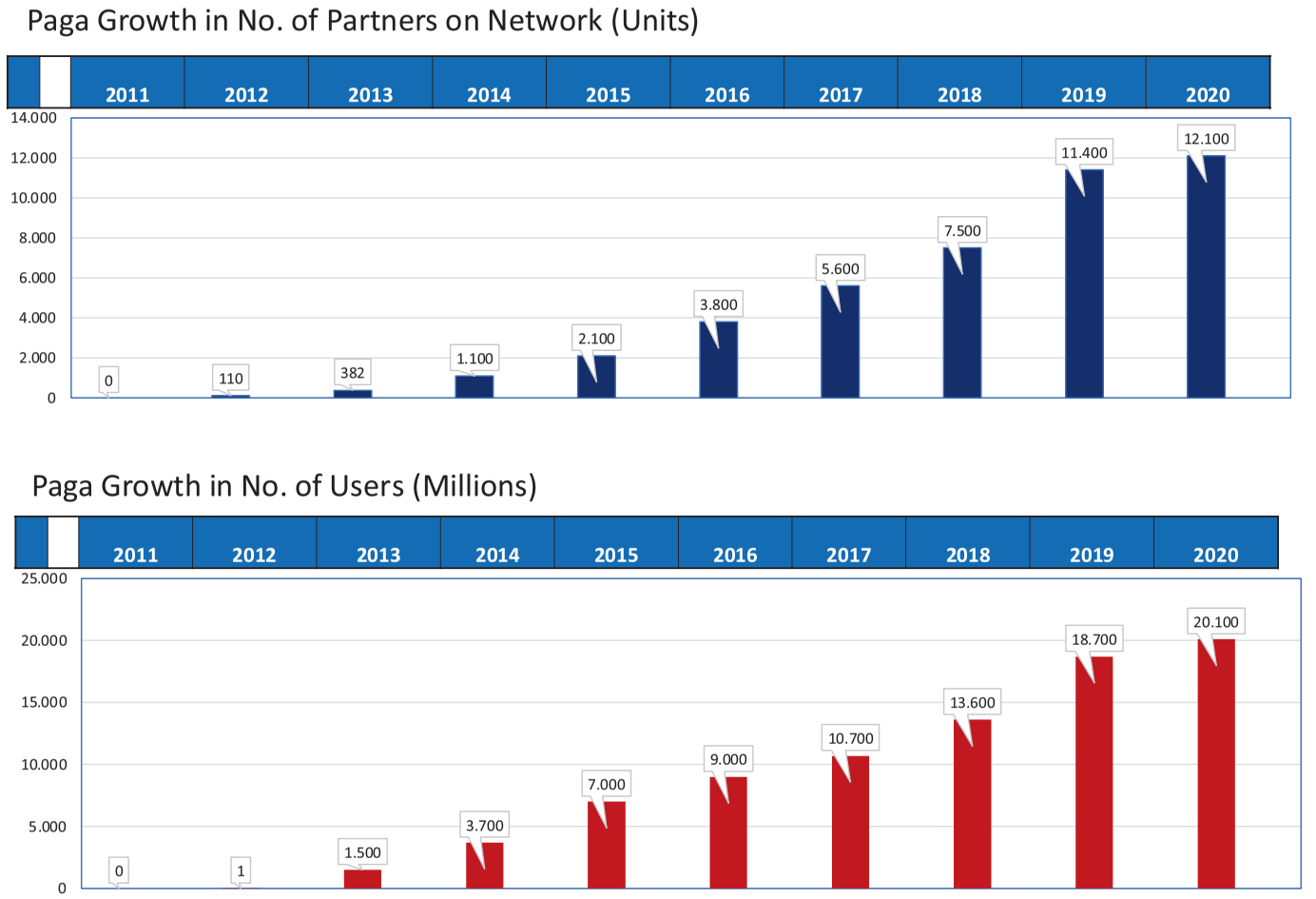

Fig. 3 The growth of the Paga users and partner networks

> *Our Agents have proven to be invaluable assets in their communities because of their critical role in meeting the financial and payment needs of their communities. Paga Agents are core pillars of the success of financial inclusion in Nigeria. (R1)*

The authors were curious to understand how the institutional arrangements/relationship with these relative informal market actors might have evolved from one of informal systems of commercial relationships to more structured legal type relationships as the service eco-system institutionalized over time. The answer seemed to lie in a degree of farsightedness by the founding team to ensure that the 'right' type of partners was recruited into the scheme:

> *From the very beginning of our agent network build-out, with the first team hired in November 2010, we drafted and presented standard formal contracts to agents. Part of our formal approach involved KYC (Know your customer) and background checks on agents. This slowed us down to a certain extent. However, it has resulted in much higher quality pool of agents than other similarly licensed players who focused on quantity over quality. (R2)*

An important aspect of the sales agent recruitment and development process were regular screening interviews, pre-selection and post-selection training sessions as well as reward and recognition programs. These initiatives presented the Paga Sales Agent program as being selective and helped project a preferred reputation which was relayed to other potential sales agent candidates within the catchment communities. These self-governing rules and supervisory patterns of behavior have helped to ensure a detailed level of institutional arrangement governed by conventional institutional logic which might have helped to smoothen an otherwise rugged and sometimes suspicious service landscape. If anything, it seems that a lot of the institutional challenges have come from the supply side of the service system, with Telcos being suspicious of their foray into mobile money and viewing them as potential competition in the early days of the service and as such not lending the required support to integrate into their platforms. The regulatory environment was also seen as very uncertain at the start:

> *Regulatory uncertainty was a major source of stress. Lack of clarity on CBN's (Central Bank of Nigeria) position on key things at certain stages affected ability to raise funds. We made a point to strengthen our relationship with CBN and this has also improved things. (R2)*

This has meant that the major driver for adoption and the emergence of the service system has been the social-cultural interaction that the individual agents have had with members of their communities, which the service system has taken advantage of in driving the penetration of not only the service but the brand name as well. At various moments within the emergence of the service, there have been critical mutations such as the advent of 4G technology and the rapid adoption of smartphones which could now support internet-driven direct to consumer service features. Yet, these advancements in the technology platform have not been able to take away the central role of the sale agents and the social proofing function they play in imbuing the service system with a

degree of trust that the end-users of the system require committing to the service. Indeed, the team believes that the partners will continue to be relevant to the delivery of the service purpose:

> *Agent networks will continue to be relevant for payments and delivery of financial services in emerging markets. The bouquet of services offered could change over time, and method for delivery could change (introduction of automated kiosks?). However, for the foreseeable future we believe that customers would value having a convenient physical location where they can engage with a person (that speaks their language) and get the services that they need. (R4)*

The challenge going forward now seems to be another pivot within the operating institutional environment which has seen the increasing levels of government interest within the payment space to generate increased tax incomes through more aggressive recruitment of the unbanked into the formal financial system. This has meant that more players are being encouraged to come into the industry. Particular attention is also now being paid to recruiting more informal trading entities within the retail space into the payment ecosystem as shared sales agents for these new payment entrants. It has meant an added intensity of rivalry, though in some sense also opening the potential to have Paga's agent network also aggressively expanded. Once again Paga finds that it must evolve its proposition while also deepening its sales agent platform as a key factor for delivering on competitiveness.

3.8 Summary of Findings

In the perspective of Searles constitutive rules approach, our research shows how social action creates conditions that stimulate collective intentions and constitutive rules of mobile payments. We identify that the expanding partner network of Paga's sales agents constitutes the social context and stimulates the formation of valuation rules of mobile payment. By investing in the formation of the partner network, Paga shapes the social context that favors the formation of constitutive rules that are outcomes of the collective intentions of the entire ecosystem actors including partners, consumers and the platform provider. Thus, the partner network is the central lever of social action in the formation of Paga's mobile payment system.

We find that the social action of the platform actors and orchestrators do bring about the solutions developed to the use of cash and therefore drive institutionalization within the largely informal sector of the economy. These solutions are bringing about increased digitization and enhanced financial inclusion of the informal sector space to the potential benefit of the government treasury, as well as new entrepreneurial opportunities particularly among indigent women who act as sales agents.

Furthermore, in addressing the overarching research question we can organize our findings around three pertinent emergent themes. These are highlighted in Table 3:

Table 3 Summary of findings

Research Question	Inherent Themes	Summary of Findings
"How do constitutive rules of mobile payments Systems emerge and create social action?"	How the constitutive rules of mobile payments emerge	Constitutive Rules (Searle, 1995, 2005) offer a lens to study the orchestration of technological and social dimensions of a service system in shaping the meaning of money to people at the Bottom of the Pyramid We establish a systemization for the role of service systems in economic development ("Banking the Unbanked" and beyond)
	How constitutive rules of mobile payment systems enable social action in resource constrained environments and institutional voids	We identify the sales partner network as being critical to the value proposition of mobile financial services through a series of social proofing, social currency, and cultivation of technology service
	How the interplay between stakeholders, network partners and the technology development stimulate the emergence of constitutive rules for social action	The service system evolves as a sequence of orchestrated constitutive rules and routines that replicate and legitimise the physical symbols systems across an expanding partner network utilising dynamic differentiation

(1) We offer an operationalization of Searle's constitutive rules in the context of service systems, in our case mobile payment institutions.
(2) We identify the architecture of systems that stimulate the emergence of payment institutions associated with payment technology, in particular the role of agents to put the technology into social action.
(3) The interplay of technological engineering and social action related to stakeholder management, in particular orchestrating business-partner-networks, in the emergence of constitutive rules.

4 Discussion: Digitization, Institutional Voids and the Emergence of Service Systems

4.1 Institutional Voids, Constitutive Rules and the Rise of Service Systems

The case of Paga illustrates the role of digital technologies in filling institutional voids. Digital payment systems started in niches beyond established monetary ecosystems. E-Commerce in the Internet economy is one pilot application, where Paypal created a

fortune by offering payment mechanisms for eBay transactions. Thus, internet markets themselves hold institutional voids that offer inroads for technology-based services. Lacking infrastructures of developed economies, emerging economies hold institutional voids that offer opportunities for digital mobile payment services. Because of relative cost advantages, mobile technologies offer technical infrastructure for filling institutional voids. As the case of Paga clearly shows, technology does not constitute rules on its own terms. In the case of Paga, attracting commercial partners that attract payment volume proved particularly vital. Buying airtime for cell phones was the first commercially viable use-case for digital payments arranged with Paga. This followed by cable company subscriptions, utilities and small-scale retailers. Retailers eventually took over functions for arranging digital cash transfers and a growing range of financial services. Searle's concept of constitutive rules helps to capture this physical element of institutions, as information technology infrastructures are pillars of physical components of institutions.

4.2 Constitutive Rules and Digitization

However, human intentions are the decisive factors of institutions. The case of money illustrates this: Throughout economic history, economic actors have used diverse physical artifacts for organizing the market exchange. It is the collective intentions of market participants that constitute the monetary value it conveys. In a cultural cognitive perspective, value is not physically intrinsic but socially constituted, though emergent from physical reality (Searle, 1995; Vargo et al., 2022). Paga illustrates the challenge: Associating value with digital artifacts is not trivial and resides on social action. In the case of Paga, the partner program that attracted commercial companies as payment users and at times payment processors proved vital in the social formation of constitutive rules of mobile money. Partner systems were key in other monetary platforms in emerging and developed markets, such as Alipay in China, Mercadolibre in Latin America or PayPal's partnership with eBay in kick-starting US-based E-Commerce.

4.3 Path-Dependency of Institutions in Digital Commerce

Techno-libertarians claim that digital code has the power to substitute legal institutions. This might be a theoretical possibility and there might also many practical use cases where digital code reduces if not eliminates the need for legal interference, as in the case of self-fulfilling digital contracts coded on a blockchain. However, in the case of Paga, we identify path-dependencies, where existing monetary institutions are instrumental in the emergence of mobile money, most notably the Nigerian Federal Reserve Bank which sponsors an active digital cash policy. Despite the vision for digital private money in particular and digital private institutions in general, conflicts of interest prevail in the digital

space. For example, fraud leading to loss of capital in the Digital Autonomous Organization coded on the Etherum Blockchain forced participants either to liquidate the company or bear the losses (Pistor, 2019). This resulted in a split of the organization based on the opposite camps. Not least, gaining legitimacy rests on social processes (Zuboff, 2019). Marketing activities, in particular orchestrating a network of partner firms proves vital in that context. Searle's concept of constitutive rules offers a viable perspective to study the interplay of the physical and social dimensions in the formation of service institutions.

4.4 Constitutive Rules and Institutional Service Approaches

The current calls for a consideration of institutions in cocreation calls for reflection. First of all, pioneering service researchers have drawn substantially on institutional approaches (Kleinaltenkamp & Jacob, 2002; Edvardsson, Tronvoll, & Gruber, 2011). Service concepts do not need to start from scratch. However, this might be a time to consider the limitations of approaches routed in New Institutional Economics. NIE treats institutions as an externally given phenomenon, the regulative dimension of institutions. Taking institutional as given is a an analytical tool for understanding the transaction efficiencies gained with institutions like money, contract, property rights or the legal firm. However, one particular challenge associated with the adoption of information technology for organizing service systems is how service actors recognize and adopt rules for the cocreation of value. Such problems are related to the emergent character of service systems (Ehret, 2013; Vargo et al., 2022). Searle's cultural-cognitive approach offers a pathway to the study of such institutionalization processes. Systemic cocreation emerges once service actors recognize collective rules, such as money, contract, property, or the corporation. As we showed in the formation of monetary institutions in the context of institutional voids, studying the interplay of technology and social action in the emergence of constitutive rules allows capturing dynamic features of institutionalization. The pervasive role of digital technologies in current service transformation constitutive rules offer also tools for identifying and shaping the legitimacy of digital services and not least the underlying platforms (Zuboff, 2019). While pioneers in the digital economy thrived in a virtual wild west, sustaining digital services resides on solid social legitimacy.

4.5 The Rise of the Service Economy as the Institutionalization of Cocreation

The concepts of actor-to-actor exchange and service as the fundamental unit of exchange at work in all types of economic processes were useful in overcoming manufacturing-centric conceptualizations that struggled to capture viable features of service economies,

most prominently the active roles of various types of users and stakeholders in shaping value creation. However, SDL-scholars identify the institutional void of service theory, and call for theories of service institutionalization (Vargo & Lusch, 2016; Vargo et al., 2022). On the technical level, the fundamental transformation is the rise of ubiquitous computing, which allows for the global orchestration of a growing range of resources. Techno-libertarian frameworks of digital business claim that digital code at least potentially substitutes legal code in the governance of resources (Pistor, 2019). Searle offers an alternative view, identifying a substantial role of social institutions, which are transformed in interaction with technological change. In this perspective, technology does not substitute institutions, but augments social action. At the same time, social institutions are the key for social legitimacy of technology.

5 Conclusion

There is strong appeal to consider service as the basic unit of value creation. But this begs a stronger question: Why services now? Service systems offer a promising path to explore and explain the growth of market-mediated cocreation. Technology and social institutions offer strong tools for delegating tasks, sharing resources and cocreating value. Searle offers a strong foundation for treating technology and social action on the same footing and shaping a path-dependent evolution of service systems. Signature institutions of market economies, in particular money, contract, property and the corporation are key concepts where Searle's concept offers key insights into the institutionalization of cocreation that constitutes the service economy.

References

Akaka, M. A., Corsaro, D., Kelleher, C., Maglio, P. P., Seo, Y., Lusch, R. F. et al. (2014). The role of symbols in value cocreation. *Marketing Theory, 14*, 311–326.

Andreessen, M. (2011). Why software is eating the world. The Wall Street Journal.

Bagozzi, R. P., & Dholakia, U.M. (2002). Intentional social action in virtual communities. *Journal of Interactive Marketing (John Wiley & Sons) 16*, 2–21.

Barile, S., Lusch, R., Reynoso, J., Saviano, M., & Spohrer, J. (2016). Systems, networks, and ecosystems in service research. *Journal of Service Management, 27*, 652–674.

Beinhocker, E. D. (1999). Robust Adaptive Strategies. *Sloan Management Review, 40*(3), 95–106.

Burlamaqui, L., & Kattel, R. (2016). Development as leapfrogging, not convergence, not catch-up: towards schumpeterian theories of finance and development. *Review of Political Economy, 28*, 270–288.

Businesswire.B2C E-Commerce Market Report. (2019). https://www.businesswire.com/news/home/20190628005122/en/Nigeria-B2C-E-Commerce-Market-Report-2019-E-Commerce-Companies-are-Faced-with-Infrastructure-Challenges---ResearchAndMarkets.com. Accessed 15 June 2020.

CBN - Central Bank of Nigeria. (2019). Operational Framework for Shared Agent Network Expansion Facility (SANEF) [online]. Central Bank of Nigeria. https://www.cbn.gov.ng/out/2019/ccd/sanef%20framework%20reveiwed%20jan%2030%202019-%20latest.pdf. Accessed 15 Feb 2022.

de Soto, H. (2000). *The mystery of capital: Why capitalism triumphs in the West and fails everywhere else*. Bantam.

Economist. (2016). WeChat's World. Economist.

Edvardsson, B., Tronvoll, B., & Gruber, T. (2011). Expanding understanding of service exchange and value co-creation: a social construction approach. *Journal of the Academy of Marketing Science, 39*, 327–339.

Ehret, M. (2013). Emergence of business markets — a critical realist foundation. *Industrial Marketing Management, 42*, 316–323.

Ehret, M., & Wirtz, J. (2010). Division of Labor between firms: business services, non-ownership-value and the rise of the service economy. *Service Science, 3*, 136–145.

Ehret, M., & Haase, M. (2012). The common ground of relationships and exchange: towards a contractual foundation of marketing. *Journal of Business & Industrial Marketing, 27*, 447–455 (2012).

Ehret, M., & Wirtz, J. (2017). Unlocking value from machines: business models and the industrial internet of things. *Journal of Marketing Management, 33*, 111-130.

Eisenhardt, K. M., Graebner, M. E., & Sonenshein, S. (2016). Grand challenges and inductive methods: rigor without rigor mortis. *Academy of Management Journal, 59*(4), 1113–1123.

Eisenhardt, K. M. (1989). Building Theories from Case Study Research. *Academy of Management Review, 14*(4), 532–550.

Flyvbjerg, B. (2010). Five misunderstandings about case-study research. In *Five misunderstandings about case-study research. SAGE qualitative research methods* (pp. 219–245). SAGE Publications.

Grönroos, C., & Voima, P. (2013). Critical service logic: making sense of value creation and co-creation. *Journal of the Academy of Marketing Science, 41*, 133-150.

Han, P., & Wang, Z. (2021). Technology adoption and leapfrogging: racing for mobile payments. *Working Papers Series (Federal Reserve Bank of Richmond), 21*, 1–44.

Heide, J. B. (2003). Plural governance in industrial purchasing. *Journal of Marketing, 67*, 18–29.

Hodgson, G. M. (2015). *Conceptualizing capitalism: Institutions, evolution, future*. The University of Chicago Press.

Huang, M.-H., & Rust, R. (2017). Technology-driven service strategy. *Journal of the Academy of Marketing Science, 45*, 906–924.

Khanna, T., & Palepu, K. (1999). Policy shocks, market intermediaries, and corporate strategy: the evolution of business groups in Chile and India. *Journal of Economics & Management Strategy, 8*, 271–310.

Khanna, T., & Palepu, K. (1997). Why focused strategies may be wrong for emerging markets. *Harvard Business Review, 75*, 41.

Khanna, T., & Palepu, K. G. (2010). Winning in emerging markets: a road map for strategy and execution. *NHRD Network Journal, 3*, 75.

Kleinaltenkamp, M., & Ehret, M. (2006). Guest editorial. *Journal of Business & Industrial Marketing, 21*, 63–64.

Kleinaltenkamp, M., & Jacob, F. (2002). German approaches to business-to-business marketing theory. *Journal of Business Research, 55*, 149–155.

Lovelock, C., & Gummesson, E. (2004). Whither services marketing? In Search of a new paradigm and fresh perspectives. *Journal of Service Research, 7*, 20–41.

Lowe, D., Espinosa, A., & Yearworth, M. (2020). Constitutive rules for guiding the use of the viable system model: reflections on practice. *European Journal of Operational Research, 287*, 1014-1035.

Maglio, P. P., & Spohrer, J. (2008). Fundamentals of service science. *Journal of the Academy of Marketing Science, 36*, 18–20.

McNutt, H., Spencer, S., & Willis, M. (2014). Making the journey from cash to electronic payments: A toolkit for USAID implementing partners and development organizations. NetHope.

Menger, C. (1891). On the origins of money. *Economic Journal*, 239–255 (1891).

Micklethwait, J. (2005). *The company: a short history of a revolutionary idea*. London.

Mishra, D. P., Heide, J. B., & Cort, S. G. (1998). Information asymmetry and levels of agency relationships. *Journal of Marketing Research (JMR), 35*, 277–295.

Ng, I. C. L., Ding, D. X., & Yip, N. (2013). Outcome-based contracts as new business model: the role of partnership and value-driven relational assets. *Industrial Marketing Management, 42*, 730–743.

North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge University Press.

Paga. (2020). *10th Year Anniversary Media slides*. Lagos.

Philippon, T. (2019). *The great reversal: how america gave up on free markets*. Belknap Press.

Pistor, K. (2019). *The code of capital: How the law creates wealth and inequality*. Princeton University Press.

PWC. (2016). *Emerging markets-driving the payments transformation*. PwC.

Raisch, S., & Krakowski, S. (2021). Artificial intelligence and management: the automation–augmentation paradox. *Academy of Management Review, 46*, 192–210.

Ridder, H. (2017). The theory contribution of case study research designs. *Business Research, 10*(2), 281–305.

Robé, J.-P. (2011). The legal structure of the firm. *Accounting, Economics, and Law, 1*.

Rust, R. T. (2004). If everything is service. Why is this happening now, and what difference does it make? *Journal of Marketing, 68*, 23–24.

Scott, W. R. (2014). *Institutions and organizations. 14: Ideas, interests, and identities*. SAGE Publications.

Searle, J. R. (1983). *Intentionality: an essay in the philosophy of mind*. Cambridge University Press.

Searle, J. R. (2006). What is an institution? *Journal of Institutional Economics, 1*(1), 1–22.

Searle, J. R. (1995). *The construction of social reality*. Free Press.

Sheth, J. N. (2011). Rethinking existing perspectives and practices. Impact of emerging markets on marketing. *Journal of Marketing, 75*, 166–182.

Siggelkow, N. (2007). Persuasion with case studies. *Academy of Management Journal, 50*(1), 20–24.

Simmel, G. (1990). *Philosophy of money*. Routledge.

Vargo, S. L., & Lusch, R. (2004). Evolving to a New Dominant Logic for Marketing. *Journal of Marketing, 68*(1), 1–17.

Vargo, S., & Lusch, R. (2016). Institutions and axioms: an extension and update of service-dominant logic. *Journal of the Academy of Marketing Science, 44*, 5–23.

Vargo, S. L., Peters, L., Kjellberg, H., Koskela-Huotari, K., Nenonen, S., Polese, F. et al. (2022). Emergence in marketing: an institutional and ecosystem framework. *Journal of the Academy of Marketing Science*, 1–21.

Varian, H. R. (2010). Computer mediated transactions. *American Economic Review, 100*, 1–10.

Washington Post. (2021). Nigerian payments app paga may be Africas next unicorn [online]. Washington Post. https://www.washingtonpost.com/business/on-small-business/nigerian-payments-app-paga-may-be-africas-next-unicorn/2021/06/11/cbe631c0-ca7b-11eb-8708-64991f2acf28_story.html. Accessed 15 Feb 2022.

Wenner, G., Bram, J. T., Marino, M., Obeysekare, E., & Mehta, K. (2018). Organizational models of mobile payment systems in low-resource environments. *Information Technology for Development, 24*, 681–705.

Yin, R. K. (2018). *Case study research and applications: Design and methods*. Sage.

Zuboff, S. (2019). *The age of surveillance capitalism. the fight for the human future at the new frontier of power*. Profile.

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The Role of Value-In-Use for Selling E-Services

Nicole Bulawa and Kea Hartwig

Abstract

In the following article, we intend to acknowledge and consolidate various topics from Frank Jacob's research. Frank Jacob focused much of his research on the formative shift from products to services and the resulting changes in value creation and marketing and sales processes. This article, therefore, uses a concise literature review to show how the concept of service is continuing to change as a result of increasing digitalization and is becoming what is known as *e-service*. This progressive evolution of service is closely related to the changing understanding and constantly evolving conceptualization of value. The article consequently provides a theory-based overview of the evolution of value and the meaning of value-in-use. In particular, this changing understanding has strong implications for sales processes as well as for the role of the sales force and individual sales representatives who sell these types of e-services. Finally, this article contributes to the existing literature by outlining the criteria for classifying e-services and value-in-use, and highlighting the role of value-oriented selling in e-services through multiple perspectives that include the e-selling process, the sales force, and salesperson level.

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1 Introduction

Scholars and practitioners agree that in recent decades there has been a shift from a goods-based economy to a service-based economy (Kowalkowski et al., 2017; Vandermerwe & Rada, 1988; Vargo & Lusch, 2004, 2008). However, due to increasing digitalization, the service landscape evolved from primary "traditional" services to predominantly electronic services (e-services) (Williams et al., 2008). In comparison to traditional services, such as visits to the hairdresser or meals at a restaurant, e-services are characterized by their high interactivity between provider and beneficiary and their provision via the internet using technology (Boyer et al., 2002). In fact, a growing number of services contain some technological component and with the omnipresence of the mobile internet, their embeddedness in our daily lives is becoming increasingly stronger (Sandström, 2008). The growing digitalization also impacts the service landscape through a transformation of existing services (e.g., from video rental to online movie streaming), an introduction of entirely new services (e.g., crowdfunding networks), and an adaptation of service delivery channels (e.g., through the inclusion of mobile applications) (Gallouj et al., 2015).

At the same time, the new e-service era poses conceptual and managerial challenges for service providers (Cho & Menor, 2010). One area where this is specifically evident is the emergence of value-in-use (ViU) (Parasuraman & Grewal, 2000), which relies on the active involvement of the consumer and occurs during the usage process rather than in a one-time purchase transaction (Vargo & Lusch, 2004, 2008). In other words, ViU is generated by a customer relationship and, to some extent, through customer-firm interactions (Grönroos, 2000; Grönroos & Voima, 2013). E-services typically reduce these interaction points between a service provider and beneficiary leading to an impediment of the firm's value proposition (Sandström, 2008). Based on this, ViU generation goes increasingly beyond the locations and times overseen by service providers — which, on the one hand, increases a consumer's autonomy in ViU emergence but on the other hand, limits a service provider's control (Heinonen, 2006a). This could also hinder the actual sales process, which from today's perspective should go beyond sale closure to support the customers in their usage behavior and facilitate the desired changes in consumers' usage processes (Sheth & Sharma, 2008; Ulaga & Loveland, 2014; Viio & Grönroos, 2014). This view is equally shared by Le Meunier-FitzHugh et al. (2011), who believe that the buying process should encompass all stages of the usage process. The transition from mere selling to a consideration of the usage process is in line with a necessary ViU orientation in sales and is especially important when selling e-services. However, it is becoming more difficult to do justice as part of a sales function to e-service usage processes and, thereby, ViU emergence. After all, e-service usage processes are often more continuous and customized in nature than traditional services (Williams et al., 2008).

While most studies on e-services still revolve around the topic of service quality, there are slowly a growing number of research projects investigating e-services and resulting

value-in-use (e.g., Hartwig & Jacob, 2021; Jacob & Sebald, 2016). Within the research field of value-in-use of e-services, different ViU conceptualizations have emerged, mainly based on service quality (e.g., Cho & Menor, 2010; Fan et al., 2020; Medberg & Grönroos, 2020) or on a phenomenological perspective (e.g., Bruns & Jacob, 2014, 2016; Grieger & Ludwig, 2019; Hartwig & Jacob, 2018). Topics that are often addressed in this research area are customer activities or participation (e.g., Heinonen, 2006b; Lin, 2007, 2010), resource integration (Baron & Harris, 2010; Gummerus, 2010), e-service design (e.g., Blaschke et al., 2019; Sousa et al., 2008), and considerations of temporal aspects in ViU generation (e.g. Bulawa & Jacob, 2021; Heinonen, 2006a; Kleijnen et al., 2007).

However, there has been limited research on the impact of the growing field of e-services on existing sales strategies and how to harness ViU in the relating sales processes. A few exceptions in this research area focus on the value drivers of e-selling (e.g., Parvinen et al., 2015), the impact of technology on e-service channel value (e.g., Kuruzovich, 2013), or the impact of a salesperson's social media activities on value (e.g., Agnihotri et al., 2012). In comparison, more attention has been devoted to the topic of sales/selling in e-services as well as to sales/selling and emerging ViU. The former is more dedicated to the addition of online/e-service channels (e.g., Akçura et al., 2015; He et al., 2021; Hernant & Rosengren, 2017) as well as e-service sales channel characteristics (e.g., Seringhaus, 2005; Xie et al., 2016). The latter addresses mainly how ViU is displayed within sales strategies and processes (e.g., Haas et al., 2012; Jacob et al., 2020), how the emerging ViU orientation affects sales and the sales profession (e.g., Ulaga & Loveland, 2014), or a combination of both (e.g., Viio & Grönroos, 2014).

While the impact of technology on ViU-oriented sales receives increasing attention among researchers (e.g. Sheth & Sharma, 2008; Singh et al., 2019), a research trend toward business-to-business (B2B) contexts is clearly evident in this area (e.g., Deeter-Schmelz & Kennedy, 2004; Mullins et al., 2020; Petri & Jacob, 2017). However, this approach does not fit with e-services, which are mostly targeted at end-users and are hence positioned in the B2C context.

With this conceptual article, the authors aim to describe the significant role of ViU emergence in the development and evolution of e-service offerings. We further aim to explore the role of sales for capturing the ViU of e-services. In doing so, we contribute to the extant literature in several ways: first, by outlining criteria for the classification of e-services and the definition of value (-in-use); and second, by highlighting the role of value-oriented selling in e-services through a multi-level perspective that includes the e-selling process, the sales force, and the individual salesperson level.

To achieve this goal, we will first provide a structured, theory-based overview of e-services. Subsequently, we will present the role of value (-in-use) in the service marketing literature. For this purpose, in particular, we can draw on a broad theoretical basis, as the conceptualization approach has already received extensive attention in marketing theory. Afterward, we discuss the current state of research on the role of e-service sales

and capturing ViU by drawing on and contrasting research findings on the role of sales in ViU emergence in other contexts, such as the solution business. The chapter concludes with a discussion of theoretical and managerial implications as well as an outlook on future research opportunities.

2 Structured Overview of the Definition and Categorization of E-Services

The shift from a goods orientation to a service orientation has shaped the market understanding by practitioners and academics alike. However, as Rust and Huang (2014, p. 206) point out, the story does not end there: "The service revolution and the information revolution are two sides of the same coin," meaning that the development of services and the increasing digitalization of offerings continuously influence each other. The service world experiences a movement from traditional (offline) services to e-services. Although it was predicted more than a decade ago that this trend would be inevitable and that e-services would fundamentally change the world of e-commerce (Williams et al., 2008), the concept of e-services itself is still evolving.

Despite the continuous growth of e-services and their increasing importance in the economy, disagreement prevails on its definition. As Grove et al., (2003, p. 108) have put it, "Services marketing now faces a challenge that confronts many maturing fields of study. Specifically, as the domain of services has expanded, the boundaries that define it have become less distinct." The picture is similar for e-services, where there is a great deal of disagreement about what constitutes an e-service, what the characteristics of an e-service are, and how they can be defined and classified. Therefore, this chapter starts with a structured and rather chronological overview of the different definitions for e-services and related criteria to get a better understanding of the overall subject under investigation. The overview is presented in Table 1. Subsequently, the extent to which traditional service characteristics are applicable to e-services and the basis on which an e-service typology is created is discussed. This is illustrated in Table 2.

An early definition placed e-commerce and e-services on two sides of one continuum, which can occur together or separately (Voss, 1999). In contrast, subsequent perspectives view e-services as information services, since information is regarded as the primary basis for exchange (Rust & Lemon, 2001). This is in line with the notion that the internet itself is used to fulfill an information need (Molesworth & Jenkins, 2002). This e-service perspective is also consistent with Ghosh et al. (2004), who argue that the service provider's task is to collect and analyze customer data to use as the basis for individualization, service delivery, and communication measures. In contrast, a classification has also been made with regard to the service delivery point, differentiating between e-services and self-services. This refers to the accessibility of e-services, which can be provided from any location and at any time through any technological interface (e.g., websites,

Table 1 Criteria for defining e-services

E-service classification criteria	Subdivision of e-services	Source
Continuum between e-commerce and e-services	• E-commerce • E-services • E-commerce o E-service combination	Voss (1999)
E-service as information service		Ghosh et al. (2004) Rust and Lemon (2001)
Accessibility of service delivery points	• E-services (not site-specific) • Self-services (site-specific)	Surjadaja et al. (2003)
Technology-based service delivery/ infrastructure	• E-services (technology-based) • Traditional services (not technology-based)	Boyer et al. (2002) Reynolds (2000)
Technology-based service delivery & value-in-use outcome		Hofacker et al. (2007)

mobile applications), whereas self-services need to be accessed by consumers at specific locations (e.g. ATMs) (Surjadaja et al., 2003). This classification is somewhat ambiguous as there are also offline self-services (e.g. self-service laundromats), which are not reliant on digital infrastructure or digital self-services (e.g., online banking) that can also be accessed any time. Other authors focus exclusively on the decisive criterion that determines the status of an e-service: whether a service is technology-based and is connected to the internet (e-service) or not (service) (Boyer et al., 2002; Reynolds, 2000). In this case, emphasis is placed on the delivery of a service and its infrastructure. Beyond that, there are also definitions that encompass the connection to digital infrastructure as a restricting criterion and simultaneously define the outcome of e-services. Lastly, Hofacker et al. (2007, p. 5) define e-services as "an act or performance that creates value and provides benefits for customers through a process that is stored as an algorithm and typically implemented by networked software." Since we adopt a value-in-use perspective in the overall book chapter (see also Sect. 3), we apply the definition of Hofacker et al. (2007), which describes value as a desired outcome of e-services.

Due to the principal distinction between electronic services and services, both types of services are also characterized by different opportunities and limitations (Lyytinen et al., 2004). Traditional services have typically been characterized by the four factors of intangibility, heterogeneity, inseparability, and perishability, also known by the acronym IHIP. Some scholars consider this classification to be strongly goods-oriented, describing services in terms of what they are precisely **not** compared to products. They see this perspective as no longer appropriate due to the strong contrast between products and

Table 2 E-service typology based on Fassnacht and Koese (2006) and Gummerus (2011)

Service Type		Type of Interface	
	Desktop	**Mobile**	**Self-Service**
Core Services	**Platforms** e.g. social networking, e-commerce (pure online players), media exchange (videos), specific service (crowdsourcing), sharing (clothes/housing), content (audio books, e-books) and communication platforms (discussion/ advice forums) **Software-as-a-service** e.g. cloud storage, movie online streaming **Content offers** e.g. news, online portals **Interactive services** e.g. search engines, Co2 footprint calculator **Communication services** e.g. email	**Mobile applications** e.g. for communication, tracking, entertainment purposes **Mobile content offers** e.g. news, m-dictionaries **Interactive services** e.g. location-based services **Communication services** e.g. email, messenger services	**Gaming** e.g. multiplayer online role-playing games, e-sports **E-gambling** e.g. virtual poker, casinos, sports betting **ATMs** **Self-service machines** e.g. vending machines for beverages, web-enabled food processors as Thermomix
Complementary Services	**E-commerce** (Brick & mortar extension) **Online banking** **E-payments** **Online booking/ticketing** e.g. advance online ticket sales	**M-tailing** **M-banking** **M-information services**	**Content offers** e.g. FAQs, knowledge collection **Self-service machines** e.g. check-in terminals at the airport, check-out cash points at supermarkets, ticketing stations **Self-service support** e.g. chatbots/virtual agents, semantic search function **Self-service portals** e.g. for return processing

services (Lovelock & Gummesson, 2004, Vargo & Lusch, 2004). While the IHIP criteria apply primarily to services, they are no longer applicable to e-services. For instance, services are considered to be perishable and therefore, not storable for later access — a restriction that does not apply to e-services. When considering software offerings or information services, they are storable through the digital infrastructures in place and can be used at any time. Others call for a more differentiated perspective by examining each

component individually and assessing their potential to be transferred to today's service environment, which is more and more technology-based (Moeller, 2010). To this end, Moeller (2010) has transferred the IHIP factors into the context of value-in-use emergence. Within this framework, intangibility refers to the performance promise of a service provider and not to intangible service aspects anymore. Heterogeneity relates to the diverse set of consumer resources and not the wide range of services that exist nowadays. The third factor is inseparability, which outlines the necessity for customer resources to be present during the service offering. Lastly, perishability relates to the value-in-use emergence capacity, which can perish unless it is activated. This framework has transferred all four factors to individual service aspects, thereby providing a rather granular value-in-use perspective on service characteristics. For our purposes, an overarching view will be taken, focusing on a classification of e-services that allows their categorization in terms of existing types.

One approach to differentiate e-services was developed by Hofacker et al. (2007), who distinguish between three different types of e-service: (1) complementary e-services to existing offline products/services, (2) substitutes for existing offline services, and (3) new core e-services. The first e-service type extends the prevailing offline service offer through additional digital services such as, for instance, digital package tracking or online booking of appointments for doctor visits, beauty salons, etc. Substitutes for existing offline services transformed on-site service offerings to the digital world. These e-service substitutes are often further enhanced in comparison to their traditional counterparts due to new technological capabilities. Typical examples are online stores, streaming providers (movies or music), and language learning applications. Lastly, new core e-services describe services that are not derived from traditional offline services and that could also not take place in an offline environment, such as multiplayer online role-playing games, social media, and e-service platforms. While this distinction is more comprehensive than others in that it differentiates between traditional services substitutes and new pure e-services, other researchers propose a twofold categorization that reflects the customer's view of e-services, distinguishing between complementary and core e-services (Fassnacht & Koese, 2006; Gummerus, 2011). While we believe that the categorization by Hofacker et al. (2007) provides a better understanding of the evolution of the e-services landscape, we adopt a consumer perspective in this chapter that distinguishes only between core and complementary services.

To enable a differentiated understanding of the current e-service setting, we follow Fassnacht and Koese (2006) as well as Gummerus (2011) and classify e-services along two axes: The first axis divides core and complementary services, while the second axis outlines three user interfaces through which the e-service is accessible, differentiating between desktop, mobile, and self-services (see Tab. 2).

Core services describe stand-alone service offers that act as the main value-in-use proposition. Core services that can be accessed via a desktop interface encompass a wide array of platform businesses (e.g., e-commerce, sharing, or content platforms),

software-as-a-service offers, content offers, and interactive and communication services. We also outline peer-to-peer services, such as social networking, as they provide an important component of today's service landscape. Peer-to-peer services have often been neglected within the e-service literature since they are anchored in their own separate literature streams (Gummerus, 2011). To provide a better overall picture, we follow Gummerus' approach (2011) and include them within this categorization. Mobile core services overlap with core services that can be accessed via a desktop interface except for mobile applications, which may be used for entertainment, communication, or tracking purposes. The last interface type describes self-services, such as gaming, e-gambling, ATMs, or self-service machines.

Complementary services extend the value-in-use proposition of the main service offer, for instance by extending traditional stores with an online shop or by providing online banking services. Other desktop services include online ticketing or e-payment services. Complementary mobile services cover m-tailing, m-banking, and m-information services, thereby transferring existing e-service offers to a mobile interface. Recently, complementary e-self-services have gained increasing popularity since they offer huge customer service saving potential (Scherer et al., 2015). Within our categorization, we distinct among content offers (e.g., frequently asked questions (FAQs), knowledge collections), self-service machines (such as check-in terminals at airports), self-service support (e.g., chatbots/virtual agents), and self-service portals (covering return processing).

3 The Role of Value for (E-) Service Marketing

In the transition from a goods-based economy to a service-based economy, not only has the conceptualization of service changed, but so has the definition and role of value creation. While the wide variety of conceptual and empirical contributions to the value literature (e.g., Edvardsson et al., 2011; Holbrook, 2006; Vargo & Lusch, 2004; Woodruff, 1997; Zeithaml, 1988; see also Ng & Smith, 2012; Sánchez-Fernández & Iniesta-Bonillo, 2007) underscores Holbrook's assertion that customer value is "the fundamental basis for all marketing activity" (1994, p. 22), there is still no consensus on the understanding of the concept of value itself.

Thus, we address a substantial dilemma that accompanies value research: the multiplicity of competing theories, or as Sánchez-Fernández and Iniesta-Bonilla (2007, p. 440) put it, "There is ambiguity with respect to the definition, dimensions, and measurement of perceived value." Therefore, we provide a brief chronological overview of the development of the concept of value to clarify the theoretical foundations of this book chapter and to illustrate the starting point for an examination of the role of value in the sale of e-services.

In the traditional goods-based perspective of marketing research, academics have developed the concept of value based on the exchange between the different parties

involved (i.e., value-in-exchange). This value definition simply reflects the difference between the benefit a customer derives from a market offering and the (monetary) sacrifice that must be made to obtain it (Monroe, 1990; Zeithaml, 1988). The monetary value, i.e. price, of the offer was determined from the provider's perspective and based on the resources required to create the offer. According to Ferreira (2017), these one-dimensional value approaches have the advantage of simplicity. However, critics note that these approaches do not adequately reflect the customer's value perception, because they depict reality in a too simple and limited way (Holbrook, 1994; Sweeney & Soutar, 2001). In specific, the many intangible, intrinsic and emotional factors that are part of the value construct are not adequately considered (Sánchez-Fernández & Iniesta-Bonillo, 2007).

As a consequence, multidimensional perspectives of value have been developed. They are more complex since they conceptualize value as a holistic set of different dimensions and behavioral components (Bruns & Jacob, 2014) and are therefore often determined by the beneficiaries themselves. These multidimensional perspectives are often strongly interrelated with the means-end theory, which essentially implies that customers act in a goal-oriented manner and apply offerings as means to achieve desirable inner states (Gutman, 1982). The emergence of value is thus no longer based on the product itself and its attributes, but on the consequences resulting from the application of the offering (Woodruff, 1997). This conceptualization of value was echoed some years later by Macdonald et al., (2016, p. 98) who formulated that value-in-use can be defined as "all customer-perceived consequences arising from a solution that facilitate or hinder achievement of the customer's goals." This definition implies that the degree of goal achievement the customer perceives in the course of the usage process reflects the emergence of value-in-use and, thus, represents the customer's individual assessment process. Holbrook (1994, 1996, 2006) acknowledges the multidimensionality of value, but places more emphasis on its experiential nature and thereby on its subjective assessment. Accordingly, Holbrook (1996, p. 138) defines value as "an interactive relativistic preference experience."

Although multidimensional value concepts put more effort into holistically representing a complex and multi-layered customer reality, critics still argue that these concepts are conceptually ambiguous and therefore rather vague, and that the relationship between the different value dimensions and other marketing constructs occasionally remains unclear (Sánchez-Fernández & Iniesta-Bonillo, 2007). Furthermore, existing multidimensional models do not indicate at what point in time value actually arises and therefore often do not specifically distinguish between the exchange and application of offers (Bruns & Jacob, 2014).

A further significant contribution to the definition of value has been made by the development of a clearly service-oriented perspective on marketing (*service-logic*, Grönroos & Voima, 2013; *service-dominant logic*; Vargo & Lusch, 2004, 2008; *customer-dominant logic*, Heinonen et al., 2010). This research community has established the idea of value-in-use. It represents the value created in the course of the actual process of

using an offer and is thus continuously applied throughout the customer journey. Value creation continues after exchange. This also implies that value becomes a very subjective concept, or as Vargo and Lusch (2006, p. 44) formulate: "There is no value until an offering is used—experience and perception are essential to value determination." The authors also emphasize that actors within an ecosystem continue to co-create value until the beneficiary assesses the emerging value based on his or her unique and phenomenological point of view (Bruns & Jacob, 2014; Hartwig & Jacob, 2018; Vargo & Lusch, 2008, 2016). Thus, the customer is actively involved in the value (co-) creation process, and the supplier "cannot deliver value but can participate in the creation and offering of value propositions" (Vargo & Lusch, 2016, p. 8). Consequently, value is not created when customers and suppliers agree on contract specifications, but it is instead co-created during the usage processes in which both parties utilize, combine, and exchange individual and collective resources (Vargo & Lusch, 2016).

Due to its high dependence on the beneficiary's individual usage process and service exchange with other actors, the idea of value-in-use has been further developed, and terms such as value-in-context (Chandler & Vargo, 2011), value-in-social-context (Edvardsson et al., 2011) or value-in-experience (Chen et al., 2012; Helkkula et al., 2012) have been introduced. To avoid further confusion and as this chapter has a concrete focus on usage processes and application of (e-) services, we decide to stick to the term "value-in-use". An overview of the evolving definition and perception of value is also illustrated in Table 3.

In the case of e-services in particular, it is important to note that the beneficiary has a major impact on value creation and is therefore considered crucial for value co-creation (see also Table 2). However, value creation in e-services has not been considered in detail so far, although, as argued above, the value proposition and value creation processes change significantly when services become e-services — based on technology and their independent delivery in terms of location and time (see also Table 1).

Essentially, the marketing research community agrees that creating customer value is of paramount importance for any business activity. Various studies from different research directions prove that customer value leads to higher customer satisfaction, customer loyalty, and customer retention (Ballantyne et al., 2011; Bruns & Jacob, 2016; Heskett et al., 1994), substantially prolongs customer lifetime value (Kumar & Reinartz, 2016), and thus ensures competitive advantage, business growth, and success in a sustainable and long-term manner (Lindgreen & Wynstra, 2005; Töytäri et al., 2011). In line with this, the Marketing Science Institute (2014) has identified it as one of its top research priorities, "to create and communicate value to customers to drive their satisfaction, loyalty, and profitability. Any insights in this area have significant implications for the long-term financial health of an organization."

Yet, creating and communicating value is not only an essential task for all marketing-related activities, but it also plays an increasingly important role for the sales depart-

Table 3 The evolving definitions and conceptualizations of value

Value	Conceptualization of value	Sources/Authors
Value-in-exchange	Benefit vs. (monetary) sacrifice	Zeithaml (1988); Monroe (1990)
Multidimensional value	"An interactive relativistic preference experience"	Holbrook (1994, 1996, 1999)
Goal-oriented value	"Customer value is a customer's perceived preference for and evaluation of those product attributes, attribute performances, and consequences arising from the use that facilitate (or block) achieving the customer's goals and purposes" Customer value can be defined as "all customer-perceived consequences arising from a solution that facilitate or hinder achievement of the customer's goals"	Gutman (1982); Woodruff (1997); Macdonald et al. (2016)
Value-in-use	Emerges throughout application of service; Phenomenological; Co-created and context-dependent	Vargo and Lusch (2004, 2008); Heinonen et al. (2010); Grönroos and Voima (2013)
Value-in-context	Vargo and Lusch revised the somewhat G-D logic-oriented concept of "value-in-use" to a more S-D logic-friendly concept of "value-in-context"	Vargo et al. (2009); Chandler and Vargo (2011)
Value-in-social-context	The study contends that value is a social construction. Value co-creation is shaped by social forces, is reproduced in social structures, and can be asymmetric for the actors involved	Edvardsson et al. (2011)
Value-in-experience	"Value-in-experience" as an effort-based meaning of value creation, and "value initiators" as actors who perform "experience sharing"	Chen et al. (2012); Helkkula et al. (2012)

ment. To gain a better understanding of how sales can influence the creation of customer value, which consequently improves behavioral variables and the economic performance of companies, a more explicit and practical sales approach to the concept of value is needed. Especially for newly introduced offerings such as e-services, it is important to understand how sales activities can underscore the value they create.

4 Value-oriented Selling of E-Services

"The only single 'truth' that seems to be holding for all sales forces is that they will have to create value for customers". (Rackham and DeVincentis, 1998, p. 66)

The service revolution and the increasing digitalization of services are strongly impacting how customer relationships are built, which new service opportunities may be tapped upon, and which markets can be explored (Rust & Kannan, 2003). This also affects individual corporate functions, such as the sales department, which now has to cope with the increasingly complex e-service offering. The bar is raised high for sales managers who need to keep up with the fast-changing e-service environment to understand the provider's value proposition and be able to convey it to potential beneficiaries (Sheth & Sharma, 2008). At the same time, it is no longer sufficient to merely provide service access or process orders, as it was previously the case; instead e-services ideally encompass the entire usage process which broadens a sales person's field of activity (LeMeunier-FitzHugh et al., 2011; Rust & Lemon, 2001). Business processes within the sales function are also becoming increasingly digitized, which is significantly changing the sales role in value-in-use emergence (Singh et al., 2019). Overall, the sales function is currently facing many challenges due to the digitalization of the market, the changing range of services and innovative business processes.

The importance of a value (-in-use) perspective to the sales function and selling process has already been recognized at an earlier stage (e.g., Liu & Leach, 2001; Sheth & Sharma, 2008). Main considerations focus primarily on how the sales function or sales processes are impacted by a value-in-use orientation (e.g., Ulaga & Loveland, 2014) or how value is embedded in sales processes (e.g., Haas et al., 2012), while some authors even combined both considerations (Viio & Grönroos, 2014). Beyond that, the concept of value-based selling has established itself as a sales process in its own right and received increasing attention over the years (e.g., Kienzler et al., 2019; Raja et al., 2020; Terho et al., 2012; Töytäri, 2018). In line with the rather fuzzy definition of the value concept (Sect. 3), the idea of value-based selling is also rather vague and often ambiguous. Terho et al., (2012, p. 178), for example, define value-based selling as "the degree to which the salesperson works with the customer to craft a market offering in such a way that benefits are translated into monetary terms, based on an in-depth understanding of the customer's business model, thereby convincingly demonstrating their contribution to customers' profitability". In other words, the main purpose of this value-based selling approach is to demonstrably increase the customer's economic success (Haas et al., 2013); this conceptualization shows an understanding of value as equivalent to value-in-exchange and thus does not encompass the concept of value-in-use. Furthermore, value-based selling shows a strong tendency to explore business-to-business environments and solution businesses. These are in stark contrast to the consumer-oriented e-services we focus on. Within the e-service context, research to date has focused on the value drivers of e-selling (Parvinen et al., 2015), how channel value is impacted by technology

(e.g., Kuruzovich, 2013) or how a sales person's social media activities influence value (e.g., Agnihotri et al., 2012).

Overall, much practical knowledge prevails (e.g., Hoffeld, 2016), and systemic considerations continue to be in short supply, despite current efforts to fathom the topic of sales scientifically. An exception is the review by Jacob et al. (2020), which provides a holistic value-in-use perspective on sales processes. Another example is the differentiated consideration of value-in-use on various sales aspects within a business-to-business environment by Ulaga and Loveland (2014). In the present study, we mirror this approach and outline the role of sales in capturing ViU of e-services at two levels: first, the sales process itself and, second, the sales force in terms of composition and roles/skills; both are outlined below. Using this approach, we extend the article by Jacob et al. (2020) in two ways: (1) by focusing on an increasingly relevant service type, namely e-services, and (2) by taking a more nuanced view of the role of sales for capturing value-in-use at multiple levels.

4.1 The Role of the Sales Process for Capturing ViU of e-services

4.1.1 Overview

The all-encompassing phenomenon of digital transformation has impacted companies across many industries in two ways, both of which have led to significant changes in the sales function. The first implication relates to *what* companies sell: Almost every product or service offered in any market today has a digital dimension (Grove et al., 2018). This dimension often manifests itself in the form of electronic components, but it can also be an application or a software-based addition to products or services. This trend is also reflected in the increasing number and variations of e-services (see Sect. 2). The second implication of digital technologies is that they affect the way *how* a company sells (Mathieu et al., 2007; Singh et al., 2019). The sales process has changed significantly over the past two decades due to the product-service shift, the increase in information technology for customer relationship management, and technology advances, among other factors; a development that will continue to be drastic in the future (Sheth & Sharma, 2008). Simultaneously, companies have invested heavily in digital sales infrastructure, and digital sales technology has become an indicator of how salespeople operate today (Wieseke et al., 2011). In this section, we address the "how" of selling e-services by briefly defining the core concepts and subsequently reviewing common characteristics of value-oriented e-selling processes.

In the literature, selling and e-selling are recognized as distinct concepts that should not be confused with e-commerce, e-retail, or e-marketing. A few years ago, Dixon and Tanner (2012, p. 10) acknowledged selling as "the phenomenon of human-driven interaction between and within individuals/organizations in order to bring about economic exchange within a value-creation context". Thus, value is recognized as the intended outcome of the sale. Selling itself encompasses all activities of sales execution, also referred

to as "sales work" (Dixon & Tanner, 2012). The sequence of these activities at the individual salesperson level as part of selling is in turn declared as the sales process (Moncrief & Marshall, 2005). From an e-selling perspective, the digital element or enabling IT infrastructure has to be included as a distinguishing criterion between selling and e-selling. To this end, Parvinen et al., (2015, p. 214), define e-selling as a "… human or human-like activity in which digital interaction is directed at increasing customer value by securing a business exchange for mutual benefit." In accordance with this definition, value continues to be understood as the intended outcome of an (e-) selling process where only the context has been adjusted toward becoming digitally enabled. Within the scope of this e-selling definition, Parvinen et al. (2015) refer to the use of human-like interactive sales psychology, regardless of the degree of technical support in the e-selling process (whether mediated, assisted, or fully automated).

4.1.2 Characteristics of Value-oriented Selling

In the following, we outline three characteristics of value-oriented (e-) selling processes that recur in the literature. Considering the above definitions, the notion of an interactive exchange process constitutes the first characteristic and is deemed to be an integral part of a value-oriented (e-) selling process. This is hardly surprising since value emergence relies on the active involvement of the consumer and arises in the course of the usage process and not merely through the act of buying. Salespersons are thus the link between an organization and its customers (Le Meunier-FitzHugh et al., 2011). However, Woodruff and Flint (2006, p. 183) state that a value orientation "…clouds who is the seller and who is the customer, because each is involved in creating value for the other." Against the backdrop of the dynamic character of value and its continuous assessment along the usage process by the beneficiaries (Bulawa & Jacob, 2021), a lasting customer-sales exchange becomes inevitable. In contrast to traditional selling processes, this dialogue in e-selling is both human and technology-centered. The introduction of technology in processes of the interaction is known to dictate their patterns and outcomes to a certain degree (Parvinen et al., 2015). At the same time, technology fulfills an important role as a transmitter of resources (such as knowledge or value propositions) in exchange processes (Spohrer & Maglio, 2008).

The second characteristic of value-oriented e-selling processes is that they are typically viewed from a multi-actor or service ecosystem perspective. Thereby, they acknowledge the role other organizational functions and external actors play within the selling process (Bolander et al., 2015); given that the boundaries between sales and other functions are becoming more and more diffuse (Rapp et al., 2017). Beyond that, it also recognizes that a dyadic view of buyer and seller is no longer considered sufficient to adequately understand the sales process nowadays. Particularly since today's service landscape is understood as a complex and dynamic exchange system that necessitates a more holistic view from scholars and practitioners alike (Hartmann et al., 2018). One development that illustrates this is the emergence of new internal and external roles involved in the sales process.

The technologization of the sales process has opened up a new spatial–temporal context, also in terms of value emergence — this constitutes the third characteristic of e-selling processes. It is widely recognized among scholars that temporal and spatial aspects matter for the value emergence of e-services. This is evident in e-service value examinations that regard them as two of four principal value dimensions (e.g., Heinonen & Strandvik, 2009), but also in studies of e-service value that consider accessibility. For instance, Pura and Heinonen (2008) show that the absence of time or space restrictions contributes to the emergence of value in the context of mobile applications (see also assessment modes for the emergence of value-in-use by Hartwig & Jacob, 2018). The increasing availability of e-services also affects the availability of the sales force or sales systems, insomuch that organizations nowadays often operate on a 24/7 basis. This is in response to consumer expectations who want to rely less on office hours and more on their own timing and schedules (Sheth & Sharma, 2008). Another aspect concerns the sales process, which is no longer perceived as linear, but as nonlinear or multidirectional (Dixon & Tanner, 2012; Moncrief & Marshall, 2005). On the one hand, this nonlinearity results from the breadth of e-services and its sequential variety. On the other hand, it can also be attributed to the extended spectrum of sales activities, blurring the lines between sales and other functions (Rapp et al., 2017).

Next, the role of the sales force for capturing ViU of e-services will be outlined from a "macro" perspective in terms of composition as well as a "micro" perspective covering roles and tasks.

4.2 The Role of the Sales Force for Capturing ViU of E-Services

The sales profession has a history of adapting to its environment and respective macroeconomic developments, whether it is demographic, cultural, or technological changes. This includes, for example, the transition from the traditional salesperson traveling on predefined routes to on-demand visits as telephones and quicker transportation options are introduced, or shifting from written orders to online orders with the rise of the internet (Syam & Sharma, 2018). How the sales force will change in the future in response to new technological changes, however, remains unclear. So far, the literature has been at odds in predicting how the sales force will develop in terms of composition, involved roles and tasks, and value-in-use emerging activities (e.g., Cron, 2017; Orlob, 2017; Singh et al., 2019). This section aims to take a closer look. To this end, we first outline the recently advocated "macro" perspective of the sales force (Cron, 2017), followed by an individual salesperson perspective, which has been popular in past research (Verbeke et al., 2011).

4.2.1 Macro Perspective

In accordance with Kienzler et al., (2019, p. 361): "the salesforce is increasingly recognized as a key resource for creating value with customers." While the strategic goal

of a sales force lies in the identification of areas to focus on and how it can create value in line with the company's strategy (Cron & Cravens, 2010), researchers have expressed difficulty defining the role of the sales force in value creation (Cron, 2017). In addition, there are hardly any guidelines for the composition of the sales force or research on organizational sales force decisions, despite its influence on a salesperson's skills, knowledge, and abilities (Albers & Mantrala, 2008; Singh et al., 2019). Increasing attention, however, has been placed on transformations in sales force structures, which are described below in more detail.

A response to the growing technologization is the combination of different roles, either within one sales position or through the coupling of several positions. In the former case, salespersons are expected to take on more responsibility and a broader range of tasks. This dual-role combination may go along with partially contradicting roles, such as combining the traditional sales personas of hunter and farmer into one role (DeCarlo & Lam, 2016) or by combining sales activities with non-sales activities, such as customer support (e.g., Agnihotri et al., 2017; Rapp et al., 2017). This approach is one way to cost-effectively create customer value since expectations go toward fewer supplier touchpoints. However, this approach does pose challenges that need to be contrasted to their value-in-use potential. Within their study, Mullins et al. (2020) concluded that a dual role needs to be aligned with a salesperson's personal and work preferences to succeed. Other research outcomes referred to occurring costs in terms of lower employee efficiency (Jasmand et al., 2012) or role conflict (Gabler et al., 2017), each of which ought to be balanced by the value it creates for all actors. The second option aims to achieve strong cooperation between the service and sales department by dividing them e.g. into pairs. There is greater role clarity in this setting, but it can still lead to tension between service-sales pairs as they hold different objectives, roles, and tasks (Mullins et al., 2020).

Beyond pairing different functions, one approach to sales force composition is to create global account management teams. These teams consist of several individuals from a variety of business functions within an organization, being responsible for all customer interactions (Sheth & Sharma, 2008). It has been noted that in practice global account management team members are mainly recruited from the sales division, even though a variety of team member backgrounds is more advisable to foster a long-term account management approach (Arnold et al., 2001). The introduction of global account management teams leads to a dispersion of sales management capabilities within an organization. At the same time, this sales force structure moves away from a dyadic perspective on business relationships and instead, acknowledges the involvement of various internal and external actors. This notion goes in line with a widely adopted service ecosystem perspective within the extant value-in-use literature, which places the interaction of various players in the context of value emergence as its central focus. This is a more appropriate view of e-service value emergence as it is closer to today's service landscape. For instance, new e-service platform models bring different actors together. One example is the online marketplace for vacation rentals Airbnb, which itself acts as a mediator

between end-users looking for accommodations and private individuals or service providers with properties to rent. At the same time, customers can influence each other's value emergence, e.g., through ratings. Another example is language learning applications, where the customer receives knowledge from a service provider in a concise and appealing way and can compete with other users through competitions. In a value-emergence study by Bulawa and Jacob (2021), it became apparent that multiple language learning resources next to applications were often combined in accordance with their value-emergence potential.

In terms of the sales force's product focus, there are mixed observations. In line with a value perspective and the shift toward a service economy (Vargo & Lusch, 2004), product-oriented sales forces are about to become less common. Instead, stronger customer-oriented sales organizations arise (Sheth & Sharma, 2008). A more recent study by Syam and Sharma (2018), however, establishes a sales force classification according to a product's complexity in response to technological advances. Within an industrial context, it outlines three categories: simple products, products with high margins and accessible data for consumers, and complex sales. Transforming this sales force composition to an e-service context, the category of simple products would equal simple services. In this case, standardized and easy-to-understand services are sold online or via an inside sales team that handles inbound calls. This type of service requires no or very little direct interaction with salespersons since many salesforce tasks can be automated nowadays. Examples are online ticketing or appointment bookings. The second category covers services with a high profit margin and easily accessible and understandable information for consumers. Within this setting, technology does not replace a salesperson's role; instead, it facilitates the sales process through the provision of targeted information via digital channels. In the case of e-services, this may include software-as-a-service, e-learning, or e-travel agencies. The final category originally outlines the use of a buying center to uncover not clearly specific consumer needs in a setting with no readily available information. This category is not directly transferable to an e-service setting due to several reasons: First, e-services often rely on providing publicly and easily understandable information, while this category is designed to address problems that are not clearly defined in settings where information is difficult to access (Verbeke et al., 2011). Second, this type of sales relies on buying center members, a group that stems explicitly from an organizational context, while e-services take place in an end consumer setting. In accordance with Syam and Sharma (2018), this industrial complex sales setting is influenced least by technology — which further clarifies the difficulties in transferring this sales force composition to an e-service setting.

4.2.2 The Role of the Salesperson for Capturing ViU of E-Services

Moving to an individual salesperson perspective, we outline shifts in the role of salespeople as well as the emergence of new sales roles. Sales forces, nowadays, are moving toward specialized role structures. In doing so, team structures are built around the roles that salespeople inhabit. In this context, there are increasingly fewer sales generalists

(Singh et al., 2019). Instead, consumer expectations and consumer roles are allocated to specialized sales roles and skills (Bradford et al., 2010). These multi-specialization sales teams consist of various sales roles, such as "sales development representative, account manager, technical salesperson, or customer success manager" (Singh et al., 2019, p. 10). This development is of importance for capturing the value of e-services, as they are becoming increasingly complex and salespeople now need to possess technical knowledge in addition to product knowledge. It is not possible to convey the value proposition if a salesperson lacks a sufficient understanding of an e-service's specificities, its technological components, or the benefits it should convey (Sheth and Sharma, 2008).

At the same time, new sales roles are emerging inside and outside of an organization. Closely related to the above outlined specialized role structures is the role of an "expert partner" within an organization, whose role is to facilitate value emergence by applying its specialized knowledge in the alignment of organizational assets and resources (Cron, 2017). Not that far off is the new sales function called "sales enablement," which arose due to the ubiquity of technology in sales. Sales enablement provides salespeople with information and technologies built on sales data to facilitate the sales process and value creation (Singh et al., 2019). Another function that has been added to the sales team is that of a customer success manager, who particularly makes sure that the customer is able to use the offering according to individual needs. Eggert et al., (2020, p. 121) note that successful management requires that "the supplier firm is actively engaging in customers' usage processes and plans, implements, and monitors key performance indicators that ensure and improve customers' goal achievement when using the supplier's market offerings". Furthermore, inside sales roles are increasingly established in addition to outside sales functions due to financial and technological pressures as well as consumer demands (Rapp et al., 2012). The introduction of inside sales with a focus on remote sales also impacts the sales force composition, which requires an orchestration of inside and outbound sales and virtual channels for value emergence to be facilitated (Thaichon et al., 2018). Beyond that, Cron (2017) also outlined the emergence of new sales functions outside of organizations that act as an intermediate for service sourcing, for instance, the mobility-as-a-service provider Uber cooperates with rental car companies that employ private individuals as drivers.

5 Conclusion

This chapter provides a detailed overview of the existing criteria for classifying e-services. Specifically, we contribute to the existing literature by transferring and extending existing e-service classifications, which are quickly becoming obsolete in today's rapidly changing and increasingly digitized service landscape, to today's world of e-services. The amount and variety of e-services, ranging from platforms, software-as-a-service

environments, mobile applications, to digitized kitchen appliances, is enormous and has consequently become an important part of service research. In particular, the area of complementary self-service e-services (self-service support/self-service portals) holds great potential for research, but also for practice, as they are becoming increasingly relevant for e-service providers due to the high savings potential in customer support (Scherer et al., 2015).

However, the transition from a goods-based economy to a service-based economy, which is nowadays largely centered on technology (services are becoming e-services), is leading to a significant change in the provider-customer relationship (Grönroos & Voima, 2013; Vargo & Lusch, 2004, 2008). We outline this in Sect. 3, where we discuss the development and classification of the concept of value and conclude on the idea of value-in-use. Here we draw particular attention to the important role of selling and sales in creating value-in-use, which has not yet been adequately discussed in the context of increasingly electronic-based services.

Consequently, in Sect. 4, we highlight the role of value-oriented selling in e-services from multiple perspectives including the e-sales process, the sales force, and the salesperson level. In doing so, we primarily point out that the role of sales has changed significantly in recent years. In academia, the transformation of sales activities from providing service access to facilitating a consumer's usage process has been discussed extensively in the B2B context and in the solutions business. We also see this idea being implemented by practitioners, for example, through new roles such as customer success managers (Eggert et al., 2020). In the B2C context, however, there has been limited discussion of this idea among academics. Therefore, we contribute to the existing literature by focusing specifically on e-services, which are primarily targeted at end-users. We further contribute to the development of theories on this topic by discussing the changes in the sales process and sales personnel in terms of team structure and different roles and responsibilities. In doing so, we extend the contribution of Jacob et al. (2020), which basically contrasts different sales approaches. In addition, we respond to a call for research by Verbeke et al. (2011) and Cron (2017), who call for more research on sales force structure and role distribution. By linking the discussion of sales force structure and the responsibilities of individual salespeople for selling e-services, we aim to provide initial insights into how this research gap can be addressed.

At the same time, we are aware that this article is based on conceptual considerations, which is why our statements need to be empirically substantiated in the next step. Above all, there needs to be greater awareness of the emerging field of e-services and deeper investigations need to be carried out to distinguish them from traditional services and the associated traditional service sales approaches. In particular, with regard to the composition of the sales force for e-services sales, qualitative and quantitative research needs to be conducted on how best to assemble teams, which roles need to be adapted, and how best to combine the various responsibilities to create value-in-use for all stakeholders involved.

Finally, we aim to provide an innovative perspective on the role of sales in value creation in a novel service area, such as e-services. In doing so, with this research we intend to recognize and consolidate in particular the research fields of Frank Jacob and to stimulate further conceptual and empirical contributions in this important and future-oriented research area.

References

Akçura, M. T., Ozdemir, Z. D., & Rahman, M. S. (2015). Online intermediary as a channel for selling quality-differentiated services. *Decision Sciences, 46*(1), 37–62.

Agnihotri, R., Gabler, C. B., Itani, O. S., Jaramillo, F., & Krush, M. T. (2017). Salesperson ambidexterity and customer satisfaction: Examining the role of customer demandingness, adaptive selling, and role conflict. *Journal of Personal Selling & Sales Management, 37*(1), 27–41.

Agnihotri, R., Kothandaraman, P., Kashyap, R., & Singh, R. (2012). Bringing "social" into sales: The impact of salespeople's social media use on service behaviors and value creation. *Journal of Personal Selling & Sales Management, 32*(3), 333–348.

Albers, S., & Mantrala, M. (2008). Models for Sales Management Decisions. Berend Wierenga (ed.): *Handbook of Marketing Decision Models*, Springer Science + Business Media; International Series in Operational Research and Management Science, Series Editor: Fred Hillier.

Arnold, D., Julian, B., & Toulan, O. (2001). Can selling be globalized? *California Management Review, 44*(1), 8–120.

Ballantyne, D., Frow, P., Varey, R. J., & Payne, A. (2011). Value propositions as communication practice: Taking a wider view. *Industrial Marketing Management, 40*(2), 202–210.

Baron, S., & Harris, K. (2010). Consumers as resource integrators. *Journal of Marketing Management, 24*(1–2), 113–130.

Blaschke, M., Riss, U., Haki, K., & Aier, S. (2019). Design principles for digital value co-creation networks: A service-dominant logic perspective. *Electronic Markets, 29*(3), 443–472.

Bolander, W., Satornino, C. B., Hughes, D. E., & Ferris, G. R. (2015). Social networks within sales organizations: Their development and importance for salesperson performance. *Journal of Marketing, 79*(6), 1–16.

Boyer, K. K., Hallowell, R., & Roth, A. V. (2002). E-services: Operating strategy—A case study and a method for analyzing operational benefits. *Journal of Operations Management, 20*(2), 175–188.

Bradford, K., Brown, S., Ganesan, S., Hunter, G., Onyemah, V., Palmatier, R., Rouzies, D., Spiro, R., Sujan, H., & Weitz, B. (2010). The embedded sales force: Connecting buying and selling organizations. *Marketing Letters, 21*(3), 239–253.

Bruns, K., & Jacob, F. (2014). Value-in-use and mobile technologies. *Business & Information Systems Engineering, 6*(6), 349–359.

Bruns, K., & Jacob, F. (2016). Value-in-use: antecedents, dimensions, and consequences. *Marketing ZFP – Journal of Research and Management* 38(3), 135–149.

Bulawa, N., & Jacob, F. (2021) More than a snapshot: Dynamic value-in-use emergence in e-services. *Electronic Markets advance online publication 7 Dec.*

Chandler, J., & Vargo, S. L. (2011). Contextualization: Network intersections, value-in-context, and the co-creation of markets. *Marketing Theory, 11*(1), 35–49.

Chen, T., Drennan, J., & Andrews, L. (2012). Experience sharing. *Journal of Marketing Management, 28*(13–14), 1535–1552.

Cho, Y. K., & Menor, L. J. (2010). Toward a provider-based view on the design and delivery of quality e-service encounters. *Journal of Service Research, 13*(1), 83–95.

Cron, W., & Cravens, D. (2010). Sales Force Strategy. In J. Sheth and N. K. Malhotra (Eds.), *The Wiley International Encyclopedia of Marketing* (pp. 1–11). Blackwell.

Cron, W. L. (2017). Macro sales force research. *Journal of Personal Selling & Sales Management, 37*(3), 188–197.

DeCarlo, T. E., & Lam, S. K. (2016). Identifying effective hunters and farmers in the salesforce: A dispositional–situational framework. *Journal of the Academy of Marketing Science, 44*(4), 415–439.

Deeter-Schmelz, D. R., & Kennedy, K. N. (2004). Buyer-seller relationships and information sources in an e-commerce world. *Journal of Business & Industrial Marketing, 19*(3), 188–196.

Dixon, A. L., & Tanner, J. J. F., Jr. (2012). Transforming selling: Why it is time to think differently about sales research. *Journal of Personal Selling & Sales Management, 32*(1), 9–13.

Edvardsson, B., Tronvoll, B., & Gruber, T. (2011) Expanding understanding of service exchange and value co-creation. A social construction approach. *Journal of the Academy of Marketing Science* 39(2), 327–339.

Eggert, A., Ulaga, W., & Gehring, A. (2020). Managing customer success in business markets: Conceptual foundation and practical application. *Journal of Service Management Research, 4*(2), 121–132.

Fan, D. X., Hsu, C. H., & Lin, B. (2020). Tourists' experiential value co-creation through online social contacts: Customer-dominant logic perspective. *Journal of Business Research, 108*, 163–173.

Fassnacht, M., & Koese, I. (2006). Quality of electronic services: Conceptualizing and testing a hierarchical model. *Journal of Service Research, 9*(1), 19–137.

Ferreira, J. F. (2017). *Die Wertkette des Konsumenten – Analyse der Wertentwicklung in kundenseitigen Nutzungsprozessen*. Verlag Dr.

Gabler, C. B., Ogilvie, J. L., Rapp, A., & Bachrach, D. G. (2017). Is there a dark side of ambidexterity? Implications of dueling sales and service orientations. *Journal of Service Research, 20*(4), 379–392.

Gallouj, F., Weber, K. M., Stare, M., & Rubalcaba, L. (2015). The futures of the service economy in Europe: A foresight analysis. *Technological Forecasting and Social Change, 94*, 80–96.

Ghosh, S., Surjadjaja, H., & Antony, J. (2004). Optimisation of the determinants of e-service operations. *Business Process Management Journal, 10*(6), 616–636.

Grieger, M., & Ludwig, A. (2019). On the move towards customer-centric business models in the automotive industry: A conceptual reference framework of shared automotive service systems. *Electronic Markets, 29*(3), 473–500.

Grönroos, C. (2000). Creating a relationship dialogue: Communication, interaction and value. *The Marketing Review, 1*(1), 5–14.

Grönroos, C., & Voima, P. (2013). Critical service logic: Making sense of value creation and co-creation. *Journal of the Academy of Marketing Science, 41*(2), 133–150.

Grove, S. J., Fisk, R. P., & John, J. (2003). The future of services marketing: Forecasts from ten services experts. *Journal of Services Marketing, 17*(2), 107–121.

Grove, H., Sellers, K., Ettenson, R., & Knowles, J. (2018). Selling solutions isn't enough. *MIT Sloan Management Review, 60*(1), 55–59.

Gummerus, J. (2010). E-services as resources in customer value creation: A service logic approach. *Managing Service Quality: an International Journal, 20*(5), 425–439.

Gummerus, J. (2011). *Customer value in e-service: Conceptual foundation and empirical evidence*. Doctoral thesis, Hanken School of Economics, Finland.

Gutman, J. (1982). A means-end chain model based on consumer categorization processes. *Journal of Marketing* 46(2) Spring, 60–72.

Haas, A., Snehota, I., & Corsaro, D. (2012). Creating value in business relationships: The role of sales. *Industrial Marketing Management, 41*(1), 94–105.

Haas, A., Eggert, A., Terho, H., & Ulaga, W. (2013). Erfolgsfaktor Value-Based Selling—Verkaufen, wenn Kundenorientierung nicht zum Erfolg führt. *Marketing Review St. Gallen, 30*(4), 64–73.

Hartmann, N. N., Wieland, H., & Vargo, S. L. (2018). Converging on a new theoretical foundation for selling. *Journal of Marketing, 82*(2), 1–18.

Hartwig, K. L., & Jacob, F. (2018). How individuals assess value-in-use: Theoretical discussion and empirical investigation. *Marketing ZFP–Journal of Research and Management* 40(3), 43–62.

Hartwig, K., & Jacob, F. (2021). Capturing marketing practices for harnessing value-in-use. *Journal of Marketing Theory and Practice* 1–18.

He, B., Gupta, V., & Mirchandani, P. (2021). Online selling through O2O platform or on your own? Strategic implications for local brick-and-mortar stores. *Omega, 103*(102424), 2–14.

Helkkula, A., Kelleher, C., & Pihlström, M. (2012). Characterizing value as an experience: Implications for service researchers and managers. *Journal of ServiCe Research, 15*(1), 59–75.

Heskett, J. L., T. O., Loveman, G. W., Earl Sasser Jr., W., & Schlesinger, L. A. (1994). Putting the service-profit chain to work. *Harvard Business Review, 72,* 164–174.

Heinonen, K., Strandvik, T., Mickelsson, K. J., Edvardsson, B., Sundström, E., & Andersson, P. (2010). Acustomer-dominant logic of service. *Journal of Service Management, 21*(4), 531–548.

Heinonen, K. (2006a). Temporal and spatial e-service value. *International Journal of Service Industry Management, 17*(4), 380–400.

Heinonen, K. (2006b). The role of customer participation in creating e-service value. In M. Maula, M. Hannula, M. Seppä, & J. Tommila (Eds.), *Conference Proceedings of frontier of e-business research* (2006b), B3. University of Tampere.

Heinonen, K., & Strandvik, T. (2009). Monitoring value-in-use of e-service. *Journal of Service Management, 20*(1), 33–51.

Hernant, M., & Rosengren, S. (2017). Now what? Evaluating the sales effects of introducing an online store. *Journal of Retailing and Consumer Services, 39*, 305–313.

Hofacker, C. F., Goldsmith, R. E., Bridges, E., & Swilley, E. (2007). In H. Evanschitzky & G. R. Iyer (Eds.), *E-Services* (pp. 13–44). DUV.

Hoffeld, D. (2016). *The science of selling: Proven strategies to make your pitch, influence decisions, and close the deal*. Penguin Random House LLC.

Holbrook, M. B. (1994). The nature of customer value: An axiology of services in the consumption experience. In R. Rust & R. Oliver (Eds.), *Service quality: new directions in theory and practice* (pp. 21–71). SAGE.

Holbrook, M. B. (1996). Customer value: A framework for analysis and research. In Kim P. Corfman & John G. Lynch Jr. (Eds.), Advances in consumer research (pp. 138–142). Association for Consumer Research.

Holbrook, M. B. (2006). "ROSEPEKICEVIVECI versus CCV." In Robert F. Lusch & Stephen L. Vargo (Eds.), *The service-dominant logic of marketing: Dialog, debate, and directions* (pp. 208–223). ME Sharpe.

Jacob, F., Hartwig, K., & Bulawa, N. (2020). Co-creation und Wertorientierung im Verkauf. In S. Roth, C. Horbel, & B. Popp (Eds.), *Perspektiven des Dienstleistungsmanagements* (pp. 371–386). Springer Gabler.

Jacob, F., & Sebald, A. K. (2016). Mobile Dienstleistungen. In H. Corsten & S. Roth (Eds.), *Handbuch Dienstleistungsmanagement* (pp. 445–460). Franz Vahlen.

Jasmand, C., Blazevic, V., & De Ruyter, K. (2012). Generating sales while providing service: A study of customer service representatives' ambidextrous behavior. *Journal of Marketing, 76*(1), 20–37.

Kienzler, M., Kindström, D., & Brashear-Alejandro, T. (2019). Value-based selling: A multi-component exploration. *Journal of Business & Industrial Marketing, 34*(2), 360–373.

Kleijnen, M., De Ruyter, K., & Wetzels, M. (2007). An assessment of value creation in mobile service delivery and the moderating role of time consciousness. *Journal of Retailing, 83*(1), 33–46.

Kowalkowski, C., Gebauer, H., Kamp, B., & Parry, G. (2017). Servitization and deservitization: Overview, concepts, and definitions. *Industrial Marketing Management, 60*, 4–10.

Kumar, V., & Reinartz, W. (2016). Creating enduring customer value. *Journal of Marketing: AMA/MSI Special Issue, 80*(6), 36–68.

Kuruzovich, J. (2013). Sales technologies, sales force management, and online infomediaries. *Journal of Personal Selling & Sales Management, 33*(2), 211–224.

Le Meunier-FitzHugh, K., Baumann, J., Palmer, R., & Wilson, H. (2011). The implications of service-dominant logic and integrated solutions on the sales function. *Journal of Marketing Theory and Practice, 19*(4), 423–440.

Lin, C. H. (2007). The effects of technology readiness on the formation of e-service value. *Portland International Conference on Management of Engineering and Technology.* US.

Lin, C. H. (2010). In search of e-service value: Technology-exploitation vs. certainty-seeking online behaviours. *The Service Industries Journal, 30*(8), 1377–1400.

Lindgreen, A., & Wynstra, F. (2005). Value in business markets: What do we know? Where are we going? *Industrial Marketing Management, 34*, 732–748.

Liu, A. H., & Leach, M. P. (2001). Developing loyal customers with a value adding sales force: Examining customer satisfaction and the perceived credibility of consultative salespeople. *Journal of Personal Selling and Sales Management, 11*(2), 147–156.

Lovelock, C., & Gummesson, E. (2004). Whither services marketing? In search of a new paradigm and fresh perspectives. *Journal of Service Research, 7*(1), 20–41.

Lyytinen, K. J., Yoo, Y., Varshney, U., Ackerman, M., Davis, G., Avital, M., Robey, D., Sawyer, S., & Sorensen, C. (2004). Surfing the next wave: Design and implementation challenges of ubiquitous computing. *Communications of the Association for Information Systems, 13*(1), 40.

Macdonald, E. K., Kleinaltenkamp, M., & Wilson, H. (2016). How business customers judge solutions: Solution quality and value in use. *Journal of Marketing, 80*(3), 96–120.

Mathieu, J., Ahearne, M., & Taylor, S. (2007). A longitudinal cross-level model of leader and salesperson influences on sales force technology use and performance. *Journal of Applied Psychology, 92*(2), 528–537.

Medberg, G., & Grönroos, C. (2020). Value-in-use and service quality: Do customers see a difference? *Journal of Service Theory and Practice, 30*(4/5), 507–529.

Moeller, S. (2010). Characteristics of services–A new approach uncovers their value. *Journal of Services Marketing, 24*(5), 359–368.

Molesworth, M., & Jenkins, K. (2002). Young adults' uses of commercial and non-commercial Internet content. *Academy of Marketing Conference Proceedings*.

Moncrief, W. C., & Marshall, G. W. (2005). The evolution of the seven steps of selling. *Industrial Marketing Management, 34*(1), 13–22.

Monroe, K. B. (1990). *Pricing: Making profitable decisions*. McGraw-Hill.

Mullins, R., Agnihotri, R., & Hall, Z. (2020). The ambidextrous sales force: Aligning salesperson polychronicity and selling contexts for sales-service behaviors and customer value. *Journal of Service Research, 23*(1), 33–52.

Ng, I. C. L., & Smith, L. A. (2012). An integrative framework of value. In Special Issue: Toward a better understanding of the role of value in markets and marketing, *Review of Marketing*

Research Stephen L. Vargo & Robert F. Lusch, 9 (pp. 207–243). Emerald Group Publishing Limited.

Orlob, C. (2017) Will your B2B sales job survive AI. Destination CRM, 20 July. https://www.destinationcrm.com/Articles/Web-Exclusives/Viewpoints/Will-Your-B2B-Sales-Job-Survive-AI--119469.aspx. Accessed 1 Dec 2021.

Parasuraman, A., & Grewal, D. (2000). The impact of technology on the quality-value-loyalty chain: A research agenda. *Journal of the Academy of Marketing Science, 28*(1), 168–174.

Parvinen, P., Oinas-Kukkonen, H., & Kaptein, M. (2015). E-selling: A new avenue of research for service design and online engagement. *Electronic Commerce Research and Applications, 14*(4), 214–221.

Petri, J., & Jacob, F. (2017). Hunting for value: How to enable value-in-use? A conceptual model. *Journal of Creating Value, 3*(1), 50–62.

Pura, M., & Heinonen, K. (2008). Exploring mobile service business opportunities from a customer-centric perspective. In W. W. Huang, Y. Wang, & J. Day (Eds.), *Global mobile commerce: Strategies, implementation and case studies* (pp. 111–132). Idea Group Inc.

Rackham, N., & DeVincentis, J. (1998). *Rethinking the sales force: Refining selling to create and capture customer value*. McGraw-Hill.

Raja, J. Z., Frandsen, T., Kowalkowski, C., & Jarmatz, M. (2020). Learning to discover value: Value-based pricing and selling capabilities for services and solutions. *Journal of Business Research, 114*, 142–159.

Rapp, A., Bachrach, D. G., Flaherty, K. E., Hughes, D. E., Sharma, A., & Voorhees, C. M. (2017). The role of the sales-service interface and ambidexterity in the evolving organization: A multi-level research agenda. *Journal of Service Research, 20*(1), 59–75.

Rapp, A., Beitelspacher, L. S., Schillewaert, N., & Baker, T. L. (2012) The differing effects of technology on inside vs. outside sales forces to facilitate enhanced customer orientation and inter-functional coordination. *Journal of Business Research, 65*(7), 929–936.

Reynolds, J. (2000). *The complete e-commerce book: Design, build and maintain a successful web-based business*. CMP Books.

Rust, R. T., & Huang, M. H. (2014). The service revolution and the transformation of marketing science. *Marketing Science, 33*(2), 206–221.

Rust, R. T., & Kannan, P. K. (2003). E-service: A new paradigm for business in the electronic environment. *Communications of the ACM, 46*(6), 36–42.

Rust, R. T., & Lemon, K. N. (2001). E-service and the consumer. *International Journal of Electronic Commerce, 5*(3), 85–101.

Sánchez-Fernández, R., & Iniesta-Bonillo, M. A. (2007). The concept of perceived value: A systematic review of the research. *Marketing Theory, 7*(4), 427–451.

Sandström, S. (2008). Technology-based service experiences: A study of the functional and emotional dimensions in telecom services, Doctoral thesis, Karlstad University, Sweden.

Scherer, A., Wünderlich, N. V., & von Wangenheim, F. (2015). The value of self-service. *MIS Quarterly, 39*(1), 177–200.

Seringhaus, F. R. (2005). Selling luxury brands online. *Journal of Internet Commerce, 4*(1), 1–25.

Sheth, J. N., & Sharma, A. (2008). The impact of the product to service shift in industrial markets and the evolution of the sales organization. *Industrial Marketing Management, 37*(3), 260–269.

Singh, J., Flaherty, K., Sohi, R. S., Deeter-Schmelz, D., Habel, J., Le Meunier-FitzHugh, K., Avinash, M., Mullins, R., & Onyemah, V. (2019). Sales profession and professionals in the age of digitization and artificial intelligence technologies: Concepts, priorities, and questions. *Journal of Personal Selling & Sales Management, 39*(1), 2–22.

Sousa, R., Yeung, A. C., & Cheng, T. C. E. (2008). Customer heterogeneity in operational e-service design attributes. *International Journal of Operations & Production Management, 28*(7), 592–614.

Spohrer, J., & Maglio, P. P. (2008). The emergence of service science: Toward systematic service innovations to accelerate co-creation of value. *Production and Operations Management, 17*(3), 238–246.

Surjadaja, H., Ghosh, S., & Antony, F. (2003). Determining and assessing the determinants of e-service operations. *Managing Service Quality, 13*(1), 39–44.

Sweeney, J. C., & Soutar, G. N. (2001). Consumer perceived value: The development of a multiple item scale. *Journal of Retailing, 77*(2), 203–220.

Syam, N., & Sharma, A. (2018). Waiting for a sales renaissance in the fourth industrial revolution: Machine learning and artificial intelligence in sales research and practice. *Industrial Marketing Management, 69*, 135–146.

Terho, H., Haas, A., Eggert, A., & Ulaga, W. (2012). 'It's almost like taking the sales out of selling'—Towards a conceptualization of value-based selling in business markets. *Industrial Marketing Management, 41*(1), 174–185.

Thaichon, P., Surachartkumtonkun, J., Quach, S., Weaven, S., & Palmatier, R. W. (2018). Hybrid sales structures in the age of e-commerce. *Journal of Personal Selling & Sales Management, 38*(3), 277–302.

Töytäri, P. (2018). Selling Solutions by Selling Value. In M. Kohtamäki, T. Baines, R. Rabetino, & A. Bigdeli (Eds.), *Practices and tools for servitization* (pp. 269–289). Palgrave Macmillan.

Töytäri, P., Brashear Alejandro, T., Parvinen, P., Ollila, I., & Rosendahl, N. (2011). Bridging the theory to application gap in value-based selling. *Journal of Business & Industrial Marketing, 26*(7), 493–502.

Ulaga, W., & Loveland, J. M. (2014). Transitioning from product to service-led growth in manufacturing firms: Emergent challenges in selecting and managing the industrial sales force. *Industrial Marketing Management, 43*(1), 113–125.

Vandermerwe, S., & Rada, J. (1988). Servitization of business: Adding value by adding services. *European Management Journal, 6*(4), 314–324.

Vargo, S. L., Lusch, R., & F. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing, 68*(1), 1–17.

Vargo, S. L., & Lusch, R.F. (2006). Service-dominant logic: What it is, what it is not, what it might be. In Stephen L. Vargo & Robert F. Lusch (Eds.), The service-dominant logic of marketing: Dialog, debate, and directions (pp. 43–56). ME Sharpe.

Vargo, S. L., & Lusch, R. F. (2008). Service-dominant logic: Continuing the evolution. *Journal of the Academy of Marketing Science, 36*(1), 1–10.

Vargo, S. L., & Lusch, R. F. (2016). Institutions and axioms: An extension and update of service-dominant logic. *Journal of the Academy of Marketing Science, 44*(1), 5–23.

Verbeke, W., Dietz, B., & Verwaal, E. (2011). Drivers of sales performance: A contemporary meta analysis. Have salespeople become knowledge brokers? *Journal of the Academy of Marketing Science, 39*(3), 407–428.

Viio, P., & Grönroos, C. (2014). Value-based sales process adaptation in business relationships. *Industrial Marketing Management, 43*(6), 1085–1095.

Voss, C. (1999). *Trusting the internet: Developing an e-service strategy.* Institute of Customer Service.

Wieseke, J., Kraus, F., Alavi, S., & Kessler-Thönes, T. (2011). How leaders' motivation transfers to customer service representatives. *Journal of Service Research, 62*(2), 214–234.

Williams, K., Chatterjee, S., & Rossi, M. (2008). Design of emerging digital services: A taxonomy. *European Journal of Information Systems, 17*(5), 505–517.

Woodruff, R. B. (1997). Customer value: The next source for competitive advantage. *Journal of the Academy of Marketing Science, 25*(2), 139–153.

Woodruff, R. B., & Flint, D. J. (2006). Marketing's service-dominant logic and customer value. In R.F. Lusch, & S.Vargo (Eds.), *Toward a service-dominant logic of marketing: Dialogue, debate, and directions* (pp. 183–195). Armonk, NY: Sharpe.

Xie, X., Verma, R., & Anderson, C. K. (2016). Demand growth in services: A discrete choice analysis of customer preferences and online selling. *Decision Sciences, 47*(3), 473–491.

Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: A means-end model and synthesis of evidence. *Journal of Marketing, 52*(3), 2–22.

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50 Ways to Serve the Customer—A Curated List of Songs About Service

Michael Kleinaltenkamp

Abstract

Services are a part of our daily lives, so it is not surprising that artists have also taken up the phenomenon and reflected it in their works. This holds not only for popular music, in which artists approach service from the role of customers or front-line employees, but artists also use service as a metaphor to express their ideas and feelings. To gain a deeper understanding of how "serving the customer" works and what experiences, thoughts, and emotions might be associated with it, good or bad, this chapter examines how lyricists and songwriters have dealt with the theme and the underlying service topics.

1 It's All in the Music

In the developed economies, services represent the dominant sector, accounting for over 70% of GDP and employment (Statista, 2021), and every day, we all use a variety of privately and publicly provided services. Given their ubiquity, it is not surprising that the topic of service has found its way into popular music as well. In their songs, the artists describe not only their service experiences but also the desires, dreams, and sometimes even the nightmares they associate with services in their roles as both customers and front-line employees (FLEs). Additionally, they often use service as a metaphor to artistically express their thoughts, longings, and feelings. So when reflecting on "Serving the Customer" in honor of Frank Jacob, why not investigate how service has been treated in popular music over the last eight decades?

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The number of songs to be featured, and thus the title of this chapter, was inspired by *Paul Simon*'s song "50 Ways to Leave Your Lover," which the world-famous singer-songwriter published in 1975. However, unlike *Paul Simon,* whose song actually mentions only five ways to leave a lover, the following chapter portrays 50 songs from popular music dealing with service (see Table 1).[1] Starting from this boundary condition, the article presents a subjective choice based on the author's own musical preferences and interests. Therefore, there is a clear focus on the music of the 1960s and 1970s, the years that had a decisive influence on his own development as a music lover and guitar player. Nevertheless, the oldest title dates back to 1941 and the most recent one from 2017. Interestingly, but also not that surprisingly, the songs address a number of typical service issues that echo strongly in service research and teaching. These topics build the structure for the following presentation of the featured songs.

2 Getting Started: "Buy" or "Rent" and "Make" or "Let-Make"

The first and most basic precondition for serving the customer is that customers actually want to be served and do not want to perform the respective service processes themselves. Hence, the beginning of any customer journey in service is thus triggered by the fundamental "make-or-buy" decision, a central phenomenon in service contexts (e.g., Greer et al., 1999). However, as one cannot really *own* a service but can only get access to the respective provider resources (Haase & Kleinaltenkamp, 2011; Wittkowski et al., 2013), this decision needs to be characterized more precisely either as a "buy-or-rent" or a "make-or-let-make" decision, respectively. This determination and its drivers are addressed in the two first songs to be presented: "Magic Bus" by *The Who* and "Roxanne" by *The Police*.

As in many pieces of popular music, the motivation for addressing the question in both of the songs is "love"—and, interestingly, in both cases, the storytellers oppose the use of service, albeit for very different reasons. In "Magic Bus," the plot refers to a teenage protagonist who has to take a bus every day to meet up with his girlfriend. Since the bus follows a timetable and thus takes many stops, it moves much too slowly for the eager young boy. Therefore, he starts to negotiate with the bus driver whether he could buy the bus to drive it himself and thus get to his lover faster. In the live performances of the song, these negotiations between *The Who*'s singer *Roger Daltrey* (as the teenager) and the band's famous guitar player and composer *Pete Townshend* (as the bus driver) sometimes took several minutes offering the audience an opportunity to sing along. With respect to service, we learn first that, given the specific features of the bus ride, the service has difficulties to compete against the "make" option—at least from the perspective

[1] The full list with the lyrics of all 50 songs is available at. https://www.fu-berlin.de/sites/open_access/refubium/index.html.

Table 1 The 50 songs featured in this chapter (in alphabetical order)

No	Title	Artist(s)	Year	Service industry	Service topic
1	A Pub with No Beer	Slim Dusty	1957	Hospitality	Service failure
2	Another Brick in the Wall (Part II)	Pink Floyd	1979	Education	Compulsory services
3	Bad Haircut	The Squids	1995	Hairdressing	Service failure
4	Being for the Benefit of Mr. Kite!	The Beatles	1967	Entertainment	Promotion
5	Betty's Diner	Carrie Newcomer	2005	Hospitality	Social services-cape
6	Birdland	Weather Report/ The Manhattan Transfer	1977/1979	Entertainment	Social services-cape
7	Blue Hotel	Chris Izaak	1986	Tourism	Service as metaphor
8	Cabaret	Liza Minelli	1972	Entertainment	Promotion
9	Chattanooga Choo Choo	Glenn Miller Band	1941	Tourism	Service process
10	Chelsea Hotel #2	Leonard Cohen	1974	Hospitality	Social services-cape
11	Chemo Hero	Dolly Parton	2017	Healthcare	Customer participation
12	Circus	Britney Spears	2008	Entertainment	Service as metaphor
13	Copacabana	Barry Manilow	1978	Hospitality	Front-line employees
14	Doctor Robert	The Beatles	1966	Healthcare	Front-line employees
15	Don't Stand so Close to Me	The Police	1980	Education	Front-line employees
16	Hairdresser	ZZ Top	1996	Hairdressing	Service as metaphor
17	Hotel California	Eagles	1977	Tourism	Service as metaphor
18	I Don't Need No Doctor	Ray Charles	1966	Healthcare	Service as metaphor
19	Leaving on a Jet Plane	John Denver	1966	Tourism	Pre-encounter stage
20	Love Letter	Nick Cave and the Bad Seeds	2001	Postal services	Service outcome

(continued)

Table 1 (continued)

No	Title	Artist(s)	Year	Service industry	Service topic
21	Lovely Rita	The Beatles	1967	Public services	Front-line employees
22	Magic Bus	The Who	1968	Public transport	Buy, rent, make, let-make
23	Magical Mystery Tour	The Beatles	1967	Tourism	Promotion
24	Marrakesh Express	Crosby, Stills & Nash	1969	Tourism	Service process
25	Midnight Train to Georgia	Gladys Knight & the Pips	1973	Tourism	Service outcome
26	Mr. Cab Driver	Lenny Kravitz	1990	Mobility	Service failure
27	Please Mr. Postman	The Marvelettes	1961	Postal services	Service outcome
28	On Broadway	George Benson	1978	Entertainment	Front-line employees
29	Piano Man	Billy Joel	1973	Hospitality	Social servicescape
30	Private Dancer	Tina Turner	1984	Prostitution	Promotion
31	Rehab	Amy Winehouse	2006	Healthcare	Customer participation
32	Return to Sender	Elvis Presley	1962	Postal services	Service outcome
33	(Get Your Kicks on) Route 66	King Cole Trio	1946	Tourism	Service process
34	Roxanne	The Police	1978	Prostitution	Buy, rent, make, let-make
35	Saturday Night's Alright for Fighting	Elton John	1973	Hospitality	Pre-encounter stage
36	School's Out	Alice Cooper	1972	Education	Compulsory services
37	Service Blues	The Deadline Boys	2010	Science	Service science
38	Sister Morphine	The Rolling Stones	1971	Healthcare	Front-line employees
39	Taxman	The Beatles	1966	Taxation	Compulsory services
40	Tears of a Clown	Smokey Robinson & The Miracles	1970	Entertainment	Front-line employees
41	The Acid Queen	Tina Turner	1975	Healthcare	Promotion

(continued)

Table 1 (continued)

No	Title	Artist(s)	Year	Service industry	Service topic
42	The House of the Rising Sun	The Animals	1964	Prostitution	Pricing
43	The Letter	The Box Tops	1967	Postal services	Service outcome
44	The Show Must Go On	Queen	1991	Entertainment	Service as a metaphor
45	The Show Must Go On	Leo Sayer	1973	Entertainment	Service as a metaphor
46	Tom's Diner	Suzan Vega	1987	Hospitality	Social services-cape
47	Trans-Europa Express	Kraftwerk	1977	Tourism	Service outcome
48	Trust Me, I'm a Dentist	Students of the Faculty of Dentistry of the MSA University	2017	Healthcare	Promotion
49	United Breaks Guitars	Dave Carroll	2009	Tourism	Service failure
50	Welcome to Burlesque	Cher	2010	Entertainment	Promotion

of the young boy. And second, the negotiations show that this trade-off between non-ownership and speed can even be quantified in economic terms.

In contrast, the second song, "Roxanne," addresses this question not in terms of physical resources like a bus, but in terms of human resources. Roxanne is a prostitute, but the protagonist of the song, having fallen in love with her, wants her to leave the red-light milieu, i.e. not to offer her love as a service anymore, as he does not want to "share her with another boy." Thus, instead of having to share the access to the beloved 'resource' with others, the protagonist would rather own it, not in the legal sense, of course, but in the form of psychological ownership (Kleinaltenkamp et al., 2018; Pierce et al., 2001). *Sting*, the singer of the band at that time and the later world-famous solo artist, was inspired to write the lyrics when, at the beginning of their career, the band stayed in a shabby hotel in Paris they had to take on a tour for money reasons. While staying there, they watched the prostitutes outside on the street. It was also there that the name "Roxanne" caught *Sting*'s eye, as in the hotel's foyer a poster of *Edmond Rostand*'s play "Cyrano de Bergerac," in which Roxanne is the main female character, was peeling from the wall. The fact that the song deals with the so-called "oldest service in the world" led the BBC to ban it although no explicit things or actions are mentioned. Accordingly, the band was very upset about this decision. Although the ban greatly hindered the success of the song and thus the breakthrough of the band at the beginning, it could not stop its long-lasting worldwide success.

3 A Promise Made Must Be a Promise Kept (I): How to Convince the Customer?

The next step in customers' service journeys revolves around the selection of service providers and their decision which offer is the best for them. Hence, to convince their customers, the service providers have to promote their offerings. This topic is addressed in various songs, sometimes in a more general way and sometimes very personally. For example, *The Beatles* promise "a splendid time is guaranteed for all" in their song "Being for the Benefit of Mr. Kite!" from their famous album "Sgt. Pepper's Lonely Hearts Club Band." The song was inspired by a copy of an old circus poster in *John Lennon*'s apartment, and the lyrics advertise the various circus attractions by listing them one by one. Who does not immediately feel like going to the circus at the prospect of "Henry The Horse dances the waltz?".

The same band also promoted their own "Magical Mystery Tour," a TV movie and the accompanying EP ("extended play" record) and album, with the promise of "satisfaction guaranteed." However, this message represents a typical case of over-promising, which is not unknown in the service sector in general, because the film project more or less flopped and is not among the *Beatles*' greatest successes—although, with "I'm the Walrus," the EP contains one of the band's best pieces, at least from the author's perspective. Obviously, the tour was a little too magical for the customers, and the promises that were made were not kept due to a lack of service quality. We will address this fundamental problem of service delivery in more detail in the chapter on service failure.

In contrast, in "Acid Queen," a song from *The Who's* famous rock opera "Tommy," covered by *Tina Turner* for screen adaptation, the singer provides proof of her successful provisioning of service right away through a before-and-after comparison. In the first verse, she still solicits trust for her "cure" of Tommy, the "deaf, dumb and blind boy" and protagonist of the rock opera, before the treatment by singing, "I'll show him what he could be now. Just give me one night." Afterwards, in the last verse, she proudly claims "My work's been done, now look at him. He's never been more alive." Obviously, the song does not only illustrate the importance of the experience attributes of services that cannot be observed before the purchase but can only be experienced during the service provisioning (Zeithaml, 1981) very nicely, it also plays with the fluidity of the boundary between medical and sexual services.

There is no doubt, however, that the song "Trust Me, I'm the Dentist" of the *Students of the Faculty of Dentistry of MSA University* focuses on a medical service, moreover, one that customers often are afraid to take advantage of. It is therefore even more important that customers have confidence in the service provider that performs the service—for a simple reason, "'Cause I'm the dentist." The song thus addresses a central problem in the marketing of service—gaining trust in the service provider (Crosby et al., 1990; Dorsch et al., 1998). This challenge can be overcome, for example, by signaling credence qualities referring to the quality of the service providers (Zeithaml, 1981), in this case their training and status. However, if you watch the self-deprecatingly made video of a live performance of the song, you may well have some doubts again.

Serious doubts about the appropriateness of a medical service are also expressed in the song "I Don't Need No Doctor" by *Ray Charles*, of which famous cover versions have been recorded among others by *Humble Pie*, *Styx*, *Jon Scofield* or *John Mayer*. The "medicated lotion" that the doctor gave to the patient who is suffering from lovesickness, "didn't soothe my [his] emotion." Obviously, he knows best as to what is good for him and thus prefers self-medication, as said in the line "All I need is my baby. Won't you please come on home?".

Finally, artists have also repeatedly taken up the situation of their own business, entertainment. "Cabaret" by *Liza Minelli* and "Welcome to Burlesque" by *Cher* are examples. Here the singers promote the shows they pretend to perform in by stating, "Life is a Cabaret, old chum. Come to the Cabaret!" and promising "Your table's waiting." But, following the recommendations of the "Gaps model" of service quality (Parasuraman et al., 1985), they also help to build a realistic expectation of the service to be delivered (Zeithaml et al., 1993) by explaining, "You can dream of Coco, do it at your risk. The Triplets grant you mercy, but not your every wish."

4 There's no Free Lunch: Pricing

The decision for or against a service is not only determined by the attributes of a service and its supposed quality (Woodruff, 1997), but also by its price. Yet, for customers, the pricing of services is often difficult to understand and risky, since they often have to pay more than just the price for the benefit of a service. In addition, in return for the service they receive, they also have to cover search and purchase costs, service encounter costs, and post-purchase or after-sale costs that are related to or caused by the specific service (Wirtz & Lovelock, 2018). The latter phenomenon is well illustrated by the traditional song "The House of the Rising Sun," of which the probably most famous version stems from *The Animals*. It tells the story of a man's life gone wrong in the city of New Orleans because of—too often—visiting the location that is mentioned in the title and that obviously was a bawdy house. Hence, as "it's been the ruin of many a poor boy," the message of the song is to avoid the same fate by thinking of the "extra costs" caused by the special service that is provided there: "Oh, mother, tell your children, not to do what I have done. Spend your lives in sin and misery in the House of the Rising Sun."

5 Getting in Tune: The Pre-Encounter Stage

As soon as customers are convinced to use a certain service, they need to prepare to participate in its provisioning. They thus enter the so-called "pre-purchase stage" or "pre-encounter stage" (Wirtz & Lovelock, 2018). Two songs, one related to visiting bars and one related to flying, reflect the very different thoughts and emotions customers may have in such situations. "Saturday Night's Alright for Fighting" by *Elton John* quite

drastically describes the "joyful" anticipation of the coming night's pub crawl when the narrator states "It's seven o'clock, and I wanna rock, want to get a belly full of beer" and predicts how that evening will go on; "Don't give us none of your aggravation. We had it with your discipline. Saturday night's alright for fighting. Get a little action in."

John Denver's song "Leaving on a Jet Plane" is quite the opposite. Here, the protagonist is still together with his lover early in the morning, while the taxi driver who will take him to the airport "is blowing his horn." In this situation, the narrator hates "to wake you up to say goodbye," and as he does not know when he will be back again, he really hates to go. But because his love is so strong, he imagines what will happen during the journey and especially afterward, when he will be back home: "Every place I go, I'll think of you. Every song I sing, I'll sing for you. When I come back, I'll bring your wedding ring." With such an attitude, nothing can really go wrong with the actual service experience.

6 It Takes Two to Tango: Customer Participation

Probably the most distinctive feature of services is that the client participates in the definition, production, and delivery of a service, including cognitive, emotional, and behavioral inputs (e.g., Bitner et al., 1997; Dong & Sivakumar, 2015). So, it may not come as a surprise that this customer participation during the "service-encounter stage" (Wirtz & Lovelock, 2018) is also a theme in various songs. Interestingly, in her song "Rehab," *Amy Winehouse*, the singer-songwriter who succumbed to her drug abuse at the young age of 27, sings about why she refuses to participate in the service process. In contrast, she is convinced that she can treat herself: "I don't ever want to drink again. I just, ooh I just need a friend. I'm not gonna spend ten weeks and have everyone think I'm on the mend." Obviously, the role stress she expected when being a patient in rehab was too much. In combination with the singer's life story, the song thus illustrates very impressively the effects of this "dark side" of customer participation (Blut et al., 2020).

But certain services "don't come easy," even for experienced or returning customers. This is especially true for some medical services, which is why patients may need encouragement and support for their contribution to the successful completion of a therapy. For this reason, in 2017, *Dolly Parton* wrote the song "Chemo Hero" for her niece who battled leukemia for five brutal years. As the niece was a young girl at that time, the song is composed as a children's tune. The lyrics especially express the importance of self-efficacy as a part of a customer's service readiness (Danatzis et al., 2022) by saying, "Sometimes they make me feel so bad, but I'll be better soon. 'Cause I'm a chemo hero, yeah-yeah,… I'm fightin' back, yeah-yeah." It also demonstrates the importance of the wider network of people supporting a patient (e.g., McColl-Kennedy et al., 2017; Taylor, 2011), as "sisters, brothers, cousins, friends, they're fightin' with me 'till the end. It's a battle we know we can win, that makes them heroes too."

7 The World that We're Living in: Social Servicescape

As soon as customers are in the encounter stage, they experience not only the core service but also the surroundings, in which the service provision is performed. Since they often have a great influence on customers' perception of service quality, they have been conceptualized as the "servicescape" (Bitner, 1992) and later as the "social-servicescape" (Tombs & McColl-Kennedy, 2003). The latter not only encompasses the physical environment but also all other people like FLEs or other customers who are present in that situation at the same time. Two of the songs describe this phenomenon in the setting of a diner, one, *Suzanne Vega*'s "Tom's Diner" from the perspective of the customer, and one, *Carrie Newcomer*'s "Betty's Diner," from the perspective of a waitress.

In her song, *Suzanne Vega* lyrically describes the very mundane situation of a customer having a coffee in a diner. However, the way the many details of the location and the people present are described and reflected upon ("the man to pour the coffee;" "the woman who has come in;" "I look the other way as they are kissing their hellos"), makes it very clear that it is precisely this experience of the social servicescape and not the coffee served that is the core of the service.

In contrast, *Carrie Newcomer* describes the position of a waitress who observes her customers and, from the conversations she is forced to overhear, gets a picture of their often not very happy life situations. In this sense, the microcosm that is portrayed in the song reflects our human existence, as seen with "With a nod and smile she serves them all. Here we are all in one place. The wants and wounds of the human race, despair and hope sit face to face." Thus, in her basic attitude, the waitress shows her true customer orientation authentically by respecting all individuals as they are.

Similarly, in his song "Piano Man," *Billy Joel* retells in a fictionalized way his own experience as a piano-lounge singer in the early 1970s. All the characters of the "regular crowd" that "shuffles in" depicted in the song are based on real people who have broken or unfulfilled dreams. Hence, *Joel* sees the pianist's job as to help them "forget about life for a while." The special servicescape and the music performed within thus go beyond entertainment and offer more of psychotherapy.

Two further songs celebrate the myth of famous servicescapes; interestingly enough, both are located in New York. The first is "Birdland," originally an instrumental piece released by *Weather Report* in 1977, which was taken up in a vocal version by *Manhattan Transfer* in 1979. The song worships the aura of the New York City jazz club of the same name that operated from 1949 until 1965. The later-added lyrics created an image of the atmosphere in part by listing the names of the most famous jazz musicians that had played in the club, like Cannonball Adderley ("Cannonball"), Count Basie ("Basie"), Art Blakey ("Blakey"), John Coltrane ("Trane"), and Miles Davis ("Miles"). Thus, "To play in Birdland is an honor we still dig." The song especially pays tribute to the famous saxophone player Charlie Parker whose nickname was "Bird" because of his legendary way to play his instrument. "Then Bird, he came and spread the word… Yes, he did.

Parker played in Birdland." Hence, the song also illustrates that a social servicescape may have an effect back on the service firm, here in the form of pride in working for a service provider that has created such a servicescape over the years.

The second song is "Chelsea Hotel #2" by *Leonard Cohen*. The lyrics tell the story of the singer-songwriter's short affair with *Janis Joplin* in the New York hotel that served as a meeting place and incubator for the most soulful and creative musicians and artists of the 1960s and 1970 s. In the song, the special features of the servicescape are very well evoked in all their messy beauty, from the unmade bed to the limousines waiting in the street. Thus, the song creates the impression that the woman in the song is no less distinct from the Hotel Chelsea than the Hotel Chelsea is from New York, "We are ugly but we have the music."

8 The Journey is the Destination: Service Processes

The service experience is not only influenced by its surroundings. Customers when receiving a service are also part of the very same service process. This process experience becomes more significant the longer it lasts, the more intense it is, and the more the very process is the service and not that much its desired outcome, e.g., reaching a certain destination. This is especially the case in tourism, which is why it is not that surprising that a number of songs describe the real or imaginary experience of the process of traveling. A famous example is "Chattanooga Choo Choo" by the *Glenn Miller Band*, in which the narrator who is proud that he "can afford to board" the special train anticipates the travel experience not only by listing the stations he will see ("Pennsylvania," "Baltimore," "Carolina," "Tennessee") but also the enjoyments he will have during the ride, from reading a magazine to having dinner in the diner and ham 'n' eggs the next morning.

The song "(Get Your Kicks on) Route 66" follows a similar concept. It was released by the *King Cole Trio* in 1946 and later became one of the most covered pieces in popular music. It also evokes the experiences that are or will be made when driving on the famous highway by listing the different destinations on the way across the U.S. from Chicago to California, "Saint Looey, Joplin, Missouri. And Oklahoma City is mighty pretty. You see Amarillo, Gallup, New Mexico, Flagstaff, Arizona. Don't forget Winona, Kingman, Barstow, San Bernandino."

Similarly, "Marrakesh Express" by *Crosby, Stills & Nash* describes the beauty of the North African cities and landscapes that can be seen when riding on the train in Morocco that became an essential stop-off point on the "hippie trail" of the 1960s. The special atmosphere is evoked by mentions of "animal carpet wall-to-wall," "colored cottons" in the air, and "charming cobras in the square," Moreover, on a second layer, the subliminal impression is created that this experience could probably be intensified through the consumption of certain products originating from the same region. "All aboard the train!".

9 Cross-Border Commuters: Front-Line Employees

To serve a customer also means that you need somebody who is innately prepared to serve, especially in the case of personal services. The resulting personal contacts and interactions often offer pleasures and challenges alike for the two parties involved. They are reflected in a number of songs that view this constellation sometimes from the perspective of the customer, sometimes from the perspective of the FLE.

The beneficial and helping outcomes that FLEs can generate are described in two songs originating from the 1960s both playing with the blurred line between medical care and drug consumption. "Doctor Robert" by *The Beatles* portrays a physician who in any case makes sure that one always feels better. Hence, "he's a man you must believe. Helping anyone in need. No one can succeed like Doctor Robert." There is only one condition; one has to "take a drink from his special cup."

Also "Sister Morphine" by *The Rolling Stones* plays with this ambiguity already in the title of the song, which tells the story of a patient who is obviously in a bad state. Hence, *Mick Jagger* as the narrator does not only want to know from Sister Morphine "When are you coming round again?" but also asks her to "turn my nightmares into dreams."

However, the relationship between the customer and the FLE is not always a matter of life and death. "Lovely Rita," by *The Beatles,* describes a situation where the customer simply falls in love with the person in charge, regardless of the fact that the "meter maid" is performing a service that no one enjoys—distributing parking tickets. But maybe the resulting issues can be solved in a different way, as *Paul McCartney* the singer of the song asks the lady "May I inquire discreetly. When are you free to take some tea with me?".

The opposite perspective is taken in the song "Don't Stand So Close To Me" by *The Police*. Here, the singer and composer *Sting* who had been a teacher before his musical career describes the challenges people in such positions face when they have to deal with the mixed feelings of lust, fear and guilt that schoolteachers might but obviously should not have for a student—and the fallout when the inappropriate sexual relationship might be discovered by other adults.

However, sometimes, things even get worse. The song "Copacabana" by *Barry Manilow*, which comes across as loosely upbeat and danceable, actually describes a sad and also brutal incident between customers and FLEs, while at the same time referring to the relationships *between* FLEs that might also influence such interactions. The story focuses on Lola, a Copacabana showgirl in the 1960s who is in love with Tony, a bartender at the club. One night, a gangster named Rico takes a fancy to Lola, but he overplays his hand while trying to seduce her and is attacked by Tony. The ensuing brawl results in "blood and a single gunshot" killing Tony. As Lola has "lost her love," she falls in despair, and thirty years later, she is still at the location, which is now a music

club. However, Lola is drunk and mad with grief at having lost Tony. Sadly, she "lost her youth and she lost her Tony, now she's lost her mind."

The two aforementioned examples thus impressively illustrate the stress that might be caused by the emotional labor that FLEs often have to perform (e.g., Fischbach & Schneider, 2021; Grandey et al., 2005; Leidner, 1999). This emotional work is also the focus of two songs that are set in the entertainment business, in which the artists often need to conceal their true emotions on stage. "On Broadway" by *George Benson* evokes the contradiction between the often miserable lives of the artists and the glittering world of show business. "They say the neon lights are bright on Broadway. They say there's always magic in the air. But when you're walkin' down the street and you ain't had enough to eat, the glitter rubs right off and you're nowhere." However, the first-person narrator will not let that get him down: "'Cause I can play this here guitar. And I won't quit till I'm a star—on Broadway."

In contrast, "Tears of a Clown" by *Smokey Robinson & The Miracles* does not deal with a contradiction that relates to the material things but one in the world of emotions. The lyrics were inspired by the Italian opera "Pagliacci" that *Robinson* had heard when he was young. He always found the story of a clown intriguing who must make the audience laugh while he weeps behind his makeup because his wife betrayed him. Hence, "Just like Pagliacci did, I try to keep my surface hid."

In a similar way, in the song "Private Dancer," the protagonist also has to hide her true feelings. Here, *Tina Turner* plays the role of an escort girl that tries to convince her customers of the services she offers, as "I'll do what you want me to do." However, the dark side of the job is that "All the men come in these places and the men are all the same. You don't look at their faces and you don't ask their names." Interestingly, *Mark Knopfler,* who wrote and produced the song, urged *Tina Turner* to sing the piece an octave lower than she had originally wanted because he felt that it would make her voice sound sexier for the occasion. An interesting avenue for further research opens up here, because dealing with one's own voice is a form of emotional labor that has not yet been studied in service research thus far.

10 May All Your Dreams Come True: (Desired) Service Outcomes

Let us now turn to the ultimate goal of service provision, its outcome. Interestingly, in popular music, several songs relate to the desired outcome of a service that the artists wish to be achieved, and four of them deal with the delivery of a letter—as emails did not exist at the time they were written.

In his song "Love Letter," *Nick Cave* talks about a letter he wrote and holds in his hands and of which he hopes "it does as I have planned." In the letter that he describes as "a plea, a petition, a kind of prayer," he apologizes for his former behavior that had

led to his lover leaving him behind. However, "losing her again is more than I can bear." Hence, the letter should fix it: "Love letter, love letter, go get her, go get her."

The song "Please Mr. Postman," by *The Marvelettes,* takes on the opposite perspective. Here, the narrator is desperately waiting for the letter from her beloved, in which he hopefully declares to finally come back to her. So, "Please Mister Postman, look and see. Is there a letter, a letter for me?".

While in the previous song the narrator still has hope that her dreams will come true as soon as the so eagerly awaited letter is delivered, the protagonist of the song "Return to sender" performed by *Elvis Presley* has already had to go through his disappointment. "I gave a letter to the postman. He put it in his sack. Bright early next morning, he brought my letter back," because the one he adores no longer wants to have anything to do with him. But he does not want to accept the bitter truth and wants to give it one last try by choosing the "make" option: "This time I'm gonna take it myself and put it right in her hand. And if it comes back the very next day then I'll understand."

In contrast to the rather unpleasant experiences described in the previous three songs, the protagonist's expectations in the fourth mailing song were crowned with success. The message that is delivered in "The Letter" by *The Box Tops* is that the lover of the I-narrator "couldn't live without me no more." Consequently, he has not a second to lose to get back to her. Therefore, he demands, "Give me a ticket for an aeroplane. I ain't got time to take no fast train. Oh, the lonely days are gone, I'll be right home. My baby she wrote me a letter."

Similarly, *Gladys Knight*, the narrator, takes the "Midnight Train to Georgia" to stay with her lover. However, the reasons to start the journey together with him are rather sad, as the person she is in love with is a deadbeat. But she loves him so much that she does not want to leave him alone thus leaving Hollywood together with him. "I'd rather live in his world than live without him in mine."

After all, *Kraftwerk*'s "Trans-Europa Express" (T.E.E.) is also about reaching a destination, but here the utilitarian aspect is more in the foreground. This is expressed by listing what can be done when using the fast train. "Rendezvous on Champs-Elysees. Leave Paris in the morning with T.E.E.," "In Vienna, we sit in a late-night café. Straight connection, T.E.E." and "Back to Düsseldorf City. Meet Iggy Pop and David Bowie." Thus, easy!

11 A Promise Made Must Be a Promise Kept (II): Service Failure

Not all services result in the desired outcome, however, which leads us to service failures where the promises made in the service provider's value propositions are not kept. This typically leads to unsatisfied customers (e.g., Smith et al., 1999) and as customers like to talk about such bad experiences, they are also the topic of a number of songs.

The first one deals with a classic example of a service—the haircut, more precisely a "Bad haircut." *Richard Jobson*, the singer of the band *The Skids*, drastically expresses the emotions of the unsatisfied customer having experienced such a service failure and who is therefore yelling at the hairdresser, "I'm gonna kill you for cutting my hair like that. I came in here looking like this. And I'm leaving here looking like that. How did you get a job here anyway?".

Another—hardly imaginable—service failure is portrayed in the song "A Pub with No Beer" by *Slim Dusty*. The lyrics by *Gordon Parsons* are based on a poem by *Dan Sheahan* who had experienced this disaster of existential scope in a hotel in North Queensland in 1943 as American servicemen, stationed nearby, had drunk the place dry of beer the previous night. One can imagine the huge disappointment of the customer being in such a devastating situation, as "there's nothing so lonesome, morbid or drear than to stand at the bar of the pub with no beer."

In a completely different sense, the background of the song "Mr. Cab Driver" by *Lenny Kravitz* is also far-reaching. In the lyrics, the singer reflects on an incident that occurs to him while recording his first studio album. After having had a number of cabs pass by him on his way to the studio, one finally stopped. But as soon as the dreadlocks-wearing singer, who is a person of color, got in, he was told to leave again, obviously because of racist reasons. The situation ended with the customer and the service provider finding themselves fighting with each other on the roof of the cab. Prompted by this negative experience, the singer wrote the song. But although it is a song about racism, it is written with a sense of humor.

This also applies to one of the most famous songs about a service failure, the publication of which was not only associated with major negative consequences for the service provider, but it was already used as a case study in service research (Li et al., 2017). *Dave Carroll* wrote his song "United breaks guitars" after he had to witness from his seat on a United Airlines flight how the firm's baggage handlers were "handling" his guitar—by throwing it around on the Chicago airfield. After various company representatives in and outside the aircraft declared themselves not responsible in an unpleasant tone, he had to fly to his final destination, Halifax, where he had to discover that the base of his $3,500 guitar had been smashed. Four months later, after a number of unsatisfying conversations with the airline, he got directed to United Airlines' Chicago baggage offices and after several attempts to speak with someone he was told to simply bring in the guitar for inspection to Chicago—from Halifax, Canada, where he lived. The story went on and ended with a final request of the singer for a settlement of $1,200 in flight vouchers to cover his salvage costs repairing the guitar, which was rejected. So, he told the firm that he had decided to write three songs about his experience in the whole matter. Further, aiming at getting one million hits in one year, he made the videos for the songs publicly available for free download on YouTube and on his own website, inviting viewers to vote on their favorite United song. The videos became a hit overnight, not least because CNN and other American television stations reported on the matter,

causing a huge PR disaster for the airline. To date, the videos have more than 20 million downloads. Overall, it seems that service providers are probably better off keeping their promises.

12 Nobody's Darling: Compulsory Services

One special kind of service is a compulsory service. These are services where the performance of which can be demanded and enforced on the basis of general or special obligation, like, for instance, education. Since the service customers therefore often do not want to use these services at all or not in the way they are offered, they are usually not very popular or provide a reason to complain, which are good motivations to deal with them in a song.

In "Another brick in the Wall (Part 2)," *Roger Waters*, the singer and writer of the song by *Pink Floyd*, describes his bad memories being a student at his grammar school in the 1950s where he came to the impression that the teachers were more interested in keeping the kids quiet than teaching them. Consequently, his sarcastic conclusion is quite clear: "We don't need no education. We don't need no thought control. No dark sarcasm in the classroom. Teachers, leave them kids alone!".

However, in general, one cannot avoid education by leaving school. Hence, at least, one can look forward to vacations. The song "School's Out" by *Alice Cooper* describes the feelings students have when the vacation finally begins and they can do what they really want to do, free from the inconveniences of the school day. "No more pencils, no more books. No more teacher's dirty looks. Out for summer, out 'till fall. We might not come back at all."

Perhaps an even less beloved service than that of schools, at least for many adults, is that of the tax office. The aversion against this service is very well expressed in "Taxman" by *The Beatles*. The lyrics read like an ironic indictment that protests against the higher level of progressive tax imposed in the United Kingdom by the Labour government of *Harold Wilson*, which saw the members of the band paying over 90 percent of their earnings to the Treasury. Consequently, the taxman speaking in the lyrics of the song threatens, "Should five percent appear too small, be thankful I don't take it all." Therefore, with compulsory services, things could always be worse.

13 Imagine: Service as a Metaphor

Songwriters and lyricists do not only write about service. They also use service as a metaphor to artistically express their feelings and longings. A very prominent example is "Hotel California" by the *Eagles*. The lyrics mix the experience of *The Beverly Hills Hotel* that had become a literal and symbolic focal point of the band members' lives at

that time with the Californian lifestyle by creating a cinematic scenario of a person who, tired from driving a long distance in the desert, sees a place for a rest where he wants to stay. However, after having entered, he not only experiences a weird world with freaky characters but also becomes spooked by the claustrophobic feeling of being caught in a disturbing web from which he may never escape. As the night man says, "You can check out any time you like, but you can never leave."

Chris Izaak also uses the hotel as a metaphor in his song "Blue Hotel." However, this hotel is a symbol of his loneliness, as "every room is lonely." Hence, "Life don't work out my way. I wait alone each lonely night." The sad mood the singer is in is also very well reflected in the "blue", i.e. melancholic character of the song's music.

Similar profound feelings are also addressed in two songs by *Queen* and *Leo Sayer*, both titled "The show must go on." *Queen* compared life to a show that has to go on while at the same time raising very fundamental questions like "What are we living for?" or "Does anybody know what we are looking for?" The song has gained its very special meaning through the AIDS death of the singer *Freddy Mercury*, who was one of the first icons from the entertainment industry who died of the disease. Thus, the most autobiographical line is "My make-up may be flaking but my smile still stays on," as *Jim Hutton*, *Mercury*'s partner in his final years, confirms. "No matter how ill Freddie felt, he never grumbled to anyone or sought sympathy of any kind. It was his battle, no one else's, and he always wore a brave face against the ever-increasing odds against him" (Hutton & Wapshott, 1994).

Similarly, *Leo Sayer* uses the circus theme as a metaphor for dealing with the difficulties and wrong choices of life. To enhance its effect, in his early career, the singer performed the song dressed and made up as a pierrot clown. After reflecting on the various mistakes in his life, in the end, the singer comes to the conclusion that he will override the miseries, as "I won't let the show go on." Interestingly, in their very popular cover version of the song, the band *Three Dog Night* changed the last verse to "I must let the show go on," which *Sayer* was reportedly not happy about because it gives the song a completely different meaning.

The same metaphor is also used by Britney Spears in her song "Circus." However, for her, the title has a double-edged sense. It refers to both her life being a metaphorical circus as well as her fondness for the actual big-top show. Consequently, she declares, "Well, baby, I'm a put-on-a-show kind of girl. Don't like the back seat, gotta be first."

However, not only are examples from tourism and entertainment used as metaphors. Also, the well-known "Hairdresser" may serve too, but if you call to mind the famous long-bearded look of the singer and guitarist as well as the bass player of the band *ZZ Top*, *Billy Gibbons,* and the late *Dusty Hill*, it quickly becomes clear that the song cannot be about this type of service. Rather, as often seen in rock and pop music, it is simply about sex. That is why, for once, we are not using quotes in this case.

14 Back to Basics: The Science of Service

Last but not least and maybe a little surprisingly, the science of service also has found its way into a song. This is thanks to *Helge Löbler*, both a well-known service researcher as well as a practicing musician. Based on his intense involvement with the Service-dominant Logic (SDL) and inspired by a presentation on "Harry Potter and the Service-Dominant Logic of Marketing" at the first *Forum on Markets and Marketing* in Sydney in 2008, he wrote the "Service Blues," which addresses the core ideas of the approach in musical form. The author of this chapter had the pleasure to listen to the second public performance of the song that was given by *Helge* and his bandmate *Johannes Raschpichler,* under the name of *The Deadline Boys,* at the conference dinner of the *International Colloquium in Relationship Marketing* held at the *Henley Business School* (UK) in 2010. And in December 2012 the author even had the honor to perform the song as the guitar player of *Lotta and the Service Dominators* (LSD) at the third *Forum on Markets and Marketing* that was organized at the *University of Auckland Business School* (NZ). Besides *Helge* and the author, the band consisted of *Carol Kelleher* (vocals), *Hans Kjellberg* (blues harp), *Margret Lewis* (keyboards), *Linda D. Peters* (spoons), *Jameson Watts* (bass), and *Charlotta Windal ("Lotta")* (flute), who had organized the session and the instruments for the musicians coming from around the world. The band had only one rehearsal before its one and only performance at the conference dinner, which is perhaps why it remained a lasting memory for everybody involved. The song does not only support the basic assumptions of the SDL, because "Service for service in SDL, service for service that works very well," but also reflects the ups and downs of the life of a researcher, stating "We are on a journey all together, and traveling we find all kinds of weather. Sunshine - and thunder we don't desire, but even this helps us to inspire."

15 Lessons Learned

What did we learn from this chapter? Obviously, many topics, which are explored in the science of service as well as treated in lectures on service, have been addressed in popular music. As the artists reflect on their daily lives, this speaks, on the one hand, highly for the relevance of the academic work, as the insights gained may thus contribute to a better understanding and performance of the service and the well-being of the service customers as well as the FLEs. On the other hand, the songs presented in this chapter may serve as slightly unconventional teaching material that can be used in class, thus helping to increase the attention and the enthusiasm for one of the most interesting topics in marketing—serving the customer.

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References

Bitner, M. J. (1992). Servicescapes: The impact of physical surroundings on customers and employees. *Journal of Marketing, 56*(2), 57–71.

Bitner, M. J., Faranda, W. T., Hubbert, A. R., & Zeithaml, V. A. (1997). Customer contributions and roles in service delivery. *International Journal of Service Industry Management, 8*(3), 193–205.

Blut, M., Heirati, N., & Schoefer, K. (2020). The dark side of customer participation: When customer participation in service co-development leads to role stress. *Journal of Service Research, 23*(2), 156–173.

Crosby, L. A., Evans, K. R., & Cowles, D. (1990). Relationship quality in services selling: An interpersonal influence perspective. *Journal of Marketing, 54*(3), 68–81.

Danatzis, I., Karpen, I. O., & Kleinaltenkamp, M. (2022). Actor ecosystem readiness: Understanding the nature and role of human abilities and motivation in a service ecosystem. *Journal of Service Research, 25*(2), 281–300.

Dong, B., & Sivakumar, K. (2015). A Process-output classification for customer participation in services. *Journal of Service Management, 26*(5), 726–750.

Dorsch, M. J., Swanson, S. R., & Kelley, S. W. (1998). The role of relationship quality in the stratification of vendors as perceived by customers. *Journal of the Academy of Marketing Science, 26*(2), 128–142.

Fischbach, A., & Schneider, B. (2021) New vantage points on emotional labor and its service context: An introduction to the emotional labor and service special issue. *SMR - Journal of Service Management Research, 5*(4), 215–228.

Greer, C. R., Youngblood, S. A., & Gray, D. A. (1999). Human resource management outsourcing: The make or buy decision. *Academy of Management Perspectives, 13*(3), 85–96.

Grandey, A. A., Fisk, G. M., & Steiner, D. D. (2005). Must "Service With a Smile" be stressful? The moderating role of personal control for American and French employees. *Journal of Applied Psychology, 90*(5), 893–904.

Haase, M., & Kleinaltenkamp, M. (2011). Property rights design and market process: Implications for market theory, marketing theory and S-D logic. *Journal of Macromarketing, 31*(2), 148–159.

Hutton, J., & Wapshott, T. (1994). *Mercury and me*. Bloomsbury Publishing.

Kleinaltenkamp, M., Storck, F., Gumprecht, P., & Li, J. (2018). The impact of psychological ownership on value in use and relational outcomes. *SMR—Journal of Service Management Research, 2*(2), 50–66.

Leidner, R. (1999). Emotional labor in service work. *The Annals of the American Society of Political and Social Science, 561*(1), 81–95.

Li, L. P., Juric, B., & Brodie, R. J. (2017). Dynamic multi-actor engagement in networks: The case of united breaks guitars. *Journal of Service Theory and Practice, 27*(4), 738–760.

McColl-Kennedy, J., Danaher, T. S., Gallan, A. S., Orsingher, C., Lervik, L., & Verma, R. (2017). How do you feel today? Managing patient emotions during health care experiences to enhance well-being. *Journal of Business Research, 79,* 247–259.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing, 49*(4), 41–50.

Pierce, J. L., Kostova, T., & Dirks, K. T. (2001). Toward a theory of psychological ownership in organizations. *Academy of Management Review, 26*(2), 298–310.

Smith, A. K., Bolton, R. N., & Wagner, J. (1999). A model of customer satisfaction with service encounters involving failure and recovery. *Journal of Marketing Research, 36*(3), 356–372.

Statista. (2021). Anteile der Wirtschaftssektoren am Bruttoinlandsprodukt (BIP) in den wichtigsten Industrie- und Schwellenländern im Jahr 2020. https://de.statista.com/statistik/daten/studie/37088/umfrage/anteile-der-wirtschaftssektoren-am-bip-ausgewaehlter-laender/. Accessed 27 Aug 2021.

Taylor, S. E. (2011). Social support: A review. In M. S. Friedman (Ed.), *The handbook of health psychology* (pp. 189–214). Oxford University Press.

Tombs, A. G., & McColl-Kennedy, J. R. (2003). The social-servicescape: A conceptual model. *Marketing Theory, 3*(4), 447–475.

Wirtz, J., & Lovelock, C. (2018). *Essentials of services marketing* (3rd ed.). Pearson.

Wittkowski, K., Moeller, S., & Wirtz, J. (2013). Firms' intentions to use nonownership services. *Journal of Service Research, 16*(2), 171–185.

Woodruff, R. B. (1997). Customer value: The next source for competitive advantage. *Journal of the Academy of Marketing Science, 25*(2), 139–153.

Zeithaml, V. A. (1981). How consumer evaluation processes differ between goods and services. In J. H. Donnelly and W. R. George (Eds.), *Marketing of services* (pp. 186–190). American Marketing Association.

Zeithaml, V. A., Berry, L. A., & Parasuraman, A. (1993). The nature and determinants of customer expectations of dervice. *Journal of the Academy of Marketing Science, 21*(1), 1–12.

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Part II: Business Negotiations and Sales in B2B

Negotiating the Sale of Knowledge-Intensive Business Service Projects

Ingmar Geiger

Abstract

Little is known about the transaction processes in which knowledge-intensive business service (KIBS) projects, such as management consulting, legal advice, or auditing, are sold to the customer firm. This article uses an abductive approach to shed light on the negotiation process between KIBS companies and their customers, using in-depth interview data from n = 23 experts from selling and buying firms alike. Its qualitative data analysis unveils a generic three-step process across the covered KIBS sub-types as well as certain specificities in management consulting, legal advice, and auditing. Laying open these processes, the paper contributes to our understanding of business-to-business sales negotiation as well as the marketing and sales of KIBS projects.

1 Introduction

The development of modern economies has seen a steady rise in the significance of services over goods (Bettencourt et al., 2002). Beyond services targeted at consumers, professional services destined at organizational customers have been the main driving force behind this development. They range from rather standard and low-value activities such as facility management (e.g., Cui & Coenen, 2016) or freight transport (e.g., Gil-Saura et al., 2018) through mid-value services such as outsourced call centers (Weidenbaum, 2005) to high-value professional services such as management consulting (Homburg & Stebel, 2009;

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Svensson, 2001, 2003), legal advice, or auditing (Walsh et al., 2015). In the service, innovation, marketing, and procurement literature, the latter are often combined into knowledge-intensive business services (KIBS), defined as "services that provide knowledge-intensive inputs to the business processes of other organizations" (Miles, 2005, p. 40). Professional services also differ in regards to their degree of customer integration (Moeller, 2008), i.e. the scope and intensity of participation by the customer company in service delivery. It may be argued that service value and customer integration partly go hand in hand: While many low- and mid-value professional services can be performed by the service provider rather autonomously, KIBS often necessitate more or less permanent customer integration and involvement (Bettencourt, et al., 2002; Mustak, 2019). A lot of customer integration means that the final service outcome (quality, time, costs, …) depends to a greater degree on the collaboration of supplier and customer (Santos & Spring, 2015). Before, during, and after a transaction is sealed and implemented, such a setting thus means heightened levels of uncertainty for both market partners (Homburg & Stebel, 2009). It is therefore an interesting and important question, how KIBS providers and their potential customers approach and deal with the initiation, closing, and implementation of such a transaction. Quite remarkably, the extant literature on KIBS focuses mostly on their innovation potential (e.g., Doloreux & Shearmur, 2013) and KIBS' significance for regional development (e.g., Muller & Zenker, 2001). In contrast, selling or procuring such services seems to have remained mostly underneath the radar of the research community, with very few exceptions (Heikka & Mustak, 2017; Homburg & Stebel, 2009; Svensson, 2001, 2003).

This paper therefore sheds light on the sale and purchase of KIBS projects. Thereby, the focus lies on the negotiation process that precedes the closing of a deal. In business-to-business (B2B) settings, negotiation has been characterized as one of the most important transaction mechanisms (e.g., Geiger, 2017; Wilken et al., 2010), which determines not only the implementation of a deal but also its profitability for the involved companies. Despite its importance in practice, negotiation has received relatively less attention in B2B or services marketing research so far. Especially, certain domain specificities of B2B and service sales negotiations have so far gone without much attention at all, despite first papers addressing some difference between goods and services negotiation (Alavi et al., 2020; Geiger, 2017). Because of this research void, involved managers have to rely more on general management and negotiation advice than on specific empirical evidence when they approach such negotiations.

This article therefore attempts to contribute to our understanding of KIBS negotiation processes. Due to the so far under-developed research domain, it does so in an abductive manner. After a short theoretical elaboration of KIBS and B2B sales negotiation in general, the qualitative research approach is described. Relying on in-depth interviews with key informants from the management consulting, legal advice, and auditing sectors (sales and purchasing), qualitative data analysis, partly based on the Gioia methodology (Gioia et al., 2013), reveals common and distinct negotiation process patterns. Laying open the negotiation processes discloses a three-step procedure with distinct tasks and activities in each step. This research also uncovers that the degree of service scope clarity at the outset

of negotiation heavily influences the negotiation process, also in regards to the different functions involved on the customer side. Sector specific differences also surface. Based on the findings, practical advice to managers can be more targeted and appropriately timed.

2 Conceptual Background

2.1 Knowledge-Intensive Business Service Projects

KIBSs have been defined as "services that provide knowledge-intensive inputs to the business processes of other organizations" (Miles, 2005, p. 40). They thereby help client organizations deal with challenges for which external knowledge and expertise are needed, e.g. when technologies or social conditions change. According to Muller and Zenker (2001), KIBS are characterized by (a) their high degree of knowledge-intensity, (b) their consulting or problem-solving function for the client, and (c) the high degree of required customer interaction or integration.

Their knowledge intensity is mirrored in a comparatively highly qualified workforce of the service provider (Pardos, et al., 2007; Santos & Spring, 2015), comprising many graduates and other skilled employees (Miles, 2005). Santos and Spring (2015) spell out various important skills and expertise of a KIBS provider's workforce: knowledge of specific domains, industries, customer needs and requirements, and know-how to apply this knowledge to a given situation. Important meta-skills include employees' abilities to quickly access facts and how to make sense of them, provide solutions to client challenges, and make fast and effective decisions.

Overview

KIBS' problem solving function for clients can take various forms. Den Hertog (2000), in an innovation management context, proposes six:

1. Expert consulting, where the KIBS provider proposes a particular solution to a specific problem;
2. Experience sharing, where the KIBS provider transfers a learning or insight from one context to another;
3. Brokering, where the KIBS provider puts different actors in contact across a wide range of contexts;
4. Diagnosis and problem-clarification, where the KIBS provider helps clients make sense of a problem and define a potential solution;
5. Benchmarking, where the KIBS provider identifies a best practice to compare the client's processes with and eventually enhance them; and
6. Change agency, where the KIBS provider supports a client firm in organizational change efforts.

Regarding KIBS' necessity for customer integration (Bettencourt, et al., 2002), clients must often contribute to identifying the exact service specifications for best serving their needs (Santos & Spring, 2015). They may also have to comply with KIBS provider's instructions, support decision-making during a KIBS project, provide feedback and engage in quality control (Mustak, 2019). For a KIBS project to be successful, clients also need to execute their project tasks on time and help solve eventual problems during service execution (Bettencourt, et al., 2002). The former may include evaluating alternative paths during the project and updating the KIBS provider of their status on a regular basis (Santos & Spring, 2015).

As of the KIBS' definition and characterization, there are probably as many different KIBS as there are different domains of knowledge (Miles, 2005). Beyond the attempt to define KIBS as above or in a similar manner, many authors also try to delimit the phenomenon by using an enumerative definition of KIBS (e.g. den Hertog, 2000; Miles, 2005; Muller & Doloreux, 2007; Pardos, et al., 2007). In that type of definition, certain industries or sectors according to the NACE (***N****omenclature statistique des* ***A****ctivités économiques dans la* ***C****ommunauté* ***E****uropéenne*) or a similar classification are defined as constituting KIBS. Under such a definition, included sectors comprise computer services including enterprise software implementation, advanced business and management consultancy, engineering and industrial design, research and development, and advertising, among others (Pardos, et al., 2007). From an economic perspective, i.e. in terms of value-added and employment, three-digit NACE code 71.1 (legal, accounting & auditing, management consulting), is the most significant KIBS sector in the European Union (Miles, 2005). It seemed therefore in order to focus on these types of KIBS in the empirical part of the present research.

While KIBS have been in the research focus for nearly three decades, relatively little so far is known about selling or purchasing KIBS (Heikka & Mustak, 2017; van der Valk & Rozemeijer, 2009). The limited number of articles about business services purchasing stress differences to the procurement of physical goods (e.g., Ellram & Tate, 2015). Characteristics of purchasing KIBS include greater difficulty in evaluating the service provider and its offering prior to purchase and sometimes even after the purchase decision (van der Valk & Rozemeijer, 2009) and a certain ambiguity in contracts between KIBS provider and client (Homburg & Stebel, 2009). For successful KIBS purchasing, continuous, active interaction between various parties involved in the transaction is warranted (Heikka & Mustak, 2017), because the service definition may change and evolve during the purchasing process (Selviaridi et al., 2011). Overall, however, our knowledge on the KIBS purchasing and sales process remains relatively limited, as the following summarizing characterization of the literature on the KIBS purchasing process illustrates (Heikka & Mustak, 2017, p. 26):

> The purchasing process begins when the customer recognizes a need or problem that could be solved by purchasing knowledge-based services. Next, the customer sets purchase goals and determines specifications and creates a short list of possible service providers. The customer then makes detailed assessments of the service providers with regard to their purchasing goals and chooses the one that best fits their needs.

This research hence shines a light on what exactly happens when KIBS providers and clients negotiate and eventually seal a deal.

2.2 Negotiation as a Transaction Mechanism in B2B Sales

Due to the highly customer-specific service outcome of KIBS, most KIBS projects are sold and purchased through a negotiation process, in some cases following a tendering procedure (e.g., Svensson, 2001). In a negotiation, at least two parties attempt to reach a mutually acceptable decision, exchanging offers and information, balancing opposing interests, thereby attempting to receive greater benefits from a deal compared to relevant alternatives (Geiger, 2016). When agreement has been reached in a B2B negotiation, the parties have agreed on what to give and what to receive as well as the respective economic impact (Raiffa, 1982). The supplier has beaten eventual competition and can expect a profit from the ensuing implementation of the sealed transaction (Wilken, et al., 2010). The customer ideally has found the most suitable partner in terms of cost-benefits ratio for a given problem (e.g., Sarkis & Talluri, 2002).

Because of its importance for suppliers and customers alike, B2B negotiation research has scrutinized various determinants of B2B negotiation processes and outcomes (Geiger, 2017). While some contextual negotiation determinants, like personality factors or power-dependence relations, are quite well understood, the negotiation process, especially as it occurs in practice, has seen a lot less research attention (Herbst et al., 2011). When focusing on process, it is useful to regard the negotiation as starting when potential exchange partners begin talking about potential negotiation issues (Geiger, 2016, 2017), i.e. with initial attempts to solve a customer problem. It ends with the signing of an agreement (Kapoutsis et al., 2013). Such an understanding is in partial contrast to experimental studies on the one hand and to purchasing research on the other, which both focus on the final, personal encounter between negotiators in a given negotiation situation with pre-defined negotiation issues and possible solutions.

However, the scope of many KIBS projects is often not fully defined when a client company approaches potential service providers (Selviaridi, et al., 2011). As is not unusual in the project business (Backhaus & Mühlfeld, 2005), selling companies may even define or help the client organization define concrete specifications of a KIBS project. Negotiations thus comprise issues of scope as well as price, and need to incorporate a rather high degree of information exchange in order for both partners to profit from a deal. How exactly this is done, how negotiations for selling and procuring KIBS projects evolve, which roles are taken by be negotiators, where they are flexible and where they aren't are the subject of the following exploratory empirical study.

3 Methodology

In research areas where theory is under-developed and when complex processes are the focus of interest, a qualitative research approach is appropriate (Graebner et al., 2012). Interviewing experienced negotiators from selling and buying firms as knowledgeable key informants therefore seemed a suitable choice. For the interviews, a semi-structured guideline was employed; analysis and interpretation then relied on an abductive procedure, which combines fragmentary past research with new inductive elements gained from the collected data.

3.1 Sampling Procedure

Our sampling frame consisted of companies offering three different types of KIBS projects as well as their customers. Specifically, we aimed at interviewing key informants from management consulting, auditing, and law firms, mirroring the three digit NACE code 71.1, the three digit North American classification system [NACS] code 541 or two-digit standard industry classification [SIC] codes 73, 81, and 87. In the European Union, those specific KIBS (NACE classification 71.1) are responsible for the highest value-added and employment (Miles, 2005). Those companies are typically active in the project business (Backhaus & Mühlfeld, 2005). This means that their offerings are mostly tailor-made solutions with substantial complexity, economic value and risk (Söhnchen & Albers, 2010). Customer companies are typically large corporations, so that our interviewees on the purchasing side represented companies with an annual turnover of greater than EUR 1 bn. and coming from diverse industries (automotive, IT, media).

To qualify as a key informant, interview partners had to be regularly involved in sales/purchasing negotiations of KIBS projects. In the service companies, interviewees were often partners in their firms and therefore responsible for their business' success. On the customer side, our interviewees were from purchasing departments, with a specialization on services purchasing. We identified key informants through personal business contacts, the alumni organization of an executive education program, and through snowballing (Johnson & Sohi, 2016). When theoretical saturation was reached, the interviewing process stopped (Corbin & Strauss, 2008).

3.2 Sample Characteristics

Overall, we interviewed 23 informants, with nine working in management consulting, five active in large law firms, four working in the auditing business, and five on the procurement side. Their relevant professional tenure ranged from 4 to 25 years. The purchasing agents were all active in KIBS purchasing. Except for one interviewee, who was from Norway, all others were active in Germany. Interviewees represented firms of an annual

turnover of EUR .095 to 82.5 bn.. Service firms were on average smaller than customer firms in terms of annual turnover (management consulting: m = EUR 9.92 bn, sd = EUR 12.74 bn.; auditing: m = EUR 20.34 bn., sd = EUR 3.11 bn; legal advice: m = EUR 1.2 bn., sd = EUR 0.44 bn.; customer firms: m = EUR 33.80 bn., sd = EUR 32.47 bn.).

3.3 Interview Guide and Procedure

For the interviews, we used a semi-structured interview guideline. It covered five sections: (1) introduction, demographics, and interview procedures; (2) initiation of the negotiation; (3) negotiation preparation; (4) the negotiation itself; and (5) conclusion with any further, open comments. The semi-open character of the interview guide allowed us to ask about specific topics, but also offered enough freedom for the interviewee to elaborate on aspects not previously considered by us (Gioia, et al., 2013).

We started the interviews by asking the respondents to consider a prototypical sales negotiation process (e.g., Pratt, 2009). However, we were also interested in more extreme or special cases, which respondents told us about. The interviews were conducted by the author and a research assistant over the phone or in person at a pre-arranged time. Before each interview, we familiarized ourselves with each interviewee, his/her professional career, company, industry, and role through publicly available information, e.g. from business networking sites like LinkedIn and Xing. We presented the interview as belonging to a study on negotiation processes and negotiation issues.[1] We used the interview guideline as a flexible device during the interviews, but made sure that all topics were covered whatever the order, in which topics arose during the conversation. Interviews on average lasted around three quarters of an hour (management consulting: m = 42 min, sd = 5 min; auditing: m = 45 min, sd = 12 min; legal advice: m = 44 min, sd = 6 min; purchasing: m = 52 min, sd = 15 min), ranging from 25 min to 80 min. We received consent of all interview partners to audiotape the interviews. In one interview, a technical problem occurred so that we had to rely on field notes in that case. For all other 22 interviews, we could rely on an audio recording.

3.4 Analysis and Interpretation

Overall, the present research followed an abductive approach. While construction of the interview guide relied on prior research and theory (deduction), data analysis and interpretation were largely inductive. We thereby used several coding cycles of the verbal material (Miles et al., 2014), as explained below.

[1] In fact, the original purpose of data collection was to understand how sales and purchasing agents used negotiation issues for tactical reasons. The respective research outcome can be found in Geiger (2017) as well as Geiger & Hüffmeier (2020). For the purpose of this article, we re-analyze the service project part of the data with a different focus.

We transcribed all audio recordings verbatim to make the qualitative material suitable for coding. For organizing the material and facilitating the analysis process, we used a qualitative data management and analysis software (MaxQDA). In a first round of open coding (Corbin & Strauss, 2008; Gioia et al., 2013), we (i.e. the author and research associates) assigned in vivo codes to all passages in the material that seemed of interest to us. This means that we tried to use the informants' own words and terms to represent specific thoughts, insights, or patterns (Gioia, et al., 2013). This first coding cycle was complemented by the production of memos on various levels of abstraction – noteworthy points, questions to pursue further, small summaries, points of comparison etc. In second cycle coding, we looked for commonalities and differences in the interview material to discover and substantiate patterns that were not specific to single cases.

4 Results

Analyzing the negotiation process in the three KIBSs in focus in this research, it became apparent that specificities of the different services as well as applicable legal provisions lead to partly idiosyncratic, partly similar negotiation processes. Results are presented for the three different services separately, before discussing commonalities and differences in the comparative analysis.

4.1 Negotiating the Sale and Purchase of Management Consulting Projects

In management consulting, negotiating the sale of a project seems to follow a certain pattern, which is given by the nature of the business. Most interviewees highlight that customers' problems are often ill defined. Therefore, achieving common understanding of the customer's main concerns and challenges is paramount. Based on a commonly shared vision of the problems at hand, objectives for and the scope of a project are elaborated, often in close collaboration between the customer organization and the consulting firm. We refer to this step as 'project scoping'. A certain project scope then necessitates a respective amount of resources such as number and seniority of consultants (at a certain rate), time needed for accomplishment, customer participation and integration, eventually third party input. The nature and amount of these resources are often discussed at the end of the project scoping process; the project scope thus receives a price tag. More often than not, this overall cost is not accepted by the customer organization so that in a next step, consulting and customer firm discuss ways of lowering the overall cost of a project. This is often done by re-scoping the project, i.e. cutting down on deliverables or depth of analysis on issues of lesser importance for the customer. Other measures include free, supplementary efforts by the consulting firm, e.g. a junior consultant for free, a couple of extra unpaid days, a more experienced/more senior consultant than what is paid

for. However, very rarely do consulting firms unilaterally concede on the (daily, weekly, monthly) rates charged for their consultants.

How exactly the negotiation process develops mainly depends on the type of initiation of a consulting project. All of our interviewees agree that around 80% of their projects evolve from an ongoing relationship with a client firm (1). In that case, a consulting need may be identified either by the consulting or by the customer firm. The other approximately 20% divide into cold call acquisition efforts by consulting firms (2a) and structured bidding processes involving briefings and requests for proposals (RFPs) initiated by a customer firm (2b). In terms of negotiation process, cases (1) and (2a) are similar, whereas case (2b) is structured differently.

4.1.1 Consultant and Jointly Driven Negotiation Processes (Cases 1 and 2a)

Initiation and problem identification At the beginning lies the identification of a customer problem and a respective potential consulting need. In the ongoing relationship case, this problem identification and understanding may come from the consulting firm, the client company, or evolve in a joint communication process. Moreover, the need for consulting may be triggered by a client internal (board meeting) or external (legal obligation) event or deadline. In the cold call case, such customer awareness to a potential problem may be generated through talks at industry events or an industry study by the consulting firm.

Our experts agree that arriving at a shared understanding of the customer problem is paramount in this phase of the process. They are also unanimous in that understanding the problem the same way as the client is the basis for setting goals for a consulting project and for talking about specific project contents. At a later stage in the process, many consulting firms lay down their understanding of the customer organization's problem explicitly at the outset of their formal proposals.

Project scoping With a common understanding of the client problem, the consulting firm develops a project scope in more or less close cooperation with the customer organization. This scope contains goals and deliverables, which necessitate certain analyses and methods and possibly third party input, e.g. market research. Involving the customer organization to a greater rather than lesser extent at this stage creates commitment to this particular project proposal as some of our experts stress. Depending on the amount and depth of deliverables, analyses, methods, and third party input of the project the consulting firm proposes a timeline (duration) and a project team size and structure. Project duration may evolve from the project scope or be determined by some constraint external to the project such as board meetings or regulatory deadlines. Issues in team structure concern the number of consultants, their level of seniority, their experience in similar topics, and sometimes even single personalities. Once a team structure and a temporal structure for the project are proposed, the project receives a cost/price tag. Most experts

agree that customer organizations have an approximate idea of a consulting firm's rates so that they can infer an overall project cost from the information on project duration, team structure and size. This represents implicit price information.

From this description of the project scoping process it becomes clear that issues important to the customer organization (e.g. direct project deliverables, desirable project side effects, total project cost) are not independent from issues important to the consulting firm (e.g. overall project price). Rather, both project outcome (important to customer firm) and total project price (important to consulting company) or cost (important to customer firm) are linked by the issues of project duration as well as team size and structure. Thus, moves by the consulting firm to gain commitment on proposed project scope (e.g. number of deliverables, depth of analysis) early on in this stage can be interpreted as an attempt to set the agenda on the issues of project duration as well as team structure and size, which in turn determine the overall price/cost of the project.

Pro forma bidding process In some instances, e.g., when the customer organization is a public body or a large international corporation with strict corporate governance guidelines, a formal (but sometimes pro forma) bidding process has to be held. More often than not, the customer organization's purchasing department will be involved in this process. In case the project scoping phase has yielded a proposal that by and large seems acceptable to the customer organization, the consulting firm is often involved in preparing the RFP documents to which it later replies with a formal offer. Chances are high that no other bidder will be selected by the customer organization because the focal consulting firm has the best insights in terms of customer needs, available budget, etc.

If a (pro forma) bidding process is initiated, the RFP documents can be regarded as a first offer (in negotiation research terms) or a first demand (in everyday language). By pinning down the consulting needs, eventually enriched by background information such as an analysis of the organization's situation, deliverables in a consulting project, and an estimate about the required resources, it represents the first formal document on which a later negotiation agenda is based. However, it does not explicitly cover all issues, which will feature in formal negotiations later.

Formal offer by consulting firm and adaptation negotiations A new phase begins when the consulting firm makes a formal offer containing all project deliverables, schedule, staffing plan, total price as well as terms and conditions. Some of our experts also include a written account of their understanding of the customer's challenges and/or an "out of scope-list" of the present offer. From a legal perspective, a binding contract between the customer organization and the consulting company would come into existence if the customer organization accepted that offer. Today, most of such contracts are turnkey project contracts (German '*Werkvertrag*') where overall project price and deliverables are agreed. In the past, and in some specific areas of management consulting still today (e.g. close to regulated fields of activity), service contracts (German '*Dienstvertrag*') were and are used. In this case, the consulting firm bills the customer according to the time spent working on a project.

Only in very few cases does the customer organization accept such an initial formal offer immediately. It is more common that the offer's total cost is too high for the customer organization. This necessitates a negotiation process that is peculiar to this type of service: It can be called project re-scoping and it takes on different forms. The project may be re-packaged into modules that build upon each other but can be commissioned independently. Moreover, the number of deliverables may be cut, the depth of analysis be reduced, the level of seniority of the project team be adjusted, consultants may be replaced by customer internal staff, etc. These adaptations often need to remain within a given budget available to the project sponsor in the customer organization.

In contrast, all of our experts noted their reluctance to discuss consultant rates and thus get dragged into a pure distributive negotiation on price. Instead, consulting firms concede by adding extra consulting days or expertise for free to the customer. This way the average rate paid for a consultant drops while the face rate of one consultant remains the same; and the consulting firm's price and quality image does not suffer. However, the experts acknowledge that declining a negotiation on rates is easier the more tailor-made a project is: avoiding price discussions is less difficult in strategic top management consulting than in software implementation consulting.

This type of re-scoping negotiation was reported by all of our experts. However, with an increased involvement of professional purchasing departments in the procurement process, consultant rates have got or are expected to get under pressure, too. All our experts observed this. In other words, consulting firms fear they will also have to concede on their rates in the future and are looking for ways of steering negotiations away from this issue. One way to do that was described by one of our experts: Instead of making a single formal offer, his company always presents three full formal offers to the customer organization: one "Rolls-Royce" offer that includes every desirable deliverable and disregards the customer's potential willingness-to-pay, one basic offer that contains most of the main project deliverables but lacks at least one main deliverable, and one realistic offer in between the two extremes. Our expert assures us that this way he has until now always managed to circumvent pure price negotiations.

In few cases, other topics are included as issues in the negotiation at this stage, too. The most relevant ones are whose terms & conditions apply, travel expenses, payment terms, success fees etc. They are normally raised by the customer organization and stand apart from the (re-)scoping of the project.

Formal negotiations between consulting firm and purchasing department The involvement of purchasing departments in the procurement of professional services such as consulting has risen lately. In the case of consulting projects that are initiated mainly by the consulting firm or jointly by both organizations, purchasing departments often enter the scene just before a deal is struck. While adaptations on project scope (previous phase) need to involve the project sponsor within the customer organization, the purchasing department is expected to achieve concessions on cost related issues, such as consultant rates, travel expenses, payment terms, etc. However, the issue interdependence of

project deliverables, duration, team size and structure paired with consulting firms' reluctance to discuss consultant rates makes it difficult for purchasers to achieve major cost cuts in this phase. This is especially true when the project sponsor has already chosen the consulting firm with which s/he would like to conduct the project. In case the consulting firm knows about the involvement of the purchasing department in formal negotiations, it may even exaggerate some cost related issues (e.g. consulting rates, travel expenses) in its first formal offer to have some leeway toward the purchasers in this phase of the process.

Re-scoping negotiations and formal negotiations involving the purchasing department may also be conducted in a single step. In this case, the project sponsor negotiates the re-scoping of the project in terms of deliverables, while the purchaser focuses on cost related issues (team size and structure, duration, free consultants, rates, travel expenses, payment terms)

Agreement & Implementation When re-scoping and/or formal negotiations have resulted in a shared understanding of all project aspects (deliverables, rates, duration, team structure, etc.) an agreement is reached. This agreement is often put down in writing in an updated version of the consulting firm's offer documents. These are then accepted in written form by the customer organization. As our experts note, formal acceptance by the customer firm may take a while. Since consulting projects are immaterial services, tackling customer needs, and facing external contingencies in the future, our experts stress the need for trust between the parties and some flexibility with regard to the implementation of the project: Originally planned analyses may become obsolete, more pressing issues may be discovered, the consultant team may need to be changed, etc.

4.1.2 Customer Driven Negotiation Process (Case 2b)

In contrast to the process description above, a growing number of consulting projects is awarded through formal bidding processes. One reason lies in the professionalization of many purchasing departments. While the purchasing function in many organizations has long focused its activity on physical products or rather low value services, our experts confirm a trend that their activity more and more covers high value professional services such as consulting, legal, or tax, too. In many large corporations, which are spearheading this movement, purchasing departments are requested to be involved from the very start when another department (i.e., the project sponsor) of the company plans to buy consulting services. The goal of involving the purchasing department is to limit the influence of personal relationships between project sponsors and certain consultants, to use the negotiation expertise of the purchasers (technical skill, benchmark information, etc.), and to finally arrive at the best deal in terms of cost/performance ratio for the customer organization. The sales/purchasing negotiation process changes accordingly.

Problem identification and initiation of a bidding process In a joint process between the project sponsor and the purchasing department, the customer problem is analyzed and the consulting need defined. Analysis of the customer problem is often written down in a problem statement or situational analysis, which can be provided to bidders as background information. In well-structured processes, the problem definition/situational analysis is followed by the definition of goals of a future consulting project, clear project deliverables, a timeline, and minimum exigencies in terms of consulting expertise. Some buying organizations spell out general and project specific terms & conditions, which shall be applied in any contract. A formal RFP contains all this information. Before such an RFP is sent out to potential bidders, customer organizations may already seek informal contact with consulting companies to get an idea of their appraisal of the situation as well as potential project goals and deliverables. Besides creating an RFP, the customer organization has to identify and contact potential bidders.

In contrast to the consulting firm driven process described above (cases 1 and 2b), a customer-led process (case 2b) leaves all negotiable issues firmly in the hands of the customer. The RFP thus sets the agenda for later negotiations with the various bidders by defining which issues shall be included in a negotiation and which ranges on the various issues are regarded as realistic (e.g. concerning duration, team size, overall budget). A structured bidding process can thus be regarded as a form of agenda setting by the customer with the RFP constituting a first offer made by the customer.

Bidding process: offer construction, submission, presentation By creating an extensive RFP, the customer organization reduces the collaborative project scoping phase into a process with clear unilateral steps: The first step has been taken by issuing an RFP, the second move must be made by the bidders. Thus, a formal offer constitutes the project scoping efforts by the bidders. Most private organizations allow bidders to clarify open issues from their understanding of the RFP; however, this may not be the case with public bodies. One of our experts said she always tries to figure out (a) who (i.e., seniority, function, background) would be her project sponsor and (b) which other bidders have been invited. Since consulting firms are known for varying rates, this question aims at finding out the customer organization's willingness-to-pay. With their understanding of the customer problem at hand, the bidding consulting companies now develop an offer proposal. In the proposal, the bidders specify how they attempt to reach the goals sketched out in the RFP (methods, analyses, specific project modules/ work streams), try to demonstrate their expertise in the specific area, and need to come up with a commercial offer (duration, team structure and size, rates, travel expenses, payment terms, etc.). The tighter the RFP is on the latter issues, the less latitude do bidders have if they do not want to be eliminated from the bidding process prematurely. Upon receipt, the customer organization scrutinizes the proposals and invites the most interesting consulting firms for a personal offer presentation. Consulting firms then have the chance to elaborate, detail, and clarify their written proposal, answer questions by the customer organization and insinuate potential room for discussion/concessions. After the presentations, the buying

organization may eliminate some bidders and create a shortlist of those whose offer seems to be worthwhile to be negotiated and eventually selected.

Offer negotiations and supplier selection The buying organization's goal of a structured bidding process is to commission the bidding firm with the best proposal in terms of cost-performance ratio. However, the best solution from the customer's perspective may actually represent a combination of proposal elements from the different bidders. This is due to the strict bidding process guidelines with relatively little information exchange between buyer and potential contractors in early phases of the process. Additional exchange of proprietary information during the proposal submission and presentation phase may lead to alterations of the customer organization's perception of the problem at hand and possible solutions. Proposals may also vary greatly in cost. These are just a few reasons why the submission and presentation phase is generally followed by offer negotiations. The buying organization usually conducts them with the shortlisted bidders in parallel. Two possible negotiation procedures with the remaining bidders are common: a one-step negotiation that involves the project sponsor and purchasing department together, and a two-step procedure where the project sponsor negotiates the project scope and the purchasing department negotiates commercial conditions (project duration, team size & structure and respective rates, travel expenses, payment terms) with the bidders.

The one-step procedure is best suited for buying organizations when project scope and financials are heavily intertwined and are accorded a similar weight by the customer organization. The more ill-defined the situation of the customer company is, the more tailor-made and creative the proposals are, the more probable is such a one-step procedure. Re-scoping negotiations may then be quite similar to those described for cases 1 and 2a. A final supplier selection would be jointly made by the project sponsor and the purchasing department according to the expected cost-performance ratio.

When project goals and scope are clearer, a two-step negotiation procedure becomes more probable. In the first step, the project sponsor negotiates the scope of the project as well as issues directly related to it, such as project duration, approximate team size & structure, work arrangements, etc. If the project sponsor generally agrees to the bidder's proposal on these issues, the bidding company enters commercial negotiations with the purchasing department in step two. In these negotiations, total project cost is paramount for the purchasing organization. Purchasing negotiators may use alternative offers or benchmark figures to elicit concessions on consultant rates, billable days, travel expenses or other cost related issues by the bidder. These negotiations tend to be emotionally straining for bidders since they are the last encounter before a win-or-lose decision by the buyer is made. In this two-step procedure, the final commissioning decision usually lies with the purchasing department, since the general OK must have been given by the project sponsor after step 1 negotiations.

4.2 Negotiating the Sale and Purchase of Legal Advice Projects

As in top management consulting and auditing, negotiations in legal consulting display some industry specific features. Before laying out the negotiation process, these industry specific peculiarities have to be considered.

4.2.1 Peculiarities of the Legal Advice Industry

State of the industry The industry for legal advice is currently undergoing some major shifts and changes. Only over the last two to three decades have globally acting law firms entered the German market, and German (national) law firms have either joined international firms or organized in looser networks. This type of organization guaranteed very well paid hourly rates, until only some years ago, major corporations who buy legal services started using their purchasing departments for legal services, too. Thus, rates and fees have come under increased pressure, and the credence good 'legal advice' has somehow become more of a commodity in some law sectors. Moreover, intermediaries like Legal Bill have created a greater degree of transparency concerning rates and billing practices. Thus, major law firms today are more and more seeking ways of resisting the price pressure.

However, this endeavor still clashes with the self-image of most lawyers employed in those firms. All of our experts said that they see themselves as a 'body of the administration of justice' (German: '*Organ der Rechtspflege*') rather than as a provider of a professional service at a negotiable scope and price. This mindset goes in hand with a reluctance to see themselves as a salesperson, although selling legal advice is one very important activity of all partners in these firms. Because of the increased pressure (on prices, on billing transparency) on the client side, a shift towards more sales oriented organizations has begun, however.

Negotiation and Contract Specificities The legal advice industry also shows some negotiation and contract peculiarities. This concerns the type of negotiations typically encountered, some peculiarities in contracting, and the different subject matters within legal advice.

Our experts broadly differentiate three different types of (sales) negotiation for legal advice services. First, there are so-called panel selection negotiations. These panel selection processes are organized on a regular basis by big corporations. They want to identify and contract preferred suppliers for legal advice for a specified period of time, e.g., three years. Especially for large law firms, it is of utmost importance to win such a framework agreement, because being commissioned as a law firm within such an agreement offers many advantages (less transaction costs, less hurdles for the client within the client company, agreed rates, exclusion of some of the competition, etc.). These negotiations are normally organized as tender processes by the client firms, and the law firms use

much of their energy, i.e. in terms of manpower and time spent, to be successful in such a process.

The second class of negotiations concerns a concrete project, e.g. legal advice for a merger of the client firm. These negotiations can take place within or outside of a framework agreement. The number and scope of negotiable issues thus heavily depends on these circumstances. Such a negotiation is comparable to negotiating a top management consulting project under a tender process.

The third class of negotiations concerns an ongoing project for which many of the assumptions have not been met or contingency clauses have come into effect. Then the client company and the law firm have to negotiate how to share extra burdens between them. This third class is a typical renegotiation situation, partly triggered by the type of contract and clauses used between client and law firm.

With regard to contract specificities, legal advice is characterized by a high degree of uncertainty in the projects it accompanies. Thus, all our experts agree that in drafting their offers they heavily rely on assumptions about which type and amount of legal advice will be necessary in a project (e.g., a merger transaction). In effect, this means that their (hourly) rates or eventually fee caps are only applicable as long as those assumptions are met. If they aren't, the above described renegotiations ensue.

A second idiosyncrasy in legal advice concerns the wide variety of remuneration systems that is applied. Traditionally, legal advice was billed by the hour (or even more fine grained by every twelve minutes) for activities that are considered ‘billable’. Today, a plethora of billing variants is used: There are fixed fee projects (under fixed assumptions), there are capped fee projects, and especially in the area of mergers & acquisitions some law firms use very high success fees (up to 100% of the billable hours) if the transaction goes through. Depending on the exact type of remuneration agreement, the client firm has a more or less accurate guess of what legal advice will finally cost. Reducing this uncertainty seemed to be a major driver for innovation in billing and remuneration systems over the last couple of years.

The last peculiarity concerns the different subject matters in law. Although two lawyers may be partners in a top law firm, all else being equal, their opportunities for negotiating high hourly rates may be very different. For example, labor law or legal advice in mergers & acquisitions are under much higher competitive pressure than advice in regulatory law. There, legal experts are often scarce or the potential risks or losses for high-ranking managers in the client company overcompensate high legal fees if the renowned expert can avert these threats. Thus, the law sector heavily influences the negotiation leeway, although both client and law firm may be the same.

4.2.2 Negotiation Process in Legal Advice Sales and Purchasing Negotiations

The following characterization is applicable to both framework and project specific negotiations. Renegotiations are not in the focus here. Differences are marked as such.

Establishing contact Our experts enumerated three client induced and one law firm initiated types of establishing contact for a potential mandate. The client firm may (a) approach a preferred supplier under a framework agreement or a law firm it has enjoyed a relationship with, (b) contact a law firm, which was recommended by someone from within the client firm's network, or (c) cold call potentially interesting legal service providers. All our experts agree that it is normally the client who has identified a need for legal advice and then approaches the law firm. Only rarely does the opposite happen: Law firm induced contact then is reduced to follow up contacts after an industry event, publications, or new legislation or judgments. In general, however, the first step is taken by the client firm.

Initiation Because contact is established by the client firm, the first issues are also raised by the client firm. This may be done in the shape of an RFP, a term sheet, or in an informal manner. If the legal advisor enjoys a relationship with the client firm, it may help with the RFP. Then the commissioning process may become a pro forma bidding process with a foreseeable winner of the contract. The more formal the initiation, the more does the client firm set the agenda for subsequent negotiations. Especially in panel selection processes, a high degree of professionalism by client firms is reported by our experts, so that negotiation leeway for them is limited.

Formal offer The law firm reacts with a formal offer to the RFP, term sheet, or informal request. Depending on the degree of formalization of the client firm's request, the room for own suggestions by the law firm varies. Negotiation issues that are potentially touched in such formal offers include number and expertise of lawyers, seminars, data rooms, other forms of intelligence, secondees (lawyers permanently on lease to the client firm), definition of billable and non-billable activities, invoicing procedures, project organization and deadlines, rebates, fee caps, success fees, law sectors and jurisdictions covered, exclusiveness.

Classical negotiation Such a formal offer may be accepted right away (e.g., if it is under a framework agreement), slightly altered or lead to a classical give-and-take negotiation. In the latter case, our experts unanimously report some peculiarities for their industry. Often, both the client firm and the law firm prepare an agenda for negotiations. The lawyers usually let the negotiation unfold according to the client side's agenda, but have their agenda ready when the client isn't that well prepared. It seems that preparing an agenda is less for negotiation tactical reasons but rather as a checklist in order to remember all important points. When the lawyers can set the agenda, our experts stress that they would always discuss rates in the end for various reasons. First, their competence can be better supported by discussing performance issues first so that price may not appear that important anymore for the client, similar to top management consulting. Another expert says that only this way can he come to an overall mixed calculation of billable and non-billable activities. A last explanation for this observation may reside

within the lawyers' self-image: because of their self-image as a lawyer (as compared to a businessperson), they don't like to talk about rates or prices and do it in the end.

With regard to price related issues, negotiations for legal advice seem to differ from those for auditing and consulting services in two important ways. First, our legal experts if necessary concede on (hourly) rates, which our top management consultants were extremely reluctant to do. Second, in legal advice a much greater variety of pricing schemes seems to be customary: From hourly rates, to project fixed fees, to fee caps, to success fees.

4.3 Negotiating the Sale and Purchase of Auditing Projects

When regarding negotiation in the auditing business, a number of particular boundary conditions of that industry has to be outlined before analyzing the subject matter of interest. It also needs to be mentioned that the following discoveries and conclusions are based on interviews with key informants from the Big Four auditing companies [Deloitte, EY, KPMG, PWC]. For smaller and more regional auditing firms, differences may exist.

4.3.1 Peculiarities of the Auditing Industry

The core service that an auditing company offers its clients is to audit and testify the results of the audit to their clients. The content and extent of auditing is largely determined by legislation. Because of the specified nature of the service, auditing can be seen as a commodity. Furthermore, the process of mandating an auditing firm is also largely determined by legislation. Generally, i.e., in most legislations, the auditing firm is officially commissioned by the supervisory body of the client company. Further legal aspects in auditing concern the prohibition of auditing and consulting the same client company at the same time. Thus, auditing firms, who normally also offer tax advisory, management consulting, and corporate finance consulting, must choose whether they want to act as auditor or consultant to a client firm. Another regulatory peculiarity concerns the type of contracts auditing firms can conclude with their clients: Contrary to management consulting or legal consulting, fixed fee agreements under which the total fee for an audit is fixed before the service has been delivered are illegal.

Besides legal peculiarities of the auditing business, the market structure serves as an important boundary condition for negotiating mandates. On a global basis, the auditing market is an oligopoly with the four big players mentioned above. The market volume is currently stagnating with rather shrinking tendencies due to fierce competition among the auditing firms. In hand with the market structure goes another peculiarity: Changing an auditing firm does not happen very often because in-suppliers can normally build switching barriers for client firms in terms of practices, routines, trust, and personal contacts. Thus, if an auditing firm wants to win a new mandate from a competitor, it needs to look for strategic windows. These may come after client company mergers, a change

on the CFO position (although officially the supervisory body commissions the auditing firm, the preparatory steps are organized under the supervision of the CFO) or a scandal.

To sum up, both legal requirements and market peculiarities lead to little leeway with regard to creative negotiation solutions. Ancillary costs such as travel expenses are spelt out in the offer documents, but normally do not become part of the negotiation. Last minute issues or demands are sometimes used by the client side, and generally disliked by the auditing firm. One exception is when such a last minute demand tells the selling side about competing offers and gives them the opportunity to change their offer and turn it into a winning bid. If terms and conditions of both sides do not match or need to be resolved, this is generally done separately by the legal departments.

4.3.2 Negotiation Process in Auditing Sales and Purchasing Negotiations

Unlike management consulting, selling auditing projects follows a much more pre-determined and pre-structured process. In terms of ***initiation*** of this process, our experts differentiate between (1) ongoing client relationships, (2a) new client initiated contact, i.e. invitation to participate in a bidding process, and (2b) auditing firm initiated acquisition efforts through networking. In contrast to management consulting, where depending on the type of initiation the following negotiations process varies greatly, the (official) sales and negotiation process in auditing does not really depend on the type of initiation. However, our experts all stress the significance of personal relationships and trust-building measures in this phase. If those are successful, the auditing firm may be able to influence the subsequent RFP in their favor.

The second stage in the process, which in our understanding of negotiation defines many of the issues and sets the agenda, is represented by the ***RFP***, issued by the client company. The RFP generally contains the scope of auditing as well as important boundary conditions. Scope may be defined in terms of the number of subsidiaries to be audited, the expertise needed for auditing as well as deadlines and duration of several sub-parts of the project. It normally also includes a qualification requirement that bidders will have to fulfill in order to be considered as potential auditors. Therefore, client companies often ask for references. The structure and the content of the RFP thus represent both the issue core and the agenda for all subsequent negotiation interaction. If a qualification requirement is part of the RFP, the following bidding process happens in two stages: qualification, and if positive, bid submission.

Upon receipt of the RFP and after having passed the qualification stage, responsible partners in the auditing firms prepare a ***formal offer document***. Our experts unanimously state that in preparing their offer they quite strictly follow the agenda (in terms of ordering) that the RFP has outlined. They consider the audit team in terms of total numbers, seniority, expertise as well as the expected hours per auditor the core issues in their offer. Other issues in the offer document include audit planning (duration, finalization, subprojects) and audit organization (processes, e.g. regular jours fixes, and structures, e.g., auditor-management committees), the type and shape of audit reports and the inclusion

of special audit requests. Generally, the price (in terms of hourly/daily rates) is quoted at the very end.

When the client company has received all offers from competing auditing firms, they invite them in turn for a "***beauty contest***". This resembles a ***classical negotiation situation*** where arguments and changes to the formal offer are exchanged face to face between the auditing firm partners and the auditing committee in the client firm (which may involve people from the purchasing department). In these sessions, the auditing firms are heavily questioned about their proposed framework for the project in terms of expertise and time needed. Thus, it is important for them to make every suggestion very plausible to the client firm. Other, possibly deal-making or deal-breaking issues include the practical organization of the auditing project, and in case of a new client relationship how the handover processes from the old to the new auditing firm are going to be organized. Of course, price is also a very important issue, mostly for the buying side. In case of new customer acquisition, the auditing firms don't seem to be completely fixated on price, because they value winning new customers very highly in the hope of developing a relationship with them.

4.4 Comparative Analysis

Table 1 summarizes and synthesizes sales and purchasing negotiations in the three different types of KIBSs that are in focus in this article. Overall, we find commonalities and differences among the three different services as well as between different types of negotiation processes. When comparing the different described processes, the greatest differences in the negotiation process do not appear between the different services, but between the different modes of initiation: Most notably, the client firm initiated transactions all display a high degree of process control by the client firm.

This is mainly due to the authentic (vs. pro forma) use of RFPs: Different departments in the client firm, eventually with some limited input by potential suppliers, discuss concrete service needs and lay them down in an extensive RFP. This practice can be found in all three regarded services; in auditing it is the standard. For competing suppliers this means that the initial service scope clarity is rather high, whereas the degree of supplier-customer integration for clarifying service needs is rather low. Linked to this, the possibility for supplier influence on the potential client is limited. In these types of sales and purchasing negotiation processes, the agenda both in terms of content and in terms of procedures resides firmly with the client firm. Typically, several comparable suppliers then participate in the so-called "beauty contest", where they are scrutinized by the client negotiation team, often in simultaneous, parallel negotiations (Geiger et al., 2022). At this stage, client firm members from the purchasing department as well as the functions involved in service delivery try to thoroughly check service providers' facilities and resource potential (Moeller, 2008) and to extract concessions from competing suppliers. Due to the competitive nature of the final negotiations, concessions mostly

Table 1 Overview of sales & purchasing negotiations in three important KIBSs.

	Management consulting: consultant and jointly initiated projects	Management consulting: client initiated projects	Legal advice: panel selection negotiations	Legal advice: concrete project negotiations, e.g. M&A legal due diligence	Auditing
Transaction/negotiation initiation	Identification of a client challenge/problem and a subsequent consulting need, either in an ongoing relationship or through cold call acquisiton by service provider	Issue of an extensive RFP by client company	Issue of an extensive RFP by client company, typcially a large corporation	Law firm is approached under framework agreement, from former relationship, in cold call; Issue of a term sheet, RFP (both may already be influenced by law firm)	Either (a) in ongoing relationship or (b) by client firm, legally by supervisory body, de facto often by CFO or (c) rarely by service provider cold calling
Initial service scope clarity	Low: client problems often ill-defined	Medium to high: client project sponsor and purchasing department discuss and define consulting needs, project deliverables, timelines, required consulting expertise	High in terms of potential substantive scope, medium in terms of service volume	Medium - high: if client company sets up RFP independently, substantive scope, expertise, law sectors, jurisdictions, etc. have been defined	High: substantive scope given by legal provisions, boundary conditions spelt out by client firm
Degree of supplier-customer integration before project start	High: necessary for creating a common understanding of client challenges and assumptions. Project scope elaborated in close cooperation.	Low: potential consultants may or may not be involved in the discussion of consulting needs before an RFP is issued	Very low	Low - medium: potential service provider may or may not be involved from the start, i.e. in RFP formulation	Very low to low: in case of ongoing relationship, service provider may discuss project outlines with client firm

(continued)

Table 1 (continued)

	Management consulting: consultant and jointly initiated projects	Management consulting: client initiated projects	Legal advice: panel selection negotiations	Legal advice: concrete project negotiations, e.g. M&A legal due diligence	Auditing
Use of RFPs	Possible, but rather in a pro forma fashion	Formal RFP sets the agenda and starts the negotiation process	Formal RFP sets the agenda and starts the negotiation process	Typical, sometimes pro forma	Formal RFP sets the agenda and starts the negotiation process
Concession/trade-off mechanisms	Project re-scoping with subsequently decreased project resources: - modularization and step-wise commissioning of modules - cutting down on breadth or depth of analysis and thereby deliverables - Substitution of consultants by client personnel Offering "free" resources, but reluctance to concede on consultant rates	When client problem perception has changed with formal offers: project re-scoping as in consultant initiated projects. When client problem perception remains largely constant (clarity given on project deliverables and scope): Bidders need to concede on rates, free resources, seniority, travel expenses, payment terms etc. to win the contract in parallel negotiations with several bidders	Definition of billable and non-billable activities Concessions on ancillary clauses (payment terms, expenses, etc.) Concessions on hourly rates	Definition of billable and non-billable activities Concessions on ancillary clauses (payment terms, expenses, etc.) Concessions on hourly rates Open (e.g. success fees, capped fees) and latent (e.g. agreed assumptions) contingency clauses	Practical audit organization (processes, resources, etc.) Concessions on hourly/daily rates

(continued)

Table 1 (continued)

	Management consulting: consultant and jointly initiated projects	Management consulting: client initiated projects	Legal advice: panel selection negotiations	Legal advice: concrete project negotiations, e.g. M&A legal due diligence	Auditing
A priori mechanisms to deal with project uncertainties	Agreement on common assumptions Definition of out-of-scope issues Establishment of trust	Problem statement/ situational analysis in RFP Clarification of bidders' open questions before offer submission	Competition in panel selection	Extensive list of assumptions laid down by law firm Fixed fee or capped fee contracts	Request for references by client firm, "beauty contest" with assumption testing
Contract specificities	Typically fixed-price contract where price results from amount of agreed upon project resources and deliverables Rarely service contracts billed by the hour	Typically fixed-price contract where price results from amount of agreed upon project resources and deliverables Rarely service contracts billed by the hour	Framework contract for ongoing legal advice Within framework contract: service contract billed by the hour, work lease contract for secondees	Variety of contractual set-ups: Classical service contract billed by the hour Fixed fee contract for total project Capped fee contract for total project Contract including a variable success fee	Fixed fee contracts are illegal, service contracts billed by the hour

concern directly cost-relevant aspects, such as (hourly/daily) rates, travel expenses, payment terms, or free add-on resources provided by the supplier. Rarely does project or service scope come into the equation at that stage again. In this type of customer pre-structured process, customer firms are rather inflexible in terms of service (project) scope and attempt to optimize their share of the deal by changing the cost in the performance-cost ratio.

In the second type of negotiation process, which surfaced in the present analysis, the influence of the supplier firm at the start of the negotiation process is greater. This is regularly the case in management consulting projects that are service provider or jointly initiated, and to a lesser degree in concrete legal project negotiations, such as when a client firm needs to commission a law firm to do a legal due diligence in a potential M&A transaction. In this type of sales and purchasing negotiation, the supplier-customer collaboration starts with a common elaboration of the problem and potential solutions to it. Therefore, the concrete service scope is often unclear at the start and becomes more concrete as the partners gain a common understanding of the client's challenges and develop a scope together. While sometimes RFPs are used, this is mostly the case in a pro forma fashion. During concrete negotiations leading up to agreement, more flexibility on the client side can be observed than in a purely client-led process. In management consulting, mutual concession making happens on scope and therefore indirectly on cost, while in legal advice law firms offer a wide variety of risk sharing options, such as fixed fee, capped fee, or variable success fee contracts. Overall, this type of process leaves more negotiation leeway for both parties, because issues of scope and cost are still on the table before a final settlement.

5 Discussion

5.1 Contribution

This article is the first to shed light on the sales and purchase negotiation processes that providers and clients of KIBSs go through before such services are agreed upon and subsequently delivered. It therefore contributes to our understanding of both B2B and service sales negotiation processes (e.g., Alavi, et al., 2020; Herbst, et al., 2011; Wilken, et al., 2010) as well as to the so far under-researched domain of KIBS sales and purchasing (Heikka & Mustak, 2017).

The present research has laid open different process patterns depending on the degree of service scope clarity at the outset. When service scope is rather clear, many client firms use their purchasing departments in the process, issue extensive RFPs, and leave little to no room for supplier-client interaction for service scope specification, although this has been advocated by past research (Heikka & Mustak, 2017; van der Valk & Rozemeijer, 2009). This finding is similar to research reported by Selviaridis et al. (2011), who find that purchasing experience with certain types of services leads to clearer

service specifications in RFPs. In line with Ellram and Tate's (2015) "guide role" of the purchasing department for this type of service purchasing, such endeavors by the client firms, and especially their procurement functions, aim at cutting high spend and making cost components (fees, expenses, payment terms, etc.) comparable and eventually more consistent for the client. Such rather tight service specifications and the ensuing competition between service providers also serves to decrease the client firm's risk in subsequent project implementation. Our findings hence show that purchasing departments and procedures nowadays seem to have greater influence on the procurement process of KIBSs than previously reported (e.g., Heikka & Mustak, 2017). The current finding also adds evidence to an increasing professionalization of the purchasing function and process, as reported, e.g., in Rogers and Fells (2018).

The more flexible negotiation process observed in management consulting and partially in legal advice for concrete projects seems more in line with prior research on KIBSs. A great degree of customer integration during project implementation (e.g., Bettencourt, et al., 2002) is mirrored in a great amount of supplier integration or supplier-client interaction during the early phase of the negotiation process, i.e. project scoping or service specification. Overall, this type of negotiation process is characterized by a greater variety of concession making mechanisms on both sides, as well as more creativity of how to handle project uncertainties and risks. In line with findings by Selviaridis and colleagues (2011), the greater supplier involvement in project scoping or service specification leads to changes in both performance (project scope, deliverables, resources, etc.) and cost issues over the course of the negotiation. If negotiation partners arrive at good outcomes, i.e. a good cost-performance ratio, they do so on both substantive performance as well as cost related issues.

5.2 Managerial Implications

Since we have taken a bird's eye view on the sales and purchasing negotiation process for KIBS projects, it makes sense to suggest managerial implications for client and service provider sides separately. Starting with the client firm, this research suggests that using the procurement function's expertise and skill in steering the purchasing process also works for purchasing KIBSs, whenever it is feasible to define the required service scope autonomously in the client firm. In that case, a detailed RFP, including necessary background information, sent out to a manageable number of potential suppliers, functions as an agenda for the negotiation process and gives the client firm nearly full process control. For specifying the RFP documents, an additional round of information collection, e.g. by means of a request for information, may be sensible. In the latter stage of the process, the client firm will be able to optimize the performance-cost ratio of the winning service offer mostly by receiving concessions on the cost side. For project success, however, it is mandatory that the service specifications in the RFP are sufficient.

When the type of customer problem is not clear enough to issue an extensive RFP, but needs to be elaborated together with a service provider, implications are different for client firms. Establishment of trust, disclosure of and agreement on underlying assumptions, as well as the definition of scope and out of scope take center stage. Since the negotiation mostly resembles a one-on-one negotiation, with potential service provider competition mostly pro forma, client firm negotiators need to be open-minded for creative agreements, e.g. in terms of greater subsequent customer integration to lower direct monetary cost or in terms of risk sharing. Then, a successful project contract may be agreed upon that takes into account flexibility on the performance and the cost side.

For service providers, this research suggests to first and foremost look out for projects for which they can suggest a service need. In that case, the service provider is involved in service specification from the start and can (contribute to) steer the ensuing negotiation process. It offers greater possibilities for highlighting the full service quality potential of the provider. The performance-cost ratio to the customer then has an emphasis on performance. Creative risk sharing may be also incorporated in such a case.

When the client firm, however, steers the process from the beginning, using an extensive formal RFP, service providers only have the chance to play along. At the beginning, this means to fully understand the RFP, eventually asking all necessary clarifying questions. If the service provider has an approximate idea of the overall price/cost tag of the ensuing bidding/parallel negotiation process, it may contemplate using slightly exaggerated rates and expense formulas in its formal offer, in order to be able to concede on them later. When feasible, it can also try to suggest sensible amendments to the project scope in the RFP, trying to steer the final negotiations away from pure cost issues.

5.3 Limitations and Future Research

This research also has some limitations, some of which might offer fruitful avenues for future research. One limitation pertains to the chosen sampling frame and related data collection. For analyzing KIBS sales and purchasing negotiations, we regarded a limited scope in terms of (a) industries/specific KIBS, i.e., management consulting, legal advice, and auditing, (b) size of provider and customer companies, i.e., large providers and client firms alike, (c) geography, i.e. mostly Germany. Especially with regard to the specific KIBS as well as firm size, differences in the involvement of purchasing departments and therefore different negotiation processes may be witnessed. Thus, investigating other KIBS sales negotiations and/or involving smaller companies may be a worthwhile endeavor to broaden the research scope.

Another limitation pertains to the qualitative, exploratory nature of the research. While the applied methodology helped lay open different processes under different circumstances, it cannot claim any cause-and-effect relationships between the discussed concepts and processes. It can be the task of subsequent quantitative and/or experimental investigations to provide more detail and confidence in the present results.

References

Alavi, S., Habel, J., Schwenke, M., & Schmitz, C. (2020). Price negotiating for services: Elucidating the ambivalent effects on customers' negotiation aspirations. *Journal of the Academy of Marketing Science, 48*(2), 165–185. https://doi.org/10.1007/s11747-019-00676-4

Backhaus, K., & Mühlfeld, K. (2005). Strategy dynamics in industrial marketing: A business types perspective. *Management Decision, 43*(1), 38–55. https://doi.org/10.1108/00251740510572470

Bettencourt, L. A., Ostrom, A. L., Brown, S. W., & Roundtree, R. I. (2002). Client co-production in knowledge-intensive business services. *California Management Review, 44*(4), 100–128.

Corbin, J., & Strauss, A. (2008). *Basics of Qualitative research-techniques and Procedures for Developing Grounded Theory* (3rd ed.). Sage.

Cui Ying, Y., & Coenen, C. (2016). Relationship value in outsourced FM services—Value dimensions and drivers. *Facilities, 34*(1/2), 43–68. https://doi.org/10.1108/F-01-2014-0011

den Hertog, P. (2000). Knowledge-intensive business services as co-producers of innovation. *International Journal of Innovation Management, 4*(4), 491–528. https://doi.org/10.1142/S136391960000024X

Doloreux, D., & Shearmur, R. (2013). Innovation strategies: Are knowledge-intensive business services just another source of information? *Industry and Innovation, 20*(8), 719–738. https://doi.org/10.1080/13662716.2013.856623

Ellram, L., & Tate, W. L. (2015). Redefining supply management's contribution in services sourcing. *Journal of Purchasing and Supply Management, 21*(1), 64–78. https://doi.org/10.1016/j.pursup.2014.10.001

Geiger, I. (2016). Negotiation management. In M. Kleinaltenkamp, W. Plinke, & I. Geiger (Eds.), *Business project management and marketing* (pp. 207–275). Springer.

Geiger, I. (2017). A model of negotiation issue–based tactics in business-to-business sales negotiations. *Industrial Marketing Management, 64*(3), 91–106. https://doi.org/10.1016/j.indmarman.2017.02.003

Geiger, I., Bischoff, L., & Vogler, T. (2022). Multiple parties behind and across the table: A role-play simulation of parallel, competitive order negotiations for training B2B sales professionals. *Industrial Marketing Management, 103*, 170–182. https://doi.org/10.1016/j.indmarman.2022.03.014

Geiger, I., & Hüffmeier, J. (2020). "The more, the merrier" or "less is more"? How the number of issues addressed in B2B sales negotiations affects dyadic and seller economic outcomes. *Industrial Marketing Management, 87*, 90–105. https://doi.org/10.1016/j.indmarman.2020.02.013

Gil-Saura, I., Berenguer-Contri, G., & Ruiz-Molina, M. E. (2018). Satisfaction and loyalty in B2B relationships in the freight forwarding industry: Adding perceived value and service quality into equation. *Transport, 33*(5), 1184–1195. https://doi.org/10.3846/transport.2018.6648

Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. *Organizational Research Methods, 16*(1), 15–31. https://doi.org/10.1177/1094428112452151

Graebner, M. E., Martin, J. A., & Roundy, P. T. (2012). Qualitative data: Cooking without a recipe. *Strategic Organization, 10*(3), 276–284. https://doi.org/10.1177/1476127012452821

Heikka, E.-L., & Mustak, M. (2017). Purchasing of knowledge-intensive business services: A case study of relevant factors. *International Journal of Procurement Management, 10*(1), 21–37.

Herbst, U., Voeth, M., & Meister, C. (2011). What do we know about buyer–seller negotiations in marketing research? A status quo analysis. *Industrial Marketing Management, 40*(6), 967–978. https://doi.org/10.1016/j.indmarman.2011.07.004

Homburg, C., & Stebel, P. (2009). Determinants of contract terms for professional services. *Management Accounting Research, 20*(2), 129–145. https://doi.org/10.1016/j.mar.2008.10.001

Johnson, J. S., & Sohi, R. S. (2016). Understanding and resolving major contractual breaches in buyer–seller relationships: A grounded theory approach. *Journal of the Academy of Marketing Science, 44*(2), 185–205. https://doi.org/10.1007/s11747-015-0427-8

Kapoutsis, I., Volkema, R., & Nikolopoulos, A. (2013). Initiating negotiations: The role of machiavellianism, risk propensity, and bargaining power. *Group Decision & Negotiation, 22*(6), 1081–1101. https://doi.org/10.1007/s10726-012-9306-6

Miles, I. (2005). Knowledge intensive business services: Prospects and policies. *Foresight, 7*(6), 39–63. https://doi.org/10.1108/14636680510630939

Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis—A methods sourcebook* (3rd ed.). Sage.

Moeller, S. (2008). Customer Integration—A key to an implementation perspective of service provision. *Journal of Service Research, 11*(2), 197–210. https://doi.org/10.1177/1094670508324677

Muller, E., & Doloreux, D. (2007). *The key dimensions of knowledge-intensive business services (KIBS) analysis: a decade of evolution*. Arbeitspapiere Unternehmen und Region. Fraunhofer Institute for Systems and Innovation Research ISI.

Muller, E., & Zenker, A. (2001). Business services as actors of knowledge transformation: The role of KIBS in regional and national innovation systems. *Research Policy, 30*(9), 1501–1516. https://doi.org/10.1016/S0048-7333(01)00164-0

Mustak, M. (2019). Customer participation in knowledge intensive business services: Perceived value outcomes from a dyadic perspective. *Industrial Marketing Management, 78*, 76–87. https://doi.org/10.1016/j.indmarman.2017.09.017

Pardos, E., Gómez-Loscos, A., & Rubiera-Morollón, F. (2007). 'Do versus Buy' decisions in the demand for knowledge intensive business services. *The Service Industries Journal, 27*(3), 233–249. https://doi.org/10.1080/02642060701206991

Pratt, M. G. (2009). For the lack of a boilerplate: Tips on writing up (and reviewing) qualitative research. *Academy of Management Journal, 52*(5), 856–862. https://doi.org/10.5465/amj.2009.44632557

Raiffa, H. (1982). *The art and science of negotiation*. Harvard University Press.

Rogers, H., & Fells, R. (2018). Successful buyer–supplier relationships: The role of negotiations. *Journal of Strategic Contracting and Negotiation, 3*(3), 121–136. https://doi.org/10.1177/2055563618763037

Söhnchen, F., & Albers, S. (2010). Pipeline management for the acquisition of industrial projects. *Industrial Marketing Management, 39*(8), 1356–1364. https://doi.org/10.1016/j.indmarman.2010.04.001

Santos, J. B., & Spring, M. (2015). Are knowledge intensive business services really co-produced? Overcoming lack of customer participation in KIBS. *Industrial Marketing Management, 50*, 85–96. https://doi.org/10.1016/j.indmarman.2015.04.005

Sarkis, J., & Talluri, S. (2002). A model for strategic supplier selection. *Journal of Supply Chain Management, 38*(4), 18–28. https://doi.org/10.1111/j.1745-493X.2002.tb00117.x

Selviaridis, K., Agndal, H., & Axelsson, B. (2011). Business services 'in the making': (De)Stabilisation of service definitions during the sourcing process. *Journal of Purchasing and Supply Management, 17*(2), 73–86. https://doi.org/10.1016/j.pursup.2010.08.001

Svensson, R. (2001). Success determinants when tendering for international consulting projects. *International Journal of the Economics of Business, 8*(1), 101–122. https://doi.org/10.1080/13571510151075314

Svensson, R. (2003). Visits to the client when competing for new consulting contracts: Sourcing information or influencing the client? *Applied Economics, 35*(14), 1531–1541.

van der Valk, W., & Rozemeijer, F. (2009). Buying business services: Towards a structured service purchasing process. *Journal of Services Marketing, 23*(1), 3–10. https://doi.org/10.1108/08876040910933048

Walsh, G., Beatty, S. E., & Holloway, B. B. (2015). Measuring client-based corporate reputation in B2B professional services: Scale development and validation. *Journal of Services Marketing, 29*(3), 173–187. https://doi.org/10.1108/JSM-04-2014-0141

Weidenbaum, M. (2005). Outsourcing: Pros and cons. *Business Horizons, 48*(4), 311–315. https://doi.org/10.1016/j.bushor.2004.11.001

Wilken, R., Cornelißen, M., Backhaus, K., & Schmitz, C. (2010). Steering sales reps through cost information: An investigation into the black box of cognitive references and negotiation behavior. *International Journal of Research in Marketing, 27*(1), 69–82. https://doi.org/10.1016/j.ijresmar.2009.08.006

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Reflections on Frank Jacob's Contributions to the Literature on Intercultural Business Negotiations

Robert Wilken and Nathalie Prime

Abstract

Having published three papers on intercultural business negotiations in cooperation with Frank Jacob, the authors of this paper summarize the main findings of these studies and systematize and reflect on the reception this research has generated in the scientific community. The analysis shows that Frank Jacob's work on intercultural business negotiations empathized with the context of the study and its central empirical findings. However, quite a few citations go beyond this by referring to substantive and methodological details. Thus, the overall picture of reception is quite multifaceted and diverse. Research limitations spelled out in the three papers have not yet been addressed in other studies but are still relevant—this observation points toward tremendous research opportunities in the field of intercultural business negotiations in the future.

1 Introduction

This paper summarizes three studies on the topic of intercultural business negotiations that we published together with Frank Jacob and partly in collaboration with former doctoral students (Tayfun Aykaç and Elena Stimmer [née Dinkevych]) between 2013 and 2017:

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- The ambiguous role of cultural moderators in intercultural business negotiations (Wilken et al., 2013),
- Why teams achieve higher negotiation profits than individuals: the mediating role of deceptive tactics (Aykaç et al., 2017), and
- Can outnumbered negotiators succeed: the case of intercultural business negotiations (Dinkevych et al., 2017).

Some 10 years after the initial submission of the first paper to the International Business Review, we took the liberty of using Frank Jacob's birthday as an opportunity to paint a picture of the impact these papers have had on the literature, based on our findings and their internal connections. In doing so, we are particularly interested in the context in which our work has been taken up—at a superordinate level in terms of contexts of inquiry as well as at a subordinate level in terms of evidence for statements or assertions. In this way, we can make some statements about what our joint research efforts stand for today. Finally, we would like to take a look into the future and speculate whether and, if so, in what way our findings can also flank or even inspire future research—given the many challenges that internationally active companies face today. Perhaps we can implement one or two of these ideas ourselves—in the proven team of co-authors.

The paper is structured as follows. After this brief introduction, we devoted the next chapter to the synthesis of our three studies. Here, we specifically address the respective study focus, hypotheses, data basis, and findings. We should note that in each chapter, we refer almost exclusively to our three publications, which should also mean that we (only) implicitly refer to the other sources used there, depending on the context. This summary will probably seem pleasant to most readers because it spares them the more laborious reading of the three papers as well as the many technical details that a scientific paper requires and that, moreover, not infrequently come from reviewer comments. More interesting, however, is the side effect: that in this contribution, we can go beyond the sum of the individual parts and also tell a story that relates to the sequence of contributions.

Thus, the ideas for the second and third contributions emerged from side stories of the first, so that we can paint the picture of an organically grown research project of which we knew the source but not the mouth, at least not yet at the beginning of the collaboration. The third chapter is devoted to the reception of our research, answering questions such as: Who has cited our studies? In what kind of publication, in what language? In which research contexts are these studies embedded, and in which chapters (introduction, theory, empiricism, discussion) is a connection to our studies made? A summary of this reception forms the starting point in the concluding chapter, in which we additionally reflect on the future relevance and validity of our findings and the potential to initiate further research projects that will arise from the context of global challenges.

2 Synthesis of Our Three Studies

2.1 Topics and Their Relationships

The first sentence (or first few sentences) of any text, whether we are dealing with a novel, a short story, a non-fiction book, or even a scientific article, is of particular importance. The author of the text may have managed to attract the reader's attention and encourage him to read on. Before we devote ourselves to the first sentences of the articles co-authored with Frank Jacob, we will spice up our presentation with an insight into our personal "favorite first sentences."

I (Robert Wilken) am always fascinated by Patricia Highsmith's seemingly sober statement at the beginning of her novel "Deep Water" (1957): "Vic didn't dance, but not for the reasons that most men who don't dance give to themselves. He didn't dance simply because his wife liked to dance." Instead of a sober observation, we have a razor-sharp analysis of a fundamental marital imbalance. The atmosphere between the spouses is poison and seems grotesque, but at the same time, probable or even inevitable, that a catastrophe will develop from an apparent nothingness (incompatibility of [dance] interests).

I (Nathalie Prime) have been fascinated by Shashi Tharoor's introductory paragraph of "The Great Indian Novel" (1989) since I visited India first in the late 1990s. His fictional story of the *Mahabharata* Indian epic he recasts and resets in the context of the Indian independence movement starts like this: "They tell me India is an underdeveloped country…. Stuff and nonsense, of course…. They laugh at me pityingly and shift from one foot to the other, unable to conceal their impatience, and I tell them that, in fact, everything in India of over-developed, particularly the social structure, the bureaucracy, the political process, the financial system, the university network and, for that matter, the women." We immediately understand the tone of the novel, erudite, fictional, and satirical.

Now to *Our* First Sentences

In Wilken et al. (2013) it is stated (p. 736) that "Transactions in business-to-business (B2B) markets frequently rely on negotiations between selling and buying companies … Multiperson decision making is common on both buyer and seller sides … we know little about team negotiations in intercultural settings, even as deal making across borders gains increasing importance … particularly in Europe."

In Aykaç et al. (2017), we write as follows (p. 567): "In many business negotiations, teams are involved rather than individual negotiators … teams are often favored over individual negotiators in various fields of application, such as business-to-business (B2B) contexts."

> Finally, Dinkevych et al., (2017, p. 592) state: "International trade—and thus intercultural negotiations—has dramatically increased in recent years (Wilken et al., 2013 [sic!]). However, people from different cultures differ in their preferred negotiation behavior."

It is interesting that over time—i.e., from publication 1 (Wilken et al., 2013) to publication 2 (Aykaç et al., 2017) to publication 3 (Dinkevych et al., 2017)—it becomes less and less clear from the first sentences what the whole thing is about or what the clou of the respective study is. In publication 1, it is more or less clear that it will be about factors related to negotiation teams that influence intercultural negotiations (presumably their course and outcome). In publication 2, one suspects a comparison of teams and individual negotiators, but still lacks the research focus "deceptive tactics" mentioned in the title (so a few moves or sentences are still missing here to make this connection clear to the reader). In publication 3, the first sentences merely provide information about the study context, "intercultural negotiations", or evoke a connection between culture and negotiation behavior, which, however, as will be seen later, is a mere assumption or basis for the actual focus of the paper—adaptation (of negotiation behavior) as a function of the size of the team faced in an intercultural negotiation—and the question, based on this, whether such adaptation is or can be promising for the outnumbered party.

The starting point of Wilken et al. (2013) is the consideration that intercultural negotiations are characterized by particular challenges that may be solved or at least addressed by bringing a "cultural moderator (or: decoder)" into the team—a person with the same cultural background as the opposing party to identify and help eliminate or avoid potential difficulties; for example, the preferred communication style. To test the hypotheses, which we discuss in detail below, we formed dyads according to considerations related to research efficiency, and these dyads negotiated in the context of a simulation between a selling and a buying company: Variation in team composition (with or without cultural moderator) occurred only on the selling side, the size of these teams was three (the minimum to ensure cultural dominance even in a team with a cultural moderator [two plus one]), and on the buying side there was a solo negotiator (and no team).

Beyond the research focus of Wilken et al. (2013), there are (at least) two follow-up questions: First, what results do teams achieve in comparison to individual negotiators (and why do they collect the presumably higher profits), and second, what specifics arise from the asymmetric constellation (three against one), even more so in combination with the role (we recall: Wilken et al., [2013] varied the team composition only on the seller side). The reader will not be surprised to learn that the two subsequent studies—Aykaç et al. (2017) and Dinkevych et al. (2017), respectively—precisely explored these questions, nesting three empirical studies within each other. Each used a different focus and disclosed this chronology in the third publication, a procedure that we wanted to set a transparent tone, as it were, and to make a plea for organically growing research projects

(for details, we refer to Sect. 3.1 from Dinkevych et al., [2017], pp. 595–596). Note that the cross-cultural context is essential only in publications one and three. In publication two, on the other hand, it plays only a minor role. The research question raised there is (p. 568): "Do teams reach better negotiation outcomes than individuals through the higher use of ethically ambiguous negotiation behavior?"

Interestingly, the overall picture reveals our penchant for ambiguity, which played some role in each of the three publications: In Wilken et al. (2013), cultural moderators are ambiguous. In Aykaç et al. (2017), the behaviors of teams, compared to those of individual negotiators, are ethically ambiguous. Finally, in Dinkevych et al. (2017), adaptation (of the outnumbered negotiating party to the culture-bound behavior of the opposing team) is not always a good idea, consequently ambiguous.

Let us now get to the heart of these ambiguities, the hypotheses. These express the relationships we are interested in with precise terms.

2.2 Hypotheses

In the three publications, a total of fourteen hypotheses have been formulated and empirically tested (six/three/five in publication one/two/three). Of these, ten hypotheses are main effects, three represent mediation hypotheses, and one describes a moderator effect. When you read hypotheses 3a and 4a (or 3b and 4b) together, each also implies an interaction effect. All hypotheses are reproduced in the original in Table 1.

All three papers based them on Neale and Northcraft's (1991) behavioral model of negotiation, which distinguishes between negotiation context, negotiation process, and negotiation outcomes. The context influences the process, which in turn influences the outcome.

The key contextual factors in Wilken et al. (2013) are team composition (with/without cultural moderator), degree of collectivism (at the team level), and, implicitly, the interaction of these two factors. The hypotheses all refer to their influence on process variables (rather than outcome variables), although Neale and Northcraft's (1991) model focuses on the mediation of context on outcome via process. Moreover, Wilken et al. (2013) do not disregard outcome variables; they are analyzed merely as an adjunct. At the heart of the negotiation process are integrative and distributive behaviors, categories that are central to negotiation research in describing what happens at the negotiation table.

In Aykaç et al. (2017), the contextual factor is team size or, more precisely, the comparison of teams and individual negotiators. In contrast to Wilken et al. (2013) and Neale and Northcraft's (1991) model is explicitly applied to the negotiation context here by building the mediation from the back (H1: process > outcome; H2: context > process; H3: H2 + H1). Hypothesis 3 contains the essence of the publication and is composed of Hypotheses 1 and 2. As you can see from the paper's first figure (p. 568), there are additional control variables. From the fact that it includes the nationality of the negotiators, one can guess the international context.

Table 1 Hypotheses

ID	Publication	No.	Hypothesis	Effect type	Empirical result
1	Wilken et al. (2013)	H1	In intercultural business negotiations, seller teams with higher collectivism scores use integrative negotiation strategies more frequently than seller teams with lower collectivism scores	Main	Full support
1	Wilken et al. (2013)	H2	In intercultural business negotiations, seller teams with higher collectivism scores use distributive negotiation strategies less frequently than seller teams with lower collectivism scores	Main	Marginal support for both attacking and defending
1	Wilken et al. (2013)	H3a	Lower collectivism teams that have a higher collectivistic cultural moderator use integrative negotiation strategies more frequently than lower collectivism teams without such a cultural moderator	Main	Full support
1	Wilken et al. (2013)	H3b	Lower collectivism teams that have a higher collectivistic cultural moderator use distributive negotiation strategies less frequently than lower collectivism teams without such a cultural moderator	Main	Marginal support for attacking and full support for defending
1	Wilken et al. (2013)	H4a	Higher collectivism teams that have a lower collectivistic cultural moderator use integrative negotiation strategies less frequently than higher collectivism teams without such a cultural moderator	Main	Marginal support

(continued)

Table 1 (continued)

ID	Publication	No.	Hypothesis	Effect type	Empirical result
1	Wilken et al. (2013)	H4b	Higher collectivism teams that have a lower collectivistic cultural moderator use distributive negotiation strategies more frequently than higher collectivism teams without such a cultural moderator	Main	No support for attacking and marginal support for defending
2	Aykac et al. (2017)	H1	The use of deceptive negotiation tactics increases own negotiation profits	Main	Marginal support for both deception by omission and deception by commission
2	Aykac et al. (2017)	H2	Teams use deceptive negotiation tactics more frequently than individual negotiators	Main	Full support for both deception by omission and deception by commission
2	Aykac et al. (2017)	H3	Teams achieve higher negotiation profits than individual negotiators through the more frequent use of deceptive negotiation tactics	Mediation	Marginal support for both deception by omission and deception by commission
3	Dinkevych et al. (2017)	H1a	In intercultural solo–team negotiations, solo negotiators use more integrative negotiation strategies when the teams have a more, compared with less, collectivistic cultural background	Main	Full support in both S1 and S2
3	Dinkevych et al. (2017)	H1b	In intercultural solo–team negotiations, solo negotiators use less distributive negotiation strategies when teams have a more, compared with less, collectivistic cultural background	Main	Full support for attacking and some support for defending (S1 and S2)

(continued)

Table 1 (continued)

ID	Publication	No.	Hypothesis	Effect type	Empirical result
3	Dinkevych et al. (2017)	H2a	The solo negotiator's use of integrative strategies mediates the positive relationship between the opposing team's level of collectivism and his or her individual negotiation profits	Mediation	Full support (S1), no support (S2)
3	Dinkevych et al. (2017)	H2b	The solo negotiator's use of distributive strategies mediates the positive relationship between the opposing team's level of collectivism and his or her individual negotiation profits	Mediation	No support
3	Dinkevych et al. (2017)	H3	The influence of the opposing negotiator's level of collectivism on the focal negotiator's use of integrative and distributive strategies is moderated by dyad type (asymmetric vs. symmetric), such that the influence is more pronounced in asymmetric than in symmetric dyads	Moderation	Full support (for integrating, by comparing S1/S2 with S3)

Also, in Dinkevych et al. (2017), there are mediations (more precisely, two of them), the highlight of which is that the mediator (the process variable: the behavior of the focal negotiator in terms of using integrative and distributive strategies) depends on the *interaction* between negotiation constellation (symmetrical [one vs. one] vs. asymmetrical [one vs. three]) and the cultural background of the *counterpart* (so, actually, there are two specifics: the interaction and the linkage of the context of one party with the process of the other).

2.3 Data and Results

We conducted three empirical studies in which German and French students at ESCP Business School participated in a negotiation simulation as part of coursework and using incentives commonly used in negotiation research. This simulation involved a transaction between a selling and a buying company. A contract was concluded when the parties were able to agree on all six negotiation items. The outcome of the negotiation was measured in terms of an overall score based on the contract and thus on the set of options chosen (there were four to six options per negotiation item).

Study 1 included fifty-eight dyads that broke into four experimental groups, each with teams on the sellers' side and solo negotiators on the buyers' side. Study 2 included seventeen dyads (this time, the teams were on the buyer side, and the sole negotiators were on the seller side). Study 3 used a symmetrical constellation (one versus one) with twenty-one dyads. In all three studies, the dyads were cross-cultural (in Study 1 in the sense that even in mixed teams, the dominant culture differed from that on the other side).

Wilken et al. (2013) used Study 1 (focus: teams on seller side; integrative and distributive behavior). Aykaç et al. (2017) used Studies 1 and 2 (focus: teams vs. individual negotiators on buyer side; deceptive behavior). Finally, Dinkevych et al. (2017) used all three studies (focus: individual negotiators on seller side [Study 1], on buyer side [Study 2], and on both sides [Study 3]).

We also noted the results of the hypothesis tests in Table 1. For a better understanding, we should note two points. First, the sample sizes or experimental group sizes are comparatively small, although not unusually small for similar studies in negotiation research. Therefore, in addition to statistical significance (p value), we used the effect size to determine whether a non-significant relationship might be due only to small sample size (rather than lack of substance); in such a case (p value above 5%; non-negligible effect size), we referred to it as "marginal support." Second, distributive strategies break down into attacking and defending behavior; the corresponding hypothesis tests were conducted separately for these subcategories, and their results are sometimes differentiated.

Even though we are aware (as probably all readers are) of how extensive, time-consuming, and occasionally painful a research project and the subsequent effort to publish it are in general (as well as the work on these three projects was in particular), we

do not want to obscure the fact that often (and also in these cases) the results can be summarized in a few sentences. (How one evaluates this fact—whether as disillusioning, because in stark contrast to the effort involved, or as deeply satisfying, because wonderfully concise, despite the complexity of the question—is left to the reader or researcher). For this reason, we have chosen to reproduce the key findings by directly quoting the succinct wording of each abstract:

Wilken et al. (2013): "the authors show that a cultural moderator's influence on the team's use of integrative strategies depends on the moderator's degree of collectivism. With respect to economic outcomes, the presence of a cultural moderator always improves a team's results. Together, these findings suggest that the benefits of using a cultural moderator are not unconditional."

Aykaç et al. (2017): "The results show that teams do apply deceptive negotiation tactics more frequently than individual negotiators and that this behavior helps them increase their negotiation profits."

Dinkevych et al. (2017): "only solo negotiators adapt to the negotiation strategies of their team counterpart. In a third study that uses a symmetric (solo-solo) setting, the adaptation effect disappears … For outnumbered negotiators, adaptation is particularly beneficial (i.e., increases negotiation profit) if it involves an increased use of integrative strategies."

In the following chapter, we will shed light on how these findings have been taken up in research or for what reasons our studies have been referenced.

3 Reception

3.1 Data Basis

According to scholar.google.de, Wilken et al. (2013) have resulted in thirty-eight citations as of 07/27/2021 (the date we started working on this chapter), Aykaç et al. (2017) have resulted in eight citations, and Dinkevych et al. (2017) have resulted in eleven citations (in each case, this is the number of sources in which there is at least one reference to the named publication). Four sources were untraceable; we included all others in our dataset. There are thirty-two different sources with fifty-four references to at least one of the three studies. There are 8/4/31 references exclusively to Aykaç et al. (2017)/to Dinkevych et al. [2017]/to Wilken et al. [2013], nine references simultaneously to Dinkevych et al. (2017) and Wilken et al. (2013), and two references that refer simultaneously to all three papers.

Given that Wilken et al. (2013) had already been published for roughly twice as long as the remaining two studies by the cutoff date and those have so far achieved significantly less than half the citations of the former, it is reasonable to assume that Wilken et al. (2013) has had the greatest impact on the literature, even though the number of

citations is certainly not proportionally distributed over time and the aforementioned calculation may thus be somewhat simplistic.

Furthermore, it is interesting to note that Dinkevych et al. (2017) and Wilken et al. (2013) are cited together quite frequently (for various reasons, as we will see in Sect. 3.4). There have been occasions when all three studies have been cited simultaneously (again, we will clarify this in Sect. 3.4, but the reason is fairly mundane).

Table 2 provides a complete overview of all the references as well as their characterizations. In the following sections, we guide the reader through these findings.

3.2 The Question of "Who?"

In keeping with the research context of at least Wilken et al. (2013) and Dinkevych et al. (2017) (intercultural business negotiations), researchers with academic affiliations (the universities where they worked at the time of publication) a total of twenty countries cited our work, in alphabetical order: Australia, Brazil, China, Croatia, Finland, Germany, Hungary, Iceland, Indonesia, Iran, Israel, Lithuania, Malaysia, Pakistan, Poland, Thailand, The Netherlands, New Zealand, UK, and the USA. Another look at the totality of academic affiliations represented reveals that almost all time zones are covered—from New Zealand (New Zealand Standard Time [NZST: UTC/GMT plus 12 h]) to Hawaii (Hawaiian Standard Time [HST: UTC/GMT minus 10 h]). Therefore, we can confidently (but not without a self-deprecating wink) speak of a global impact of our research.

The following detailed analyses refer to fifty-four references (not the thirty-two different sources that mentioned at least one of our three publications).

3.3 The Question of "Where?"

Exactly half of all references (twenty-seven out of fifty-four) come from articles in academic journals, followed by seventeen references from dissertations (most of which come from Nagler [2018], which is hardly surprising given that Hannah Martensen née Nagler was a doctoral student supervised by the first author of this paper, whose work also dealt with intercultural business negotiations). The remaining 10 references are distributed among master theses (four), book chapters (three), conference proceedings (two), and seminar papers (one). Figure 1 illustrates the distribution according to the publication type.

Regarding the language of publication, we find, not surprisingly, a dominance of English (thirty-two references). The fact that sixteen originate from German-language publications is again due to the already mentioned dissertation of Hannah Nagler. Three references each were written in Lithuanian and Portuguese. Figure 2 represents this distribution graphically.

Table 2 Publications with references to (at least one of) our studies

References	Language	Authors' affiliation(s)	Type*	Topic area	Work cited**	Cited where?	Cited why?
Backhaus and Pesch (2018)	German	Germany	J	Business negotiations	W	Results, p. 11	Authors mention our study as an example of an investigation into the influence of culture on international negotiations
Barrett (2020)	English	USA (HI)	MT	Cross-cultural communication	D	Theory ("Qualitative Research and Studies—General Cultural Dilemmas"), pp. 15–16	Author emphasizes the difficulties of cross-cultural negotiations and refers to (cultural) adaptation as one strategy to deal with these difficulties
Bertram (2018)	English	New Zealand	D	Intercultural negotiations	D	Empirical part (data collection), p. 55	Author mentions our study as one, in the area of intercultural negotiations, that used a web-based negotiation scenario
Elo et al. (2015)	English	Germany, Finland	J	Intercultural competences (in international business)	W	Literature review ("Intercultural encounters in dyadic business relationships"), p. 40	Authors reproduce the main result: that a cultural moderator, a person "who shares the cultural background of the dyadic business partners improves a team's economic performance"

(continued)

Table 2 (continued)

References	Language	Authors' affiliation(s)	Type*	Topic area	Work cited**	Cited where?	Cited why?
Gaviraghi et al. (2016)	Portuguese	Brazil	J	Intercultural business negotiations	W	Theory ("Influence of cultural aspects on international negotiations"), p. 62	Authors refer to our study to support cultural sensitivity and more specifically adaptation as important in a setting of international negotiations
Gaviraghi et al. (2016)	Portuguese	Brazil	J	Intercultural business negotiations	W	Discussion, p. 84	Authors use our study to say that their empirical results are in line with ours: "any successful international negotiation requires the identification, understanding, acceptance, and respect with the cultural characteristics of the negotiators involved"
Gaviraghi et al. (2016)	Portuguese	Brazil	J	Intercultural business negotiations	W	Conclusion, p. 90	Authors refer to our study to embed their results into the literature, implying that our study supports the benefits of "respecting the intercultural traits inherent to negotiation processes"

(continued)

Table 2 (continued)

References	Language	Authors' affiliation(s)	Type*	Topic area	Work cited**	Cited where?	Cited why?
Gligor et al. (2021)	English	USA (MS)	J	Business negotiations	W	Literature review ("Overview of business buyer–seller negotiations"), p. 5 (online first)	Authors identify our study as relevant reference and reproduce its main results (that "[c]ultural moderators improve team results. These benefits depend on the cultural moderator's negotiation goals and background")
Hameed et al. (2019)	English	Malaysia, Pakistan	J	Career development	W	Discussion and Conclusion, p. 116	Authors reference to our study as one in which a moderating variable is characterized
Herbst et al. (2017)	English	Germany, USA (CA)	J	Business negotiations (multi-issue)	W	Empirical part (data analysis), p. 583	Authors refer to our study as it uses the effect size, in addition to the p value, as "significance criterion"
Jazaieri and Kray (2020)	English	USA (CA)	BC	Business negotiations	A	Literature review ("Advantages and Consequences of Deception"), pp. 96–97	Authors reference to our study because it found that deception can increase profit share while harming the opponent
Jazaieri and Kray (2020)	English	USA (CA)	BC	Business negotiations	A	Literature review ("Curtailing Deception"), p. 104	Authors mention our study to support the claim that negotiating one-on-one is fairer than in teams because teams deceive more often [note: this is a somewhat misleading interpretation]

(continued)

Table 2 (continued)

References	Language	Authors' affiliation(s)	Type*	Topic area	Work cited**	Cited where?	Cited why?
Lügger et al. (2015)	English	Germany	J	Intercultural business negotiations	W	Empirical part ("Task"), p. 24	Authors use the same negotiation exercise as our study
Lügger et al. (2015)	English	Germany	J	Intercultural business negotiations	W	Empirical part ("Measures and content analytical coding"), p. 27	Authors compare Guetskow's U with our study's
Lügger et al. (2015)	English	Germany	J	Intercultural business negotiations	W	Empirical part ("Control variables"), p. 27	Authors use the same threshold to prove content validity as we do
Lügger et al. (2015)	English	Germany	J	Intercultural business negotiations	W	Appendix, p. 37	Authors reproduce the payoff matrix from their (and therefore our) study
Malik and Yazar (2016)	English	China	J	Intercultural business negotiations (int. alliance formation)	W	Conclusion, p. 1050	Authors use our study to support the claim that "the explorative alliance is highly uncertain"
Nagler (2018)	German	Germany	D	Intercultural business negotiations	A	Research Model, pp. 72–73	Author mentions our study as one that did not find a systematic influence of first offers
Nagler (2018)	German	Germany	D	Intercultural business negotiations	A	Empirical part, p. 105	Author mentions several sources that have used different definitions of first offers

(continued)

Table 2 (continued)

References	Language	Authors' affiliation(s)	Type*	Topic area	Work cited**	Cited where?	Cited why?
Nagler (2018)	German	Germany	D	Intercultural business negotiations	A, D, W	Empirical part, p. 99	Author uses the same negotiation exercise as our studies
Nagler (2018)	German	Germany	D	Intercultural business negotiations	A, D, W	Empirical part, p. 114	Author uses the same negotiation exercise and the same reliability measures as our studies
Nagler (2018)	German	Germany	D	Intercultural business negotiations	D, W	Theory, p. 15	Author refers to our study to support the importance of intra-European trade
Nagler (2018)	German	Germany	D	Intercultural business negotiations	D, W	Theory, p. 25	Author uses our studies as examples of the few extant relevant studies using a European context
Nagler (2018)	German	Germany	D	Intercultural business negotiations	D, W	Research Model, p. 63	Author refers to our studies because they are based on Neale's and Northcraft's behavioral negotiation model
Nagler (2018)	German	Germany	D	Intercultural business negotiations	D, W	Research Model, p. 86	Author relates to our studies to support the claim of a positive impact of collectivism on integrative negotiation strategies

(continued)

Table 2 (continued)

References	Language	Authors' affiliation(s)	Type*	Topic area	Work cited**	Cited where?	Cited why?
Nagler (2018)	German	Germany	D	Intercultural business negotiations	D, W	Empirical part, p. 120	Author uses the same negotiation exercise and the same reliability measures as our studies
Nagler (2018)	German	Germany	D	Intercultural business negotiations	D, W	Empirical part, p. 125	Author uses the same logic of incentives as our studies
Nagler (2018)	German	Germany	D	Intercultural business negotiations	D, W	Discussion, p. 179	Author relates to our studies to support the claim of a positive impact of collectivism on integrative negotiation strategies
Nagler (2018)	German	Germany	D	Intercultural business negotiations	D, W	Discussion, p. 180	Author mentions that our studies use self-assessments of cultural dimensions, in contrast to her own study
Nagler (2018)	German	Germany	D	Intercultural business negotiations	W	Introduction, pp. 5–6	Author refers to our study to support the importance of intra-European trade
Nagler (2018)	German	Germany	D	Intercultural business negotiations	W	Research Model, p. 67	Author relates to our study as one with similar antecedents of negotiation process and outcomes

(continued)

Table 2 (continued)

References	Language	Authors' affiliation(s)	Type*	Topic area	Work cited**	Cited where?	Cited why?
Nagler (2018)	German	Germany	D	Intercultural business negotiations	W	Empirical part, p. 116	Author compares measure of coterminality with our study's
Namazi and Namazi (2017)	English	Iran	J	Business research	W	Empirical part ("Research methodology"), p. 462	Authors (mistakenly) refer to our study as one to have used a moderating variable
Peleckis et al. (2018)	English	Lithuania	J	Business negotiations	D, W	Introduction, p. 69	Authors refer to our studies because they investigated "the implementation of effective business negotiation strategies"
Peleckis (2014)	English	Lithuania	J	Intercultural business negotiations	W	Introduction, p. 135	Author lists several challenges of conflict situations and reproduced the main results
Peleckis (2015a)	English	Lithuania	J	Business negotiations	W	Introduction, p. 107	Author (mistakenly) refers to our study as one that used game theory
Peleckis (2015b)	Lithuanian	Lithuania	J	Intercultural business negotiations	W	Introduction, p. 66	Author lists several challenges of conflict situations
Richardon and Rammal (2018)	English	Australia, Malaysia	J	Intercultural business negotiations	W	Theory ("Culture and international business negotiations"), p. 402	Authors use our study to show its main idea (that the use of a cultural moderator in preparation of intercultural negotiations)

(continued)

Table 2 (continued)

References	Language	Authors' affiliation(s)	Type*	Topic area	Work cited**	Cited where?	Cited why?
Sachdev and Bello (2014)	English	USA (GA, MI)	J	Export	W	Discussion ("Managerial implications"), p. 452	Authors refer to the idea of cultural moderators, applied to their study's context
Schwarz (2019)	English	Finland	MT	Intercultural business negotiations	W	Literature review ("Conceptualization of culture"), p. 39	Author uses our study to support her claim that culture is difficult to define
Sigurdardottir et al. (2018)	English	Iceland, Poland, The Netherlands	J	Business negotiations	A	Discussion ("Managerial implications"), p. 438	Authors reproduced the key result (teams perform better than solo negotiators because they deceive more)
Susetyo et al. (2019)	English	The Netherlands	J	Decision Making	W	Literature review ("Negotiation setting"), p. 1039	Author refers to our study to support the claim that "direct negotiation.. often leads to an ineffective outcome"
Susetyo (2019)	English	Indonesia, The Netherlands	D	Decision Making	W	Theory ("Negotiation protocol"), pp. 42–43	Author refers to our study to support the claim that "direct negotiation.. often leads to an ineffective outcome"
Szőke (2020)	English	Hungary	J	Intercultural business negotiations	D	Introduction, p. 36	Author lists several studies that investigate cross-cultural business settings, including cross-cultural negotiations

(continued)

Table 2 (continued)

References	Language	Authors' affiliation(s)	Type*	Topic area	Work cited**	Cited where?	Cited why?
Vainapel et al. (2019)	English	Israel, The Netherlands	J	Group behavior	A	Literature ("Moral behavior in groups"), p. 213	Authors reproduced the key result (teams perform better than solo negotiators because they deceive more)
van Tulder et al. (2019)	English	Poland, The Netherlands, UK	BC	International business	W	Literature ("Taking stock of VUCA-dimensions in the IB discipline"), p. 7	Authors relate to our study as one that has shown ambiguity in the influence of (mistakenly, knowledge, and) culture, in "interfirm relationships"
Varela (2018)	English	USA (IN)	J	Intercultural business negotiations	W	Results, p. 26	Author reproduces our study's main results ("the use of cultural moderators.. always help negotiators reach better economic outcomes")
Varela (2018)	English	USA (IN)	J	Intercultural business negotiations	W	Theory ("The Cultural Intelligence Scale (CQS)"), p. 20	Author (mistakenly) refers to our study as one that presented cultural moderators as a means to increase the value of negotiation outcomes in "distributive [sic!] negotiation exchanges"
Vaskevice (2017)	Lithuanian	Lithuania	MT	Negotiations (in teams)	A	Theory ("Negotiation team or individual negotiator"), p. 43	Author mentions our study because it supports that teams often perform better than solo negotiators

(continued)

Table 2 (continued)

References	Language	Authors' affiliation(s)	Type*	Topic area	Work cited**	Cited where?	Cited why?
Vaskevice (2017)	Lithuanian	Lithuania	MT	Negotiations (in teams)	A	Theory ("Conclusions of the theoretical part"), p. 51	Author mentions our study because it supports that teams often perform better than solo negotiators
Vojvodić et al. (2020)	English	Croatia	J	Business negotiations	D	Theory ("Insights into the negotiation settings"), p. 51	Authors use our study to support the claim that "culture-dependent preferences for negotiation strategies could lead to conflict"
Wang and Gong (2016)	English	China	CP	Negotiations (in teams)	W	Introduction, p. 87	Author reproduces our study's main results ("cultural diversity [is] related to team members' behavior, and it may have an effect on negotiation performance")
Wang (2018)	English	USA (CA)	SP	Intercultural business negotiations	W	Introduction, p. 3	Authors use our study to support the claim that intercultural projects are challenging

(continued)

Table 2 (continued)

References	Language	Authors' affiliation(s)	Type*	Topic area	Work cited**	Cited where?	Cited why?
Wesarat et al. (2014)	English	Malaysia, Thailand	CP	Career development	W	Theory ("Individualism"), p. 5	Authors used our study to support the claim that "negotiators' cultural values play an important role in business negotiation", and to make a connection between individualism vs. collectivism and task vs. relationship orientation

*BC = book chapter; CP = conference proceedings; D = dissertation (PhD thesis); J = scientific journal; MT = master thesis; SP = seminar paper

**A = Aykaç et al. (2017); D = Dinkevych et al. (2017); W = Wilken et al. (2013)

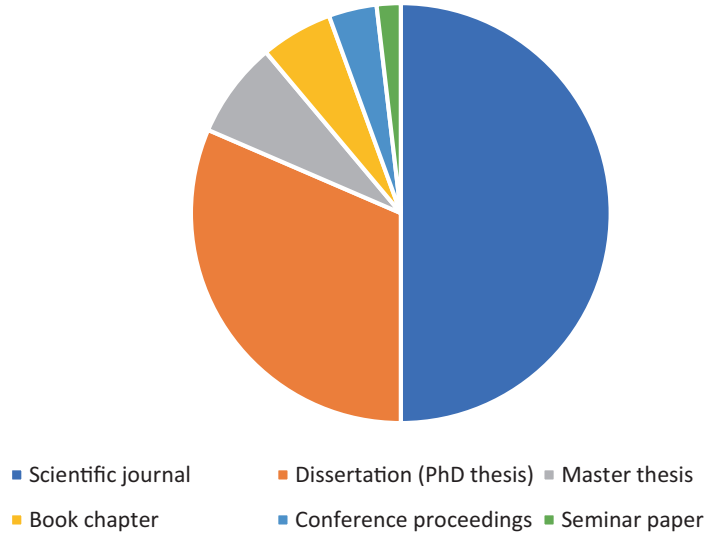
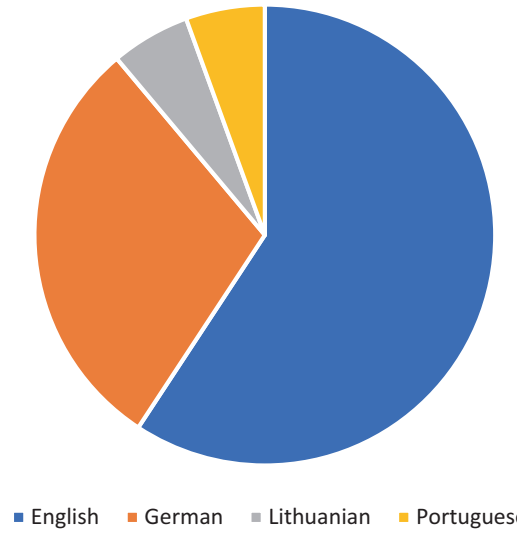


Fig. 1 Distribution of references according to publication type

Fig. 2 Distribution of references according to publication language



3.4 The Question of "Why?"

After these technical details, we devote this section to the content of the references. On this basis, we will answer the question of what Frank Jacob's works on intercultural business negotiations stand for—why they cite them. We will divide this analysis into three steps.

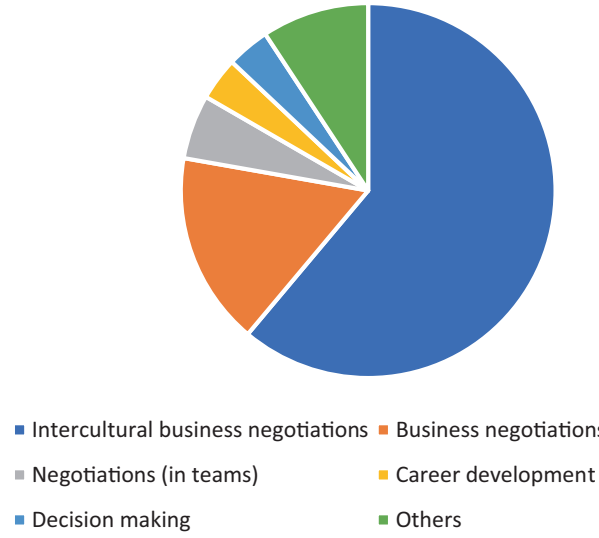


Fig. 3 Distribution of references according to topic area

Step 1: Topic Area First, we have assigned the respective articles to topic areas by determining the context of the study. In most cases, this is more or less clear from the abstract or the introduction and often from the title. Even if some topics do not have the name with the same term (e.g., intercultural vs. international negotiations; business vs. B2B) or the context (e.g., business [as opposed to private negotiations]) is not always explicitly mentioned, we, the authors of this paper, first formed categories independently of each other, which turned out to be similar, and which we labeled with a uniform label in a second step. Figure 3 depicts the distribution of references according to these categories. Since two of the three publications focus on intercultural business negotiations, it is not surprising that the majority of the references (thirty-three out of fifty-four) come from sources whose research context can also be intercultural business negotiations. Another nine and three references, respectively, were taken from articles whose context of the investigation was at least related to negotiations (business negotiations; negotiations [in teams]). The remaining nine references come from contexts unrelated to negotiations, e.g., career development and decision making (two references each), as well as business research, cross-cultural communication, export, group behavior, and international business (one reference each; we group these under "others" in Fig. 3). This analysis suggests that our publications are mainly mentioned in the rather narrow context—intercultural business negotiations (as opposed to business negotiations or, even more generally, negotiations)—which also explains the number of sources referring to us. In other words, our publications—at least Dinkevych et al. (2017) and Wilken et al. (2013) have essentially been picked up and reused in the niche in which we had positioned them. They are considered examples of studies in intercultural sales negotiations (apart from Aykaç et al., [2017], whose research focus is different).

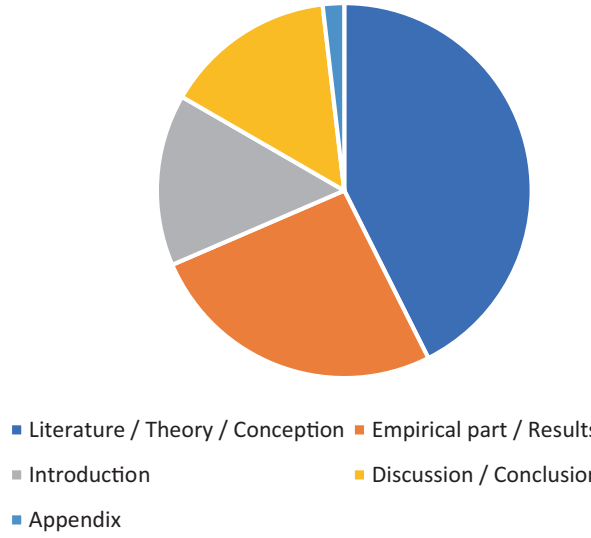


Fig. 4 Distribution of references according to article section

Step 2: Article Section Answering the "why?" question becomes more concrete when we look, in a second step, at which section of an article our work has been cited. Figuratively and casually speaking: Here, a pie chart emerges whose slices are the least unfairly (but still unfairly) divided (compared to the previous three charts; see Fig. 4). Although there is a clustering of references in the sections devoted to literature or theory analysis (up to the development of hypotheses) (twenty-three out of fifty-four references), they also mentioned our publications in the empirical section (from the method to the presentation of [own] results; fourteen references) as well as in the introduction and conclusion (eight each). This suggests that the reasons for referencing our publications are quite diverse: To position one's study or to refer to a similar study context, to refer to similar conceptual or theoretical underpinnings, to refer to a similar or even divergent methodological approach, and to embed one's observations and results through existing literature (either in agreement with or in contrast to it).

We now look at these preliminary findings in the third and final step.

Step 3: Cited Why Exactly? In this section, we would like to draw the essence from the last column of Table 2. There, for each of the fifty-four references, one finds a description of the reason for the reference to (at least) one of the three publications.

We can roughly divide the citation reasons into eight categories (not specified in Table 2, but only here in the text), and it is interesting to note that the occurrence of some categories is restricted to certain article sections, while others (and indeed the most important or main categories) appear in all possible article sections.

We start with the three main ones. We can summarize these as (1) (challenges specific to the) intercultural context, (2) reproduction of main finding(s) (which we summarized,

in the form of direct quotes from the respective abstracts, in Sect. 2.3; it is not uncommon to find similar formulations in the references, which again, in neutral terms, points to the importance of abstracts [i.e., we do not mean to imply that the authors citing us only looked at the abstracts]), and (3) the influence of culture on negotiation strategies (and occasionally on outcome measures). (We are aware that categories (2) and (3) do not appear to be entirely free of overlap, but we can confidently assign the references to one or the other). Interestingly, these categories occur in all article sections (except for (1) and (3), which are not represented in the "empirical part/results").

Category (1)—(challenges specific to the) intercultural context—occurs with reference to Wilken et al. (2013), e.g., in Peleckis (2015a, b), Szőke (2020), and Wang (2018) in the introduction and thus to characterize their context of investigation and to substantiate its relevance. In the literature review or the part of theoretical considerations, you can find references to the cross-cultural context in Barrett (2020), Gaviraghi et al. (2016), Susetyo (2019), and Susetyo et al., (2019; this is some kind a spin-off of Susetyo's [2019] dissertation in the form of a scientific article). Barrett's citation (2020) is specific in referencing Dinkevych et al. (2017). It highlights the importance of cultural sensitivity and adaptation based on it as a useful strategy to respond to this requirement. The two Susetyo sources, possibly in a somewhat freer interpretation of Wilken et al.'s (2013) findings, point out that direct negotiations (i.e., those in which people interact with each other and simultaneously; as opposed to (partially) automated decision support systems) are ineffective, a finding that our study does not provide. Gaviraghi et al. (2016) reiterate their references from the theory section in the concluding discussion by emphasizing, roughly speaking, the need for cultural sensitivity in intercultural business negotiations.

That this category appears so frequently is consistent with our observations from the first step in this section: half of all references are to the topic area of intercultural business negotiations. Thus, it is not surprising that our studies (Dinkevych et al., 2017 as well as Wilken et al., 2013) are quite often cited as an example of an intercultural (negotiation) context or as an example of challenges arising from this context.

Category (2) is more specific in the sense that it is about linking to our specific (empirical) findings. As we noted above, most of these citations presumably go directly to the formulaic, concise summaries of the main finding in question used in the abstracts. Again, you can find citations in all article sections except the empirical/results chapter, e.g., in the introduction (Peleckis, 2014; Vainapel et al., 2019; Wang & Gong, 2016), in the conceptual-theoretical section (this applies to quite a few sources, which is why we refrain from listing them), and in the conclusion section (Sachdev & Bello, 2014; Sigurdardottir et al., 2018). Thus, we can summarize: The three publications are referenced because we found that culture (more specifically, collectivism) exerts a differential effect on negotiation behavior (Wilken et al., 2013); that teams negotiate better than solo negotiators because they deceive more (Aykaç et al., 2017); and, finally, that adaptation or reaching out to each other in the context of intercultural negotiation has some value and benefits an outnumbered negotiator in particular (Dinkevych et al., 2017).

However, references regarding Wilken et al. (2013) often remain a bit vague when specific reference is made to the influence of culture on behavior and of behavior in turn on negotiation outcomes; we refer to category (3). Examples of sources include Peleckis et al. (2018) (introduction), Nagler (2018), van Tulder et al. (2019), Vojvodić et al. (2020), Wesarat et al. (2014) (theory section) and Nagler (2018) (conclusion section). Except for Peleckis et al. (2018) and Nagler (2018), these are sources *not* in the specific context of intercultural business negotiations. That is, when our studies are cited not (only) as a reference to the context, but in terms of the *specific* contexts studied, they are cited more often than average from other study contexts.

We can deal with the next block of categories (also three) quickly. They all have to do with methodological details and are (almost) exclusively found in the empirical part (one exception: Appendix; Lügger et al., 2015). On the one hand, there are references to goodness-of-fit, validity, and reliability measures used in Wilken et al. (2013), for instance in Herbst et al. (2017), Lügger et al. (2015) and Nagler (2018). The latter two sources used the same case study, which is why, second, they refer to the identical procedure or methodology (Bertram, 2018, refers to Dinkevych et al., 2017, as a study using a "web-based negotiation scenario"). Third, Nagler (2018) delineates some of her measures from those of our studies (collectivism; first offers). It is also Nagler (2018) who is the only one to cite all three publications together, in both cases, for reasons related to methodological details.

Finally, we address the two remaining categories of citation reasons: special references as well as, as a curiosity, a little misinterpretation of a (cultural) moderator. Special citation reasons occur, for example, in Peleckis (2015a), who in his introduction refers to Wilken et al. (2013) as a game-theoretic study (which it is not). In their respective conceptual-theoretical sections, Nagler (2018) refers once to Aykaç et al. (2017) because their findings on the influence of first offers is ambiguous, and once to the other two publications because those based their findings on the conceptual model of Neale and Northcraft (1991). And Schwarz (2019) draws on Wilken et al. (2013) for the statement that defining the concept of culture is indeed a difficult undertaking. Finally, we refer to a certain misunderstanding of the term "cultural moderator" (from Wilken et al., 2013). Hameed et al. (2019) and Namazi and Namazi (2017) interpret this as a moderator variable. Although the hypotheses (3a combined with 4a and 3b combined with 4b, respectively; see Sect. 2.2) indicate an interaction between team composition (with or without cultural moderator) and team-level collectivism, and thus a moderating influence of the presence or absence of the cultural moderator on the influence of collectivism on the use of certain negotiation strategies, by "moderator" we actually meant the function of bridging cultural distances. In other words, for the statement that the cultural moderator is also technically or statistically a moderator, we will need to refer to our colleagues mentioned above in the future.

4 Outlook

In conclusion, given our analysis in the previous chapter, Frank Jacob's work on intercultural business negotiations is essentially taken up for underpinning the specific context of the study and its central empirical findings. However, there are quite a few citations that go beyond this by referring to substantive as well as methodological details. Thus, the overall picture of reception is quite multifaceted and diverse.

At the same time, we should note that the previous studies related to (at least) one of ours, which we have summarized in Table 2, have not addressed the various suggestions for further research that we describe at the end of each of our three publications (and which partly reflect our own ideas, partly those of the reviewers). Thus, the questions behind these suggestions remain open. Before reflecting on whether they are still relevant, such that we continue to recommend addressing them and before adding to this list where appropriate in light of the challenges currently facing internationally active companies, we summarize the avenues for future research of the three publications.

Table 3 gives an overview, sorts the limitations mentioned according to the categorization "relevant to negotiation research (can go beyond)"/"specific to cross-cultural research"/"topic-specific" and identifies such limitations with each other that are mentioned in more than one publication.

We can identify four limitations typical for negotiation research (but with relevance also beyond): first, the fact that the respective central research question has not been investigated independently of role or team size, which is why a systematic variation of these variables seems useful to generalize or specify the findings (Wilken et al., 2013; Aykaç et al., 2017). Second, the limitation to electronically conducted negotiations, a limitation that applies to all three publications but only mentioned by Wilken et al. (2013); thus, future research could replicate the study in other media and especially face-to-face. Third (and this is the biggest limitation for our taste), the fact that the study context in each case has been a transactional one (which is equally true in Dinkevych et al., [2017] but is not addressed; in Aykaç et al.'s, [2017] paper, another topic-specific point is related to this, which is why we have sorted it there—namely, the assumption that one is less likely to engage in deceptive behavior in relational contexts). Thus, it would be interesting to conduct studies in which study participants are allowed to negotiate with each other over several rounds to simulate a business relationship. Finally, fourth, sample-related limitations (size; students); this limitation is mentioned only by Dinkevych et al. (2017) but applies to all three publications, especially as they rely on the same data sets (albeit from different angles; see Sect. 2.3). Replications with study participants experienced in negotiation practice are particularly appropriate here.

Two further limitations are specific to intercultural research. Since Wilken et al. (2013) and Dinkevych et al. (2017) have this focus, they apply to both and are also mentioned in both publications—namely, the limitation to the comparison of German and French participants and the theoretical focus on collectivism. While the first point could

Table 3 Overview of suggested avenues for future research

Type of limitation	Wilken et al. (2013, p. 749)	Aykaç et al. (2017, p. 576)	Dinkevych et al. (2017, p. 602)	Further research could …
Relevant to negotiation research (can go beyond)	[2] "focus … on the selling team's use of negotiation strategies"	[1] "limited to the three (teams) versus one (individual) negotiation constellation" [2] "opportunity to engage in misrepresentative behavior was limited to the buying side"		… vary team size/composition and role systematically
Relevant to negotiation research (can go beyond)	[3] "electronic media as channel of communication"			… use other communication channels
Relevant to negotiation research (can go beyond)	[6] "single transaction"	[3] "one-shot negotiations" [4] "[no consideration of] potential negative effects [of deception]"		… extend the research to relational settings
Relevant to negotiation research (can go beyond)			[3] "relatively small sample sizes" and "students served as survey objects"	… "investigate the role of experience explicitly" (and with bigger samples)
Specific to cross-cultural research	[4] "German and French negotiators"		[1] "German and French negotiators"	… extend the research to other nationalities that differ reg. collectivism
Specific to cross-cultural research	[5] "collectivism"		[2] "current research measured only one cultural dimension, collectivism"	… extend the research to other cultural dimensions (e.g., power distance, high/low context
Topic-specific	[1] "seller teams as an entity with a single voice"			… illuminate the cultural moderator's role regarding team decision dynamics

(continued)

Table 3 (continued)

Type of limitation	Wilken et al. (2013, p. 749)	Aykaç et al. (2017, p. 576)	Dinkevych et al. (2017, p. 602)	Further research could …
Topic-specific			[4] "teams outperformed solo negotiators only on the buying side, which might be an effect of unequal.. difficulties in reaching the.. goal"	… investigate potential role effects and interactions with goal difficulty
Topic-specific			[5] research claims that "evidence of behavioral adaptation" is due to "greater social impact of teams on individual negotiators"	… "delineate the reasons for this impact"

be resolved empirically—by including participants of other nationalities who differ in terms of collectivism, the second point would require extended theorizing (followed by corresponding empiricism).

The remaining three points are specific to the particular research context: first, the level at which one observes the team's communication (Wilken et al., 2013); here, for example, observing communication within the team properly leads to a better understanding of the role of the cultural moderator. Second, an observation in Dinkevych et al. (2017) indicating a role effect or, more generally, the level of BATNA (Best Alternative to a Negotiated Agreement); here, systematic variation of the factor lends itself to consolidating (or rejecting) this finding. Finally, third, the lack of empirical evidence for the cause of behavioral adaptation; we would still need this provided (and alternative explanations tested as well).

Now, if we compare the last columns of Tables 2 and 3, we find no overlap. We believe that all the above limitations remain relevant, and thus future research could fill important research gaps. Perhaps the better question is: Which point should one start with? Certainly, generalizations (or specifics) of our key findings—and for this, our studies are frequently cited as per Sect. 3.4—are desirable. Put simply it is indisputable that a better database also provides better information about the research object of interest. In this sense, all the above limitations remain timely. However, there are also facets of our research to which we have not paid attention so far but are highly relevant to understanding the phenomenon of intercultural business negotiations involving teams. Figuratively

speaking: Possibly other spotlights shed a better light on the stage of intercultural negotiations.

We want to conclude by highlighting one such point, even at the risk of being accused of having fallen prey to the availability heuristic. At the same time as writing this article, we were reading (by chance or perhaps only half by chance) the book "The Bilingual Brain" by Albert Costa (2020). In the prologue it says: "Given that a large number of people participate continuously in negotiations in their second language (think about a multinational company or the European Parliament), the social implications of these studies [on the influence of bilingualism on decision-making processes] are particularly important." The context described here also applies to our studies. The extent to which language proficiency—and especially proficiency in a language other than one's native tongue (which for many professional negotiators applies to English)—influences the course and outcome of intercultural negotiations is a fascinating question that seems to require interdisciplinary answers.

Perhaps we can comment on these issues in the future—they are already on our list. At the same time, such a list should be constantly adapted, as was the case with the research program presented here; we believe that our research has benefited greatly from letting it grow organically. In this respect, we recommend such an approach in general. For this project, Frank Jacob has thus created valuable foundations within the framework of his work on intercultural business negotiations.

References

Aykac, T., Wilken, R., Jacob, F., & Prime, N. (2017). Why teams achieve higher negotiation profits than individuals: The mediating role of deceptive tactics. *Journal of Business & Industrial Marketing, 32*(4), 567–579.

Backhaus, K., & Pesch, M. A. (2018). Verhandlungen-Spiegeln die Lehrbücher den Stand der Forschung wider? *Swiss Journal of Business Research and Practice, 72*(1), 3–26.

Barrett, A. (2020) *Intercultural communication and real estate in Hawai'i-cross-cultural relationships amongst real estate agents and with their client (s)*. Doctoral dissertation, University of Hawai'i at Manoa.

Bertram, S. (2018) *The social effects of anger in international negotiations: The role of self-regulation and bargaining power.* Te Herenga Waka—Victoria University of Wellington.

Costa, A. (2020). *The Bilingual Brain: And what it tells us about the science of language*. Penguin UK.

Dinkevych, E., Wilken, R., Aykac, T., Jacob, F., & Prime, N. (2017). Can outnumbered negotiators succeed? The case of intercultural business negotiations. *International Business Review, 26*(3), 592–603.

Elo, M., Benjowsky, C., & Nummela, N. (2015). Intercultural competences and interaction schemes—Four forces regulating dyadic encounters in international business. *Industrial Marketing Management, 48,* 38–49.

Gaviraghi, M., Lazzari, F., & Milan, G. S. (2016). A influência das características culturais brasileiras na negociação internacional. *Revista Eletrônica De Estratégia & Negócios, 9*(1), 58–94.

Gligor, D., Newman, C., & Kashmiri, S. (2021). Does your skin color matter in buyer–seller negotiations? The implications of being a Black salesperson. *Journal of the Academy of Marketing Science,* 1–25.

Hameed, W. U., Nisar, Q. A., Abbas, A., Waqas, A., & Meo, M. S. (2019). Microfinance institutions as a strategic tool to enhance women's career development in Pakistan. *Asian Women, 35*(2), 93–128.

Highsmith, P. (1957). *Deep water*. Harper & Brothers.

Herbst, U., Kemmerling, B., & Neale, M. A. (2017). All in, one-at-a-time or somewhere in the middle? Leveraging the composition and size of the negotiating package. *Journal of Business & Industrial Marketing, 32*(4), 580–586.

Jazaieri, H., & Kray, L. J. (2020). *Deception in negotiations: The unique role of gender*. Edward Elgar.

Lügger, K., Geiger, I., Neun, H., & Backhaus, K. (2015). When East meets West at the bargaining table: Adaptation, behavior and outcomes in intra-and intercultural German-Chinese business negotiations. *Journal of Business Economics, 85*(1), 15–43.

Malik, T. H., & Yazar, O. H. (2016). The negotiator's power as enabler and cultural distance as inhibitor in the international alliance formation. *International Business Review, 25*(5), 1043–1052.

Nagler, H. M. (2018) *Zum moderierenden Einfluss von Fremdsprache in internationalen Geschäftsverhandlungen*. Doctoral dissertation, ESCP Europe Wirtschaftshochschule Berlin.

Namazi, M., & Namazi, N. R. (2017). An empirical investigation of the effects of moderating and mediating variables in business research: Insights from an auditing report. *Contemporary Economics, 11*(4), 459–471.

Neale, M. A., & Northcraft, G. B. (1991). Behavioral negotiation theory: A framework for conceptualizing dyadic bargaining. *Research in Organizational Behavior, 13,* 147–190.

Peleckis, K. (2014) Conflicts and their prevention in intercultural communication of business negotiations: The exchange of information and management of expectations. *Ekonomia i Zarządzanie, 6*(2).

Peleckis, K. (2015a). The use of game theory for making rational decisions in business negations: A conceptual model. *Entrepreneurial Business and Economics Review, 3*(4), 105–121.

Peleckis, K. (2015b) Tarptautinio verslo derybos: Tarpasmeniniai konfliktai ir jų valdymo galimybės. *Current Issues of Business & Law, 10*.

Peleckis, K., Peleckiene, V., & Peleckis, K. (2018). The search for balance and equilibrium of negotiating powers under distorted market competition. *Ekonomicko-Manazerske Spektrum, 12*(2), 67–82.

Richardson, C., & Rammal, H. G. (2018). Religious belief and international business negotiations: Does faith influence negotiator behaviour? *International Business Review, 27*(2), 401–409.

Sachdev, H. J., & Bello, D. C. (2014). The effect of transaction cost antecedents on control mechanisms: Exporters' psychic distance and economic knowledge as moderators. *International Business Review, 23*(2), 440–454.

Schwarz, V. (2019) *Negotiation tendencies and culture: Role of generations x and y in Finland, Germany, and Pakistan*. University of Vaasa.

Sigurdardottir, A. G., Ujwary-Gil, A., & Candi, M. (2018). B2B negotiation tactics in creative sectors. *Journal of Business & Industrial Marketing, 33*(4), 429–441.

Susetyo, C. (2019). *Stakeholders-oriented spatial decision support system*. Technische Universiteit Eindhoven.

Susetyo, C., Timmermans, H., & de Vries, B. (2019). Orthogonal strategy based computer-mediated negotiation: Principles and example. *Environment and Planning B: Urban Analytics and City Science, 46*(6), 1036–1060.

Szőke, J. (2020). Factors influencing the trust-level of Hungarian negotiators in cross-cultural business contexts. *The Business & Management Review, 11*(1), 112–119.
Tharoor, S. (1989) *The great Indian novel*. Viking Press.
Vainapel, S., Weisel, O., Zultan, R. I., & Shalvi, S. (2019). Group moral discount: Diffusing blame when judging group members. *Journal of Behavioral Decision Making, 32*(2), 212–228.
van Tulder, R., Jankowska, B., & Verbeke, A. (2019) Introduction: Progress in international business research in an increasingly VUCA world. In *International business in a VUCA world: The changing role of states and firms*. Emerald Publishing Limited.
Varela, S. A. (2018) The influence of cultural intelligence on intercultural business negotiation. *International Journal of Business and Social Science, 9*(3).
Vaškevičė, J. (2017) *Deryų komandos formavimo ir tobulinimo principai*. Doctoral dissertation, Kauno technologijos universitetas.
Vojvodić, K., Martinović, M., & Pušić, A. (2020) The relevance of business negotiation in building competitive advantage for croatian micro enterprises. *InterEULawEast: Journal for the International and European Law, Economics and Market Integrations, 7*(1), 47–63.
Wang, X. (2018). *How leadership improves intercultural negotiation*. University of San Diego.
Wang, J., & Gong, J. (2016) Team negotiation based on solidarity behavior: A concession strategy in the team. In *2016 17th IEEE/ACIS international conference on software engineering, artificial intelligence, networking and parallel/distributed computing (SNPD)* (pp. 87–92).
Wesarat, P. O., Sharif, M. Y., & Majid, A. H. A. (2014). Role of cultural values in career choice: A conceptual framework. In *The 3rd international conference on entrepreneurship and business management: ICEBM14-150*.
Wilken, R., Jacob, F., & Prime, N. (2013). The ambiguous role of cultural moderators in intercultural business negotiations. *International Business Review, 22*(4), 736–753.

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B2B Marketing Theory, Institutional Economics and Austrian Economics on the Business Relationship in Light of Relationality and Organizationality

Michaela Haase

Abstract

Taking reference to relational perspectives and to the idea of organizationality, this article wonders what different strands of Austrian economics and institutional economics can contribute to the understanding of the business relationship. This research question is fanned out along three core topics: (a)symmetries in the relationship; coordination and cooperation problems; and the distinction between organizational actors and organized social interaction. Drawing from insights gained from the theories used in this article, the article concludes that the business relationship is an organized form of social interaction, as are organizations and markets. Unlike the organization, however, the business relationship is a non-constitutional form of organized social interaction.

1 Introduction

Can the scientific view of the B2B relationship help companies better understand the customer–supplier relationship and improve their customer orientation? In recent decades, services marketing approaches and the service-dominant logic have helped to focus on the customer's view of the processes and outcomes of value co-creation. The approaches considered in this article are analyzed with an eye toward a theoretical tradition for which the heading 'serving the customer' outlines a field of research, but also denotes a community of researchers giving the customer's point of view adequate weight as a guiding research idea.

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This article reflects the view that B2B marketing theory is rooted in economics, as expressed by reference to Austrian economics, institutional economics, and neoclassical analytical schemes such as cost–benefit analysis (Plinke, 1989). Furthermore, the article is based on two reflections on the formation of social patterns—relationality and organizationality; and it pays particular attention to relational views in B2B marketing theory, which reject the dichotomous view of transactions and relationships (Ehret & Haase, 2012; Jacob, 2002; cp. Simon, 1991). The economic approaches can be related to social theoretical[1] and methodological perspectives, which are subsumed in this article under the headings 'world 0' (neoclassical models), 'world 1' (most Austrian models), and 'world 2' (Lachmann's Austrian models and institutional economic models). World 1 perspectives, in which monads can enter into a relationship, differ from World 2 perspectives, for which relationships and patterns or structures are constitutive. World 2 perspectives correspond in some respects to views discussed in or underlying relational sociology, without necessarily having clear correspondences throughout.

Theoretical approaches that assume market interactions of self-interested monads (Koslowski, 1991) (world 1) are compared with relational sociological perspectives (Cantó-Milà, 2016; Emirbayer, 1997; Prandini, 2015) that assume "relationality" (Somers & Gibson, 1994, p. 69) as basic constitution of the socio-economic world (world 2). From the point of view of relational sociology, the distinction is not between this or any other familiar dualism (structure vs. action, individual vs. society, material vs. ideal, etc.), but between substantialist and relationalist thinking. In light of relational sociology, world 0 and world-1 perspectives are based on substantialism, that is take as their "point of departure the notion that it is *substances* of various kinds (things, beings, essences) that constitute the fundamental units of analysis" (Emirbayer, 1997, p. 282).[2] The relationalist point of view is of interest for the understanding of business relationships in that these are not 'substances' in the above-mentioned sense. It harmonizes, moreover, with the idea of organizationality, which relegates 'substances' (e.g., the 'entity view' of the organization) to the background in favor of activities (e.g., organizing).

The neoclassical general equilibrium model (world 0) is excluded from this article's analysis for its mechanistic character. Based on the assumption of rigid, constant forces or that of pre-stabilized harmony, the neoclassical model cannot explain the interaction of spontaneous forces (Koslowski, 1991). In light of the theoretical perspectives used in this article, world 1 can be an Austrian or institutional economic one.[3] In world 1, inter-

[1] "Social theory can be defined as the systematic, empirically-oriented study of the 'social' (the recurring forms, or patterned features, of interactions and relations between people) in terms of its historical variation, and its variation between different societies" (Cotterrell, 2013, S. 2).

[2] All italics in original unless otherwise indicated.

[3] The fact that relationships are not presupposed as constitutive in world 1 does not mean that there is no conception of the social or of society in a world-1 approach. For instance, that Hayek has addressed the allocation of resources within *society* (Foss et al., 2021), relates his approach to the Austrian theory of social order (Boettke & Coyne, 2018 [2015]).

action is present but relationship is an extraordinary event; in world 2, relationship is omnipresent or a basic constituent of the social fabric. For instance, Coase (2000, p. 4), referring to the widely cited definition of 'economics' by Lionel Robbins, characterizes economics as "the study of human behavior as a relationship."[4]

Some strands of Austrian and institutional economics[5] have established world-2 perspectives. In light of the topics addressed in this article's analysis, Mises's and Hayek's works are associated with world 1; and Lachmann's works, together with original institutional economics, new institutional economics (i.e., Williamson's and Coase's transaction cost economics), and relational approaches to B2B marketing theory with world 2.[6] Original institutional economics is assumed to be 'closer' to sociological approaches than new institutional economics (Hermann, 2018; Hodgson, 1998) and thus to world-2 perspectives. This applies especially to the pragmatist perspectives in relational sociology (Mutch et al., 2006; Prandini, 2015).

Taking reference to relational perspectives and to the idea of organizationality (Dobusch & Schoeneborn, 2015), this article wonders what different strands of Austrian economics (Mises and Hayek vs. Lachmann) and institutional economics (original institutional economics vs. new institutional economics) can contribute to the understanding of the business relationship in B2B marketing theory. This research question is fanned out along three core topics: (a)symmetries in the relationship; coordination and cooperation problems; and the distinction between organizational actors and organized social interaction (Ahrne et al., 2016).

Symmetries and asymmetries are found in every relationship. Some of these (a)symmetries might be structurally determined in the sense that they can be conceived as relatively stable patterns in the social fabric (Weber, 1973 [1904]). Some of them are the subject of theoretical assertions with corresponding empirical content. According

[4] Lionel Robbins (1935, S. 15) defined 'economics' as "the science which studies human behavior as a relationship between ends and scarce means that have alternative uses."

[5] Austrian economics, especially by Hayek and Lachmann, could also be called 'institutional economics.' When the term 'institutional economics' is used in this article, it refers to the original and the new institutional economics (Hodgson, 1998; Rutherford, 1996). Authors have replaced the phrase 'old institutional economics' by 'original institutional economics' or 'earlier institutionalism' (Hodgson, 1998), etc., because the former seems to suggest that old institutional economics is something that has been overcome by the new institutional economics. Coase (2000, S. 3) suggests that the expression 'new institutional economics' "was coined by Oliver Williamson. It was intended to differentiate the subject from the 'old institutional economics'." Coase (1910–2013) apparently never abandoned his distaste for the 'old' institutional economics. He held the view that "John R. Commons, Wesley Mitchell and those associated with them were men of great intellectual stature, but they were anti-theoretical, and without a theory to bind together their collection of facts, they had very little that they were able to pass on" (Coase, 2000, S. 3; cp., Hodgson, 1998).

[6] I am aware that this classification can be criticized. This classification should be understood as heuristic. Given the perspectives used in relational sociology, these approaches are not 'purely' relationalist.

to the *Leistungs* approach (Kleinaltenkamp & Jacob, 2002), for example, the idea of integrativity has led to a theoretical statement about the symmetry of provider and customer resources in terms of the feasibility of resource integration or 'production.' However, relationships are multidimensional phenomena. Therefore, concrete relationships between providers and customers can be characterized by both symmetric and asymmetric dimensions. The knowledge that each actor has about its resources is an example of an asymmetric dimension of the business relationship.

Coordination and cooperation are not identical (Gulati et al., 2012; Kleinaltenkamp, 2019a, b; Wieland, 1998). The coordination of activities or processes is a requirement resulting from the division of labor. Thus, all types of organized forms of social interaction (Ahrne et al., 2016) including markets, organizations, and business relationships are engaged with coordination problems but not only with them. The study of business relationships has revealed the importance of cooperation problems (Jacob, 2002).

Organized forms of social interaction expand the opportunities for actors to interact through markets. In line with insights originating from institutional economics, this article argues that the interest in or need for cooperation increases the level of organization of an organized form of social interaction. In this sense, B2B relationships are organized forms of social interaction that serve to facilitate coordination and cooperation. In the Austrian theory of organization, the story sounds similar: learning processes about characteristics of organizational resources and the problem of knowledge allocation require cooperation and go hand in hand with raising the level of organization. A special feature of Austrian economics is that the actors' intentions to act must be balanced under uncertainty. A distinctive feature of both organization theory and marketing theory is that they are interested not only in intentions to act, but also in outcomess. The success orientations of relationship marketing (see, e.g., Barroso-Méndez et al., 2015) and B2B marketing (see, e.g., Eggert et al., 2020 or Ulaga & Reinartz, 2011) speaks volumes here. Behind the desired success, however, is the search for the reasons for success or failure. Karl Polanyi, in the context of the overview problem he introduced (Thomasberger & Brie, 2019), focused attention on the values that guide performance and asked to what extent the complexity of relationships in modern society is detrimental to democracy and ethics (for a social theoretical classification of this question, cf. Cotterrell, 2013).

The remainder of this article is structured as follows. Section two provides a sketch of the above-mentioned worlds of theory, contrasting Austrian and institutional economic models with the neoclassical market model. Section three deals with (a)symmetries that characterize (business) relationships. German approaches to services marketing assert the existence of a symmetry between providers and clients of services with regard to the need to integrate resources in joint usage processes. Structural (a)symmetries in (business) relationships that are interpreted as historically and culturally determined patterns can be observed as well. Section four addresses three related problems: the calculation, the coordination, and the overview problem. The overview problem functions as bracket between a number of discussions or problems, including Karl Polanyi's question about the possibility of freedom in a complex society, the debate about socialist planning,

Lachmann's concept of subjective interpretation, and the role of value concepts in the ethical and economic orientation of actors. Section five addresses the organizationality of B2B relationships in light of the theories brought to application in this article.

Drawing from insights gained from the theories used in this article, the article concludes that the business relationship is an organized form of social interaction, as are organizations and markets. Unlike the organization, however, the business relationship is a non-constitutional form of organized social interaction.

2 Theoretical Lenses on B2B Relationships

German marketing thought developed in three strands: network thinking, exchange theory, and new institutional economics (Kleinaltenkamp & Jacob, 2002). Jacob (2002) investigated business relationships as institutions of market exchange, recognizing the impact of both Austrian economics and institutional economics on the Engelhardt School in B2B marketing theory. Engelhardt (1995) notes that older B2B approaches to the study of organizational buying behavior neglected supplier–buyer interactions[7]; in other words, monadic entities (Koslowski, 1991) 'populated' the worlds of theory in B2B marketing for some time. Engelhardt sheds light on how the parties involved in a transaction try to overcome information asymmetries to reach a solution to a problem and concludes that models that assume mutual influence between the parties should replace linear causal models. The Industrial Marketing and Purchasing (IMP) group emerged in the 1980s to study personal or organizational interactions or multi-organizational interactions. Kleinaltenkamp and Jacob (2002, p. 150) ascertain that this was the "real beginning of independent German marketing thought."

2.1 Austrian Economics

Marketing theory begins where neoclassical, parametric interaction ends. Koslowski (1998) examines the main differences between the neoclassical general equilibrium model and the Austrian interaction model. Based on the non-saturation theorem of microeconomics, the mechanistic neoclassical market model is put into motion by motives for action or preferences that are not interrogated for social context or axiological values. Efficiency is the only value that matters; however, it does not establish a purpose.

[7] 'Interaction' and 'relationship' are not the same: While in world 0 only parametric interaction (Johansen, 1981) does take place, interaction is constitutive for world 1 and relationship for world 2. Relationship is possible in world 1 but not in world 0.

The interest in the Austrian perspective in marketing studies harks back to several reasons including the Austrian i) study of markets as economic phenomena[8] that is perhaps best expressed in Hayek's (1937, p. 49) formulation of *the economic problem* as "how the spontaneous interaction of a number of people, each possessing only bits of knowledge, brings about a state of affairs in which prices correspond to costs, etc., and which could be brought about by deliberate direction only by somebody who possessed the combined knowledge of all those individuals"; ii) its analysis of the market as institution (Lachmann, 1970) that anchors economics in the social sciences (this applies both to Hayek and Lachmann); iii) its emphasis on knowledge and time for the progress and the 'direction' of the market process (Hayek, 1937, 1945; Lachmann, 1959; Shackle, 1958), i.e. on how individuals pursue their interests through interactions coordinated by the market; iv) its emphasis of uncertainty and expectations (Lachmann, 1959; Shackle, 1972); and v) its idea that equilibria are intermediate, volatile states resulting from dynamic market processes reacting to a "changing world" (Lachmann, 1959, p. 68).

2.1.1 Foundations of World-1 Perspectives

Koslowski (1991) explains the theological-philosophical systems of ideas on which the Austrian market model is based in terms of the ontology, culture, and ethics of the economy. His analysis provides a deeper understanding of the origins of the fundamental ideas associated with markets; it gives a sense of the general, systemic nature of this worldview or market philosophy: of the 'monads' that seek to achieve singular, subjective goals in interaction with other monads; and of the coordination that these monads seek to achieve through the market process.

Subjective utility approaches have overcome the "substantiality" (Cantó-Milà, 2016, p. 13) of classical economics in that the neoclassical concept of preference is neither substance-oriented (i.e., delimited to material objects) nor does it exclude anything from becoming the subject of subjective assessment and preference ordering. Although Carl Menger, founder of the Austrian economics, was one of the progenitors of the marginalist revolution (along with Jevon and Walras),[9] Austrian economics is known to favor analyses less formal than those of neoclassical economics (for Hayek, see Sprich, 2008).[10]

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[8] At this point, it is worth recalling Coase's (1988) damning verdict on the state of economic research on markets.

[9] For Gossen's (1810–1858) contribution, see Kauder (1962).

[10] Mises's approach is also formal, but in a way that differs from the neoclassical economics (Lachmann, 1970). Misean economics has been named a combination of "deductive logic and verbal reasoning" (Boettke & Coyne, 2018 [2015], S. 3). In order to deal with the problems accruing from Mises's apriorism, Boettke and Coyne (2018 [2015], S. 6; see Storr 2010) distinguish "pure theory" from "applied theory": the former is based on Mises's "pure logic of choice," the latter addresses "the exchange relations that emerge from the interaction of individuals and the institutions within those exchange relations are played out.".

While the Austrian interactionist market model and the neoclassical market model share a devotion to subjective utility, the Austrian model assumes that individuals are able to act according to self-established purposes and in a value-rational way. That individuals are not guided by biologist needs-conceptions (at least not only by these), is an important prerequisite for the possibility of acting according to non-fixed purposes.[11] It enables the individual to strive for self-determined goals of whatever kind. Importantly, the Austrian model allows the moral self-positioning of actors: Goals are not fixed, but subject of negotiation in the market process; preferences can change; and values other than efficiency can guide economic action: Freedom is "being able to act according to self-imposed purposes" (Koslowski, 1998, p. 40; translated by author).[12] Koslowski's (1991, p. 33) phrase "market economy of human beings" ("Marktwirtschaft der Menschen") is telling: "The market economy is conceived as a process that serves the optimal allocation of scarce resources reacting to a constantly changing demand, a demand that is in turn an expression of the individual striving for self-realization. The market economy realizes no predefined material ends other than those of individuals" (Koslowski, 1991, p. 33; translated by author).[13] Note that for Hayek, the market process is about the integration of knowledge. Knowledge, not allocation, is "the central concept of economics" (Sprich, 2008, p. 92; translated by author).

For a long time, the Austrian world was populated only by individuals, not organizations (Foss et al., 2018 [2015]; for the recently developed Austrian theory of the firm or the organization, see these authors as well). The ontology of this Austrian world-1 economics included monads, pursuing their own purposes, engaged in the balancing of divergent interests and opportunities. It does not include organizations or organized structures in markets. In Hayek's view, central coordination in organizations contradicts what he saw as the solution to the economic problem, namely the division of knowledge. In Koslowski's reading of Austrian economics, reflecting a certain stage of theory development, all problems that the individuals may intend to solve, are solvable through the market process.

2.1.2 Lachmann's World-2 Perspective

Lachmann (1970, p. 26), opposed to any "'artificial separation' of economic from other social activity," established an Austrian world-2 perspective with reference to Weber's ideal type. Lachmann developed an own approach to the methodology of the social sciences which is based on a theory of action and the addition of subjective interpretation to subjective utility. Lachmann, however, was not the only one to advocate subjective

[11] This can be interpreted as an indication of the prerequisites of the principle of free choice.

[12] Freiheit ist ein „Handeln-können nach selbstgesetzten Zwecken."

[13] "Die Marktwirtschaft wird als ein Prozeß (sic) begriffen, der der optimalen Allokation knapper Ressourcen für eine ständig wechselnde Nachfrage dient, eine Nachfrage, die wiederum Ausdruck des individuellen Strebens nach Selbstverwirklichung ist. Die Marktwirtschaft realisiert keine vordefinierten materialen Zwecke außer jenen der Individuen".

interpretation. The influence of the fundamental contributions of Alfred Schütz (1899–1959) on Austrian economics can hardly be underestimated. Storr (2010) deserves credit for revisiting the Schütz interpretation. He deals with the criticism of Schütz and also mentions the influence of other representatives of subjective interpretation in the Austrian economics, especially Paul Ricoeur (1913–2005) and Hans-Georg Gadamer (1900–2002).

Lachmann's economic approach can be located between that of his doctoral supervisor Werner Sombart (1863–1941), a representative of the German Historical School in economics, and that of Max Weber (Eicholz, 2017). Lachmann's Austrian perspective can be aligned with the non-dichotomist view of transactions and relationships according to which the transaction is the basic unit of analysis of market exchange (Commons, 1931; Ehret & Haase, 2012).

Lachmann (1970, p. 21) explains the task of historical explanation in this sense, that is, in a sense that reveals its origin in the German Historical School:

> The task of historical explanation consists here in accounting for a recurrent pattern of action, and such an account, if it is to be an intelligible account, again requires interpretation in terms of the typical patterns of plans to be found in 'anonymous mass action'. The only difference consists in the fact that there are plan elements which interest us are not the millions of individual purposes pursued, but the common elements of norms, institutions, and of the general environment in which all these plans have to be carried out. It is these common elements, which millions of plans have to contain and to which all individual action in a given society has to be oriented, which is here the task of the historian to explain.

A closer examination of Lachmann's form of historical explanation should also reveal interfaces with the "relational form of analysis" (Mutch et al., 2006, p. 608) in sociology, organization theory, and beyond, such as the rejection of structural determinism and of pure voluntarism, the idea that actors are not trapped in causal structures, and the search for factors that link social situations. Later in the text, the article wonders whether Lachmann's approach tends to conform to the operation of double hermeneutics, i.e., that "not only do we have to interpret the results of our observations, but our research subjects produce their own readings of the world" (Mutch et al., 2006, p. 612).

2.1.3 The Austrian Theory of the Firm

Austrian economics was biased toward the market for a long time, i.e. an Austrian theory of the firm (AToF) has "emerged only recently" (Foss et al., 2018 [2015], p. 2). On the basis of "Kirzner's three major points of emphasis: methodological individualism, methodological subjectivism, and market-process analysis" (Boetttke & Coyne, 2015, p. 7), the AToF shrinks to a theory of the entrepreneur, equating the entrepreneur with the firm (Foss et al., 2018 [2015]). Foss et al. (2018 [2015]) doubt the role of Kirznerian alertness for the explanation of the firm. In their view (and in contrast to Kirzner's view), the entrepreneur is not "penniless" but an owner of resources.[14]

[14] Alertness and pennilessness go hand in hand in that the Kirznerian entrepreneur can earn pennies through the arbitrage process. In contrast, the organization cannot exist as resourceless entity, but requires the pooling of resources (what Gifford [1991, S. 95] calls "firm-specific investments").

Against the backdrop of Austrian capital theory (Lewin & Baetjer Jr., 2018 [2015]) and the socialist calculation debate (see section four), Foss et al., (2018 [2015]) present an approach to the AToF (or theory of *organization*) based on Knight's and Mises's conception of judgment under uncertainty. Knight had studied social organization (Emmet, 2021) and presented a "theory of the firm" (Bylund, 2021, poxy_insert_end. 877) in his influential book Risk, Uncertainty and Profit (Knight, 1921). 'Modern' Austrian capital theory assumes heterogeneous capital goods the attributes of which the entrepreneur can discover only "step by step" (Foss et al., 2018 [2015], p. 18) in a time-consuming learning process. The AToF widened the perspective to include the multi-person firm, arguing that it needs more than the market and more than the individual entrepreneur to cope with uninsurable uncertainty. The main reasons to arise for the "multiperson firm" (Foss et al., 2018 [2015], p. 15) is that there is no market for judgments and that the single individual entrepreneur ("the one-person firm," ibid.) cannot cope with "thoroughgoing subjectivism as assumed by modern Austrian capital theory, costs of moral hazard or of trying to communicate entrepreneurial judgment" (ibid., p. 18).

Knowledge gained or assessments conducted throughout resource usage processes must be transformed into organizational knowledge. Foss et al., (2018 [2015], p. 17), paying attention to the interactive market perspective, highlight that "entrepreneurs exercise judgment about other people's judgment." As these authors (ibid., p. 2) point out, referring to Hayek (1937, p. 390), organizations face the problem of "any planned order, namely that the 'organizer must wish the individuals who are to cooperate to make use of knowledge that he himself does not possess'."

Entrepreneurs can learn how their resources 'perform' in mutual resource integration processes resulting from market action. However, in contrast to the German approaches to B2B marketing theory, the AToF multi-person firm is engaged in learning processes referring to its own resources only. Thus, the AToF neglects the customer's capital goods, which are heterogeneous goods as well and, like judgments, cannot be traded in markets. As these goods are inextricably linked with the customer, providers can access them only through establishing a relationship with the customer. More precisely, the Austrian entrepreneur can only get to know the properties of resources by involving them in a usage process—and usage processes are pursued either by the entrepreneur or the entrepreneur's customers (who are themselves entrepreneurs of their resources or of those of other parties[15]). Actually, both parties are co-entrepreneurs. Who owns which property rights to resources matters only in terms of the purpose and performance options or obligations strived for or held by the respective party.

There are important similarities between the AToF and marketing perspectives, especially those based on the *Leistungs* approach and the service-dominant logic (i–iii), but

[15] Co-entrepreneurship can be extended to network structures in the sense of the value co-creation idea of service-dominant logic (McColl-Kennedy & Cheung, 2019). The idea is also in line with the Austrian replacement of "capital stock" by "capital structure" whereas the capital structure "is a result of the spontaneous workings of the market and interfirm contracts" (Lewin & Baetjer Jr., 2018 [2015], S. 12).

also differences (iv–v) between the two perspectives: i) the informativeness of prices is undeniable, but the price mechanism is not the only available source of knowledge generation; ii) the Austrian entrepreneur learns from the characteristics of his or her resources by using them; iii) it can be assumed that actors involved in stable relationships (local equilibria) are less interested in engaging in costly information search processes devoted to the establishment of new relationships; iv) resource integration and judgment do not presuppose asset ownership; and v) resource integration does not presuppose a firm or role specifications (supplier, customer, consumer, etc.).

2.2 Institutional Economics

Institutional theories have emerged in a number of social science disciplines, including marketing studies, economics, political science, and sociology. Institutional economics and Austrian economics share a focus on subjective utility, and both reject the substantiality of classical economics with regard to value. In institutional economics, property rights theory delimits the role of substance in the study of market exchange (Cantó-Milà, 2016): resources are essential, not substances.

2.2.1 Transaction Theories

Commons's property rights approach (1931) has been particularly important for the understanding of service exchange, resource integration, and cooperation in the Engelhardt school (Ehret & Haase, 2012; Haase & Kleinaltenkamp, 2011; Jacob, 2002; Kleinaltenkamp & Jacob, 2002). Both legal and economic property rights allow potential resources to be converted into resources. Commons's world-2 approach to transactions gives attention to conflict, order, and mutuality. It is therefore no surprise that property rights theory is related to relational perspectives in sociology and marketing studies (Ehret & Haase, 2012). Based on property rights theory, B2B marketing theory examines the resources that actors need to perform their purposive services from a non-substantivist perspective. This perspective does not imply the irrelevance of the physical characteristics of resources. However, from an economic perspective, the focus is on the 'resourceness' (Lusch & Vargo, 2014) of entities, not their materiality.

Commons's property rights analysis and the sociological theory of relational contracts (Macneil, 2001) together form a basis for a world-2 approach to the study of business relationships. Commons's approach is the reason why institutional economics distinguishes between transactions and exchange: "For institutional economists …, these terms ('transaction' and 'exchange,' author) denote different things. Simply put, a transaction involves a legal transfer of property rights or control rights over resources, while an exchange can merely involve a physical transfer of something" (Gindis, 2021, p. 181). Gindis (2021, p. 184) points out that Williamson's transaction concept as "a transfer of a good or a service across a technologically separable interface" does not correspond to

the transfer of legal control over resources. The two concepts are often related, but not identical.

B2B marketing theory wondered what can facilitate the 'inner connection' (innere Verbindung) between two (or more) transactions in order to develop into a relationship (Jacob, 2002). In world 1, time, uncertainty, experience and expectations are important building blocks for the formulation of a preliminary answer to the question asking for the determinants of the 'inner connection.' On the basis of their purposes and knowledge, individuals form action intentions or plans, which are to be coordinated with the action intentions or plans of others via the market system. In world 1, relationships can emerge. Experiences that lead to knowledge changes can motivate individuals to transform a single interaction ('transaction' in neoclassical terms; see Simon, 1991) into a series of at least two or more interactions.

Jacob (2002) and Haase (2000) emphasize Commons's impact on Williamson's (1985) transaction theory. Williamson's (1985) transaction cost theory addresses cooperation problems that result from bounded rationality, asset specificity, and behavioral uncertainty. Sichtmann and von Selasinsky (2015, p. 355) note that scholars taking the relational perspective consider the relationship to be the *driver of performance*.[16] It is questionable if the establishment or emergence of business relationships can be understood if the rationale for establishing institutional arrangements is limited to the defense against opportunism (for the concept of transaction value, see Geiger et al., 2012; and Zajac & Olsen, 1993).[17] Critical is transaction cost theory's interpretation of relationships in terms of dependence whereas not dependence per se is the problem but its negative interpretation. In comparison, German approaches to B2B marketing theory have highlighted the "productive use of asymmetries" (Ehret, 2015) that result from the distribution of property rights and resources among actors (or actor networks) and affect the roles actors consider to play in resource integration processes, i.e., asymmetries that give rise to a positive assessment of dependence.[18] A normativistic fallacy according to which the term 'relationship' per se has a positive connotation should be avoided, as should the negative counterpart to this view in the sense of dependency.

[16] For the emergence of the relational perspective in B2B marketing theory, see the references in Sichtmann and von Selasinsky (2015, S. 357).

[17] According to Williamson (1985), opportunism is a contingent factor. In a world mainly populated by opportunists, this aspect in the formation of business relationships may outperform other aspects in the study of interorganizational cooperation.

[18] This nuance does not exclude the fact that dependence can also have negative consequences. One example of this is companies that put suppliers under so much price pressure that they reduce the quality of the resources to be supplied. It should be noted, however, that these forms of dependence often conceal power games or dubious market structures: "Far from being an attribute of property of actors, power is unthinkable outside matrices of force relations" (Emirbayer, 1997, S. 292).

Austrian uncertainty has a parallel in Williamson's (1985) concept of behavioral uncertainty, but there is an essential difference between the two approaches: While behavioral uncertainty results from *potential* individual or organizational opportunism, Austrian uncertainty is inherent in the Austrian *theory of action* based on plans, expectations, and knowledge (Lachmann, 1959, 1970). For at "the moment of planning the future actions of others … are uncertain and unknown" (Lachmann, 1970, p. 45), "in reality no action goes entirely according to plan" (Lachmann, 1970, p. 31). The range and likelihood of possible future outcomes is uncertain or uninsurable (Knight, 1921). The establishment of social arrangements or institutions addresses this problem, but does not eliminate it.

2.2.2 Cooperation and Coordination Problems

Cooperation problems are the reason why Jacob (2002), who analyzed institutional arrangements established for the control of property rights and resource flows, referred to institutional economics in his analysis. Gulati et al. (2012) identify a number of theoretical perspectives that address cooperation problems including transaction cost theory and game theory. Their account provides insights into the issues associated with cooperation problems and how these differ from coordination problems: "The normative implications of such research consist primarily of anticipating and preventing lying, stealing, and cheating among partners, and of sustaining partners' commitment, containing hostilities, and minimizing shirking behavior" (Gulati et al., 2012, p. 532). In contrast, the coordination perspective.

> … focuses less on preventing opportunistic behavior and sustaining commitment than on the mechanics of bringing together partners' contributions. The implicit assumption here is that even in a situation of perfect alignment of interests, partners still need to divide labor and to coordinate effectively to complete their joint and individual tasks. As a result, the focus shifts to creating structures, institutions, and relationships that enable partners to work together across boundaries" (Gulati et al., 2012, p. 532 f.).

According to this reading, cooperation problems arise from the attempt to balance different interests and values. For this reason, institutional arrangements (Jacob, 2002; Kleinaltenkamp, 2019b) or governance mechanisms (Wieland, 1998) are agreed upon that are supposed to determine which respective performances are to take place and which resources are to be used in the process. These arrangements or governance structures increase the level of organization in a relationship. Ahrne et al. (2015, p. 11) argue, with reference to Goffman (1972), that 'elements of organization' can be identified based on decisions made on "basic interaction elements":

> In all types of social organization, one can distinguish five fundamental elements required for the interaction to be continued or repeated. … First, those who interact need to know who is involved in the interaction. Second, they require some common notion about what they are doing and how to do it. Third, they need to be able to observe each other to know how to continue. Fourth, they must be able to take measures in order to make others do what

> they expect them to do. And fifth, they must understand who has the initiative and power (Ahrne et al., 2015, p. 1).

The governance architecture of business relationships is designed, interactions and activities (or processes) are organized and thus coordinated. The fact that the interests and values of the parties involved in a transaction may be different can lead to cooperation problems, which are exacerbated by behavioral uncertainties. Without cooperation, coordination of social interactions may come to naught.

Explanation is a matter of choice of theory, because the same phenomenon can be explained by a number of theories.[19] Jacob (2002) examined a number of theoretical concepts potentially relevant to the explanation of business relationships, including integrativity (Engelhardt & Freiling, 1995), uncertainty, and knowledge change. In analyzing the problems arising from behavioral uncertainty, Jacob (2002, p. 58, Table 4) identified key building blocks of an institutional economic understanding of the business relationship. He also developed a functional model of the institution that can be used to control and stabilize social interactions (ibid.: Fig. 18; for an adaptation of this model, see Kleinaltenkamp, 2019b, p. 273, Fig. 16.1). Jacob (2002), interested in the universal applicability of institutional theory, referring to bilateral uncertainty associated with suppliers' services adapted to each customer's demand (Kleinaltenkamp & Jacob, 1998, p. 15), argues that sanctionability and the formation of expectations can reduce behavioral uncertainty.

Actors can affect, invent, or establish rules within organizational fields (Wooten & Hoffman, 2017). While Jacob (2002) noted that marketing research has not yet addressed the emergence of institutions, about 20 years later, this has changed. Contemporary research on institutions in B2B marketing theory studies the dynamics of emergence and change of institutions, e.g., in terms of proto-institutions (Haase & Becker, 2021; Kleinaltenkamp et al., 2018). Just as time and knowledge belong together, so do intertemporal and interpersonal dynamics (Lachmann, 1959).

3 (A)Symmetries in Provider-Customer or Business Relationships

The *Leistungs* approach in B2B marketing theory that harks back to Werner H. Engelhardt (1932–2018) asserts that there is a symmetry in the supply of resources necessary for any kind of outcome; symmetry in that both parties to a transaction have to provide resources for the pursuit of the relevant processes and their outcomes. Accordingly, in

[19] The truth of this statement, however, depends of the meaning of the word 'same.' In light of the idea of theoreticity of observation (Hanson, 1958), roughly speaking, what is observable depends on the measurement theories used to generate observations. For this reason, the degree of 'sameness' is limited.

the *Leistungs* approach, 'integrativity' means that both the provider's and the customer's resources must be included in resource transformation processes. In other words, co-creating value with the customer always requires integrating the customer's resources, i.e., the resources of each single customer with whom a provider interacts. Haase (2000, p. 248) interpreted 'integrativity' as a theoretical concept originating from the *Leistungs* approach. The *Leistungs* approach was further developed in two schools, the Berliner Schule and the Bochumer Schule; the two schools differ with regard to the subject matter of integrative processes and outcomes or the extent of autonomous decision making reserved for the provider, respectively.

3.1 'Integrativity' as Assertion of Symmetry

The customer usually invests not only physical but also cognitive resources, which influence the resource transformation process to varying degrees and delimits the provider's autonomy, which means a loss of control by the provider. Hence, not only the provider or Austrian entrepreneur determines and steers the allocation of organizational resources but also the customer, although having largely been ignored by economic theory: "Constitutive for economic theory, but largely unconsidered, is the fact that representatives of the other side of the market are also involved in the processes and outcomes of a supplier—a participation is meant here that goes beyond expressing or revealing preferences through market actions" (Haase, 2000, p. 248; translated by author).[20]

In world 1, the market coordinates individuals' intentions to act. Actors negotiate with other actors to achieve their goals through market action. The *Leistungs* approach adds to this line of thought the notion that the means whose use is required to achieve goals include tangible and intangible resources, as well as actors' engagement in economic, cognitive, social, or managerial processes. In case of B2B relationships, integrativity includes the establishment of organizational elements, in Jacob's (2002) words, *institutional arrangements*. Integrativity expands the task responsibility of the Austrian entrepreneur and the uninsurable uncertainty he or she faces as they are expected to learn about the characteristics of their own resources and those of their customers (see, e.g., Ulaga & Reinartz, 2011). This requires special skills on the part of the actors. From a supplier's point of view, Day (2011) summarized these under 'marketing capabilities,' supplementing the (in marketing studies) prevailing 'inside-out' perspective with an 'outside-in' perspective. 'Outside' in this case are the customer's resources, about which learning requires 'adaptive marketing capabilities.' This endeavor is approached, e.g.,

[20] "Für die Wirtschaftstheorie konstitutiv, aber weitgehend unberücksichtigt ist, dass auch Vertreter der anderen Marktseite am Vorgang und Ergebnis der betrieblichen Leistungserstellung beteiligt sind—eine Beteiligung ist hier gemeint, die über das Bekunden oder Offenbaren von Präferenzen durch Markthandlungen hinausgeht".

by involving multiple people associated with groups that have been recently subsumed under the heading 'usage center' (Kleinaltenkamp et al., 2017).

With the exception of the entrepreneur, Austrian economists are not concerned with distinguishing between different types of market actors. The interest in gaining control over resources in order to achieve self-chosen objectives motivates the actions of all market actors, independently of the boxes into which they are sortable, e.g., as 'consumers,' 'customers,' or 'providers.' The following subsection addresses structural asymmetries within transactions and in relationships that go hand in hand with different role assignments.

3.2 Asymmetries in Patterns in Social Reality

Provider-customer relationships form highly variable patterns in social reality. It does not seem to be rigid role expectations or 'logics' of the market that produce these patterns, but rather the interest in resources originating from other parties. The attempt to gain control over these resources via property rights arrangements is considered the most important economic motive for actors to enter into provider-customer or business relationships. B2B markets, however, are characterized by actors leaving control of resources partly to the other side of the market. This is particularly striking in the case of so-called business solutions, but there is also a gradual variation within the so-called hybrid offerings. What is striking here are clear differences in the type and extent to which providers of hybrid offerings develop activities or are involved in processes that affect demand-side resources. They range from offering the implementation of certain activities to taking over complete processes (Ulaga & Reinartz, 2011).

On an abstract level, the individual transactions are integrative and thus show a corresponding symmetry in the need for involving resources of the respective other party in resource usage processes. However, depending on the problem solution to be achieved, there are clear asymmetries, especially between the competencies (or capabilities) and task responsibilities of the respective actors (Akalan, 2021). Jacob (2015) has looked in particular at the perspective of the demand side in the solutions business. He notes several asymmetries in the provider-customer transaction, especially with respect to problem diagnosis, co-creation, co-production, and co-implementation of the solution.

4 Calculation Problem and Overview Problem

Private actors pursuing private, self-imposed goals must coordinate their plans and activities with those of other actors. Lachmann (1970, p. 40) has pointed out that "human action exists in the mental form, as plan, before it takes place in space and time." This gives rise to the question how business relationships are affected by the so-called calculation problem that results from the need of coordination of the actors' individual plans.

Thomasberger and Brie (2019) address a series of debates that began with the socialist calculation debate (O'Neill, 1996) in the 1920s, which dealt with the possibility of rational economic planning and led to the identification of the coordination problem.

The calculation problem is related to what Karl Polanyi called the "overview problem" (Thomasberger & Brie, 2019, p. 171) according to which "no one has the overview of the entire production and consumption process" (ibid., p. 173). Market action is social action whose outcome depends on the uncertainty about how other actors intend to act, as well as on what the particular individual, as part of society, can know about it. For Polanyi, this problem is a fundamental one, related to the answer to the question "How can we be free, despite the fact of society?" (Polanyi, 2006, p. 317; quoted by Thomasberger & Brie, 2019, p. 170).

4.1 Socialist Planning

Socialist planning is a solution to the overview problem using the service of a central ruler. In contrast, in a market economy, each economic unit has to decide itself which resources it needs for the preparation or conduct of its performance: "In a small, manageable community, free and rational decisions do not pose a problem. However, in a modern society, the situation is different … In a complex technological civilization, no single actor (and no planning committee) has the opportunity to make free and responsible decisions, since no one has overview of the entire production and consumption process" (Thomasberger & Brie, 2019, p. 173). According to the Austrian world-1 perspective, only the market can solve the overview problem, i.e. "'planning' the complex of interrelated decisions about the allocation of available resources" (Hayek, 1945, p. 520).[21]

Mises and Hayek were engaged in the debate over socialist planning, and both rejected the superiority of central planning over market coordination. Mises argued that if the government is the owner of the means of production, capital goods would not be priced. Hayek entered the debate later, pointing to the transfer of knowledge through the price system. Both scholars saw the solution to this problem in the price mechanism, which coordinates the economic plans of actors via the information contained in prices.

Knightean uncertainty, however, delimits the problem solution capability of the market. Prices do not disclose the information they contain to anybody in the same way and to the same degree. As Foss et al. (2018 [2015], p. 16) have put it, "it is exactly this need for decision-making under genuine uncertainty that was at the heart of the socialist calculation debate." In their view, "the calculation problem highlighted in the socialist calculation

[21] Foss et al. (2021, S. 5; italics added) compare Mintzberg's and Hayek's perspectives on the 'economic problem': "(W)hile Hayek referred to the 'economic problem' as concerning the optimal production structure and allocation of scarce resources *throughout society*, Mintzberg's critique of the prescriptive schools of strategy concerned the design of strategic frameworks and allocation of resources *within an organization*."

debate waged by the Austrians in the 1920s and 1930s … is not about socialism per se but the results of the heterogeneous yet multispecific nature of capital assets" (ibid., p. 10).

4.2 Subjective Interpretation and Social Order

Foss et al. (2018 [2015], p. 11) mention the "Austrian emphasis on subjective knowledge, skills, beliefs, expectations, and mental models … as a central element in … steps toward building an Austrian theory of the firm," but they do not give full attention to Lachmann's work. Lachmann added subjective interpretation to subjective utility. His work can be seen as an elaboration of both the social dimension of the economic problem emphasized by Hayek (1945) and the subjective dimension common to all Austrian approaches (Storr, 2010).[22]

Lachmann's concept of subjective interpretation and his notion of institution bridge the Austrian understanding of the market process and the understanding of institutional arrangements in B2B marketing theory. Hayek "generally neglected the problem of the genesis and diffusion of knowledge in non-market settings" Schubert (2005, p. 125) and, with it, institutional arrangements or institutions designed for the governance of non-market interactions.[23] Lachmann's distinctions between designed and undesigned institutions, external and internal institutions, and fundamental and secondary institutions[24] provide fruitful links between Austrian and institutional economics as well. According to Hayek, "spontaneous social orders, a chief concern of the Austrians" (Storr, 2010, p. 165) arise as unintended consequences of action or through evolution (cf. Lachmann, 1970); thus, institutions are not created by human intent. This does not mean that reason or rationality play no role in institutional development, i.e. non-intended consequences of actions may well be based on rational actions (Schubert, 2005).

In Lachmann's version of world 2, institutions are expressions of a fundamental relationality. McCloskey (2019, p. 55) emphasizes that for Lachmann, the phrase 'rules of the game'[25] does not imply that the game is "closed," i.e., the rules of the game are

[22] The status of Mises's apriorism is under debate (Storr, 2010).

[23] Hayek is known for the view that social order results from unintended consequences of action. A more comprehensive analysis of Hayek's contributions to social theory reveals that "a major contribution of Hayek's social theory consists in proposals for designing rules" (Sprich, 2008, S. 284; translated by author).

[24] External institutions belong to the "outer framework of society" (Lachmann, 1970, S. 81); internal institutions result from the market process and "other forms of spontaneous individual action" (ibid.). Fundamental institutions have constitutional range (see Lachmann, 1970, S. 97 ff.).

[25] Lachmann (1970, S. 61) refers to a criticism by Max Weber of the legal philosopher Stammler's interpretation of the rules of the game of Skat: "His (Weber's, author) main point against Stammler is that though the players action is of course oriented toward the rules of the game they are playing, and though we might therefore call the rules a 'presupposition' of any concrete game, this tells us nothing about the actual happenings in a concrete game."

seen as points of orientation for the actors but do not determine their actions. Lachmann was not only concerned with the intentional creation of institutional regulations, he can also be considered a forerunner of views nowadays addressed in terms of institutional entrepreneurship, institutional change, or institutional work. Criticizing Mises's aprioristic theory of action and Weber's ideal type, Lachmann developed his own praxeological theory of action as an approach to the *verstehen* of economic actors. By '*verstehen*' he meant a method of identifying the human design as well as the meaning that can be assigned to observable events, facilitating "a rational procedure of discursive study" (Lachmann, 1970, p. 18).

Among the critical aspects of Lachmann's approach is his interpretation of Weber's ideal type methodology,[26] the non-separation between the terms 'institution' and 'organization' ('organization' is subsumed under 'institution') and the restrictions he himself had imposed on his term *verstehen*. Lachmann (1970, p. 22) preferred explanations in terms of general ideas such as "the maximization of profits, or the avoidance of the risk of insolvency." The reason for this is his rejection of both philosophy and psychology as sources for economic analysis: on the one hand, he rejected behaviorism (McCloskey, 2019; cp. Dold & Stanton, 2021); on the other hand, he wanted to keep all philosophy away from economics. Thus, while objective hermeneutic methods may be applicable, ethics and philosophical value theory are left out. This raises the question of whether his concept of subjective interpretation is sufficiently subjective and interdisciplinary.

Lachmann followed Weber's approach to understanding insofar as he saw in it a reason for the emergence of patterns or social order. It is worth noting here that Lachmann's plan represents a *model* of economic action because, as he clearly states, "the plan elements which interest us are not the millions of individual purposes pursued, but the common elements of norms, institutions, and of the general environment in which all these plans have to be carried out" (Lachmann, 1970, p. 21). This article wonders whether he might have confused his second-order theory with first-order theories of lifeworld actors (Schütz & Luckmann, 1979).

The next subsection relates subjective interpretation and relationality to the network perspective, which is influential in B2B marketing theory (Sichtmann & von Selasinky, 2015; Schubert, 1994), and the concept of value proposition, which emerged in marketing studies in the 1990s, but has a number of antecedents (Payne et al., 2017). Using the Austrian perspective, value propositions are a means of coordinating plans and guiding expectations. Interpreted as promises, they are a starting point for both the economic and the ethical analysis of business relationships.

[26] Lachmann (1970, S. 20) substituted the ideal type through the plan, the "coherent design behind the observable action in which the various purposes as well as the means employed are bound together." Both Weber and Lachmann developed rationality-based analytical models.

4.3 Value Propositions and 'Islands of Predictability'

A major reason for actors to act in markets is their intention to gain access to resources. Through their action intentions, resources, and values, actors enable others to 'enter' into resource usage processes and make valuations in the first place, thereby creating something valuable for them. Which resources are provided by which party, what the actors intend to provide for each other and which values guide them in doing so is the subject of value propositions, which can therefore also be understood as value *promises*. Talking about offerings in B2B marketing is performative talk, thought to bring its subject matter about and giving expression to its normative bases. For instance, the word 'solution' is the result of a valuation[27]—a valuation that can be conducted by any person involved in the joint resource integration process. Basically, the results of valuations can range from positive to negative assessments.

The respective promise refers to the fact that the actors are committed to certain (axiological as well as non-axiological) values and also act accordingly. It does not refer to the fact that the assessments made by the actors in the context of resource usage processes always or even consistently lead to 'positive' results, i.e. to the expressions of value dimensions that the actors strive for. In Hardt's and Negri's (2010, p. 12) words, the value proposition is not about "the production of objects for subjects, as commodity production is sometimes understood, but about the production of subjectivity itself."

B2B marketing theory assumes that information from the market process is constantly being absorbed in business relationships. This plays a role, for example, in evaluating the performance of a supplier with whom a customer has a relationship. For the supplier's "communication of value … it is not enough to develop a superior offering; a customer must understand and believe in this superiority" (Kleinaltenkamp & Jacob, 2002, p. 152). Superiority refers to the suitability of the transformed resources as a means to achieve the goals of the respective co-entrepreneurs. In accordance with this view, Kleinaltenkamp and Jacob (2002, p. 152) point out: "resources are viewed not as external parameters constraining problem solutions but become part of the problem solution." Purpose is not only determined by the private value an actor seeks; "superiority" can also be defined more broadly to include, for example, social values or ecological values. The purposes and values of the respective actor are the subject of communication in a business relationship; value propositions and the procedural disclosure of transaction-relevant information are essential points of orientation.

Networks are potential world-2 solutions to the overview problem. Schubert (1994) separates the social and economic spheres and assigns the networks to the social sphere. His version of world 2 is therefore a purely social world. However, this separation is not to be followed here. Social interaction understood as pure non-market coordination may

[27] The word 'solution' can be considered a 'thick concept' having both descriptive and normative connotations (Williams, 1985).

be compatible with the fact that B2B marketing theory "ascribes a firm's strong performance to its network of relations" (Sichtmann & von Selasinsky, 2015, p. 359), but it does not contribute to an economic explanation of a "strong performance." Thus, at the level of theory, no integration between the social and economic worlds is provided.

Market actors may prefer to operate in networks characterized by shared goals and values (Hardt & Negri, 2010). On the basis of value concepts, i.e., "co-developed understandings of potential value" (Glossary, 2019, p. 740), actors can determine what they intend to perform for each other (in the network, as part of provider-customer dyads) and which (economic, ethical, cultural, etc.) values guide their performance (Krijnen, 2006). The concept of value promise is related to Hannah Arendt's emphasis on the "human capacity to make and keep promises" (Canovan, 1998, p. xix), because value promises can help address consideration and commitment in economic relationships, making them "islands of predictability" (Canovan, 1998, p. 175). The overview can be improved not only by uncertainty" (ibid.). Networks and B2B relationships may prove to be such "islands."

To increase the overview, not all "market interactions need to be transformed into direct relations between human beings" (Thomasberger & Brie, 2019, p. 175). The overview can be improved not only by what the actors communicate among themselves, but also by examining what knowledge is valued in the networks. This knowledge enables scope for action, which includes scope for responsibility. Insofar as value concepts are performative in that the work on and with them may generate practices and thus social orders in the form of patterns, they can expand the overview in markets or networks. However, the uninsurable risk remains. Even if actors want to, can and do tell each other the truth, misunderstandings can occur. Neither does the overview for market action have to be complete, nor does the incompleteness of the respective overview make responsible action generally impossible.

4.4 Freedom and Ethics

In economics, freedom is usually interpreted as freedom of choice (Sen, 1993; Thomasberger & Brie, 2019). This topic is usually handled in a substantivist scenario characterized by person-good relations. Gravel (2009, p. 172) suggests that approaches dealing with individual freedom against the background of "opportunity sets" involve "the definition of individual freedom in an abstract context where interactions are ignored" (ibid.). Against this backdrop, "the problem of defining … amounts to defining what it means for one opportunity set to offer more freedom than another" (ibid.). If this restriction were lifted, the issue of allocating freedom to different individuals would be at stake. At this point, the overview problem is again up for debate:

> From a formal point of view, introducing interactions in the analysis amounts to recognizing the fact that the final consequences of one's own choice also depend upon the choices made

> by others. This requires one to view an opportunity set as a set of *actions*, and to view each action as a set of all the possible consequences that it could have. The final consequence resulting from the choice of a particular action will, in this perspective, depend upon the choice of action made by others (Gravel, 2009, p. 172).

Freedom of choice, however, is only a means, no end of economic action. Human freedom is the fundamental value from the perspective of Austrian economics, with freedom being equated with the self-realization of the individual. Coordination problems arise from the effort to realize this basic value through market action. In this context, successful market action is not a foregone conclusion. Lachmann (1970) has pointed out that in a dynamic world, a logic of choice cannot overcome economic problems.

Intended consequences of action are connected with the purpose of the action. The classical theory of responsibility assumes that action and consequence of action can be assigned to each other: "The good or evil about which action had to be concerned lay close to the action, either in the *practice* itself or in its immediate reach, and was not a matter of remote planning" (Jonas, 1979, p. 22).[28] Karl Polanyi's and Hayek's approaches to the ethic of responsibility are similar in that both shared Weber's views on the ethic of responsibility in the context of freedom of choice: "One has to give an account of the foreseeable consequences of one's action" (Weber, 1958 [1946], p. 120). At this point, however, it is important to understand that the individual, according to Hayek (1966), cannot foresee the consequences of market processes.

Karl Polanyi developed "his idea of freedom as a critique of the liberal concept of freedom" (Thomasberger & Brie, 2019, p. 171). This concept cannot be clearly assigned to the notions of positive and negative freedom (Berlin, 1969); however, it is definitely associated with seeing the individual as the starting point of moral and political analysis (Dimova-Cookson, 2013 with reference to Flikschuh, 2007). Negative liberty is often understood as means "'leave me alone and don't interfere'" (Collignon, 2018, p. 37) and as opposed to positive liberty, "the freedom to design and choose my own preferences and actions" (ibid.). Dimova-Cookson (2013), in her discussion of Berlin's concepts of positive freedom and negative freedom (Berlin, 1969), argued that both concepts are necessary and both relate to social justice. In her view, "'liberty' is simultaneously an individually and a socially oriented concept" (Dimova-Cookson, 2013, p. 83).

Hayek (1966, p. 617) had summed up "the basic principles of a liberal society," meaning that in "such a society all coercive functions of government must be guided by the overruling importance of what I like to call *The Three Great Negatives: Peace, Justice, and Liberty*" (ibid.).[29] He (ibid., p. 601) distinguishes between two currents of

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[28] „Das Wohl oder Übel, worum das Handeln sich zu kümmern hatte, lag nahe bei der Handlung, entweder in der *Praxis* selbst oder in ihrer unmittelbaren Reichweite und war keine Sache entfernter Planung."

[29] When Hayek uses the word 'justice' in this quote, he is referring to an institutional framework that applies equally to all individual market actors; and when he uses the word 'peace,' he equates the order of free (market) society with the order of peace.

liberalism: one that does not result from theoretical construction but emerged from the positive experience with spontaneous orders in eighteenth-century England, and one that he traces to the "spirit of constructivist rationalism" prevalent in France and associated with Rousseau, Voltaire, and Condorcet.

Perhaps the most important difference between Polanyi's and the Austrian perspective is that Polanyi was interested in the preconditions of responsible action. To the extent these lie in social structures and the transparency of social relations, one objective is "(to) turn market interactions into direct relations between human beings by increasing overview" (Thomasberger & Brie, 2019, p. 175). In this respect, the business relationship can be considered a means to achieve the goal of obtaining or maintaining one's freedom.

Thomasberger and Brie (2019) emphasize the similarity of Polanyi's and Sen's understanding of freedom with respect to the capability approach (Robeyns, 2009). Sen links freedom with development and, overall, advocates a concept of freedom that is closer to positive freedom but also includes elements of negative freedom (Dimova-Cookson, 2013). From an Austrian perspective, Polanyi's understanding of freedom could perhaps be formulated as follows: Every person should be enabled to develop his or her abilities and also to become an entrepreneur. Probably going beyond Polanyi is the following formulation: To exploit people's potential for freedom means, with regard to market activity, to shape market relations in such a way that they enable an overview or that the market becomes an instrument of freedom.

It should be recalled that in Austrian economic theory only individual ends count. This does not exclude that individuals can pursue purposes that correspond to common goods or that individuals commit to sustainability in their plans, for example (Koslowski, 1998). It should also be borne in mind that the achievement of any private good occurs through market coordination and is therefore subject to the usual market uncertainty. The problems that B2B marketing theory addresses go beyond mere coordination problems. As Lachmann (1970, p. 39) pointed out, if each plan serves as a point of orientation for others, then "problems of interaction (friction) or co-operation may arise." At this point, it is necessary to re-emphasize, on the one hand, the difference between coordination and cooperation and, on the other hand, the differences between actors in the context of their respective wills and abilities to perform for each other. Integrativity and co-entrepreneurship require that actors work together. This can (should) include an ethical evaluation of the purposes pursued with the resources to be deployed.

Important landmarks for building cooperation are the attitudes of those involved and agreements on the values that guide joint performance. Interestingly, according to Foss et al. (2018 [2015]), only profitability 'moves' entrepreneurial action. Although, according to Lachmann (1970, p. 38), "points of orientation" or institutions underlie "typical courses of action" (ibid.), the motives of economic actors are historically and culturally contingent. In other words: If companies seek profit and only profit, this is not the result of an ahistorical logic of the market, but a historically determined consequence of the way actors have linked their mindsets to points of orientation or institutions.

5 Organizations Engaged in Organized Interaction

Starting points in Austrian and institutional economics that can influence the understanding of the business relationship are aimed at distinguishing market from organization. This article doubts that the emergence of organizations can be explained by a market-theoretical perspective alone. This view is partially consistent with that of Hayek, who assumed that there are two types of social orders: general rules of behavior underlying the spontaneous order of markets and "organizational rule concerned with the interaction among persons who engage in organized or corporate activities" (Vanberg, 1994, p. 139). Yet, Hayek's view needs to be corrected in two respects: First, the degree of organization that market relations can exhibit; second, that organizations are run on the basis of certain rules does not show how they can come into existence. Koslowski (1991) explains the Austrian market model to large extent; however, what is beyond the scope of the world-1 model is the explanation of the emergence of organizations as well as of organized forms of market interaction (referred to as institutional arrangements by Jacob, 2002 or as market process instances by Haase, 2000).

The *Leistungs* approach advocates a social-theoretical explanation of the firm based on the notion that a firm emerges because a group of initial actors have pooled their resources 'for joint use' and created a common constitution (Coleman, 1979; Haase, 2000; Jacob, 2002; Matiaske, 1999; Vanberg, 1982, 1994). Vanberg (1994, p. 138) argued that the "common constitution is the essential basis of an organization" because submission to procedural rules is "the common denominator that integrates their organizational co-operation" (ibid., p. 136). Vanberg (1994) distinguishes *intra*organizational relations based on the social contract from market relations based on the exchange contract. The organization receives its constitutional character from its assignment to the social-contract category.

Against this background, the most important difference between the organization and the business relationship is not the permanence (in case of the organization) or the comparatively short-term nature (in case of the business relationship) of the pool investment but that interorganizational relationships are 'non-constitutional' in that their interactions do not create a new organizational actor determined by a constitution and the delegation of decision-making rights over pooled resources from the group of original investors to paid managers.

5.1 Austrian Ontologies

Three aspects of the Austrian explanation of the firm are remarkable: First, the part played by resources. The idea of value co-creation prevalent in services marketing studies refers to the interest of market actors in the resources of other parties. These resources are means for the achievement of the actors' ends; uncertainty concerning the attributes of these resources and actors' engagement in learning processes about these

attributes is essential to the understanding of business relationships and the emergence of patterns and social order. Entrepreneurs discover the attributes of heterogeneous capital goods "step by step" through their usage. For the knowledge required for entrepreneurial judgment cannot be gained through market exchange, from the Austrian perspective it needs a firm to cope with all this (Foss et al., 2018 [2015]).

Second, knowledge and judgment are the source for intertemporal and interorganizational dynamics (Lachmann, 1959). Resources are not allocated through an anonymous mechanism as in the neoclassical model (world 0); instead, allocation is based on interaction and cooperation. The Austrian theory of organization flanks the role of information exchange through the price mechanism by the requirement of individual-subjective learning processes and the making of judgments in multi-person organizations.

Third, there is no market solution to Knightean uncertainty and entrepreneurial judgment. Resource-based learning processes and their assessment are subjective in nature, and communications of assessments or judgments maintain this subjectivity. The overview problem here reappears at both intra- and inter-organizational levels but there is no market solution to it, for "thoroughgoing subjectivism as assumed by modern Austrian capital theory, costs of moral hazard or of trying to communicate entrepreneurial judgments close markets for judgments, for the same reason that judgment is uninsurable" (Foss et al., 2018 [2015], p. 14).

The Austrian ontology so far includes only individuals, markets, organizations, and intra-organizational interactions but no organized business relationships. Lachmann's analysis, which involves individuals and groups, is applicable to groups within organizations such as buying or usage centers, but it is not an approach to organization theory. B2B relationships are neither organizations nor markets, but have characteristics of both entities.

5.2 Transaction Cost Reflections

Institutions are, as North (2000) has put it, a human-made structure imposed on human interactions to control transaction costs. Allen (2021) refers to the Coase theorem by emphasizing that it was Coase's core idea that social arrangements are established through the distribution of property rights. In a zero-transaction cost world *0*, the distribution of property rights is not likely to become a factor structuring the socioeconomic world. Zero-transaction cost models, such as the neoclassical model, "cannot be used for understanding organizations and institutions" (Allen, 2021, p. 248). In a zero-transaction cost world *1*, the distribution of property rights does not matter as well. Although relationships can emerge in this world, e.g., as a consequence of utility-oriented choices, relationality is not an essential condition for the social fabric. If the market is conceived of as being constituted by myriads of monads, there is no reason why the monads will not engage in new search processes after each interaction. As long as no actor wants to change his or her action intentions, a local equilibrium has been achieved. In transaction cost worlds, ceteris paribus, actors will compare transactions based on the "cost of

using the price mechanism" (Coase, 1937, p. 390) associated with each alternative. Commons's analysis reflects the alternatives to a given relationship and that relationships are not always positively assessed.[30]

Coase (1937) held an entity view of the organization that does not equate it with a "collection of transactions" (Allen, 2021, p. 247). Coase (2000) distinguishes between coordination costs, which are attributable to the firm, and transaction costs, which are costs of the market process (see Allen, 2021). Even if one equates these costs of coordination with transaction costs, this neither explains how the organization comes into being nor what distinguishes it from other forms of organized interaction. While world-2 transaction cost comparisons can motivate actors to adapt the level of organization, i.e. can lead to the establishment of a collective actor, the coordination of interorganizational cooperation in form of business relationships falls through the cracks of Coasean economics.

5.3 Organizationality and Business Relationship

Vanberg (1994) discusses organizations and markets as independent forms of social organization. The business relationship is then understood as one among the various 'impure' forms of social organization, exhibiting characteristics associated with both markets and organizations. The business relationship is a special form of social relationship formed by (at least) two organizations. It is neither an organization nor a spontaneous order. However, a social ontology characterized by extremes has problems to cope with what is located 'in between' the extremes.

This article doubts that the respective ends of a continuum (here: markets and organizations) can grasp what lies 'in between' them (here: the business relationship) if they are considered ontologically prior compared with what lies 'in between.' This is the case when the characteristics of the business relationship are traced back to those of markets and organizations. In contrast, 'organizationality' means that the identification of business relationships does not depend on the relationship being located between two extreme cases: "We propose to use the term 'organizationality' that allows us to switch from the binary classification of social collectives as either organizations or non-organizations to a more gradual differentiation" (Dobusch & Schoeneborn, 2015, p. 1006).

B2B relationships, while not organizations, extend market-oriented coordination and can exhibit organizationality (Dobusch & Schoeneborn, 2015). Business relationships may well have features of markets and organizations, but are not reliant on markets or

[30] As Gindis (2021, S. 182) points out, using the word 'transaction' for 'relationship,' "at least two" means "at least five": "Commons significant insight was that a transaction involves not two but a minimum of five interacting parties. In addition to the two actual transactors, there are always at least two potential transactors whose presence defines the opportunity costs of the transaction and affects the power the actual transactors can exercise over each other."

organizations existing, nor on them being the ends of a continuum. Organizationality is a feature independent of the market-organization distinction, and is presumably applicable to numerous forms of social interaction. However, 'organizationality' does not mean that the 'substantialist' organization in economic theories becomes superfluous. Quite the contrary. Compared to an economic world populated only by markets and market actors, arriving at this view was once a significant advance. It was a major advance for economics to recognize the "ubiquity of organizations" (Simon, 1991, p. 27).[31] In addition, that organizations are not explained exclusively with reference to market categories (Vanberg, 1994), is also progress. However, this progress has not created a conceptual framework that can explain organized market structures.

6 Conclusions

This article referred to institutional economics, Austrian economics, and the *Leistungs* approach to compare analytical frameworks with regard to their capacity to contribute to the understanding of the business relationship. In line with this procedure, what B2B relationships are depends on the theoretical perspective chosen to analyze them. From the perspective of institutional economics, the B2B relationship is an institutionally regulated, non-constitutional way of organizing the process of resource-based and value-oriented human or organizational collaborative processes and their outcomes. From an Austrian point of view, the business relationship, if it were an object of study, is a kind of experimental activity involving a learning process through resource usage. The problems that determine the Austrian theory of entrepreneurship are similar to those which concern the *Leistungs* approach including the assessment of resources in the course of resource usage. The experiences made throughout the resource usage process reduce the actors' uncertainty about not only the other parties' behavior, willingness, and faculty but also about the attributes of the assets invested by them. According to the *Leistungs* approach, a common resource pool emerges together with the relationship. This is the *Leistungs* approach's interpretation of the non-pennilessness of Austrian co-entrepreneurs. Looked at another way: it is also a starting point to integrate integrativity into the Austrian theory of the firm.

Austrian world-1 theory made valuable contributions to the analysis of the business relationship based on the study of the market process. Of particular note here is Knightian uncertainty and Hayekian knowledge allocation. However, the exchange perspective cannot cover important topics of interest for B2B marketing research. Pure Austrian market models, i.e., models that do not analyze organized market interaction, are limited in their importance for B2B marketing theory. From the perspective of the *Leistungs*

[31] Simon (1991, S. 25) has pointed out the absurdity of economic theories that are only able to detect market phenomena in the world: "A large part of the behavior of the system now takes place inside the skins of firms, and does not consist just of market exchanges."

approach, integrativity and value (co-)creation are topics overlooked by the economic theories of the firm. The Austrian theory of organization overlooks the fact that resources of customers are the subject of learning processes and judgment as well. Although the Austrian perspective can be adapted to include integrativity, it does not address the organized nature of B2B relationships. In light of socialist planning, the recognition of organized market interaction could be understood as a contradiction to the social-theoretical foundation of (some strands of) Austrian economics.

It is important to understand that solutions to the overview problem are not limited to market exchanges. Nor are they limited to intra-organizational processes. Value orientations encompass all values related to the activities and outcomes of individuals and organizations. In this article, the overview problem is linked to ethics and value orientations, and thus to the coordination problem. Value orientations, along with transaction costs and knowledge allocation, are a crucial determinant of the level of organization in markets.

Ultimately, it is assumed that relevant forms of social order are created by organization. This is not a new insight, unless one considers that markets, organizations, and business relationships (to stick to the forms of social organization addressed in this article) are decided social orders although they can be "more organized, less organized and differently organized" (Ahrne et al., 2015, p. 8). Moreover, the concept of organizationality used here does not presuppose an 'entity view' of markets and organizations. In other words: Organizationality could exist even if there were no markets and organizations. At this point relationality and organizationality can coincide. But this article does not go that far. It assumes that markets, organizations, and business relations are different forms of organized social interaction or organized entities.

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References

Ahrne, G., Aspers, P., & Brunsson, N. (2015). The organization of markets. *Organization Studies, 36*(1), 7–27.

Ahrne, G., Brunsson, N., & Seidl, D. (2016). Resurrecting organization by going beyond organizations. *European Management Journal, 34*(2), 93–101.

Akalan, R. (2021). Business solutions in the B2B world – A systematic literature review. *Journal of Service Management Research, 5*(3), 176–195.

Allen, D. W. (2021). Review of Massimiliano Vatiero's the theory of transaction in institutional economics: A history. *Erasmus Journal for the Philosophy of Economics, 14*(1), 246–250.

Barroso-Méndez, M. J., Galera-Casquet, C., & Valero-Amaro, V. (2015). Proposal of a social alliance success model from a relationship marketing perspective: A meta-analytical study of the theoretical foundations. *Business Research Quarterly, 18*(3), 188–203.

Berlin, I. (1969). *Four essays on liberty*. Oxford University Press.

Boettke, P., & Coyne, C. J. (2018 [2015]). Introduction: Austrian economics as a progressive research program in the social sciences. In C. J. Coyne & P. Boettke (Eds), *The Oxford hand-*

book of Austrian economics (pp. 1–11). Oxford University Press 2015, Oxford Handbooks Online 2018. https://doi.org/10.1093/oxfordhb/9780199811762.013.1.

Bylund, P. L. (2021). Introduction to the special issue on the centenary of Frank H. Knight's risk, uncertainty, and profit. *Journal of Institutional Economics, 17*(SI6), 877–881.

Canovan, M. (1998). Introduction. In H. Arendt (Ed.), *The human condition, second edition, with an Introduction by Margaret Caravan* (pp. vii–xx). The University of Chicago Press.

Cantó-Milà, N. (2016). Mainstreaming relational sociology – Relational analysis of culture in Digithum. Theory, the newsletter of the research committee on sociological theory, INTERNATIONAL SOCIOLOGICAL ASSOCIATION, Summer 2016, 12–14 advance online publication 24 November. https://www.isa-sociology.org/uploads/files/rc16newsletter_summer_2016.pdf. Accessed 1 Feb 2022.

Coase, R. (1937). The nature of the firm. *Economica, 4*(16), 386–405.

Coase, R. H. (1988). *The firm, the market, and the law*. University of Chicago Press.

Coase, R. H. (2000) The new institutional economics. In C. Ménard (Ed.), *Institutions, contracts and organizations: Perspectives from new institutional economics* (pp. 3–6). Edward Elgar.

Coleman, J. S. (1979). *Macht und Gesellschaftsstruktur.* J.C.B. Mohr (Paul Siebeck).

Collignon, S. (2018). Negative and positive liberty and the freedom to choose in Isaiah Berlin and Jean-Jacques Rousseau. *The Journal of Philosophical Economics: Reflections on Economic and Social Issues XI, I*(1), 36–64.

Commons, J. R. (1931). Institutional economics. *The American Economic Review, 21*(4), 648–657.

Cotterrell, R. (2013). Classical social theory and ideas of responsibility and the state in France and Germany (August 26, 2013). Published in Comparative Law Review (Nicolaus Copernicus University, Toruń, Poland), Vol. 15, 2013, Queen Mary School of Law Legal Studies Research Paper No. 154/2013, Available at SSRN: https://ssrn.com/abstract=2315959.

Day, G. S. (2011). Closing the marketing capabilities gap. *Journal of Marketing, 75*(4), 183–195.

Dimova-Cookson, M. (2013). Defending Isaiah Berlin's Distinctions between negative and positive freedoms. In B. Baum & R. Nichels (Eds.), *Isaiah and the politics of freedom: "Two concepts of liberty" 50 years later* (pp. 73–86). Routledge.

Dobusch, L., & Schoeneborn, D. (2015). Fluidity, identity, and organizationality: The communicative constitution of anonymous. *Journal of Management Studies, 52*(8), 1005–1035.

Dold, M., & Stanton, A. (2021). I choose for myself, therefore I am: The contours of existentialist behavioral economics. *Erasmus Journal for Philosophy and Economics, 14*(1), 1–29.

Eggert, A., Ulaga, W., & Gehring, A. (2020). Managing customer success in business markets: Conceptual foundation and practical application. *Journal of Service Management Research, 4*(2–3), 121–132.

Ehret, M. (2015). Die Verteilung unternehmerischer Rollen in der Leistungserstellung – Eine Entrepreneurship-Perspektive. In S. Fließ, M. Haase, F. Jacob, & M. Ehret (Eds.), *Kundenintegration und Leistungslehre: Integrative Wertschöpfung in Dienstleistungen, Solutions und Entrepreneurship, Festschrift für Michael Kleinaltenkamp* (pp. 429–443). Springer Gabler.

Ehret, M., & Haase, M. (2012). The common ground of relationships and exchange. *Journal of Business & Industrial Marketing, 27*(6), 447–455.

Eicholz, H. L. (2017). Ludwig M. Lachmann: Last member of the German Historical School. *Journal of Contextual Economics, 137*(3), 227–260.

Emirbayer, M. (1997). Manifesto for a relational sociology. *The American Journal of Sociology, 103*(2), 281–317.

Emmet, R. B. (2021). Uncertainty and the social organization of economic activity. *Journal of Institutional Economics, 17*(SI6), 883–895.

Engelhardt, W. H. (1995). Von der Theorie des organisationalen Beschaffungs- zur Theorie des Transaktionsverhaltens auf Investitionsgütermärkten. In M. Kleinaltenkamp & K. Schubert

(Eds.), *Netzwerkansätze im Business-to-Business-Marketing: Beschaffung, Absatz und Implementierung Neuer Technologien* (pp. 3–7). Gabler.

Engelhardt, W. H., & Freiling, J. (1995). Die Bedeutung der Integrativität für das Marketing: Ein Überblick anhand ausgewählter theoretischer und anwendungsbezogener Aspekte. *Marketing ZFP, 1,* 48–55.

Flikschuh, K. (2007). *Freedom: Contemporary liberal perspectives*. Polity Press.

Foss, N. J., Klein, P., & Linder, S. (2018 [2015]). Organizations and markets. In C.J. Coyne & P. Boettke (Eds.), *The Oxford handbook of Austrian economics* (pp. 1–28). Oxford University Press 2015, Oxford Handbooks Online 2018. https://doi.org/10.1093/oxfordhb/9780199811762.013.12.

Foss, N. J., McCaffrey, M. C., & Dorobat, C.-E. (2021) "When Henry met Fritz": Rules as organizational frameworks for emergent strategy processes. *Journal of Management Inquiry*. https://doi.org/10.1177/10564926211031290.

Geiger, I., Lefaix-Durand, A., Saab, S., Kleinaltenkamp, M., Baxter, R., & Lee, Y. (2012). The bonding effects of relationship value and switching costs in industrial buyer-seller relationships: An investigation into role differences. *Industrial Marketing Management, 41*(1), 82–93.

Gifford, A., Jr. (1991). A constitutional interpretation of the firm. *Public Choice, 68*(1–3), 91–106.

Gindis, D. (2021) Book review: The theory of transaction in institutional economics: A history by Massimiliano Vatiero. *History of Political Economy,* 181–186. https://read.dukeupress.edu/hope/article-abstract/doi/10.1215/00182702-9548386/283011/The-Theory-of-Transaction-in-Institutional?redirectedFrom=fulltext.

Glossar. (2019). Value proposition. In S. L. Vargo & R. F. Lusch (Eds.), *The SAGE handbook of service-dominant logic* (p. 740). SAGE.

Haase, M., & Kleinaltenkamp, M. (2011). Property rights design and market process: Implications for market theory, marketing theory, and S-D logic. *Journal of Macromarketing, 31*(2), 148–159.

Goffman, E. (1972). *Relations in public*. Harper and Row.

Gravel, N. (2009). Freedom. In J. Peil & I. van Staveren (Eds.), *Handbook of economics and ethics* (pp. 167–174). Edward Elgar.

Gulati, R., Wohlgezogen, F., & Zhelyazkov, P. (2012). The two faces of collaboration: Cooperation and coordination. *The Academy of Management Annals, 6*(1), 531–583.

Haase, M. (2000). *Institutionenökonomische Betriebswirtschaftstheorie: Allgemeine Betriebswirtschaftslehre auf sozial- und institutionentheoretischer Grundlage*. DUV Gabler.

Haase, M., & Becker, I. (2021). Resource making and proto-institutions in context: The example of the German Tafel system. *Journal of Contextual Economics, 140*(1), 31–63.

Hanson, N. R. (1958). *Patterns of discovery. An inquiry into the conceptual foundations of science*. Cambridge University Press.

Hardt, M., & Negri, A. (2010). *Common Wealth: Das Ende des Eigentums*. Campus.

Hayek, F. A. (1937). Economics and knowledge. *Economica, 4*(13), 149–164.

Hayek, F. A. (1945). The use of knowledge in society. *American Economic Review, 35*(4), 519–530.

Hayek, F. A. (1966). The principles of a liberal social order. *Il Politico, 31*(4), 601–618.

Hermann, A. (2018). The decline of the 'original institutional economics' in the Post-World War II Period and the perspectives of today. *Economic Thought, 7*(1), 63–86.

Hodgson, G. (1998). The approach of institutional economics. *Journal of Economic Literature, 36*(1), 166–192.

Jacob, F. (2002). *Geschäftsbeziehungen und die Institutionen des marktlichen Austauschs*. DUV.

Jacob, F. (2015). Das Lösungsgeschäft aus Kundensicht. In S. Fließ, M. Haase, F. Jacob, & M. Ehret (Eds.), *Kundenintegration und Leistungslehre: Integrative Wertschöpfung in Dienstleis-*

tungen, Solutions und Entrepreneurship, Festschrift für Michael Kleinaltenkamp (pp. 341–354). Springer Gabler.
Johansen, L. (1981). Interaction in economic theory. *Economie Apliquée, 34*(2–3), 229–267.
Kauder, E. (1962). Aus Mengers Nachgelassenen Papieren. *Weltwirtschaftliches Archiv, 89,* 1–28.
Kleinaltenkamp, M. (2019a). Institutions and institutional arrangements. In S. L. Vargo & R. F. Lusch (Eds.), *The SAGE handbook of service-dominant logic* (pp. 261–263). SAGE.
Kleinaltenkamp, M. (2019b). Institutions and institutionalization. In S. L. Vargo & R. F. Lusch (Eds.), *The SAGE handbook of service-dominant logic* (pp. 265–283). SAGE.
Kleinaltenkamp, M., & Jacob, F. (1998). Marktdynamik und Marketingforschung im Business-to-Business-Bereich. In B. Erichson & L. Hildebrand (Eds.), *Probleme und Trends in der Marketingforschung* (pp. 235–259). C.E. Poeschel.
Kleinaltenkamp, M., & Jacob, F. (2002). German approaches to business-to-business marketing theory: Origins and structure. *Journal of Business Research, 55,* 149–155.
Kleinaltenkamp, M., Plewa, C., Gudergan, S., Karpen, I. O., & Chen, T. (2017). Usage center – Value cocreation in multi-actor usage processes. *Journal of Service Theory and Practice, 27*(4), 721–737.
Kleinaltenkamp, M., Corsaro, D., & Sebastini, R. (2018). The role of proto-institutions within the change of service-systems. *Journal of Service Theory and Practice, 28*(5), 609–635.
Knight, F. H. (1921). *Risk, uncertainty and profit*. Houghton Mifflin Company.
Koslowski, P. (1991). *Gesellschaftliche Koordination: Eine ontologische und kulturwissenschaftliche Theorie der Marktwirtschaft.* J.C.B. Mohr (Paul Siebeck).
Koslowski, P. (1998). *Ethik des Kapitalismus, mit einem Kommentar von James M. Buchanan*. Mohr Siebeck.
Krijnen, C. (2006). Wert. In M. Düwell, C. Hübenthal, & M. H. Werner (Eds.), *Handbuch Ethik* (pp. 548–553). J.B. Metzler.
Lachmann, L. M. (1959). Professor Shackle on the economic significance of time. *Metroeconomics X, I*(1–2), 64–73.
Lachmann, L. M. (1970). *The legacy of Max Weber*. Heinemann.
Lewin, P., & Baetjer Jr., H. (2018 [2015]). The capital-using economy. In C. J. Coyne & P. Boettke (Eds.), *The Oxford handbook of Austrian economics* (pp. 1–20). Oxford University Press 2015, Oxford Handbooks Online 2018. https://doi.org/10.1093/oxfordhb/9780199811762.013.7.
Lusch, R. F., & Vargo, S. L. (2014). *Service-dominant logic: Premises, perspectives, possibilities*. Cambridge University Press.
Macneil, I. (2001). *The relational contract theory: Selected works of Ian Macneil, ed. by D. Campbell.* Sweet & Maxwell.
Matiaske, W. (1999). *Soziales Kapital in Organisationen: Eine tauschtheoretische Perspektive*. Rainer Hampp.
McCloskey, D. N. (2019). Lachmann practiced humanomics, beyond the dogma of behaviorism. *The Review of Austrian Economics, 32*(1), 47–61.
McColl-Kennedy, J. R., & Cheung, L. (2019). Value cocreation: Conceptualizations, origins, and developments. In S. L. Vargo & R. F. Lusch (Eds.), *The SAGE handbook of service-dominant logic* (pp. 63–79). SAGE.
Mutch, A., Delbridge, R., & Ventresca, M. (2006). Situating organizational action: The relational sociology of organizations. *Organization, 13*(5), 607–625.
North, D. C. (2000). A revolution in economics. In C. Ménard (Ed.), *Institutions, contracts and organizations: Perspectives from new institutional economics* (pp. 37–47). Edward Elgar.
O'Neill, J. (1996). Who won the socialist calculation debate? *History of Political Thought, 17*(3), 431–442.

Payne, A. F., Frow, P., & Eggert, A. (2017). The customer value proposition: Evolution, development, and application in marketing. *Journal of the Academy of Marketing Science, 45*(4), 467–489.

Plinke, W. (1989). Die Geschäftsbeziehung als Investition. In G. Specht, G. Silberer, & W. H. Endelhardt (Eds.), *Marketing-Schnittstellen: Herausforderung für das Management* (pp. 305–325). C.E. Poeschel.

Polanyi, K. (2006). Letter to a friend. In K. Polanyi Levitt & K. McRobbie (Eds.), *Karl Polanyi in Vienna* (pp. 316–318). Black Rose Books.

Prandini, R. (2015). Relational sociology: A well-defined sociological paradigm or challenging 'relational turn' in sociology? *International Review of Sociology, 25*(1), 1–14.

Robbins, L. (1935). *An essay on the nature and significance of economic science*. MacMillan and Co.

Robeyns, I. (2009). Capability approach. In J. Peil & I. van Staveren (Eds.), *Handbook of economics and ethics* (pp. 39–46). Edward Elgar.

Rutherford, M. (1996). *Institutions in economics: The old and the new institutionalism*. Cambridge University Press.

Schubert, K. (1994). Netzwerke und Netzwerkansätze: Leistungen und Grenzen eines sozialwissenschaftlichen Konzepts. In M. Kleinaltenkamp & K. Schubert (Eds.), *Netzwerkansätze im Business-to-Business-Marketing: Beschaffung, Absatz und Implementierung Neuer Technologien* (pp. 8–49). Gabler.

Schubert, C. (2005). Hayek and the evolution of designed institutions: A critical assessment. In J. Backhaus (Ed.), *Entrepreneurship, money and coordination: Hayek's theory of cultural evolution* (pp. 107–130). Edward Elgar.

Schütz, A., & Luckmann, T. (1979). *Strukturen der Lebenswelt* (Vol. 1). Suhrkamp.

Sen, A. (1993). Markets and freedoms: Achievements and limitations of the market mechanism in promoting individual freedoms. *Oxford Economic Papers, 45*(4), 519–541.

Shackle, G. L. S. (1958). *Time in economics*. North Holland Publishing Co.

Shackle, G. L. S. (1972). *Epistemics & economics: A critique of economic doctrines*. At the University Press.

Sichtmann, C., & von Selasinsky, M. (2015). Internationalization of product-related services: The role of relationship marketing. In S. Fließ, M. Haase, F. Jacob, & M. Ehret (Eds.), *Kundenintegration und Leistungslehre: Integrative Wertschöpfung in Dienstleistungen, Solutions und Entrepreneurship, Festschrift für Michael Kleinaltenkamp* (pp. 355–368). SpringerGabler.

Simon, H. A. (1991). Organizations and markets. *Journal of Economic Perspectives, 5*(2), 25–44.

Somers, M., & Gibson, G. D. (1994). Reclaiming the epistemological ‚other': Narrative and the social constitution of identity. In C. Calhoun (Ed.), *Social theory and the politics of identity* (pp. 37–99). Blackwell.

Sprich, C. (2008). *Hayeks Kritik an der Rationalitätsannahme und seine alternative Konzeption: Die Sensory Order im Lichte anderer Erkenntnistheorien*. Metropolis.

Storr, V. H. (2010). Schütz on objectivity and spontaneous orders. *Schutzian Research, 2*(2010), 163–179. Available at SSRN: https://ssrn.com/abstract=2203000.

Thomasberger, C., & Brie, M. (2019). Karl Polanyi's search for freedom in a complex society. *Österreichische Zeitschrift Für Soziologie, 44*(2), 169–182.

Ulaga, W., & Reinartz, W. J. (2011). Hybrid offerings: How manufacturing firms combine goods and services successfully. *Journal of Marketing, 75*(6), 5–23.

Vanberg, V. J. (1982). *Markt und Organisation: Individualistische Sozialtheorie und das Problem korporativen Handelns*. J.C.B. Mohr (Paul Siebeck).

Vanberg, V. J. (1994). *Rules and choice in economics*. Routledge.

Weber, M. (1958 [1946]). Politics as a vocation. In H. H. Gerth & C. W. Mills (Eds.), *From Max Weber: Essays in sociology* (pp. 77–128). Oxford University Press.

Weber, M. (1973 [1904]). Die ‚Objektivität' sozialwissenschaftlicher und sozialpolitischer Erkenntnis. In M. Weber (Ed.), *Gesammelte Aufsätze zur Wissenschaftslehre* (pp. 146–214). J. C. B. Mohr (Paul Siebeck).

Wieland, J. (1998). Kooperationsökonomie. Die Ökonomie der Diversität, Abhängigkeit und Atmosphäre. In G. Wegner (Ed.), *Formelle und informelle Institutionen: Genese, Interaktion und Wandel* (pp. 9–33). Metropolis.

Williams, B. (1985). *Ethics and the limits of philosophy*. Harvard University Press.

Williamson, O. E. (1985). *The economic institutions of capitalism*. Free Press.

Wooten, M., & Hoffman, A. J. (2017). Organizational fields: Past, present and future. In R. Greenwood, C. Oliver, T. B. Lawrence, & R. E. Meyer (Eds.), *SAGE handbook of organizational institutionalism* (pp. 55–74). SAGE.

Zajac, E. J., & Olsen, C. P. (1993). From transaction cost to transaction value analysis: Implications for the study of interorganizational strategies. *Journal of Management Studies, 30*(1), 131–145.

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Bringing Industrial Software to Market: Managerial Challenges and an Agenda for Future Research

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Abstract

Industrial manufacturers are increasingly developing and marketing industrial software systems (ISS) in addition to their traditional hardware-based products. ISS are complex market offerings with a software core complemented by services that enable industrial customers to increase the efficiency and effectiveness of their value creation processes through connectivity, data, and automation. When bringing ISS to market, manufacturers often face serious roadblocks. Our research sheds light on these roadblocks and develops an agenda for future research. This study conceptualizes ISS based on focus group discussions with top-level and senior managers as well as additional desk and literature research. As a result, this study carves out ISS research priorities, spanning the five areas of (1) marketing strategy, (2) marketing organization,

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(3) innovation, (4) sales, and (5) customer behavior. Overall, this paper is the first to conceptualize ISS, to position its concept in the marketing literature, and to propose an agenda for future research.

1 Introduction

It is our belief that every industrial company in the coming age is also gonna have to be a software and analytics company. Jeff Immelt (CEO General Electric 2001–2017)

Challenged by fierce competition and accelerating advancements in information technology, industrial firms are increasingly commercializing innovative market offerings from the digital realm (Allmendinger & Lombreglia, 2005; Kohtamäki et al., 2019; Liozu & Ulaga, 2018; Valencia et al., 2015). Manufacturers like Boeing (AnalytX), General Electric (Predix), Johnson Controls (Digital Vault), and Schneider Electric (EcoStruxure) have introduced *industrial software systems* (ISS) consisting of a software core complemented by services that enable industrial customers to increase the efficiency and effectiveness of their value creation processes through connectivity, data, and automation (see further examples in Table 1).

However, manufacturers often struggle when bringing ISS to market and top management's digital ambitions frequently fail to translate into targeted bottom line results. Despite their experience in marketing high-technology products, goods-centric firms often lack the capabilities for commercializing ISS. Take, for example, General Electric's *Predix*, a cloud-based ISS for the collection and analysis of industrial data. After redefining its digital business in 2016, General Electric projected revenues from software to be $12 billion by 2020, but growth proved sluggish with marginal increases from $3.6 billion in 2016 to $3.9 billion in 2018 (GE, 2021; Mann and Gryta, 2020; Venkatraman, 2017).

Academic literature has remained largely silent regarding the unique roadblocks manufacturing firms face when bringing ISS to market. Prior literature has provided substantial insights on the marketing of new products (e.g., Howell et al., 2005), industrial services (e.g., Eggert et al., 2011), solutions (Macdonald et al., 2016; Tuli et al., 2007), and smart product–service systems (e.g., Chowdhury et al., 2018; Lerch & Gotsch, 2015). However, we argue that ISS are conceptually distinct from the aforementioned market offerings. First, ISS function like an operating system for customers' business processes, orchestrating value creation processes across the firm. Second, due to increasingly digitalized supply chains (Ageron et al., 2020; Garay-Rondero et al., 2019) ISS transcend customers' organizations and may impact cooperating companies. Third, as a consequence of the first two characteristics, customers face substantial path dependencies when implementing an ISS and suppliers are confronted with unique challenges when marketing and selling ISS.

Table 1 Examples of ISS

Company description	ISS	Application
ABB operates in robotics, power, heavy electrical equipment, and automation technology	Asset and workforce management	Helps managers to, among other things, increases resource utilization and equipment reliability, improves management of people as well as their skills and tasks, and optimizes complex maintenance tasks
Boeing designs, manufactures and sells civil and military aerospace products worldwide	AnalytX	Offers three categories of analytics, namely, a set of analytics enabled software applications, consulting services, and self-service analytics
Bosch building technologies is part of the German engineering company operating in various industries	Connected Buildings	Offers applications and services in the areas of elevator monitoring, space management, light monitoring, air quality monitoring
Daimler Trucks is the brand under which the German automotive corporation sells trucks	Fleetboard Driver	Reports time management and tracks deployment analysis in order to motivate truck drivers
Deere & Company is an American manufacturer of, among other things, agricultural, construction, and forestry machinery	MyJohnDeere	This software-based offering, among other things, gathers equipment data via sensors, and shows availability across systems
GE operates in nine industry sectors, among others, the renewable energy sector	Digital Plan of the Day	Schedules work orders, considers parameters like power price, labor cost, overtime, production forecast (based on wind speed), turbine status, and tasks priorities, and depicts crew availabilities
Honeywell is an American conglomerate which offers, among other things, engineering services and aerospace systems	Symphonite (Integration and Analytics)	Combines information from multiple sources into a single unified repository to, among other things, keep track of progress and as a common source of data

(continued)

Table 1 (continued)

Company description	ISS	Application
Johnson Controls is an multinational conglomerate that produces fire, HVAC, and security equipment for buildings-	Johnson Controls Digital Vault	Integrates data from a wide range of internal and external sources to help you make sense of your entire building: energy usage, security breaches, equipment performance, and space utilization
Mitsubishi Heavy Industries is a Japanese engineering, electrical equipment and electronics company. Its offerings include, e.g., aerospace and automotive components, power generation equipment, machine tools and more	Electronic Road Pricing system	Provides a technology platform that uses global navigation technology to better manage traffic congestion, while developing useful value-added services
Schneider Electric is a French corporation operating in energy management, industrial automation, and industrial services	EcoStruxure Machine Expert	Software solution for developing, configuring, and commissioning the entire machine in a single software environment, including logic control, motion control, remote IO systems, safety control, motor control, and related network automation functions

Sources: Company websites

Learning how to market ISS to industrial customers is a pivotal task on the manufacturers' journey toward digitization. Against this backdrop, we develop and discuss a research agenda aimed at advancing managerial practice and academic knowledge on marketing ISS. To that end, we guided two focus groups with senior and top-level managers from leading manufacturing firms and carved out 12 research priorities within the five topic areas of (1) marketing strategy, (2) marketing organization, (3) innovation, (4) sales, and (5) customer behavior.

Our conceptual and qualitative research makes several contributions to academic research and managerial practice. For academic research, our study conceptualizes and positions ISS in the literature on digitalization in industrial markets (e.g., Ardolino et al., 2018; Chowdhury et al., 2018; lansiti & Lakhani, 2014; Porter & Heppelmann, 2015; Suppatvech et al., 2019). Our study thereby lays the foundation for an academic inquiry of ISS and provides the first insights derived from our qualitative study. For managerial practice, our study identifies the characteristics of ISS and their corresponding marketing challenges. Our study also provides guidance on how to deal with these challenges when bringing ISS to industrial markets.

The remainder of this article is structured as follows. We first conceptualize ISS and position the concept in the extant academic literature. Next, we describe our focus group studies used to identify ISS research priorities. Finally, we develop a research agenda and discuss managerial implications.

2 Conceptualizing ISS

2.1 Theoretical Grounding of ISS

From a theoretical perspective, an ISS is a *system* which connects various elements and processes in a customer firm's value chain, such as production machines, storage systems, and billing and controlling procedures. As such, implementing an ISS entails far-reaching consequences for customers in three ways: (1) ISS impact and determine customer's business processes; (2) as ISS orchestrate increasingly digitized supply chains, their influence transcends the customer's organization and may impact cooperating companies; (3) customers opting to purchase an ISS enter substantial path dependencies. We expand on each of these aspects in the following.

First, ISS act as an operating system for customers' business processes, orchestrating the value creation processes of previously isolated building blocks. Specifically, ISS connect both physical elements (e.g., machinery with storage equipment) and non-physical elements (e.g., purchasing or workforce scheduling processes) with each other, turning these elements into a fine-tuned system promoting each other's usage. To accomplish such connections, customers need to make far-reaching changes to their operations, such as connecting ISS with their existing equipment, designing an integrated workflow, and educating their staff to use the ISS (Ghobakhloo, 2020).

Example

For example, *Hitachi ABB*'s *asset and work management* connects assets to manage their usage more efficiently while also connecting different teams to foster collaboration (Hitachi ABB, 2021). Customers using this ISS need to connect it to their power plants and equipment to gain the necessary data, integrate ISS into performance engineering processes, and ensure that their staff consistently communicates and shares information via the ISS within the organization. In contrast, traditional industrial offerings typically do not *orchestrate* value creation but create value as an inherent part of customers' business processes. For example, a customer buying a machine to weld metal will integrate that particular offering, i.e. the welding machine itself, within a larger production process of which welding is only one of several consecutive steps. ◀

Second, as intertwined supply chains are becoming increasingly digital (Deloitte, 2018; Salvini et al., 2020), the impact of an ISS frequently transcends the customer's organization. ISS often include interfaces for customers' downstream customers, thus placing ISS at the critical intersection between companies' boundaries. For a customer purchasing an ISS, this entails high coordination efforts to connect partnering companies to the system. This coordination comprises, for example, informing partnering companies of the ISS, convincing them to join, ensuring their system access, establishing joint transaction processes, and providing IT support (Ageron et al., 2020; Ghobakhloo, 2020; Voigt et al., 2019). Once implemented, decreased transaction costs may pay off the initial effort.

Example

An example is Honeywell's *Symphonite,* which improves supply chain and production management processes (Honeywell, 2021). In contrast, traditional industrial offerings typically do not transcend the customer's company borders. Take the example of GE's *power by the hour,* which allows customers to pay for jet engine usage per hour (Girotra & Netessine, 2011), yet it does not impact supply chains beyond the focal customer firm. ◀

Third, as a consequence of the two previous points, customers enter substantial path dependencies when implementing an ISS. These path dependencies arise out of two cost considerations by customers. For one, the implementation of an ISS requires substantial effort by a customer, as an ISS alters value chain processes with far-reaching consequences even on the customer's supply chain. Consequently, the decision to undertake the implementation effort for an ISS often manifests in a lock-in for customers. To illustrate, consider Schneider Electric's *EcoStruxure Machine Expert,* which provides a software environment for the development, configuration, and commissioning of machines (Schneider Electric, 2021). Once customer employees are trained on this ISS and operational processes run smoothly, customers' switching costs are high. For two, this lock-in will likely manifest itself in subsequent purchases of both software (e.g., user licenses, upgrades) and hardware from the supplier of the ISS. As to the latter, the ISS supplier's hardware might be easier to connect to the ISS, thus ensuring that operations continue to run smoothly when integrating new offerings (Backhaus & Voeth, 2004). As a result, customers might experience a lock-in regarding the supplier's product portfolio beyond the ISS. Conversely, in hardware-based exchanges, switching costs are typically lower and future transactions are less affected compared to an ISS purchase.

2.2 Positioning ISS in Extant Literature

While academic marketing literature has not yet examined ISS, it has spawned four adjacent research areas: industrial innovations, servitization, new product selling, and smart product-service systems. We elaborate on each in the following areas in the fol-

lowing. First, academic literature on industrial innovations has examined the strategic shifts industrial companies need to undertake when adding new offerings to their portfolio (Calantone et al., 2002; Cooper, 2019; Hsu, 2005). In particular, academic literature suggests that companies need to carefully consider the possible risks and opportunities when adding new offerings to their portfolio in order to balance established businesses and innovations defining the future (O'Reilly & Tushman, 2004). In this context, ISS constitute an industrial innovation, which makes a strategic shift necessary.

Second, servitization literature (Kindström & Kowalkowski, 2014; Raddats et al., 2019) advanced our understanding of industrial suppliers' evolution from product manufacturers to service providers. For example, servitization literature has stressed the importance of building relationships between suppliers and customers, as exchanges of service offerings require a different way of thinking about customer–supplier relationships than product-based exchanges (e.g., Grönroos & Voima, 2013). Although manufacturers introducing ISS follow the path of servitization, ISS are a distinct subset within this journey, as ISS impact customers particularly severely.

Third, academic sales literature has examined the necessary requirements for selling new products, such as innovations (Alavi et al., 2021; Chen et al., 2015; Hohenberg & Homburg, 2016; van der Borgh & Schepers, 2018), intangibles (Alavi et al., 2019), industrial services (e.g., Eggert et al., 2011), and solutions (Nordin & Kowalkowski, 2010; Ulaga & Loveland, 2014). For example, sales literature has put particular emphasis on value-based selling which focuses on communicating the value of an offering instead of focusing on its technical specifications and costs (Terho et al., 2012, 2015, 2017). This literature might inform how to effectively sell ISS because these systems promise customers enhanced value by orchestrating processes within and beyond a customer's company (Vial, 2019). However, the academic sales literature is silent on how specifically suppliers should sell ISS to customers.

Fourth, research on *smart product-service systems* (Chowdhury et al., 2018) or *digitalized product-service systems* (Lerch & Gotsch, 2015) has recently emerged at the intersection of information systems and operations management literature. Chowdhury et al., (2018, p. 30) define smart product-service systems as "the combinations and interactions between smart technologies, physical products, services, and business models." An example is remote monitoring, which "enables manufacturers to remotely monitor and diagnose customers' machines using embedded sensors and wireless connectivity" (ibid, p. 28). Smart product-service systems are similar to ISS as they comprise software elements (Kohtamäki et al., 2019), e.g., to analyze machine data. However, smart product-service systems differ from ISS as they typically aim to increase the value of a particular element within a customer's value chain, for example by ensuring a particular machine's uptime (Ulaga & Reinartz, 2011). In contrast, ISS *orchestrate* the value creation across multiple value chain processes of customers.

To summarize (see also Table 2), academic marketing literature has covered related phenomena yet missed a distinct focus on the important and challenging endeavor of selling ISS. ISS (1) increase the interdependencies between value chains, (2) foster

Table 2 Positioning ISS in Marketing Literature Streams

Literature stream	Exemplary references	Focus of literature stream	Relation between literature and ISS concept	Contribution of ISS to literature stream
Industrial innovations	Calantone et al. (2004); Cooper (2019); Hsu (2005)	Examines the necessary shifts when introducing new offerings to your portfolio	ISS constitute an industrial innovation which makes strategic shifts within companies necessary	ISS impact customers' value chain processes considerably while previous innovations did not impact their customers in the same way
Servitization	Raddats et al. (2019); Kindström and Kowalkowski (2014)	Servitization literature, among other things, advances the understanding of manufacturers' evolution from product manufacturers to providers of services	Companies introducing ISS follow a servitization path moving away from product-based exchanges	ISS should be seen as a distinct subset within the servitization journey of industrial manufacturers as their impact on customers is particularly severe due to their process-oriented nature
Sales	van der Borgh and Schepers (2018); Alavi et al. (2021); Eggert et al. (2011); Nordin and Kowalkowski (2010)	Among other things, academic literature on sales examines the necessary requirements for companies when selling new products, such as innovations, intangibles, industrial services, and solutions	ISS constitute systems whose sales process differs from feature-driven product sales and are offerings new to the sales force	Academic sales literature has remained silent on the sales process of selling process-oriented, supply chain impacting, and path dependency causing offerings like ISS
Smart product-service systems	Chowdhury et al. (2018); Lerch and Gotsch (2015)	Explores the phenomenon of offerings with enlarged share of information within the product offering	Smart product-service systems and ISS comprise software elements	ISS and smart product-service systems have resembling features. However, ISS achieve to influence a whole range of value chain processes at customers while smart product-service systems focus on single process steps

interactions across firm boundaries within increasingly digitized supply chains, and (3) create strong path dependencies. Considering the importance of ISS in industrial marketing practice and the unique marketing challenges, we identify a need for a better understanding of ISS and develop a research agenda for this important yet under-researched field. Based on two focus groups with senior and top-level managers from leading manufacturing firms, we next develop and validate this ISS research agenda.

3 Developing a Research Agenda for ISS

3.1 Methodology

We conducted two focus groups with high-ranking executives from industrial manufacturers to understand challenges arising from the theoretical particularities of ISS outlined previously and to carve out potential research priorities for ISS. We chose focus groups as they are useful to disclose shared and tacit beliefs which emerge in the course of interaction with others in a local setting (Kindström et al., 2018; Macnaghten & Myers, 2004).

In our first focus group, we gathered six top-level and senior managers of industrial manufacturers with 11 to 46 years of experience to engage in a discussion about challenges when marketing new offerings from the digital realm. The moderator of the focus group briefly named the discussion topic and asked participants to share their experiences with offerings from the digital realm. The moderator iteratively asked for reasons (Corbridge et al., 1994; Reynolds & Gutman, 1988) *why* organizations experience challenges with offerings from the digital realm, and encouraged the participants to provide their views on each other's experiences. The discussion concluded with brief recommendations by participants on what they would have done differently if starting all over again.

Our second focus group comprised four senior managers of industrial manufacturers and proceeded in two steps. First, participants discussed common trends in their journey toward digitalization as well as marketing challenges in small groups with other managers from industrial manufacturers. Subsequently, participants joined a formal focus group discussion, moderated by an experienced academic who encouraged the participants to share their thoughts and insights. Similar to the first focus group, the discussion uncovered a plethora of challenges common among participants.

Both focus groups were audiotaped and transcribed verbatim. Two researchers analyzed the transcripts by reading all transcripts independently, marking sections, and extracting all relevant themes before grouping the statements, and finding key challenges when bringing ISS to market (cf. Matthyssens & Vandenbempt, 1998). For a detailed list of participants of both focus groups, see Table 3.

Results of both focus groups suggested a multitude of challenges and resulting priorities for academic research. We cluster these into five generic themes, which constitute

Table 3 Participants of the Focus Groups

Focus group	ID	Gender	Industry	Job title	Industry experience in years
1	Alpha	Male	Medical technology	Head of business segment	16
	Beta	Male	Intralogistics	Senior project manager	46
	Gamma	Male	Industry machinery	Vice president sales	21
	Delta	Male	Manufacturing	Managing director	19
	Epsilon	Male	Automotive	CEO	11
	Zeta	Male	Mechanical engineering	Plant manager	18
2	Eta	Female	Transportation	Product and project manager	2
	Theta	Male	Mechanical engineering	Plant manager	13
	Iota	Male	Agriculture	CEO	6
	Kappa	Male	Utilities	Head of business segment	17

important functions in industrial firms and reflect established areas in the academic marketing literature (Kotler & Keller, 2016): (1) marketing strategy, (2) marketing organization, (3) innovation, (4) sales, and (5) customer behavior. Table 4 provides a detailed overview of the emerging research questions. In the following sections, we induce these questions from prevailing managerial challenges in bringing ISS to market.

3.2 Research Priority 1: Marketing Strategy

The focus group participants suggested that ISS entail a fundamental shift in a supplier's marketing strategy. For this reason, ISS-specific challenges arise in all decision areas related to formulating a marketing strategy: (1) setting an adequate objective of introducing ISS, (2) deciding on the adequate targeting and positioning of ISS, and (3) setting an adequate product portfolio strategy, that is, the integration of ISS with the traditional hardware-based businesses.

Marketing objectives. Practitioners displayed uncertainty regarding the overarching objectives of firms when introducing ISS. For example, Theta stated:

> [One issue is] the unclear company purpose of [ISS]. Why are we doing it? Is it for the customer? Is it for us? What's the benefit from it?

Table 4 Research Priorities on Bringing ISS to Market (1/2)

Research area	Research priority	Research questions
1. Marketing strategy	1.1. Marketing objectives	**How can suppliers effectively set *strategic objectives* for the introduction of ISS?** a) How can suppliers predict whether entering the market for ISS is strategically advantageous? b) What role can ISS play for a supplier (e.g., source of revenue versus securing traditional business with customers)?
	1.2. Targeting and positioning	**How can suppliers effectively *target* customers and *position* ISS?** a) How can suppliers determine whether and which (new) customer segments to target with ISS? b) How can suppliers assess customers' value-add and translate it into value propositions for ISS?
	1.3. Product portfolio strategy	**How can suppliers effectively integrate ISS into their *product portfolio strategy*?** a) How should suppliers assign resources to ISS relative to traditional businesses? b) How can suppliers seize synergies and manage conflicts between ISS and traditional businesses?
2. Marketing organization	2.1. Organizational structures	**Which changes in organizational *structures* are required to bring ISS to market?** a) When should suppliers integrate ISS into their established organizational structures and when should they outplace them into a separate entity? b) Which organizational structure does the ISS business require - depending on whether it is part of the established organization or outplaced into a separate entity?
	2.2. Organizational culture	**How can suppliers achieve the *cultural* changes required to bring ISS to market?** a) Which specific mindset shifts are necessary for marketing ISS and how can these be implemented? b) How can suppliers avoid that focusing on ISS demotivates employees in traditional business units?

(continued)

Table 4 (continued)

Research area	Research priority	Research questions
3. Innovation	3.1. Innovation processes	**How do suppliers need to *adjust their innovation processes* for developing ISS compared to traditional products?** a) How does developing ISS differ from developing traditional products? b) Which working methods are most conducive to developing ISS compared to traditional products (e.g., co-creation, agile methods such as design thinking, lean start-up, scrum, …)?
	3.2. Innovation competencies	**How can suppliers build the required *competencies* for developing ISS?** a) Which competencies are most critical for product development to develop ISS? b) Which forms of collaboration are most conducive to developing ISS (e.g., internal partners, competitors, universities, incubators, acquisitions, joint ventures, …)
	3.3. Pricing of innovations	**How can suppliers effectively *price* ISS?** a) Which pricing models are best suited to accommodate customers' low willingness to pay for ISS? b) To what extent should suppliers adjust prices of ISS when taking into consideration the data of customers to which they gain access as a basis for future innovations?
4. Sales	4.1. Selling competencies	**How can suppliers develop the competencies of their sales staff to sell ISS?** a) Which new competencies are most critical for sales staff to communicate the value of ISS (e.g., technical know-how, consulting, educating, value communication, …)? b) How can suppliers build up these competencies most effectively for salespeople with different dispositions (e.g., learning-oriented, failure-avoiding, performance-oriented, …)?

(continued)

Table 4 (continued)

Research area	Research priority	Research questions
	4.2. Sales structures and systems	**How should suppliers *reorganize* for the sales of ISS?** a) Should suppliers build separate sales teams for ISS and how should they manage the interface to traditional sales teams? b) Which new roles are required for selling ISS (e.g., customer success manager, …)? c) How should sales of ISS be reflected in sales force compensation plans?
5. Customer behavior	5.1. Buying	**How does customers' *buying* change for ISS?** a) How do customers' buying centers and processes change when purchasing ISS compared to traditional products? b) How do customers judge ISS compared to traditional products?
	5.2. Post-purchase outcomes	**What is the effect of buying an ISS on *subsequent customer outcomes*?** a) How do customers derive value-in-use from ISS compared to traditional products? b) How does buying an ISS affect the subsequent relationship between a customer and a supplier?

Similarly, participant Iota said:

> It starts with the board to understand what is digital and what is not. Do you have a vision for the company? Do you have a strategy in this direction? Did I decide—if I want to play—what kind of role I want to play in the ecosystem of the solution [that] a customer wants?

The reasons for this uncertainty about marketing objectives may stem from ISS' theoretical particularities. First, as outlined in Sect. 2.1, ISS orchestrate customers' value chain processes connecting previously isolated building blocks. Before introducing ISS, manufacturers need to decide which parts of customers' value chain processes they aim to orchestrate. However, the potential scope of action for ISS is broad and thus taking a decision in this respect is difficult. Second, as a consequence of the far-reaching impact ISS have on customers' value chain processes, customers enter substantial path dependencies. Industrial manufacturers have yet to fathom the potential impact of these path dependencies (e.g., greater future revenue opportunities). Due to the uncertainty about the impact ISS may have, industrial manufacturers experience challenges in defining clear objectives to be achieved.

Despite these challenges, practitioners discussed two potential benefits associated with ISS that they might take into account when setting objectives: ISS might (1) provide a direct source of revenue or (2) be a means of maintaining or strengthening customer relationships by adding value for customers. However, practitioners are in doubt whether these objectives materialize as they frequently observe that customers lack a willingness to pay for ISS. Additionally, customers may perceive the considerable influence of ISS on their business process as undesirable, damaging the relationship rather than strengthening it. For this reason, practitioners perceive uncertainty regarding which objectives they might achieve when embarking on a journey toward ISS.

Against this backdrop, the question of how to set marketing objectives when introducing ISS could prove to be a fruitful avenue for future research. More specifically, future research might examine the specific benefits to be expected when bringing ISS to market, thereby supporting the decision process for managers. We revisit this suggestion when discussing the research priority of post-purchase outcomes of ISS.

Targeting and positioning. Second, participants mentioned targeting new customer segments and positioning ISS as particular challenges. For example, Theta raised the difficulty "finding the correct market and the correct customer to start with." Theta elaborated further:

> We have a lack of understanding of the value for the customers with these [ISS]. What's the real value of connecting a machine, for example? Or all of a sudden, gathering all the data that we want as a company, what's the value for the customer of that?

Again, we trace this difficulty back to the unique characteristics of ISS. Suppliers seem to lack a clear understanding of the value-enhancing potential of ISS due to the deep intervention of ISS in customers' business processes. Therefore, suppliers struggle with targeting customers with the readiness to implement and make use of ISS' possibilities in their value chain processes. Further, as ISS transcend customers' organizations and not only influence ISS users but also other companies within intertwined and increasingly digital supply chains (Ageron et al., 2020; Garay-Rondero et al., 2019), targeting customers becomes more challenging. Specifically, beyond understanding their customers, suppliers need to understand their customers' customers and partners. Since targeting is lacking, so is suppliers' ability to effectively position ISS for targeted segments.

Manufacturers' challenges to target and position digital offerings beyond their traditional hardware has recently been observed by Chowdhury et al. (2018), who noted—for the specific service of remote machine monitoring—that "manufacturers are still struggling to articulate value propositions […] that would be appealing to customers." A potential reason discussed by Liozu and Ulaga (2018, p. 98) is that "[d]igital offers are new for everyone, including customers" and "[m]ost value propositions are based on unproven assumptions […]." The newness of ISS to hardware-centric companies goes beyond mere additional machine functions, thus breaking new ground (Kleinschmidt & Cooper, 1991; Song & Montoya-Weiss, 1998) as they push into their customer's processes and adjacent companies in the supply chain.

Building on these notions, we perceive it as important for future research to provide actionable guidance to industrial manufacturers on how to target and position ISS. Specifically, academic marketing research should examine how suppliers can determine whether and which (new) customer segments—possibly in different positions in the value chain—to target, how to assess the needs of these customers and thus potentials for creating value, and how to develop effective value propositions.

Product portfolio strategy. Third, practitioners perceived it as challenging to integrate ISS into their existing portfolio. Product portfolio strategies set rules for a company's resource allocation and organizational design, mitigate a company's financial risk (Festa et al., 2021; Kolte et al., 2018; Rossi et al., 2020) through managing its offerings in a portfolio approach, and evaluate necessary strategic trade offs (Ansoff & Leontiades, 1976). In this respect, the participants of our focus group struggled to decide how to assign resources to their ISS businesses. ISS businesses are often small in volume (suggesting low priority) and difficult to grow, but of high strategic importance for the survival of the company (suggesting high priority), potentially promising long-term revenues as they create path dependencies for customers. This struggle becomes apparent in the statement of participant Iota:

> The board has to show to the employees that this is important, up to the fact that a board member says, "I will run the digital venture" even though they only have 20 people. Unfortunately, most board members will say: "I'm responsible for 10,000 people. Why should I go in a digital venture and run a 20-people company?"

Managers' struggles become especially problematic in times of crises, as Epsilon noted:

> We have to consistently pursue our plans and not cut new fields of business in times of sales crises. We must not cut what is going to be our future main business.

To decide on the resources to be allocated to marketing ISS, suppliers need to understand the path dependency caused by a customer's decision for an ISS. Specifically, industrial manufacturers may decide to allocate more resources for marketing ISS in case these investments have high financial returns via future revenues with the customer. Because research on the path dependencies induced by ISS is lacking, choosing an appropriate product portfolio strategy is difficult.

Building on the quotes and considerations above, we regard the question of how to assign resources as an interesting research avenue. Importantly, this question can hardly be evaluated in isolation, as it overlaps two adjacent research questions: (1) The question is strongly linked with the overarching objectives of the suppliers related to ISS. For example, research may examine which types and amounts of resources are most conducive to reaching varying types of marketing objectives (e.g., source of revenue versus means to strengthen customer relationships; see previous elaborations). (2) It is worth noting that ISS businesses compete for resources with traditional businesses. To decide how to allocate resources, suppliers require a thorough understanding of the synergies

and conflicts between these businesses. Interestingly, understanding synergies and conflicts may not be straightforward. ISS could potentially *complement* a supplier's traditional business as they increase the value customers derive from previously purchased equipment through software interfaces that facilitate the optimization of machine use by customers. Yet, ISS might also *substitute* parts of the traditional future business as they substantially change a customer's value chain processes. To illustrate, consider a production process where output can be improved by adding a new machine to the fleet or by optimizing work processes using ISS. If customers decide to improve output through the heavier use of ISS, this may significantly impair prospective hardware sales. We encourage future research to tap into such questions when researching effective product portfolio strategies for ISS businesses.

3.3 Research Priority 2: Marketing Organization

The participants of our focus groups emphasized the challenge to configure the organizational setup. Issues are of both (1) structural and (2) cultural nature. We discuss both issues in this section.

Organizational structures. Both focus groups saw challenges in deciding which organizational setup to choose for their ISS business. Specifically, they controversially discussed either placing the ISS business in separate organizations in order to assign more freedom and flexibility to the team or integrating it into the traditional core organization to maintain control, facilitate knowledge exchange, and secure consistent communication vis-à-vis customers. For example, Eta stated that suppliers "need to integrate these business units closely into the core business." Conversely, Theta recommended granting high independence to the ISS business:

> We have to create a distinct digital team that can be integrated […] into the traditional team [later]. So we have to start differently and not with the existing people, at least not all of them, and then maybe bring it back if it still fits. […] We said we have to give them a little bit more freedom.

The decision on whether to integrate or to separate digital teams from the existing organization is also influenced by the third characteristic of ISS, the creation of path dependencies. In particular, ISS may create path dependencies as a result of the considerable impact on customers' business processes and the impact on customers' supply chains. This path dependency may create future (financial) benefits for other parts of the organization. However, it remains unclear *whether* and *how* organizations can realize these benefits. The realization and magnitude of these benefits may also be influenced by the degree of integration between business units. Overall, the optimum level of integration between units remains a serious challenge for companies introducing ISS.

These differing views between integration and separation of teams call for a thorough academic investigation in which conditions favor one of the two organizational setups

over the other. A theoretical lens that future marketing research may test is the *ambidextrous organization* (O'Reilly & Tushman, 2004, 2016). According to this lens, to balance the established products of the past and prepare for innovations that will define the future, organizations should "separate their new, exploratory units from their traditional, exploitative ones, allowing them to have different processes, structures, and cultures; at the same time, they maintain tight links across units at the senior executive level" (O'Reilly & Tushman, 2004, pp. 75–76) to balance established products and prepare for future-shaping innovations. It would be interesting for future research to conceptualize and empirically test which specific organizational structures and links between them best foster ambidexterity when it comes to ISS.

Organizational culture. Focus group participants consistently emphasized the need for cultural change in order to bring ISS to market. Organizational culture refers to "a pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems" (Schein, 2004, p. 17). Two particular challenges referred to (1) which specific actions to take and (2) how to avoid demotivating traditional businesses along the way.

Regarding the first, while both focus groups agreed that cultural changes are necessary, their ideas on these changes remained unspecific. Themes comprised a fuzzy set of mindset shifts, such as the need for customer centricity, speed, and the willingness to accept failures. However, as Eta pointed out with regard to the latter, "the culture of accepting failure is often not there, which makes it harder to actually use an agile approach." The question of how to bring about required changes seemed even more elusive. Theta noted:

> Most of our businesses in our group sell hardware, so we have formed this successful culture around the successful business with hardware. […] It's tricky to change an existing successful business and remodel it. […] This is a cultural issue.

This quote illustrates how an industrial manufacturer's main business contributes to the identity of a company (Tripsas, 2009). Hardware has typically shaped industrial manufacturers' identities and, thus, organizational cultures. In contrast, software offerings like ISS have not yet been part of industrial manufacturers' identities and cultures. Indeed, ISS are fundamentally different as deduced by the three intrinsic factors of ISS elaborated on in Sect. 2.1. Given the three factors intrinsic to ISS, manufacturers face severe challenges upon the introduction of ISS. Specifically, considering the first intrinsic factor of ISS, their focus on processes, it is impossible to foresee and remedy all potential risks (Rossi et al., 2020). Accordingly, ISS suppliers are bound to take greater risks and will inevitably make mistakes. For this reason, the challenge for the management of ISS suppliers is to act as a broker between units with traditional views while promoting an understanding of risk-taking by new business units. Some participants emphasized these

challenges to be a primary reason for placing ISS business in a separate organizational entity. For example, participant Iota noted:

> Most organizations fail with cultural change because the organization does not fit [...] the culture you want to build. So you have to change the organizational structure. Otherwise, you will always fail to change the culture.

This view is echoed by recent managerial literature. For example, Liozu and Ulaga (2018, p. 11) state that "[i]n a company that lacks digital maturity, the risk is high that the core business will reject integration of a new data-driven model in the same way that a body rejects a transplanted organ. This rejection can deal a mortal blow to a company."

As to the second challenge, participants discussed that a supplier's new focus on ISS may lead to demotivation in traditional business units. For example, Eta stated:

> In every presentation, you find something about digital solutions […] In the traditional business, people feel left out and are not valued enough because they are actually making most of the money.

In other words, leading cultural change is a difficult task for organizations, but crucial for their success when introducing ISS. Maybe managers can ensure employees' buy-in via the third characteristic of ISS, path dependencies considerably influencing customers' business processes and supply chains. These path dependencies might convince more members from the traditional hardware unit that they may benefit as well. However, path dependencies induced by ISS are difficult to grasp and have yet to be quantified.

Summarizing our previous elaborations, we propose that future research should examine how suppliers can achieve the cultural changes required to bring ISS to market. Specifically, future studies might explore *which* specific mindset shifts are necessary for marketing ISS and *how* to implement them. In addition, future research may explore remedy strategies on how to balance employee motivation across all business units (Kotter, 2012).

3.4 Research Priority 3: ISS Development

Our analysis revealed profound challenges in practice and thus opportunities for academic research concerning a supplier's (1) development processes, (2) required competencies, and (3) the pricing of ISS.

Development processes. Participants in our focus groups frequently emphasized challenges in the development processes of ISS. One challenge that consistently emerged was *customer focus*, which participants regarded to be important but lacking in their innovation of ISS. For example, participant Iota stated:

> So in our organization, the classic, traditional one, we spend a lot of time and money on the telematics systems of machines. What is the acceptance rate of the customer? Less than 1%. Why? Because it has been built by engineers […] that have never, ever spoken to any customer. So the customer value-add might be completely different.

The reasons for challenges throughout development processes likely stem from ISS's influence on customers' business processes and impact on cooperating companies via increasingly digitized supply chains. First, suppliers need a deep understanding of their customers' business processes. As customer firms' value chain processes are often idiosyncratic, development processes need to ensure high adaptability of ISS. Second, as ISS transcend customers' borders into increasingly digitized supply chains, development processes need to ensure that ISS provide interfaces between the focal customer company and its cooperating companies. Again, interfaces may vary between customers, requiring high adaptability of ISS. Considered together, widely varying customer processes and varying positions in the supply chain make it challenging to design development processes.

Notably, as the previous quote suggests, innovators still seem to fall into the trap of neglecting customers in their development processes. This is surprising because customer focus in development processes has been prescribed by both managerial literature (e.g., Christensen et al., 2016) and academic literature (e.g., Bolton, 2004; Heinonen & Strandvik, 2015) for a long time. It has been particularly emphasized when designing and developing digital innovations (Ardolino et al., 2018; Kohtamäki et al., 2019; Liozu & Ulaga, 2018; Sklyar et al., 2019), also to avoid over-engineering (e.g., Kerievsky, 2002).

The lack of customer focus in ISS development processes suggests interesting avenues for academic research. For example, why are ISS development processes particularly afflicted with a lack of customer focus? Does the lack of customer focus result from factors intrinsic to ISS (such as their process-oriented nature, impact on supply chains, and path dependency) or extrinsic to ISS (such as deficits in internal collaboration and available competencies; see the following research priority)? Based on these findings, how should suppliers adjust their innovation processes for developing ISS compared to traditional products?

To improve customer focus, the second focus group discussed agile methods of innovation for ISS. Such methods to "eliminate wasted time and resources by developing the product iteratively and incrementally" have gained popularity in managerial practice (Blank, 2013, p. 68). Waste of time and resources may be particularly pronounced in companies focused on achieving the highest levels of technical performance when innovating products. Achieving similar levels of technical performance for ISS includes high development costs. With ISS serving as an additional input for the optimization of a customer's processes, industrial manufacturers are increasingly acknowledging the importance of co-creation when innovating ISS (Song & Montoya-Weiss, 1998). For example, Eta stated:

> We are trying out things like co-creations, scrum frameworks, design thinking, and I think this works quite well. We are also testing our ideas on minimum viable products and […] proof of concept with the customer.

Building on these notions, future research may also examine which agile methods are most conducive to innovation processes of ISS and compare their effectiveness to innovation processes of hardware-based products.

Development competencies. Participants perceived it as highly challenging to build the right competencies needed to develop ISS. Two challenges emerged from the focus groups: first, participants were uncertain which specific competencies they required in different areas of their innovation unit. Themes included technical skills, such as data analytics and software coding, but also know-how about customers' problems to be solved. Given the considerable impact on customers' processes, participants frequently stressed the staff's ability to grasp their customers' problems. As participant Iota noted:

> It's not about technology, it's about mindset. […] If I don't understand the customer's business, how can I solve their problems?

Second, given the lack of clarity regarding which competencies are required, participants perceived great challenges in developing these competencies and were questioning whether the existing workforce could be skilled up. For example, participant Iota proceeded:

> The IT guys you have in your company, they will never, ever be able to build a software platform for customers.

While this view may favor hiring fresh talent rather than training the existing workforce, participants perceived the former as equally challenging. To make hiring decisions, managers need to know which competencies to search for, where to find potential candidates, and how to evaluate applicants' profiles. Eta recalled their challenges in this respect:

> One of our main problems was finding resources at all and also having the people with the right skillset. […] Even though we hired people, we hired the people with the wrong skillsets, and the timing was sometimes not right. […] So at the moment, in my view, the problem is that a lot of data analysts were hired but not the developers who are coding the application.

The participants controversially discussed two potential solutions to overcome difficulties in competence building: *hiring from customers* and *entering partnerships*. As to the first, Iota explained:

> First thing I did, 50% of the people I hired were customers. They know exactly what they need and what the pain points are. And still, 35% of my people are former customers […] So whatever we want to bring out as a solution, they talk with their network and know exactly what does or doesn't make sense.

However, other participants raised the issue that hiring from customers' companies may be perceived as hostile and thus threaten business relationships with these companies. In regard to the second, participants discussed the possibility of partnering with exter-

nal organizations (such as universities, incubators, or joint ventures with competitors) to develop innovations. For example, Iota stated:

> We don't have a clue about what the customer wants—one software to run their entire business. We only know part of the business. So we need partners [who] have been established in this business for years and who happen to have this knowledge.

As this illustrative quote suggests, ISS have a considerable impact on the value chain processes of customers. To achieve such a considerable impact on customers' processes, suppliers require extensive knowledge of customers' business processes. Accessing such knowledge is possible through collaborations as the previous quote by Iota suggests. However, other participants were more skeptical about collaborations, as Eta warned:

> Many of us are working together with external partners. […] But I would always see this as negative because if you work with external resources developing such a [software], you don't create the knowledge in your company.

In summary, given the great challenges as well as conflicting views in practice, we propose that future research should examine how suppliers can build the required competencies for innovating ISS. To answer this question, research should clarify which competencies are most critical for innovating ISS at different levels of the organization and which forms of collaboration are most conducive to developing these competencies and thus innovate ISS.

Pricing of ISS. Finally, participants discussed that their established pricing[1] models did not sufficiently reflect customers' perception of value and thus their willingness to pay for ISS. Delta explained:

> We come from a hardware business. We always calculate costs first, then develop the product, and only then conclude what the price should be. But it should be the other way around. […] How much are you willing to pay [for that value]?

Notably, marketing literature has been criticizing cost-based pricing for more than 60 years (Backman, 1953). Instead of pricing on the basis of costs, the literature recommends taking a product's value to customers into account (Anderson & Wynstra, 2010; Docters, 2004; Hinterhuber, 2008). In fact, "the graveyard of business is filled with the skeletons of companies that attempted to base their prices solely on costs" (Backman, 1953, p. 148). In this vein, ISS suppliers should price on the basis of the value that ISS provide to customers.

However, the participants in our focus groups perceived great uncertainty regarding how to price ISS on the basis of value. Again, this difficulty traces back to the intrinsic

[1] We adopt a broadened perspective of pricing not restricted to monetary terms. Specifically, in our understanding, pricing comprises all ways of monetization including the conversion of an asset to money as well as the conversion of an asset to a means of generating profit, e.g., data.

characteristics of ISS (see Sect. 2.1). First, ISS influence a customers' processes and supply chain considerably, creating value through the orchestration of value creation processes. However, as outlined previously, the value created by ISS is difficult to quantify, rendering value-based pricing difficult. At the same time, owing to ISS' considerable influence on customers' processes and supply chain, customers are likely to perceive the implementation process as risky and thus show a reduced willingness to pay and collaborate. Eta noted:

> A problem is our customers' willingness to pay and not only to pay but also, for example, to share the data so that you can actually develop your [ISS].

Second, ISS create path dependencies benefitting suppliers in the long run, which suppliers might take into account when pricing ISS, thereby accommodating customers' reduced willingness to pay. However, as mentioned previously, the magnitude of path dependencies created by ISS remains unclear, rendering this option difficult.

Against this backdrop, we propose to examine how suppliers can effectively price ISS. More specifically, research may study which pricing models are best suited to accommodate customers' low willingness to pay for ISS given that customers will have to partially disclose important data on their input factors (e.g., materials management, or workflows of machine operators) when using the industrial manufacturer's machines. In addition, suppliers may benefit from guidance on how to take the value of their customers' data into consideration.

3.5 Research Priority 4: Sales

In-depth discussion with focus group participants revealed major challenges when selling ISS. These challenges can be grouped into two areas: (1) Identifying and developing necessary competencies for their sales force as well as (2) reorganizing sales structures, that is, integrating or separating sales teams and defining new roles. In this section, we discuss these challenges in more detail.

Selling competencies. Both focus groups agreed that selling ISS requires a novel set of competencies that are absent in traditional, hardware-based businesses. However, participants seemed uncertain (1) *which* specific competencies are necessary to sell ISS and (2) *how* to build these up.

As to the first, an overarching theme was salespeople's competence to convey the value of an ISS to customers. The need for enhanced value communication competencies results from the fact that customers do not easily comprehend the full value of an ISS. This is because ISS substantially influence customers' business processes and supply chains in an attempt to orchestrate these processes for the better. To effectively convey the value an ISS will generate to customers, salespeople need to be able to initially understand their customers' business processes in detail. Subsequently, salespeople can quan-

tify the value ISS may create via the orchestration of these business processes. As Delta puts it:

> To sell our software to an automotive company like Daimler or Volkswagen, you have to go deep into their processes, which requires substantial know-how. This is a problem: Where do I find people who have this know-how?

Yet, being able to identify and quantify value potentials is not enough. Salespeople additionally need to be able to adequately communicate the value of ISS to their customers. However, communicating the value of ISS is different from hardware-based offerings. Focus group participant Epsilon compares it with learning a new language:

> Already [learning the] vocabulary is extremely difficult. That means, how do I train and develop one of my most important resources, the people? How can I develop [the] know-how and capabilities of my employees so that they become competent contact persons who can credibly explain the value add of the [ISS]?

Put differently, ISS stretch the portfolio of salespeople from known tangibles and services to the novel area of software orchestrating customers' business processes. ISS challenge salespeople to add expertise in areas that are not only unfamiliar to them but highly difficult to acquire.

Academic research on servitization has acknowledged the challenge of selling intangibles as particularly difficult for the industrial sales force (Dubinsky & Rudelius, 1981; Plouffe et al., 2008; Sheth & Sharma, 2008). Specifically, selling intangibles requires a subtler level of persuasion via conveying an offering's fit for a specific customer problem (Ulaga & Loveland, 2014). Thus, where traditional product selling tends to focus on product features, new approaches, most prominently consultative selling (Moncrief & Marshall, 2005; Sheth & Sharma, 2008) and value-based selling (Alavi et al., 2021; Terho et al., 2012, 2015, 2017), have emerged focusing on creating value for customers. The literature on selling services and value-based selling may be an appropriate starting point for academia to understand selling ISS. Hereby, it may be particularly interesting to explore the extent to which competencies required for selling ISS overlap with those required for selling services.

Second, knowing *which competencies* the industrial sales force needs is of little value unless managers know *how* to equip salespeople with them. However, the focus group participants noticed severe difficulties in skilling up their salespeople, as Epsilon noted:

> Looking at my usual salesperson, aged 45 and up, they're missing some basic training to be upskilled. His comprehension of IT systems is very limited compared to the hardware knowledge he mastered perfectly over the past 20 years. Training him on new technologies is almost impossible. There may be younger salespeople who grew up with it and will pick it up on the spot as they have a different mindset.

To train their salespeople, participants' companies had tried different formats. For example, Eta recalls: "Some tried to educate their employees by doing web-based training,

announcing digital set champions, so promote the idea of that, do something like [a] hackathon." However, participants seemed generally dissatisfied with their success in training current employees. Thus, managerial practice would greatly benefit from academic research on *how* to enable their salespeople to sell ISS. Hereby, building on the quotes above and following previous literature, research may also take contingency factors into account, such as the type of salesperson and different types of trainings, e.g. individual trainings, on-the-job trainings, and webinars (e.g., Chen et al., 2015; Steenburgh & Ahearne, 2018).

Sales structures. Equipping suppliers with the appropriate sales structures proves to be a key question for industrial manufacturers. Specifically, focus group participants discussed two topics: (1) building separate or integrated teams, and (2) defining and establishing new roles at the interface of sales, support, and marketing.

First, our focus groups debated whether separated or integrated sales teams are more effective in bringing ISS to market. The question of whether to sell ISS via separate sales teams solely dedicated to selling ISS or via integrated sales teams led by a field sales representative with additional support from ISS units is important when considering the three characteristics intrinsic to ISS. With regard to the first and second intrinsic factors of ISS, separate sales teams dedicated to selling ISS may be able to focus on building up specific knowledge about their customers' business processes and supply chains from scratch without the need to adhere to goals and guidelines a sales force focused on traditional hardware-based products may have. Additionally, the knowledge of industrial manufacturers' sales force with a focus on traditional hardware-based products may not coincide with the knowledge needed for new offerings (Atuahene-Gima, 1997; Micheal et al., 2003). This discussion was fueled by some participants who doubted the possibility of reskilling their current sales force to sell ISS. As Delta claimed:

> And now software comes in. Try to teach a hardware guy to sell software! That's a real problem. […] You can't teach a hardware guy to sell software. Forget it. Completely different culture.

For the same reason, his company chose to build a separate entity:

> We built up a separate entity and founded new companies in 29 countries. We built up everything from scratch. […] We even formulated all discount processes defining every single escalation level.

However, as indicated by the third intrinsic factor of ISS, i.e. the path dependency resulting from ISS' influence on customers' value chain processes and supply chains, integrated sales teams may be more suitable than separate sales teams to identify cross-selling potentials emergent from synergies created via ISS orchestrating the interplay between a supplier's other offerings, e.g. machines or services. Furthermore, arguing against separate sales teams, participants also discussed that building separate entities may cause channel conflicts between hardware sales and ISS sales. As Epsilon noted:

> But there's also a great risk entailed. How will you approach existing customers? The regular salesperson will say: "The [ISS salesperson] talks to my customer? This is *my* customer, not his one!"

Academic research may explore which sales team structure is most effective in bringing ISS to market. For example, academic research could consider which effects occur when companies name specialized experts who support generalist salespeople on an "as-needed" basis (Brown et al., 2005; Liozu & Ulaga, 2018) rather than fully disintegrating their sales teams (Micheal et al., 2003).

Second, participants debated the successful enablement of customers to fully utilize ISS after a sale. For example, Zeta noted the danger of internal fights and recommended: "There has to be an unambiguous allocation of who is responsible for solving a customer's problem in order to avoid confusion." To monitor and ensure that customers constantly derive high value while using an ISS, suppliers are establishing roles that go beyond traditional after-sales and support staff. Customer success managers monitor performance data and gauge the value customers capture when using ISS (Porter & Heppelmann, 2015). Customer success managers are widespread among digital companies—e.g., such as Microsoft and Google—but new for industrial suppliers (Eggert et al., 2020; Hilton et al., 2020; Hochstein et al., 2020; Novet, 2018). Academic literature on the role of customer success managers within the sales process for ISS is lacking, which provides a fruitful avenue for future research. Future research may thus investigate how suppliers of ISS can define and implement the role of customer success managers—and how to derive value from it.

3.6 Research Priority 5: Customer Behavior

When selling ISS, suppliers face different customer behavior. First, *buying centers* change, which ultimately alters the way customers perceive and judge a supplier's offerings. Second, ISS may influence *post-purchase* customer outcomes. Specifically, the way customers derive value-in-use from ISS has not been explored yet, and neither has the impact of ISS on the customer–supplier relationship.

Buying centers. Epsilon noted that "as the portfolio changes [toward ISS], contact persons change as well." This is because ISS are complex market offerings, influencing a greater number of stakeholders due to their intrinsic factors. First, as ISS influence customers' business processes and supply chains considerably, stakeholders involved in a wide variety of process steps may evaluate an ISS (i.e., from supply chain management over order intake and manufacturing to dispatch of the finished product). Second, as the decision for a particular ISS leads to path dependencies, top-level managers, strategists, and business planners may have a say when choosing an ISS.

In view of this, it is necessary to investigate how buying centers and purchasing processes change. These changes likely depend on a customer's size. For example, Epsilon stated:

> I would differentiate by customer segments. We have the segments of retail, national key accounts, and international key accounts. In retail, contact persons don't change. Those ones are small family-owned businesses which are happy to survive until the next generation takes over […] Then there are national key accounts and this is where it starts—contact persons change with new technologies.

More specifically, in big customer organizations, various functions, such as IT, data teams, facilities, and risk and legal may become involved (Liozu & Ulaga, 2018) when purchasing ISS. The enlargement of the customer's buying center might change decision processes and entail a different set of metrics to evaluate and judge the industrial software systems offered. Thus, future academic research may explore which changes in the buying center occur and which impact these changes have on decision-making processes.

Post-purchase outcomes. The focus group participants emphasized the importance of understanding customer outcomes after ISS purchases. Specifically, suppliers are interested in the value drivers for customers using ISS as well as the effects ISS may have on the relationships between suppliers and customers. As to the first, focus group participants were interested in understanding *how* customers may use ISS to serve their own purposes via, e.g., improving their value chain processes or facilitating exchanges along their supply chain. For these factors intrinsic to ISS, the beneficial influence of ISS for customers—and, thus, benefits for the supplier—is likely to materialize only over a longer term. In other words, suppliers care for their offering's performance in each customer's usage situation beyond the initial purchase. Regarding this issue, focus group participant Beta stated:

> I think that most [traditional organizations] don't arrive at the question how the [software] is actually used. They don't even put themselves in the customer's shoes to understand [the full value of a certain technology].

This quote by Beta suggests that many companies do not realize the high importance of assessing and understanding post-purchase outcomes resulting from the characteristics intrinsic to ISS. Suppliers expect the considerable influence of ISS on customers' business processes via the orchestration of previously isolated building blocks to provide value to customers. However, it remains uncertain whether and how customers derive this value.

Second, as ISS may create considerable path dependencies, the relationship between customers and the ISS supplier may change drastically over time. It is unclear whether the relationship between customers and ISS suppliers may worsen or improve over time. On the one hand, the experienced path dependency may be seen as a burden with high costs of switching due to employees being already trained to use the ISS and operations potentially being disturbed when integrating other suppliers' offerings due to a lower

degree of compatibility with the installed ISS. On the other hand, the experienced path dependency may be seen as a fruitful connection with increasing potential for value gains due to an intensified customer intimacy between customers and a supplier (Kai-Uwe Brock & Yu Zhou, 2012). Future research may, e.g., investigate which management styles may harm (boost) the customer–supplier relationship.

Against this backdrop, we propose that academic research examines *how* ISS benefit customers. In line with recent publications in marketing, scholars may explore the determinants of ISS' "value-in-use," that is, "all customer-perceived consequences […] that facilitate or hinder achievement of the customer's goals" (Macdonald et al., 2016, p. 98). For example, in the context of business solutions Macdonald et al. (2016) describe self-assessment of the customer's resources and individual goals of users to play key roles when judging business solutions. However, these findings are not easily transferable to ISS as their implementation follows a different logic, that is, enabling customers to increase efficiency and/or effectiveness of their value chain processes by *themselves*. Specifically, customers can reconfigure and refine all of ISS' components (Backhaus & Muehlfeld, 2005; Backhaus & Voeth, 2004) according to their requirements. Understanding ISS' value-in-use may also feed back into our previous research priorities and help suppliers make more effective targeting and positioning decisions, innovate better offerings, and build the right sales competencies.

Academic research may also explore the effects of ISS on the customer–supplier relationship. This may feed back into our previously outlined research priority on marketing objectives, helping suppliers understand "[w]hy are we doing it? Is it for the customer? Is it for us? What's the benefit from it?" (see previous quote from H). For example, research could examine under which circumstances ISS foster customers' attitudinal loyalty toward a supplier, thus cross-fertilizing a supplier's hardware-based businesses (Björkdahl, 2009).

4 Discussion

In the digital economy, industrial manufacturers are increasingly complementing their hardware portfolios with ISS. As the introductory quote by the former CEO of General Electric, Jeff Immelt, suggests, this trend may be a necessity rather than a choice. However, when bringing ISS to market, manufacturers are facing severe marketing challenges. These challenges pertain to strategic and organizational choices, the functional management of innovation and sales, and customer behavior. Our study provides avenues for conducting research on how to solve these challenges and holds important implications for both academic research and managerial practice.

Table 5 Academic Literature on Digitalization in Industrial Markets

Reference	Academic field	Researched phenomenon	Key results	Methodology
Ardolino et al. (2018)	Production research	Influence of *digital technologies* on industrial supplier strategies to either become *availability providers* (from product to process-oriented services), *performance providers* (from standardized to customized solutions), and *industrialisers* (from transactional deals to long-term contractual agreements)	The traditional manufacturing company needs restructuring and extension with new functions such as customer success management, devops, and a unified data organization	Case studies
Chowdhury et al. (2018)	Information management	*Smart Product-Service Systems (PSS)* are based on combinations and interactions between smart technologies, physical products, services, and business models employing output-based value propositions whereas these interactions are essential to fulfill the customers' needs	The main aspects of Smart PSS derived from literature are synthesized and structured into three themes: digital resource driven value systems and business models, boundary spanning, and dynamic capabilities	Literature review
Kohtamäki et al. (2019)	Business research	*Digital servitization* journey of companies "as the transition toward smart product-service-software systems that enable value creation and capture through monitoring, control, optimization, and autonomous function." (p. 4)	The paper identifies various emerging business models within digital servitization such as the models of outcome providers, platform providers, industrializers, product-oriented service providers, customized integrated solution providers	Literature review

(continued)

Table 5 (continued)

Reference	Academic field	Researched phenomenon	Key results	Methodology
Sklyar et al. (2019)	Business research	The authors examine *digital servitization* as the utilization of digital tools in the course of transformational processes in the endeavor of shifting to a service-centric business model and logic	The authors first identify key underlying processes of organizational change in the digital ecosystem and suggest within-firm centralization and integration to play a key role	Case studies
Suppatvech et al. (2019)	Marketing	*Internet of Things* (IoT) describes all the interconnections of physical objects through adding radio frequency identification and other sensors for various purposes, including identification, sensing, communication and data collection. Enables firms to offer innovative product service offerings, and redesigning current business models	The authors identify four archetypes of business models that are enabled by the IoT: add-on, sharing, usage-based, and solution-oriented	Literature review

4.1 Research Issues

Our study makes two major contributions to academic research. First, by conceptualizing ISS, our study enriches literature on digitalization in industrial markets (see Table 5). Prior literature has conceptualized phenomena such as digital technologies (Ardolino et al., 2018), smart product-service systems (Chowdhury et al., 2018), and digital servitization (Kohtamäki et al., 2019; Sklyar et al., 2019). Furthermore, managerial literature has discussed concepts such as smart, connected products (Porter & Heppelmann, 2015) and digital offers (Liozu & Ulaga, 2018). However, prior literature has neglected ISS, a phenomenon prevalent in many industrial markets. We take this step and conceptualize ISS. Our study hereby extends the nomological net of digitalization in industrial markets (Table 5 depicts an overview of research on digitalization in industrial markets) and provides a conceptual basis for research on ISS.

Second, our study provides a detailed research agenda for improving our understanding of marketing ISS. Using focus groups, we carve out 12 research priorities. Given their high relevance for managerial practice, we encourage academics to generate new insights on these issues. As Evert Gummesson stated: "New knowledge can be scientific discoveries but also innovative practice. Thus, the new can come both from academe and practice. And isn't theory just the conceptualization of empirical data from a company that has stood out in some way?" (Lee & Greenley, 2010, p. 8). In addition to identifying and clustering research priorities, we give reasons as to *why* each research priority is important to be investigated with respect to ISS. In particular, we derive each of the research priorities from factors intrinsic to ISS. Following this notion and emphasizing the importance of the theoretical difference of ISS to research on previous offerings, we hope that our article instigates future research on ISS.

4.2 Managerial Implications

The key goal of our study was to develop an academic research agenda and thus enable the development of guidance for managers by *future* studies. Notwithstanding this goal, our study itself provides two implications for managers of industrial companies.

First, our study should raise managers' awareness for the challenges they will likely face when entering a market for ISS. Specifically, managers will encounter problems when defining their objectives of entering this market, deciding which customers to target with which value proposition, integrating their software systems with traditional businesses, deciding for or against a specific organizational structure of their new business, reforming their organizational culture, developing innovation processes, building the competencies to successfully innovate according to these processes, pricing their software innovations, skilling up and reorganizing their sales force, understanding how customers' buying of ISS are different, and learning how buying an ISS affects their customer relationship. Moreover, our study provides reasons as to *why* each of the clusters is likely to pose a challenge for managers of industrial manufacturers.

Industrial manufacturers that aim to bring ISS to market are entering the unknown. The challenges outlined above exhibit high importance, rendering it difficult to prioritize one challenge over the other. Thus, managers may be well advised to tackle these challenges simultaneously. This endeavor poses a challenge in itself. To follow a structured approach, we could envision that managers may benefit from setting up a professional multi-project management office that systematically prepares marketing for the introduction of ISS.

Second, our study provides first guidance on how managers might deal with these challenges. Specifically, the quotes from our focus group study provide managers with ideas and insights from senior managers of leading industrial manufacturers. Managers may use these items to reflect on potential pathways when bringing ISS to market. To this end, Table 6 synthesizes key items extracted from our focus groups.

Table 6 Ideas and Insights from Focus Groups

Focus Area	Ideas and Insights
Marketing strategy	● ISS can be a direct source of revenue ● ISS may help to maintain or strengthen customer relationships ● You will encounter difficulties finding the right target customer ● ISS are new to market and thus value assumptions need to be proven to articulate appropriate value propositions ● ISS are small in volume and difficult to grow but strategically important ● You are likely going to have conflicts with the traditional business unit
Marketing organization	● Integrating business units may help to transfer knowledge between the core and the new organization ● Separation of structures gives new teams more freedom and enables them to move faster ● ISS teams need the culture of accepting failure ● Management needs to carefully avoid demotivation of the current workforce
Innovation	● ISS need a greater customer focus and thus agile methods to be developed ● The business unit needs a new set of technical skills including data analytics and software development ● Hiring customers may have a positive impact ● Consider the value of a customer's data for your company as a means for turning it into a long-term source of revenue when pricing your offerings
Sales	● Salespeople need to be able to consult customers as well as communicate the offering's value ● Estimate whether and which retraining of the current salesforce is possible in the first place ● Keep in mind that separated sales teams get into dispute about the ownership of the relationship between old and new units ● You need to define roles hold responsible when customers encounter problems to avoid confusion and ensure a customer's success ● When having multiple salespeople in charge, traditional incentive schemes may give rise to conflicts
Customer behavior	● Changing buying centers influence decision-making processes ● Consider the customer's revised resource allocation ● You need to take the customer's viewpoint to understand how your offering is actually used ● Make yourself clear why you are doing it and assess the effects on the subsequent customer relationship

References

Ageron, B., Bentahar, O., & Gunasekaran, A. (2020). Digital supply chain: Challenges and future directions. *Supply Chain Forum: An International Journal, 21*(3), 133–138.

Alavi, S., Böhm, E., Habel, J., Wieseke, J., Schmitz, C., & Brüggemann, F. (2021). The ambivalent role of monetary sales incentives in service innovation selling. *Journal of Product Innovation Management, 39*(3), 283–291. https://doi.org/10.1111/jpim.12600

Alavi, S., Habel, J., Schwenke, M., & Schmitz, C. (2019). Price negotiating for services: Elucidating the ambivalent effects on customers' negotiation aspirations. *Journal of the Academy of Marketing Science*. https://doi.org/10.1007/s11747-019-00676-4

Allmendinger, G., & Lombreglia, R. (2005). Four strategies for the age of smart services. *Harvard Business Review, 83*(10), 131–145.

Anderson, J. C., & Wynstra, F. (2010). Purchasing higher-value, higher-price offerings in business markets. *Journal of Business-to-Business Marketing, 17*(1), 29–61.

Ansoff, H. I., & Leontiades, J. C. (1976). Strategic portfolio management. *Journal of General Management, 4*(1), 17.

Ardolino, M., Rapaccini, M., Saccani, N., Gaiardelli, P., Crespi, G., & Ruggeri, C. (2018). The role of digital technologies for the service transformation of industrial companies. *International Journal of Production Research, Taylor & Francis, 56*(6), 2116–2132.

Atuahene-Gima, K. (1997). Adoption of New Products by the Sales Force: The Construct, Research Propositions, and Managerial Implications. *Journal of Product Innovation Management, 14*(6), 498–514.

Backhaus, K., & Muehlfeld, K. (2005). Strategy dynamics in industrial marketing: A business types perspective. *Management Decision, 43*(1), 38–55.

Backhaus, K., & Voeth, M. (Eds.). (2004). Handbuch Industriegütermarketing, Gabler Verlag. https://doi.org/10.1007/978-3-322-91260-2.

Backman, J. (1953). *Price practices and price policies* (1st ed.). Ronald Press.

Björkdahl, J. (2009). Technology cross-fertilization and the business model: The case of integrating ICTs in mechanical engineering products. *Research Policy, 38*(9), 1468–1477.

Blank, S. (2013). Why the lean Start-up changes everything. *Harvard Business Review, 91*(5), 64–72.

Bolton, M. (2004). Customer centric business processing. *International Journal of Productivity and Performance Management, 53*(1), 44–51.

Brock, J.K.-U., & Zhou, J.Y. (2012). Customer intimacy, edited by Bettis-Outland, H. *Journal of Business & Industrial Marketing, 27*(5), 370–383.

Brown, S.P., Evans, K.R., Mantrala, M.K., & Challagalla, G. (2005). Adapting motivation, control, and compensation research to a new environment. *Journal of Personal Selling and Sales Management, XXV*(2), 155–167.

Calantone, R. J., Cavusgil, S. T., & Zhao, Y. (2002). Learning orientation, firm innovation capability, and firm performance. *Industrial Marketing Management, 31*(6), 515–524.

Calantone, R. J., Tamer Cavusgil, S., Schmidt, J. B., & Shin, G. C. (2004). Internationalization and the Dynamics of Product Adaptation-An Empirical Investigation. *Journal of Product Innovation Management, 21*(3),185–198.

Chen, A., Peng, N., & Hung, K.-P. (2015). Managing salespeople strategically when promoting new products—Incorporating market orientation into a sales management control framework. *Industrial Marketing Management, 47*, 147–155.

Chowdhury, S., Haftor, D., & Pashkevich, N. (2018). Smart Product-Service Systems (Smart PSS) in Industrial Firms: A Literature Review. *Procedia CIRP, 73*, 26–31.

Christensen, C. M., Hall, T., Dillon, K., & Duncan, D. S. (2016). Know your customers 'jobs to be done.' *Harvard Business Review, 94*(9), 54–62.

Cooper, R. G. (2019). The drivers of success in new-product development. *Industrial Marketing Management, 76*, 36–47.

Corbridge, C., Rugg, G., Major, N. P., Shadbolt, N. R., & Burton, A. M. (1994). Laddering: Technique and tool use in knowledge acquisition. *Knowledge Acquisition, 6*(3), 315–341.

Deloitte. (2018). The rise of the Ddigital supply network, Deloitte. https://www2.deloitte.com/content/dam/insights/us/articles/3465_Digital-supply-network/DUP_Digital-supply-network.pdf.

Docters, R.G. (Ed.). (2004). *Winning the Profit Game: Smarter Pricing, Smarter Branding*. McGraw-Hill.

Dubinsky, A. J., & Rudelius, W. (1981). Selling techniques for industrial products and services: Are they different? *Journal of Personal Selling and Sales Management, 1*(1), 65–75.

Eggert, A., Hogreve, J., Ulaga, W., & Muenkhoff, E. (2011). Industrial services, product innovations, and firm profitability: A multiple-group latent growth curve analysis. *Industrial Marketing Management, 40*(5), 661–670.

Eggert, A., Ulaga, W., & Gehring, A. (2020). Managing customer success in business markets: Conceptual foundation and practical application. *Journal of Service Management Research, 4*(2–3), 121–132.

Festa, G., Rossi, M., Kolte, A., & Marinelli, L. (2021). The contribution of intellectual capital to financial stability in Indian pharmaceutical companies. *Journal of Intellectual Capital, 22*(2), 337–359.

Garay-Rondero, C. L., Martinez-Flores, J. L., Smith, N. R., Caballero Morales, S. O., & Aldrette-Malacara, A. (2019). Digital supply chain model in industry 4.0. *Journal of Manufacturing Technology Management, 31*(5), 887–933.

GE. (2021). GE earnings reports | Investor events & reports | General electric. https://www.ge.com/investor-relations/events-reports. Accessed 22 Dec 2021.

Ghobakhloo, M. (2020). Determinants of information and digital technology implementation for smart manufacturing. *International Journal of Production Research, 58*(8), 2384–2405.

Girotra, K., & Netessine, S. (2011). How to build risk into your business model. *Harvard Business Review, 89*(5), 100–105.

Grönroos, C., & Voima, P. (2013). Critical service logic: Making sense of value creation and co-creation. *Journal of the Academy of Marketing Science, 41*(2), 133–150.

Heinonen, K., & Strandvik, T. (2015). Customer-dominant logic: Foundations and implications. *Journal of Services Marketing, 29*(6–7), 472–484.

Hilton, B., Hajihashemi, B., Henderson, C.M., & Palmatier, R.W. (2020). Customer Success Management: The next evolution in customer management practice?. *Industrial Marketing Management, 90*, pp. 360–369.

Hinterhuber, A. (2008). Customer value-based pricing strategies: Why companies resist. *Journal of Business Strategy, 29*(4), 41–50.

Hitachi ABB. (2021). Axis. https://www.hitachiabb-powergrids.com/offering/solutions/asset-and-work-management/specialized-asset-and-work-management/axis. Accessed 2 Sept 2021.

Hochstein, B., Rangarajan, D., Mehta, N., & Kocher, D. (2020). An Industry/academic perspective on customer success management. *Journal of Service Research, 23*(1), 3–7.

Hohenberg, S., & Homburg, C. (2016). Motivating sales reps for innovation selling in different cultures. *Journal of Marketing, 80*(2), 101–120.

Honeywell. (2021), Symphonite – Software for supply chain and production Mmanagement. https://www.honeywellprocess.com/en-US/explore/products/advanced-applications/software-production-management/Pages/default.aspx. Accessed 2 Sept 2021.

Howell, J. M., Shea, C. M., & Higgins, C. A. (2005). Champions of product innovations: Defining, developing, and validating a measure of champion behavior. *Journal of Business Venturing, 20*(5), 641–661.

Hsu, C.-W. (2005). Formation of industrial innovation mechanisms through the research institute. *Technovation, 25*(11), 1317–1329.

Kerievsky, B. J. (2002). Stop Over-engineering! *Software Development, 10*(4), 1–4.

Kindström, D., & Kowalkowski, C. (2014). Service innovation in product-centric firms: A multidimensional business model perspective. *Journal of Business and Industrial Marketing, 29*(2), 96–111.

Kindström, D., Ottosson, M., & Carlborg, P. (2018), Unraveling firm-level activities for shaping markets. *Industrial Marketing Management, 68*, pp. 36–45.

Kleinschmidt, E. J., & Cooper, R. G. (1991). The impact of product innovativeness on performance. *Journal of Product Innovation Management, 8*(4), 240–251.

Kohtamäki, M., Parida, V., Oghazi, P., Gebauer, H., & Baines, T. (2019). Digital servitization business models in ecosystems: A theory of the firm. *Journal of Business Research, 104*(November) pp. 380–392. https://doi.org/10.1016/j.jbusres.2019.06.027.

Kolte, A., Capasso, A., & Rossi, M. (2018). Critical analysis of failure of Kingfisher Airlines. *International Journal Managerial and Financial Accounting, 10*(4), 19.

Kotler, P., & Keller, K.L. (2016). *Marketing Management, 15 [edition].* Pearson.

Kotter, J. P. (2012). *Leading change*. Harvard Business Review Press.

Iansiti, M., & Lakhani, K. R. (2014). Digital ubiquity: How connections, sensors, and data are revolutionizing business. *Harvard Business Review, 92*(11), 90–99.

Lee, N., & Greenley, G. (2010). The theory-practice divide: Thoughts from the editors and senior advisory board of EJM. *European Journal of Marketing, 44*(1–2), 5–20.

Lerch, C., & Gotsch, M. (2015). Digitalized Product-service systems in manufacturing firms: A case study analysis digitalized Product-service systems in manufacturing firms. *Research-Technology Management,* 58(5), 45-52. https://doi.org/10.5437/08956308X5805357.

Liozu, S., & Ulaga, W. (2018). *Monetizing data: A practical roadmap for framing, pricing, & selling your B2B digital offers*. Value Innoruption Advisors Publishing.

Macdonald, E.K., Kleinaltenkamp, M., & Wilson, H.N. (2016). How business customers judge solutions: Solution quality and value in use. *Journal of Marketing, 80*(May), 96–120.

Macnaghten, P., & Myers, G. (2004). Focus Groups : The Moderator's View and the Analyst's View. In C. Seale, G. Gobo, J.F. Gubrium & D. Silverman (Eds.)*, Qualitative Research Practice* (pp. 65–80). SAGE Publications.

Mann, T., & Gryta, T. (2020). The dimming of GE's bold digital dreams. *Wall Street Journal,* 18 July. https://www.wsj.com/articles/the-dimming-of-ges-bold-digital-dreams-11595044802. Accessed 22 Dec 2021.

Matthyssens, P., & Vandenbempt, K. (1998). Creating competitive advantage in industrial services. *Journal of Business & Industrial Marketing, 13*(4), 339–355.

Micheal, K., Rochford, L., & Wotruba, T. R. (2003). How new product introductions affect sales management strategy: The impact of type of 'Newness' of the new product. *Journal of Product Innovation Management, 20*(4), 270–283.

Moncrief, W. C., & Marshall, G. W. (2005). The evolution of the seven steps of selling. *Industrial Marketing Management, 34*(1), 13–22.

Nordin, F., & Kowalkowski, C. (2010). Solutions offerings: A critical review and reconceptualisation. *Journal of Service Management, 21*(4), 441–459.

Novet, J. (2018). Microsoft's sales overhaul a year ago has led to all-time high stock price and continuing cloud growth, CNBC, 16 July. https://www.cnbc.com/2018/07/13/how-microsofts-sales-reorganization-has-impacted-its-business.html. Accessed 30 Dec 2021.

O'Reilly, C. A., & Tushman, M. (2016). *Lead and disrupt: How to solve the innovator's dilemma*. Stanford business Books, an imprint of Stanford University Press.

O'Reilly, C. A., & Tushman, M. L. (2004). The ambidextrous organization. *Harvard Business Review, 82*(4), 74–81.

Plouffe, C. R., Williams, B. C., & Wachner, T. (2008). Navigating difficult waters: Publishing trends and scholarship in sales research. *Journal of Personal Selling and Sales Management, 28*(1), 79–92.

Porter, M. E., & Heppelmann, J. E. (2015). How smart, connected products are transforming companies. *Harvard Business Review, 93*(10), 96–114.

Raddats, C., Kowalkowski, C., Benedettini, O., Burton, J., & Gebauer, H. (2019). Servitization: A contemporary thematic review of four major research streams. *Industrial Marketing Management, 83*(November), 207–223.

Reynolds, T. J., & Gutman, J. (1988). Laddering theory, method, analysis, and interpretation. *Journal of Advertising Research, 28*(1), 11–31.

Rossi, M., Festa, G., Kolte, A., & Shams, R. (2020). The strange case of the Jet Airways bankruptcy: A financial structure analysis. *The Journal of Operational Risk,* 15(4), 37-52. https://doi.org/10.21314/JOP.2020.245.

Salvini, G., Hofstede, G.J., Verdouw, C.N., Rijswijk, K., & Klerkx, L. (2020). Enhancing digital transformation towards virtual supply chains: a simulation game for Dutch floriculture. *Production Planning & Control*, 33(13), 1252-69.

Schein, E.H. (2004). Organizational Culture and Leadership, 18th BledCom International Public Relations Research Symposium. https://doi.org/10.1080/09595230802089917.

Schneider Electric. (2021). EcoStruxure Machine Expert (SoMachine) | Schneider Electric Global. https://www.se.com/ww/en/product-range/2226-ecostruxure-machine-expert-somachine/. Accessed 30 Dec 2021.

Sheth, J. N., & Sharma, A. (2008). The impact of the product to service shift in industrial markets and the evolution of the sales organization. *Industrial Marketing Management, 37*(3), 260–269.

Sklyar, A., Kowalkowski, C., Tronvoll, B., & Sörhammar, D. (2019). Organizing for digital servitization: A service ecosystem perspective. *Journal of Business Research, 104*(November), 450–460.

Song, X. M., & Montoya-Weiss, M. M. (1998). Critical development activities for really new versus incremental products. *Journal of Product Innovation Management, 15*(2), 124–135.

Steenburgh, T., & Ahearne, M. (2018). How to Sell New Products. *Harvard Business Review, 96*(6), 92–101.

Suppatvech, C., Godsell, J., & Day, S. (2019). The roles of internet of things technology in enabling servitized business models: A systematic literature review. *Industrial Marketing Management*, *82*(October), 70–86.

Terho, H., Eggert, A., Haas, A., & Ulaga, W. (2015), How sales strategy translates into performance: The role of salesperson customer orientation and value-based selling. *Industrial Marketing Management, 45*(1), 12–21.

Terho, H., Eggert, A., Ulaga, W., Haas, A., & Böhm, E. (2017). Selling value in business markets: Individual and organizational factors for turning the idea into action. *Industrial Marketing Management, 66*, 42–55.

Terho, H., Haas, A., Eggert, A., & Ulaga, W. (2012). 'It's almost like taking the sales out of selling'-Towards a conceptualization of value-based selling in business markets. *Industrial Marketing Management, 41*(1), 74–185.

Tripsas, M. (2009). Technology, identity, and inertia through the lens of 'The digital photography company.' *Organization Science, 20*(2), 441–460.

Tuli, K. R., Kohli, A. K., & Bharadwaj, S. G. (2007). Rethinking customer solutions: From product bundles to relational processes. *Journal of Marketing, 71*(3), 1–17.

Ulaga, W., & Loveland, J.M. (2014), Transitioning from product to service-led growth in manufacturing firms: Emergent challenges in selecting and managing the industrial sales force. *Industrial Marketing Management, 43*(1), 113–125.

Ulaga, W., & Reinartz, W. J. (2011). Hybrid offerings: How manufacturing firms combine goods and services successfully. *Journal of Marketing, 75*(6), 5–23.

Valencia, A., Mugge, R., Schoormans, J. P. L., & Schifferstein, R. (2015). The design of smart Product-service systems (PSSs): An exploration of design characteristics design thinking view project food experience view project. *International Journal of Design, 9*(1), 13–28.

van der Borgh, M., & Schepers, J. (2018). Are conservative approaches to new product selling a blessing in disguise? *Journal of the Academy of Marketing Science, 46*(5), 857–878.

Venkatraman, N.V. (2017). The digital industrial ambition in GE's Reset, Medium, 11 December. https://medium.com/@nvenkatraman/ges-reset-and-the-digital-industrial-ambition-a388846ac1a8. Accessed 22 Dec 2021.

Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *The Journal of Strategic Information Systems, 28*(2), 118–144.

Voigt, K.-I., Müller, J.M., Veile, J.W., & Schmidt, M.-C. (2019). Sharing information across company borders in industry 4.0, Artificial Intelligence and Digital Transformation in Supply Chain Management: Innovative Approaches for Supply Chains, 1st edition., presented at the Hamburg International Conference of Logistics, 57–85.

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Part III: Using Technology and Innovation to Increase Sales and Study Consumers

Demand Forecasting Methods and the Potential of Machine Learning in the FMCG Retail Industry

Thomas Aichner and Valentin Santa

Abstract

Forecasting of future demand and sales is a key issue for companies. The purpose of this chapter is to investigate opportunities and challenges of machine learning forecasting methods in contrast to traditional forecasting methods, specifically in the supermarkets and grocery stores industry. The main two goals of this research are to close a gap in research about the potential of machine learning forecasting methods and to inform retail professionals about which steps are necessary to make their businesses ready to take the potential of machine learning forecasting methods into serious consideration. Based on semi-structured expert interviews, three main contributions are derived: (a) an examination of the current applications of demand forecasting used in practice as well as an assessment of the ability and necessity to implement machine learning forecasting methods, (b) an outline of three major steps to be considered prior to the implementation of machine learning forecasting methods which are related to the staff, the data, and the ERP system, and (c) the insight that the forecasting process starts with the individual customer, which opens the opportunity to influence the demand with customised offers.

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1 Introduction

Demand forecasting is the area of predictive analytics dedicated to understanding consumer demand for goods or services. That understanding is used to forecast consumer demand and sales. Forecasting demand is complex (O'Neil, 2019) and must be highly accurate, as forecasts are the foundation of every advanced analytical solution (Leclaire, 2011). Knowledge of how demand will fluctuate enables the retailer to keep the right amount of stock on hand. If demand is underestimated, sales can be lost due to the lack of supply of goods. If demand is overestimated, big amounts of the retailer's working capital are tied.

Data shows that about 65% of retailers consistently stock out on fast-moving categories and products, and 63% have too much inventory in slow-moving categories and products (Symphony Retail, 2018). In fact, retail buyers face significant challenges in understanding the complex consumer behaviour patterns when taking the right decisions and actions in the procurement of stock (Wong & Guo, 2010). Kilcourse (2018) adds that retailers need to understand where the demand has been triggered, taking both offline and online demand into consideration. Hence, forecasting in recent times is much more complex than in the past—but also more advanced. The input variables available today are more sophisticated, for example sensitive analyses, trade area data such as store openings or events, and competitive data (Kilcourse, 2018).

In the grocery retail industry, accurate demand forecasting can improve business performance significantly. Precise forecasting methods are central to profitability, as they can generate a positive ripple effect throughout the supply chain (Kilcourse & Partner, 2018). Retailers of fast-moving consumer goods (FMCG) understand that accurate demand forecasting across all categories is key to staying competitive, profitable, and to increasing sales. Key expectations of accurate forecasting methods are, on the one hand, a reduction in manual intervention and wastage, and on the other, an increase in sales from reducing out-of-stock situations, customer satisfaction, loyalty, and customer insights (Symphony Retail, 2018a).

In the highly competitive online and offline grocery retail sectors, demand forecasting of FMCG is even more challenging for both researchers and industry leaders, and even more tricky for small- and medium-size enterprises. At the time of this research, the differences in the adoption of machine learning forecasting methods and retailers using traditional forecasting methods were significant. A large number of comparative studies between traditional and machine learning forecasting models have been conducted in the literature (Adya & Collopy, 1998). Adya and Collopy (1998) add that the linear nature of traditional models is one of their major limitations, however, both linear and non-linear models have shown promising results. Chu and Zhang (2003) come to similar conclusions despite the better performance of machine learning models in most cases. Besides that, Zhang et al. (1998) argue that the result depends on the underlying conditions by a certain method in comparison to other methods. Feizabadi et al. (2018) mention that

their research offers an evaluation of machine learning forecasting methods for functional products which normally have long life cycles, few variants, and a relatively stable and predictable demand. However, Feizabadi et al. (2018) suggest that further research is needed in critical areas like FMCG markets where product life cycles are short and demand patterns fluctuate. In such markets, forecasting is particularly risky (Kilcourse, 2018), and more research is required to make retailers aware of the challenges and capabilities needed for implementing more sophisticated forecasts (Aktas & Meng, 2017).

The purpose of this chapter is to investigate demand forecasting methods currently applied by grocery retail chains. More in detail, this chapter focuses on the usefulness, challenges, and required capabilities of presently used forecasting models as well as the perceived potential integration of machine learning techniques for forecasting demands of FMCG. Motivated by the large number of different techniques described in academic publications—and the required commitment of retail professionals for understanding the techniques and respective usefulness as well as for finding the most appropriate methods for their needs is high—this chapter will give retailers a theoretical overview of available forecasting methods and practical insights from the retailing industry. Moreover, corporate decision makers will become aware of the challenges and capabilities needed for possible improvements of their forecasting processes. In any case, it is important to keep in mind that the issues here are not discussed from a data scientist point of view but are targeted at a manager's initial conception and applicability.

The following parts are structured as follows: First, the literature on demand forecasting methods is reviewed, comparing and contrasting traditional and machine learning forecasting methods with a focus on different statistical and machine learning techniques. Second, the forecasting practices used in the industry are explored. It is highlighted what challenges and capabilities grocery retailers are currently facing in the development and implementation of machine learning forecasting methods. Next, this chapter investigates the use of artificial intelligence in the retail industry. Finally, the results from semi-structured interviews with industry experts are presented and discussed, and recommendations are formulated.

2 Traditional, Modern, and Hybrid Forecasting Methods

Before comparing and discussing the currently used forecasting methods by retailers, it is necessary to distinguish three levels of forecasting necessities within the retail industry: the strategic level, the tactical level, and the operational level (Fildes et al., 2018). According to Fildes et al. (2018), long-term strategic decisions require forecasts due to market and competitive factors changing the business development environment. Further, due to rising online sales in certain countries, strategic forecasts are necessary on both a country-specific and aggregated level. Tactical decisions, according to Fildes et al. (2018), involve advertisement and promotional decisions as well as product assortment decisions for each product category. Besides that, the key metric is the 'on-shelf

availability of products', which consists of a strong interdependency of product demand forecasts, inventory management, and distribution system. Product demand forecasts on the wholesale level determine the organisation of workforce and picking rate in the warehouse and distribution system, after-sales services, and also the purchasing plan. Moreover, forecasting on an operational level is decisive for strategic and tactical decisions (Fildes et al., 2018). In the short term, separate and accurate demand forecasts for each stock keeping unit (SKU) per store can increase customer satisfaction, reduce inventory surpluses, avoid write-off costs of obsolete products, and increase sales revenue. However, such disaggregated forecasts on the store level are influenced by patterns which are different for each SKU as well as for each region.

This chapter focuses on the forecasting methods used by retail chains carrying a wide range of products to either estimate aggregated sales figures per SKU on a tactical wholesale level or the amount of each SKU sold on the operational store level. The aggregated retail sales forecasting methods for tactical and operational decisions share common issues like trends and seasonality but raise different questions and data characteristics (Fildes et al., 2018). Product level demand forecasts are calculated with many individual time series and for short time frames, as opposed to long-term forecasts for aggregated demand forecasts (Chambers et al., 1971). Pricing decisions, space allocation, ordering, inventory management, and stock availability are all dependent upon single stock keeping unit's forecasts.

To start with, predictive analytics is a subfield of business analytics and has the ability to gain insights from historical patterns, current conditions, and future events (Lee et al., 2022). Demand forecasting models are split into three categories: qualitative, quantitative, and hybrid models (Logility, 2016; Ren et al., 2019). Quantitative methods or analytical methods are further subdivided into mathematical or statistical methods and artificial intelligence or machine learning methods (Guo et al., 2013). Qualitative methods and statistical methods are widely used in practice and are, hence, considered as traditional forecasting methods. For the purpose of this chapter, artificial intelligence or machine learning methods are considered as modern forecasting methods. The third category of hybrid forecasting models combines different methods.

2.1 Traditional Forecasting Methods

Traditional forecasting methods include both qualitative and quantitative approaches. Qualitative forecasting techniques rely on the experiences and instincts of business experts. They heavily rely on the interpretation of available information and professional expertise. The quantitative approaches, on the other hand, use historical data as well as projections and other data points in their predictions. Overall, they prove to be more reliable and accurate than qualitative approaches. Relative to the amount of data available to businesses today, quantitative methods seem to be extremely useful for decision making. Qualitative methods, on the other hand, should be used when a quantitative approach is not possible.

2.1.1 Qualitative Forecasting Methods

Qualitative forecasting methods are human judgments which aim to capture qualitative information in numerical terms (Chambers et al., 1971). Chambers et al. (1971) described five basic qualitative forecasting methods: market research, the Delphi method, panel consensus, visionary forecast, and historical analogy. Amongst these, market research and the Delphi method are the most accurate methods. However, they are also the most time consuming and costly, and they require several sets of reports over time. In general, qualitative forecasting methods are used when the data available is scarce and not sufficient for using a quantitative approach. Qualitative forecasting aims to achieve logical, unbiased, and systematic results according to the factors considered.

Market research is particularly meaningful to analyse the characteristics of demand (Doganis, 2010). It consists of attitudinal and behavioural customer surveys to build customer profiles about sociological, demographical, and economical changes. Market research is particularly important for estimating future demand when past data is missing or inadequate.

The Delphi technique requires a consensus forecast and the questioning of knowledgeable interview partners (Aichner et al., 2020a) and involves an interrogation of experts through a sequence of questionnaires (Aichner et al., 2019). This technique is not suitable for detailed single-product predictions but rather for aggregated forecasts of future trends or market growth. Key factors for an accurate Delphi survey forecasting model are experts' knowledge, their motivation to take part in the study, and panel size. The difficulty is, however, to find experts in the specific fields with equal or similar conceptions of forecasting within an organisation. Uysal and Crompton (1985) talk about the term 'probability' in forecasting results and say that the Delphi technique is only a 'subjective assessment of the possibility' rather than a precise statistical occurrence.

In conclusion, qualitative forecasting methods are either used where trends or possible demand alterations are difficult to capture or where historical data is unavailable. The forecasts are subjective, based on intuition, and mainly from expert opinions, and the major problem is the lack of accuracy. However, in the rapidly changing retail environment, judgmental forecasting is still the most used approach for evaluating store potential (Fildes et al., 2018).

2.1.2 Quantitative Forecasting Methods

Quantitative forecasting methods use numbers and historical data to predict upcoming events. Traditional quantitative forecasting methods are called statistical methods. The three reasons statistical methods are commonly used by organisations are easiness of use and implementation, time efficiency, and easiness of coexistence with other business departments (Ren et al., 2019). These techniques are essentially based on historical data and create time series trends. The performance of statistical methods is overall acceptable, however, in the era of big data, more advanced procedures are better in handling data with irregular patterns and high variability (Beheshti-Kashi et al., 2015). Statistical methods are particularly helpful for forecasting stable product demands (Ren et al., 2019),

which use fewer variables and experience less variability. Common statistical forecasting methods are regression analysis, multiple regression analysis, exponential smoothing, iterative reweighted least-squares technique, autoregressive moving average model (ARMA) as well as autoregressive integrated moving average model (ARIMA), Bayesian approach, item classification method, and greedy aggregation-decomposition method, amongst others.

The modelling of ARMA models is described as a stochastic structure of dependence between time series (Box et al., 2008). The dependent variable is represented by the dependent explanatory variable and the arbitrary variation, which could be seasonal factors. This type of modelling allows the relation between magnitude and timing of time series. The ARMA modelling aims to overcome disturbances that affect the outcome in a negative way, requires historical sales data, and is able to consider regression and seasonal effects (Box et al., 2008). Ren et al. (2019) add that time series forecasting allows stable forecasts and recognises regular sales patterns.

The Bayesian method is useful for obtaining forecasts for single SKUs with limited historical sales data (Rossi & Allenby, 2003). The method 'borrows' data points from similar products and attributes them to missing data (Yelland & Dong, 2014). The hierarchical Bayesian approach basically gives single SKUs similar data structures by combining category estimates with the individual level data. Ren et al. (2019) mention that the Bayesian approach assumes normal distribution demand but is able to consider seasonal effects. Hence, the results exceed many other methods in practice (Ren et al., 2019).

Li and Lim (2018) reveal a better method for intermittent SKU-store-day demand forecasting using the greedy aggregation-decomposition method. Besides that, Li and Lim (2018) introduce the mean absolute scaled error to better evaluate accuracy. Compared to other statistical methods, this technique utilises both aggregate and disaggregate forecasts, namely historical sales data as well as sales transactions, and is able to forecast intermittent demand, recognising cross-sectional and seasonal effects.

The usefulness of traditional statistical methods is, however, questioned (Chern et al., 2015). It is contended that statistical methods are unsuitable for irregular and volatile demand, especially for short time periods. Further, non-seasonal sales trends reduce the accuracy of traditional forecasts significantly. It is further argued that traditional forecasting models include information gained from past data but cannot anticipate macroeconomic events (Sagaert et al., 2017). In practice, costly and potentially biased expert judgements fulfil this role.

To sum up, statistical forecasting methods are widely regarded as useful for modelling the impact of a business decision because of the easiness of its interpretation and implementation (Fildes et al., 2018). Univariate forecasting methods, for example, are suitable for forecasting products with rare promotions or low price elasticity of demand. Multiple linear regression forecasting models including price changes, marketing campaigns, promotion features, seasonality, and weather conditions are able to represent nonlinearities. However, modern forecasting methods are more sophisticated and able to avoid some of the obstacles of traditional methods discussed above.

2.2 Modern Forecasting Methods

Technological developments in computational power are one of the major reasons that artificial intelligence (AI) and, respectively, machine learning forecasting methods have evolved and been extensively tested in research (Ren et al., 2019). In addition to statistical methods, which are widely adapted quantitative methods, AI or machine learning methods are becoming increasingly popular because of their improved effectiveness (Singh et al., 2012). In practice, AI is rarely used by retailers. Thus, this chapter considers AI and machine learning methods as modern forecasting methods.

2.2.1 Artificial Intelligence in Demand Forecasting

A simple definition of artificial intelligence (AI) describes it as 'the study of the computations that make it possible to perceive, reason, and act' (Winston, 1992). AI research in demand forecasting is older than some may think. Carbonell et al. (1983) assessed AI and the learning ability of machines in processing data, developing new skills, and representing and discovering new facts. According to them, machine learning is the field of study of computer modelling learning processes.

In statistical forecasting, the model learns from predefined parameters and estimates a linear regression analysis. It is, however, more likely that multiple explanatory variables need to be related to the dependent variable in a nonlinear manner. Machine learning is used to extract useful knowledge and estimate parameters in contrast to traditional methods for a multitude of variables and when the relations between the variables are unclear, when the values of the variables change in real time, or when the causation is less important than the correlations between the variables (Syam & Sharma, 2018). The difference, Syam and Sharma (2018) note, is that machine learning models are better for scalability, real-time implementation, and cross-validated predictive accuracy.

Machine learning can be divided into supervised learning and unsupervised learning (Gareth et al., 2013). Supervised learning aims to predict or estimate a target value by extracting knowledge from multiple inputs. In contrast, unsupervised learning does not have a predefined output and can have multiple outputs relative to the data set. In supervised learning, the input data is responsible for the output, which means the quality of explanatory variables is responsible for the accuracy of the outcome (Gareth et al., 2013). An extended version of unsupervised learning are reinforcement learning algorithms that update themselves as new data emerges. Altmann-Richer (2018) argues that such a predictive model can be particularly useful for responsive demand forecasts which take into account real-time data, thus improving predictability.

The most commonly used AI forecasting methods are the artificial neural network (ANN) and the related evolutionary neural network (ENN), the extreme learning machine method (ELM), and the fuzzy logic method (Ren et al., 2019). Two additional commonly used methods are the long short-term memory algorithm (LSTM) and the recurrent neural network (RNN).

2.2.2 Machine Learning Forecasting Methods

Arthur Lee Samuel (1959) first used the term machine learning for the science of getting computers to act without being explicitly programmed. Today, machine learning is used in three statistical use cases: regression, classification, and clustering. Regression and classification can be solved through supervised machine learning, while clustering is an unsupervised machine learning approach (Liebergen & Bart, 2017).

The most popular machine learning forecasting model is ANN (Ren et al., 2019). Neural networks can be viewed as a 'black box' that solves problems differently than traditional methods (Syam & Sharma, 2018). This nature of unknown behaviour is a disadvantage (Lam et al., 2014), as it makes it harder to understand and challenging to find potential flaws. Researchers describe their structure as very complex with similar characteristics as the animal brain or inspired by the human brain (Chiang et al., 2006; Patterson & Gibson, 2017). Neural networks have various layers, neurons, and interconnections, so-called nodes, that generate patterns or processes from the input data. The layers are typically three: input, hidden, and output layer (Dayhoff & DeLeo, 2001). The feed-forward neural network is the basic structure where the data moves forward through the network (Patterson & Gibson, 2017), and the data is influenced by synaptic weights (i.e., connection weights) and the activation function type. The neural networks, using a supervised learning algorithm, analyse the data and apply adjusted synaptic weights to achieve a forecasting result for the target value (Chong et al., 2015).

ANN and the related advanced methods, such as ENN or RNN, provide satisfactory results (Mohammed & Al-Bazi, 2022; Ren et al., 2019). However, the execution can be time consuming. Sun et al. (2008) confirm this statement but value the efficiency and effectiveness of ANN. In environments where forecasting constantly needs to be up to date, the ELM can be more suitable (Sun et al., 2008). In an experiment conducted by Yu et al. (2012), an extended version of the ELM attained stable and accurate results and was even quicker than ANN. Furthermore, the ELM was found to be applicable for both time series and non-time series data.

When it comes to fuzzy logic models using historical data, they are able to identify and predict non-linear patterns. For example, these models can be used to predict hourly electrical power demand (Islas et al., 2021) and customers' future favourite colour in fashion (Hui et al., 2005). The group of RNN and long short-term memory algorithm (LSTM) is useful for large quantities of relating time series to forecast any kind of cross-series information (Bandara et al., 2019). In their study, Bandara et al., (2019) tested the method on an e-commerce data set from Walmart and achieved good results for category data sets.

Ren et al. (2019) show that, apart from fuzzy logic models, the ANN, RNN, ENN, ELM, and the LSTM methods require significant amounts of historical data to gain meaningful predictions, especially in the training phase of the models. The authors maintain that if this requirement is fulfilled, they potentially outperform traditional methods. However, other researchers claim that such forecasts have a problem with unstructured

and noisy data leading to wrong trend or demand forecasts (e.g., Xia & Wong, 2014). In this regard, Ren et al. (2019) sustain, however, that the machine learning models are able to solve such problems by recognising unstructured data sets. They suggest to first use machine learning to clean and prepare the big data and only subsequently for predictions. Once machine learning and AI methods are applied correctly, they can run in the background and provide real-time data (Chong et al., 2015).

As discussed above, traditional forecasting methods are still commonly used. However, such methods only include a small number of factors which influence the demand. This can result in high mean absolute percentage error (MAPE). Contrarily, for large amounts of data, the reliance on the p-value for testing the significance of each variable is a drawback of traditional methods leading to wrong correlations (George et al., 2014). Machine learning forecasting methods overcome such challenges because the combination of machine learning algorithms with big data results in the ability to analyse an unlimited number of causal factors and learn from past and current data at the same time.

Capturing both historical data and market variables, machine learning algorithms outperform traditional time series and linear models for functional products (Feizabadi & Shrivastava, 2018). However, Feizabadi and Shrivastava (2018) note that the results of their project are suitable for products with long life cycles, whereas for products with short life cycles and high volatility demand curves, the situation is more complex.

Chern et al. (2015) also criticize traditional forecasting techniques as unacceptable for products with irregular or non-seasonal sales trends. They developed a method that tries to understand how electronic word-of-mouth (eWOM), which is informal communication between customers through digital channels (Aichner et al., 2020b), affects product sales by analysing online review properties, reviewer characteristics, and review influence. The authors created an eWOM sales forecasting model which is especially suitable for products with abundant online reviews and as such outperforms traditional time series forecasting models for most of the examined consumer products. Another field of potential use of machine learning is natural language processing (NLP). In terms of forecasting, certain models can use NLP to recognise a potential consumer's willingness to purchase by detecting key words in speech or emails (Chong et al., 2015).

Summarising, machine learning-based forecasting is an excellent tool for modelling the impact of external variables such as competitor pricing and price changes. AI-enabled forecasting methods recognise trends and anomalies in demand, for example, by incorporating weather conditions into forecasts. The results reflect the impact that weather can have on sales, which is influenced by high- or low-quality weather forecast data. Machine learning methods are by no means limited and can be used to study and analyse the statistically significant impact of other events with sufficient available information, such as sporting events, concerts, or traffic density.

2.3 Hybrid Forecasting Methods

Both traditional and modern machine learning forecasting methods, as discussed in the previous sections, face certain limitations and have distinct advantages. One single 'best' method does not exist (Makridakis & Winkler, 1983). Hybrid models are combinations of statistical and machine learning methods which respectively try to overcome each other's limitations. For example, Aburto and Weber (2005) use a hybrid intelligent model, which combines ARIMA and neural networks, to forecast a supermarket's demand. They basically use the statistical model to predict linear behaviours and the machine learning approach to detect the non-linear relationships. The combination of two or more methods can target specific problems in more detail and overcomes the disadvantages of a single forecasting method.

Another hybrid approach combines a fuzzy interference system and an artificial neural network to make mean and short-term forecasts based on large numbers of products which are significantly influenced by explanatory parameters (Thomassey et al., 2005). The interference system quantifies the explanatory variables, also called a neuro-fuzzy system. It is able to readjust the forecast based on the previous week's sales, making it also suitable for short-term forecasts. Furthermore, this method reduces the data volume requirement for training the neural network.

As a third example, Wong and Guo (2010) developed an extreme learning machine and harmony search algorithm to solve the network generalisation problem. It first generates an initial forecast and then uses a heuristic fine-tuning process to improve accuracy.

These and other research projects on hybrid models show promising results for certain forecast problems and have several advantages compared to singular methods (Ren et al., 2019).

2.4 Evaluation of Forecasting Methods

There is no one best forecasting method. A particular forecasting method may work best for a specific data set while another method may outperform on a similar but different case. Therefore, the selection of the method needs to occur in consideration of a number of situational factors that can impact the choice. Evaluations of forecasting methods should be based on accuracy (e.g., mean squared error and mean absolute error) as well as speed, data sufficiency requirements, stability, and ease of use (Ren et al., 2019).

One of the major obstacles in the evaluation of forecasting models is underfitting or overfitting the model. Before making reliable predictions, the model needs to train with known data. The problem here is finding the best fit or number of explanatory variables for the training data set to include in the model.

The best model might seem to include as much information as possible to explain the target value, including all available variables, however, in practice this often results in poor forecasting performances (Doganis et al., 2006). If the model is too complex, the

variables explain the underlying relationship between the variables and the system, but they also capture the noise (Lever et al., 2016). If a model is able to forecast known data more accurately than it does with new data, a number of variables included might be insignificant (Xia et al., 2012). There exist several ways to handle the overfitting problem. One of the most popular is dropout regularisation, which attributes a specific dropout ratio to each neuron activation during forward propagation in the training set and, hence, ignores randomly selected neurons in the training phase of the model (Krauss et al., 2017). On the other hand, if not enough information or too few variables are included in the model, it can fail to detect or explain the signals in a data set, leading to underfitting (Doganis et al., 2006).

Finding the right balance between a high or low degree of variables which fit the training data set best remains an unsolved problem and a major challenge.

3 Forecasting Methods in Practice

Following the above review of forecasting methods, we will now specifically look at the retail industry and describe how retail chains handle demand forecasting and what explanatory variables impact the final results. New technological solutions for improving retail operations might work well in theory but they can be difficult to employ in practice. Thus, the challenges for retailers when changing business processes or implementing new technologies are investigated. AI, for instance, is one of the most transforming innovations and modern forecasting methods are benefitting from the potential of machine learning algorithms. Therefore, the potential of AI in the retail industry and its current applications is explored.

3.1 Forecasting Methods Used in the Retail Industry

There exists an unknown number of forecasting solutions on the market. Yet, most companies use simple univariate methods (Fildes et al., 2018; Mccarthy et al., 2006). The software solutions available today, such as SAP or SAS, are extensive. They provide simple univariate methods, multivariate methods, or even advanced solutions using machine learning. The solution that takes into consideration the complexity and reach of today's retail grocery supply chain, however, depends on both common and specific retailer characteristics (Fildes et al., 2018). Feizabadi and Shrivastava (2018) argue that even though AI-enabled demand forecasting is not yet fully developed, it is one of the most promising technologies. Nevertheless, retail organisations are slow in changing their forecasting practices (Fildes et al., 2018). Due to volatile variables—such as past economic performance; global economy conditions; environmental, industry, and organisation redirections; inflation rates; marketing efforts; seasonal demand; and the risk of inventory shortages, unsatisfied customer demands, and product backlogs (Krishna et al.,

2019)—developing robust and accurate forecasting models is of paramount importance for retailers.

3.1.1 Traditional Forecasting Methods in Practice

Traditionally, retailers first cleaned historical sales data and then de-seasonalized or normalized it, added market data for new product introductions, generated a raw forecast, applied promotional plans and new seasonal factors, and finally generated a forecast (Kilcourse, 2018). These forecasting methods used to work for most retailers over a long period of time because the basic idea for traditional methods is that history repeats itself, assuming that future demand drivers do not change (O'Neil, 2019). Input variables, according to Kilcourse (2018), used to be merely the historical and promotional data and seasonal factors for most of the retailers.

As one might expect, there are various additional crucial issues of the forecasting process to take into consideration in practice (Fildes et al., 2018). First of all, the high number of sophisticated software solutions available requires a careful review of the advantages considering the total cost of ownership (Fildes et al., 2018). Only a few organisations have successfully implemented advanced methods and even they still use simple methods for forecasting SKU per store demand. Secondly, due to a lack in historical data, new product forecasting relies predominantly on judgement. Further, a lack of research exists for forecasting products with intermittent demand. The next issue concerns the measurement of forecasting accuracy: The problem with accuracy measurements in forecasting is that they do not consider consequential orders, updated forecasts, or supply chain issues with lead times (Seaman, 2018).

Several studies (e.g., Fildes et al., 2018; Ma et al., 2016) address the necessity of technically and analytically skilled employees. Some companies have in fact set up separate data science teams, while many rely on business or IT people who remain in charge of forecasting, often lacking statistical knowledge. In practice, without expert employees in regression-based models, the models will not work, as they do not run independently. In addition, if such methods are used, human judgement still strongly accounts in the final decision because forecasting models do not perform flawlessly all the time (Wood & Reynolds, 2013). Human intervention is therefore not only necessary for new product demand forecasting but for all model-based forecasts. The last issue is a major reason why retailers prefer sticking to their established processes. Hence, the sharing of best practices and implementation of new methods is a barrier.

SPAR International, the licence holder of SPAR, for example, shares best practices on their internal database called 'SPAR Connect' with all SPAR partners. The statistical demand classification involves an interpretation of the assortments' historic sales as well as importing and cleaning external data sources, i.e. eliminating exceptionally rare patterns. Additionally used data are promotions, events, trends, seasonality, or weekday patterns. The final result is a forecasted demand for each product and location.

3.1.2 Modern Forecasting Methods in Practice

Since the late 2000s, many companies like Amazon, Netflix, and eBay have already implemented sophisticated AI quantitative models to leverage their data to create real value for their businesses (Harris, 2010). In the era of big data, machine learning forecasting algorithms automatically detect patterns, including many kinds of factors in the calculations, and make connections in huge batches of data that would be impossible, or take too long, for humans to recognise. A machine learning approach to demand forecasting can perform better than traditional time series and linear models for the functional products studied. Studies show that the accuracy of demand forecasts improves by around 6.4% on average when machine learning technology is applied (Feizabadi & Shrivastava, 2018). These findings, however, are not applicable in markets with short product life cycles and erratic demand patterns like in the grocery retail industry. In such markets, expert opinions primarily drive sales forecasting. The results are inefficiencies caused by a lack of predictability of sales (Andrews, 2018).

Another opportunity and challenge at the same time is the availability of big data. It is possible to track every kind of customer behaviour in-store or online, but the technical hurdle to translate the data for use in the model is a barrier. Nevertheless, Boone et al. (2019) foresee that traditional demand forecasting will be replaced by focusing on predicting the sales of individual customers. Again, translating individual demand patterns into aggregate SKU-level forecasts is a central element which has not yet been operationalised. In the case of including promotional data and seasonality, more complex models show certain advantages (Gur Ali & Pinar, 2016). The addition of more variables and classes of variables, called model dynamics, adds value to the model. The results of a study by Ma and Fildes (2017), for example, suggest a potential 3.42% higher profit.

Walmart, the world's largest retailer, uses a dynamic local linear seasonal model and Amazon, the world's number two, uses an autoregressive neural network. The problem for Walmart and Amazon is the scale of both organisations, which restrains the use of automated, hands-off forecasting processes. In addition, Amazon faces operational challenges due to the geographical mix of their customers affecting their optimal warehousing and distribution network. Besides that, the 'deep learning' neural network approach by Amazon includes seasonality, holidays, and price changes.

Example Amazon Forecast

In 2018, Amazon introduced Amazon Forecast, which is a fully managed deep learning service for time series forecasting. This machine learning tool uses historical series of data and is also able to handle large data sets with irregular trends. For example, it combines data sets such as price, discounts, and web traffic, adding further relevant associated variables such as product features, promotions, and store location, and automatically inspects the data, identifies key relationships, and selects the right

algorithm for forecasting. Amazon Forecast—based on the characteristics identified—trains the model and generates customised forecasts which are accessible on the platform, on the Amazon Forecast API to integrate in external applications, or available for download in CSV format (Poccia, 2019; Schmidt, 2022). ◄

3.1.3 Variables Used in Traditional and Modern Forecasting Methods

From the variables used in traditional methods, such as historical data, promotion, and seasonal data points, modern forecasting methods require more data points. This means it is necessary to identify additional variables relating to the properties of a product, the store, and the customer, as well as other internal and external variables. In the case of SKU per store forecasts, product properties that can influence the sales are brand, packaging, display area and visibility in the store, utility, promotional offers, and advertising, to mention but a few.

Properties that can have an impact on sales related to the store are city type, population density, store capacity, competition, store location, customer behaviour, marketing, etc. For example, products by well-known brands are expected to have higher sales compared to unknown branded products. Likewise, stores with exceptional employees potentially have higher footfall and, hence, higher sales (Krishna et al., 2019). According to Symphony Retail (2018a), key variables to include in forecasting models are seasonality, new store openings, new product introductions including substitutions or variants, school holidays, weather conditions of the store location, and sport events. In addition, Fildes et al. (2018) list the following potential variables such as competition, store demographics, and store accessibility, as well as characteristics such as distance to key competitors, population size, average income, number of households, commute patterns, car ownership, cost of parking, parking availability, opening hours, and product range.

To summarise, the store sales depend on many significant variables which are difficult to include in traditional forecasting models. However, due to the potential of machine learning and predictive modelling, the output or forecast for FMCG corresponds to a large set of valuable input variables, leading to an improved result (Ma & Fildes, 2017).

3.2 Implementing Forecasting Technologies

When a company decides to implement a traditional or machine learning forecasting method, it can face a multitude of challenges. They can be on a macro or micro level, for example with regard to reluctance, technical issues, the lack of capabilities, IT-integration, and supplier management (Aktas & Meng, 2017). Aktas and Meng (2017) grouped these major challenges into managerial issues, people and capabilities, and technical and data issues.

3.2.1 Managerial Issues

Managerial issues deal with an organisation's culture and attitude towards innovation and technological advancements. The biggest obstacle is the reliance on traditional processes and reluctance to apply new methods (Budak & Sarvari, 2021). Aktas and Meng (2017) suggest that businesses should be keen to innovate in respect to new ways of running operations, even though success is not guaranteed. Other key obstacles at this level are the willingness to integrate new technologies and the unwillingness of single employees or whole departments to share information even within organisations. People within businesses on different managerial levels tend to analyse and decide based on their information and in their own favour, often ignoring the bigger picture or withholding information. The process of sharing information is key in many aspects (Fox & Do, 2013). The fear that confidential information ends up in the wrong hands, however, is still widely common in many organisations. ERP systems and business intelligence systems are, according to Fox and Do (2013), not able to solve this problem completely but they can pave the way for more shared decisions based on all the information available.

3.2.2 People and Capabilities

The successful implementation of new technologies depends on people's willingness to participate and their individual capabilities. Lack of human resources, which varies across organisations, is a serious obstacle for putting progressive data analysis into action. In many cases, when trying to develop functions and integrate processes, the lack of a skilled labour force—both managers and employees—that is able to utilize the system efficiently is the key impediment. Organisations need the appropriate experts for interpreting the results to come up with valuable insights. Contrarily, when the retailer has a clear idea of what to analyse, third parties may be used for specific analyses and in-house data analysts develop the capabilities for interpreting most of the data. Aktas and Meng (2017) find that the main difficulties arise in reporting, data processing, lack of skills, and physical capabilities. Essentially, data must be processed in an appropriate way and constant software and hardware upgrades are necessary. Efficient data processing requires structured data sets, which take a big effort to generate in the beginning. In addition to the lack of physical capabilities, external difficulties also may appear. For example, suppliers who share wrong information or do not have the same IT capabilities hinder a seamless collaboration (Fox & Do, 2013).

3.2.3 Technical and Data Issues

The quality and availability of data is influenced by a company's IT integration and advancement. Organisations commonly run various systems handled by different business units, especially when they are operating a decentralised international business. Some organisations try to introduce a single ERP system for all departments while others use multiple systems within the firm. The result for those who do not generate the data in one format is poor data quality, which leads to significant disadvantages when it comes to demand forecasting. In a worst-case scenario, data is created manually and is prone to

mistakes (Aktas & Meng, 2017). In contrast to historical data, user-generated data comes in unstructured formats like text, images, clicks, shares, and likes (Schaer et al., 2019). The challenge is related to translating such data points into being feasible for analysis. Poor data is linked also with the issue of data credibility. The validation and correction of unstructured or inaccurate data require enormous amounts of resources (Redman, 2013). In this regard, developing advanced data-cleansing capabilities can be helpful (Ubaid et al., 2021).

The problem with poor data quality impacts the entire business operations. The goal of software developers is to create autonomous scalable models, robust to data limitations in the best case, but data issues only allow limited implementation. Bradlow, Gangwar, Kopalle, and Voleti (2016) expect that, due to the vast amounts of available data, micro-data about consumer behaviour can be integrated into more aggregated demand forecasts.

Another challenge for retailers when implementing new data analytics technologies is the concern among customers about data privacy as well as respective laws that hinder companies from linking data to customers. This fact may prevent retailers from implementing big data solutions.

3.3 Artificial Intelligence and Machine Learning in Retail

Despite these challenges, artificial intelligence is changing the approach to selling and sales in many industries, and it is massively transforming the retail sector, which is among the top industries investing in AI (Antonio, 2018). The retail industry exponentially produces large volumes of sensitive data, e.g. through checkout scanning, websites, and inventory management software. It seems to be almost impossible for retailers to use their entire data and turn it into an advantage, whereas, in theory, AI could analyse the data, make cognitive human-like decisions more accurately and faster, and solve problems autonomously (Sutherland, 2017). AI can be used to capture, store, clean, extract, analyse, and evaluate large amounts of retail data. It is likely going to evolve to be the primary data interpreter, which will help to increase fact-based business decisions. At the same time, the use of AI helps companies cut costs and optimises revenue (Russell & Norvig, 2021). The problem for retailers is therefore not the generation of data but the fact that they lack the knowledge about adopting AI into their business (Symphony Retail, 2019).

In a variety of reports, Coresight Research (2021) has been investigating the usage of AI in the retail industry. They found that, despite the fact that retailers are among the top investors in AI technologies, the adoption rate compared to other industries is still low. To give an overview of AI tools in retailing, the next sections rely on the CORE framework developed by Coresight Research and information provided by Coresight Research (2021) reports. The framework evaluates the application of AI in the four areas of communication, optimisation of pricing, rationalisation of inventory, and experiential retail.

3.3.1 Communication

In terms of communication, AI can facilitate three major ways of connecting with customers: personalised online experience, chatbots and conversational robots, and voice shopping.

Customers are increasingly seeking unique solutions (Jacob & Aichner, 2022) and hence personalised experiences. To start with, retailers are tailoring home pages, emails, and applications according to the customers' needs, facilitating a seamless shopping experience. In particular, for shoppers who use mobile shopping, personalisation is key because the mobile conversion rates are relatively low, and the small screens only allow for showcasing a limited amount of merchandise. Thus, AI filters relevant content for each individual. The result is that retailers have custom home pages, in-app experiences, and real-time product display adjustments that vary between customers. Consequently, this allows the measurement of conversion rates and collects data for customer segmentation based on buying habits, screen time, lifestyle, and preferences. Two examples of companies of e- and m-commerce software applications are Twiggle and Personali. Both solutions tailor online commerce to individual shoppers.

Conversational robots are likely to change the way customers interact when shopping in the near future. At the moment, the use of such robots in-store is low, but trials have already been completed successfully. 'Sophia', a robot by Hanson Robotics, can make eye contact, blink, move around naturally, and conduct conversations. Chatbots, instead, are widely used to help customers online and in-store. They are able to answer inquiries, make recommendations, and provide tailored information to customers. Conversational robots and chatbots are well-established cases of AI in retailing. They work through natural language processing and require historical data and information.

In voice shopping, customers speak to the device and shop through it by using voice commands (Hu et al., 2022). Examples include Amazon's Alexa, Google Assistant, or Alibaba's Tmall Genie, which are personal intelligent assistants and are seen as a replacement for speaking to a salesperson or customer support agent.

3.3.2 Optimisation of Pricing

Artificial intelligence can carry out real-time price optimisation and adjustments relative to consumer demand and competitor pricing. The algorithms often include internal data such as in-store metrics and other external data such as weather data, competitor promotions, and market conditions to automate pricing per product, channel, and store, respectively. For new product developments with no historical sales data, AI can propose the optimal price based on substitutes and competitor pricing.

It is generally known that managing promotions has become more complex in recent years. Currently, many companies still use spreadsheet applications or simple software to control the effectiveness of promotional spending. Hence, there is a lack in accuracy and meaningful insights which offers a great deal of optimisation potential. With AI, however, companies are theoretically able to automatically analyse this data on an ongoing basis and provide promotion-related insights. The information required is extracted from

different types of social media platforms, which include blogs, social networks, photo/video-sharing platforms (Aichner & Jacob, 2015), e-commerce sites, and other platforms where consumers are active on a daily basis. The insights can further be used to set price points, tweaking items on promotion. The 'Einstein Discovery' by Salesforce is an example of a tool that recommends promotions and pricing based on large amounts of data.

3.3.3 Rationalisation of Inventory

'The right stock at the right time at the right location.' That is retail rule number one. AI can increase efficiency, allocate inventory, forecast demand, and enable automated replenishment. Moreover, it can analyse shelf planograms and propose changes for better inventory planning. For example, robots with cameras can scan shelves and arrange replenishments and corrections. In particular for forecasting, Coresight Research (2021) found that machine learning is an excellent tool for modelling the impact of external variables such as competitor pricing and price changes and is able to recognise trends and anomalies in demand.

3.3.4 Experiential Retail

Coresight Research (2021) defines experiential retailing as offering an omnichannel solution that drives both online and offline shopping. The shopping experience of the customer should be seamless across all channels. Not only online but also in-store can AI-powered devices improve customised experiences with, for example, immediate inventory checking by staff members using tablets, smart mirrors, or fast check-outs. Fujitsu, for example, worked with H&M to roll out smart mirrors using facial recognition technology that make recommendations based on the customer's age, gender, style, and trends.

AI is in fact a very powerful tool and offers the opportunity to extract insights from the large amounts of data points available to the retailer. This can, finally, improve the customer's experience and overall satisfaction. Retailers can gain a competitive advantage if they adopt AI applications effectively. Currently, retailers have adopted AI mainly to improve their supply chain and in-store and e-commerce functions. Future fields of application are cashier-free checkouts or delivery bots.

3.4 Gaps in the Literature and Problem Definition

In the previous sections, we identified some key challenges regarding demand forecasting in retailing. Based on this, four research questions (RQ) are formulated.

First of all, the difference between the theoretical advancements, which show promising results when utilising traditional as well as machine learning forecasting models, and the current applications used in the industry prove the applicability of multiple

methods in various situations A large number of models work in specific cases with reliable accuracy but there is still potential for improvement. The ability of machine learning in pattern recognition and variable correlation opens up new doors to revolutionise the forecasting process by using sophisticated big data when overcoming the challenges and with sufficient capabilities. The first problem is to understand the current forecasting practices by retailers in the industry to potentially be able to recommend forecasting methods for specific use cases and help retail professionals in the selection of the best method. In particular, in the FMCG retail sector, forecasting is challenging because product life cycles are short and demand patterns fluctuate widely.

- *RQ1: What methods do grocery retailers currently use in their demand forecasting process?*

Secondly, an extensive number of studies on demand forecasting have been carried out and they have shown that modern forecasting methods gain more accurate results. The question is why retailers do not switch to more advanced forecasting methods and why they stick to their traditional practices. The second problem is therefore to understand the challenges retailers are currently facing and the challenges they have for implementing modern forecasting techniques. Besides that, this chapter investigates the capabilities needed for running proper forecasts by using current methods and those needed for modern methods. The capabilities go hand in hand with the challenges and are seen as key barriers for process advancements (Aktas & Meng, 2017).

- *RQ2: What challenges and capabilities do grocery retailers meet in their demand forecasting process?*

Thirdly, modern forecasting methods are not widely used by retailers in practice, apart from the largest retail chains such as Amazon and Alibaba. This chapter explores the perceived and actual benefits that machine learning could have for retailers. Following an investigation of the current challenges and capabilities of retail businesses, the problem is that retailers are slow at adopting technological advancements and at changing established processes (Fildes et al., 2018). The goal is to understand the perception of retailers towards new technologies such as machine learning and their willingness to implement them.

- *RQ3: What are the perceived and actual benefits of implementing machine learning in grocery demand forecasting?*

Lastly, in the era of big data, extensive amounts of data are available for retailers. Due to the ability of sophisticated AI quantitative models in leveraging the various types of data to create real value for their businesses (Harris, 2010), the problem lies in using the

data to improve the forecast results appropriately. Before that, however, it is necessary to know what variables retailers currently use in their forecasting models, which data they have available but do not use, and which variables they think influence demand that they would like to collect to subsequently integrate in their process.

- *RQ4: What variables do grocery retailers integrate in their demand forecasting method?*

4 Methodology

To answer the research questions, we collected primary, qualitative data through semi-structured expert interviews. Interviewing experts is a common and adequate method for data collection because experts' knowledge provides insights into company processes and their strategic intentions. In addition, exploratory interviews are suitable for collecting information not only to derive new fields of research but also to build a theoretical model (Saunders et al., 2006). Various examples of exploratory studies in the research field of retail and distribution management show the suitability of expert interviews (e.g., Aman & Hopkinson, 2010; Chabaud & Codron, 2005; Kluge et al., 2013). Experts' unique and broad knowledge makes expert interviews supremely eligible to gain privileged insights into company operations (Meuser & Nagel, 2009), in this case demand forecasting and supply chain processes.

4.1 Interview Process

The expert interviews followed a semi-structured interview design which makes it possible to answer the four research questions. They were conducted following a common interview question guide with 39 questions organised in sections that overlap with the four research questions. However, as suggested by a semi-structured interviewing approach, the experts were not interrupted during their statements and were only asked specific, direct questions when deviating from the central research theme.

All interviews, which each lasted approximately 60 to 90 min, were transcribed for later analysis.

4.2 Expert Selection

The retail professionals, four of them men and one woman, were on average 44 years old and had at least ten years of retail experience. The sample of five professionals was selected to gather insights into three different retail chains, all three including a large number of retail businesses owned by the three chains, and one retail technology consul-

Table 1 Interview Partners' Position and Company

Code	Position	Company	Employees	Stores
E1	Retail Technology Director	Positive Prostrategy Retail	65	n.a
E2	Senior Supply Analyst	Applegreen	15,000	620
E3	Head of International Supply Chain Projects	SPAR International	410,000	13,600
E4	Head of International IT Projects	SPAR International	410,000	13,600
E5	IT Manager	Musgrave	41,000	1,400

tancy company (see Table 1). Three of these professionals work for wholesale retailers in Ireland and have hands-on experience with the daily forecasting operations and processes, while the other two professionals are also based in Ireland but consult retailers globally in the digital transformation process with profound expertise in retail analytics, IT systems, and supply chains.

The diversity of participants in interviews is strongly supported by Meuser and Nagel (2009), who suggest different opinions and perspectives as being research advantages resulting in more valuable findings.

The participants were considered to be experts in the area if they had at least ten years of working experience in the industry or practice a managerial job on a senior level within a retail company, similar to the study by Aygün and Oeser (2017). This implies that the experts have the high degree of practical experience needed in this research.

5 Results

This section, split into four parts according to the four research questions, presents the findings following the five semi-structured interviews with retail professionals which led to in-depth insights.

The first part focuses on RQ1, the comparison of current forecasting methods used in practice by the four retail chains, adding insights from the technology consultancy company. The next part represents the findings around RQ2, the challenges and capabilities that retailers meet in the current forecasting methods, followed by the findings in regard to RQ3, the retail experts' understanding of artificial intelligence and machine learning and its perceived and actual benefits. The last part presents the findings for RQ4, the identified variables to integrate in forecasting methods and other potential beneficial data points.

5.1 Forecasting Methods Used in Practice (RQ1)

Retailers are facing the reality of digitalisation not only specifically in regard to the forecasting process but to the entire business. Digital transformation is taking place right

now and retailers are increasingly open to new technologies and willing to leverage their potential (E1; E3). Hence, the investments in technology are increasing (E1). Organisations are on different levels in their retail maturity and also in their technological maturity, but even smaller retailers are catching up due to the fact that technology is becoming more easily available (E1; E3). On the other hand, the customer is more demanding than ever. The historic concept of '*pile it high, sell it cheap*' no longer works because the customer demands are changing, requesting immediacy to demand from retailers (E4).

In terms of forecasting demand, the first issue resulting from the interviews concerns the business structure of retail businesses. Questions such as who is responsible for the forecasting process, what methods are used, how the forecasting process is integrated in the business operations, and its importance for the different parties within a retail chain vary strongly among retail businesses. The Irish retail landscape consists of a huge amount of small family-owned businesses, mainly small convenience stores (E1). One major problem for wholesale companies which manage the replenishment for stores, both franchisee and the symbol brands, is the visibility of the associated points of sale and their demand profiles, making it difficult to work according to the dynamics of an efficient supply chain (E4; E5). The process of forecasting demand distinguishes between the store demand and the wholesale demand, and both have to align with the business strategy and objectives. Ireland's Dunnes Stores, for example, aims to be a high-quality provider with an extensive product assortment in contrast to discounters like Aldi and Lidl. Dunnes Stores avoids any stock-outs whereas customers of Lidl do not necessarily complain if a product is not available due to the overall low-price proposition (E1).

In any case, all experts stress the importance of the forecasting process. Not only does accurate forecasting improve efficiency, it also improves on-shelf availability and customer satisfaction (E2). On a wholesale level, the impact is imperative because a 1% extra efficiency over a 100 million turnover equals one million extra margins (E1). E3 argues that store managers will have a basic understanding of their demand, but a forecasting system would significantly help, whereas E1 says it does not matter much for small stores but is vital for large businesses and retail chains with many stores where product ranges differ in base of the customers' demographics. Depending on the size of the business, the replenishment of products also varies from purely replacement for smaller stores to larger retailers having procurement departments as well as separate data teams (E1; E2; E4; E5).

The used forecasting methods vary accordingly for each business and different models are used for different product ranges (E1; E5). The majority of SPAR organisations use a combination of different historic sales data, for example, an average of the previous six months and the last month. For stable products, the company uses six weeks or three months of past sales data, whereas for volatile products, demand forecasts are based on the last four weeks, depending on predictability and volatility of the product (E3; E4).

Comparing the different forecasting methods, the frequency depends on the technology (E1). The MRP by Applegreen runs twice daily in the background whereas the ones

who use Excel, e.g. SPAR Nigeria, take up to a week to do a proper forecast (E2; E3). The best case is obviously real-time updates, E3 says, while E4 doubts there is an additional value provided by real-time forecasts, except for fresh products like bread. E5, instead, supports the real-time end-to-end visibility.

Regarding the accuracy of the forecasting methods used, they vary from very accurate results (E2) to accuracy levels of 85% by SPAR Netherlands and SPAR Norway, 78% by SPAR Gran Canaria (E4), and 84–88% by Musgrave (E5). AI forecasting accuracy can potentially hit a 94–97% accuracy level or at least 15% improvement on the current results (E5). The accuracy of the forecasting method is also the most important selecting rule for all interviewees. Other selection rules are speed (E2) and user-friendliness, price, and the possibility for manual interventions (E3). In addition to the improved accuracy that AI brings to forecasting systems, AI creates forecasts for both the store and the warehouse and suggests orders to suppliers and recommendations to the store as to what quantities they need to order, saving 60% of the time used for ordering by buyers. Such time, E5 suggests, can be used for planning and supplier engagement.

The procedure of running a test system in parallel to the currently used system facilitates the implementation of new demand forecasting methods (E2). Similarly, E5 is establishing proof of concepts for their new end-to-end planning system. E3 says that up-to-date data and systems result in an increase of on-shelf availability by 1%, generating 0.5% additional sales. The goal of new methods is to shift the decision-making back to the point of order, to increase visibility and speed up reaction times (E5).

5.2 Challenges and Capabilities Faced in the Forecasting Process (RQ2)

The biggest challenge in the forecasting process, all interviewees agree, regards people. According to one expert, the forecasting task requires data scientists who know how to deal with suppliers (E1). Another expert states that people's technical skills are not necessarily challenged, but the challenges are the understanding of the business strategy, the overall business operations, and its interconnections (E5). Problems arise when people execute identical processes differently (E2). Both Applegreen and Musgrave have introduced dedicated data scientist teams and are planning to reduce the number of stock controllers (E2; E5). The most important skill required is to be able to analyse and interpret data (E1). In contrast, E3 claims that the intelligence is inside the systems and using the systems is not particularly difficult. E1 and E2 emphasise the importance of continuous investment in people on all levels.

The process of innovation within an organisation depends on the culture and technical ability of staff members (E2). SPAR Grand Canaria, for example, is digitally advanced due to a number of innovation-driven managers (E4). Similarly, SPAR Norway and SPAR Austria introduced agile development teams which focus on digital transformation topics (E4). However, most retailers prefer to rely on old practices as long as they work and lead to small, short-term advantages (E3).

In terms of IT requirements, new systems are large investments (E2). However, in the long term, the total cost of ownership is lower because of the resulting low maintenance costs and fewer issues arising from new systems (E2; E4). The future and the reason for lower IT costs are cloud-based systems, which are more adaptable, shortening the time to customise solutions (E4). A common issue in many organisations is that systems are often not compatible with each other (E2) and this calls for the necessity for a single ERP system which allows visibility throughout the entire supply chain (E1). Furthermore, sometimes retailers are contractually obligated to continue using a specific software or software provider which stops developing the programs because they are bought by larger technology companies (E2; E4). For retail networks with independent retailers, the challenge is to connect the stores with the head office because they are cautious about sharing data. In terms of tailor-made systems, E3 values the functioning within a business but criticises the compatibility with external software. Furthermore, E4 estimates that a yearly investment of 1.5% of the turnover is necessary to run a proper IT department.

Other challenges arising in the forecasting process are related to data and data transfer. A key issue is getting clean data and accurate information from stores (E1). The issue starts on the shop floor where accurate stock checking and wastage control is crucial for having useful data inputs for accurate forecasting. Retailers are investing in data exchange processes, but detailed procedures for how to properly do data entries and data formats are necessary (E1; E2; E3). Besides that, retailers often worry about data privacy and hesitate to share data (E3).

Finally, the problem of holding stock is linked to the forecasting process. The decision on the coverage profile for each SKU has a crucial impact both on the financial and operational side of the business (E2). The industry standard on a wholesale level is around fourteen days on average, although the potential to reduce it to seven days exists, depending on the delivery frequency of suppliers (E1). Related issues around holding the right amount of stock in-store and in the warehouses are forecasting promotions and, in case of production issues and stock-outs, managing substitutions (E1; E5). Another practical issue to solve is regarding timings between order cycles in stores. The order, for example, takes place on Monday for delivery on Wednesday and another order on Wednesday for delivery on Friday. If the delivery arrives after the store manager places the order, the system does not consider in the order suggestions the products for Wednesday until they get delivered (E2).

5.3 Benefits of Machine Learning in Demand Forecasting (RQ3)

Machine learning opens up new ways of interpreting additional data points which were not possible in the past (E1; E2). The market offers powerful end-to-end planning systems which are driven by AI and hence have the ability to learn and self-clean. However, E1 argues that full stock automation is almost impossible. Nevertheless, almost every

retail chain is involved in AI projects, either by undertaking a proof-of-concept or by implementing actual solutions (E4; E5). For example, Musgrave is already running an AI warehouse demand system parallel to the old system and is in the design phase of all the functionalities of an end-to-end ERP system (E5). In SPAR, none of the partners use machine learning for forecasting, however, they are experimenting with it in other business operations (E3).

When it comes to comparing the actual versus perceived benefits of implementing machine learning in grocery demand forecasting, the actual benefits, according to the interviewees, have improved in recent years. They lead to higher on-shelf availability, higher sales, and less wastage (E1; E3). The potential of analysis on a more granular level of details, the higher speed of analysis, and moreover, the lower required skills for interpretation of numbers in AI-driven systems are actual benefits of implementing machine learning forecasting methods (E4). In terms of perceived benefits, it is expected that machine learning will discover relationships during the analysis of data that people would never have thought of or been able to do (E3). For example, machine learning could be used to customise promotions, including customer demographics to develop new in-store planograms and dynamic pricing (E5).

The implementation of machine learning in grocery demand forecasting is, however, just at the beginning, according to the experts. The technology involves high initial costs, which is still too expensive for most small retailers, whereas larger retail chains attribute a percentage of their profit to technology each year (E1; E3; E4). Smaller retailers can currently rather afford the implementation of simple business intelligent solutions. However, the prerequisite is having appropriate data. E5 emphasises that the use of AI in demand forecasting only makes sense when the data is correct for the entire assortment. Moreover, ideally the data is available for a minimum of seven years because the sales patterns vary widely depending on the day of the week. If Christmas day, for example, is on a Monday, Tuesday, or Sunday, this has a major impact on the business (E5).

5.4 Variables in Demand Forecasting (RQ4)

The large number of different forecasting methods currently used by retailers include a variety of variables which aim to improve the forecasting result. Large retailers try to collect data for every touchpoint of the product and the business (E1). The data that is most useful for forecasting is historical purchasing data and sales, inventory, data on wastage, as well as weather forecasts, but not necessarily actual weather (E1). For further improvements, data by the Central Statistics Office (CSO), segmented customer data, sentiment data, and trend data by IBM Watson from Twitter, Google, Facebook or sales on Instagram can be integrated (E1; E4; E5).

Useful—but not commonly used—is data on promotions, new product introductions, inter-store transfer data, and supplier performance (E2; E5). Similarly, third-party companies such as Checkout or Brandview offer insights into competition positioning,

pricing, promotions, and trends, however, integrating that into the forecasts is difficult (E1; E5). In addition, the data from loyalty programmes and basket analyses offer powerful insights into customised promotions, for example, but not many retailers exploit this potential (E3).

Data points that the interviewees currently do not consider but find potentially useful are footfall, taste changes, local events, socio-economic trends such as nutritional trends, environmental trends, customer segmentation for each store, shelf-space analysis, and, again, competition (E1; E3; E4).

6 Discussion

The overall impact of accurate demand forecasting methods on the entire business is enormous and machine learning forecasting methods clearly have the potential to make a significant difference. Even if traditional demand forecasting methods are still widely used and still achieve acceptable results, the impact that machine learning forecasting methods can have in terms of improving business efficiency, supplier relationships, and customer satisfaction is worth not only considering machine learning methods but starting the actual implementation process. The idea that the on-shelf availability of a particular product is not provided in one store for a limited time results in disappointment of a relatively small number of customers, who potentially buy a substitutional product. However, in case the demand forecasting is incorrect on a wholesale level and the entire store chain cannot get the product, the impact in terms of lost sales and customer dissatisfaction is tremendous.

The interviewed experts from the grocery retail environment are acknowledging the potential of modern forecasting methods and are willing to leverage their business structures by implementing new technologies. The results indicate a shift of the entire industry towards modern best practices and therefore also towards the implementation of machine learning demand forecasting models. It is evident that the current stage of the industry in regard to the technology of machine learning is a phase of acceptance and exploration that may result in using the technology in the near future. In some ways, all interviewed retailers are already involved in projects that include the use of AI.

Looking at the literature in the field of demand forecasting, not only in the grocery retail sector but mostly in the fashion retail sector, various studies experimented with numerous demand forecasting methods and discovered best practice models for specific use cases. The academic literature repeatedly proved in comparative studies that machine learning forecasting models achieve more accurate results than traditional methods. However, the literature review shows that the academic research in the field of forecasting models is ahead of the curve in comparison to the practical implementation of modern forecasting models. Hence, these facts, as well as the findings from the interviews, support the conclusion that now is the right time to invest in implementing machine learning forecasting methods in retail.

The importance of the process is emphasised by all experts and supported by the literature. The goal is, hence, to develop the best forecasting method, which is the one with the highest level of accuracy, considering costs. However, one best model is impossible to find. Obviously, all retailers dream of having an accuracy level of 100%, but that is a utopia. It starts with the decision of what service level and market segment retailers want to target. Respectively, the choice is to focus specifically on store demand and warehouse demand—in contrast to forecast aggregated demands on a category and regional level. Moreover, the decision on the coverage profile for each SKU in the warehouses and stores is crucial because too-low security stock levels reduce costs but increase the risk of having stock-outs. The risk of disappointing the consumer is too high to allow for such mistakes. Therefore, retailers prefer having excessive amounts of safety stock in the warehouse and tied capital rather than losing consumers. By analysing the industry standards for inventory turnovers of more than ten and up to fourteen days' worth of stock in the warehouse, the potential for improvement using AI-based forecasting methods is magnificent. A solution with immediate impact for retailers would be to adjust the lead times with each supplier and jointly work on a just-in-time delivery model to eliminate the stock holding of FMCG completely.

▶ Important The selection of the forecasting method is, first of all, based on the accuracy of the model. Other important selection rules are speed, user-friendliness, costs, and the possibility for manual interventions. However, the accuracy of a forecast is undisputedly the most important characteristic because even single-digit improvements in accuracy have major ripple effects throughout the entire business. The potential of machine learning in this case hitting 94–97% accuracy levels is remarkable. Even though the potential is widely known, the forecasting methods used in practice differ between each retailer. The answers by the interviewees regarding the accuracy of the current forecasting methods used are vague. The reason for that might be that the evaluation of practices in place does not happen consistently. Once a method works and shows reasonable results, organisations stick to it. Despite that, the fact that the retailers measure accuracy and are working on new systems shows their commitment to improve the process. It is suggested to review the forecasting process progressively, and in case of drops in accuracy levels, an urgent evaluation of the appropriateness of the model is necessary.

While some retailers use simple time series regression analyses, commonly used practices are combinations of different models, so-called hybrid methods, mostly combining qualitative and statistical quantitative methods as discussed by Ren et al. (2019). The decision on the final forecast is thereby based on extracting time series trends of historical data by using statistical methods in addition to adjustments for items on promotion or seasonal items based on the experience and instincts of retail professionals. From the

range of qualitative methods discussed in the literature, for single SKU, the mere subjective judgement is used to adjust forecasting results on a daily basis whereas the Delphi method and market research are carried out to gain insights for long-term forecasts of market trends such as taste changes by customers. From the range of quantitative methods, in specific statistical methods, the findings confirm the common usage of the ARMA model and variations of it such as the SARIMAX. Both the interviewee and the literature support its usefulness for forecasting stable products. The Bayesian method, on the other hand, is used to forecast new product introductions by using the historical data from similar products in that category. However, from the findings, it appears that a more accurate method to forecast demands for new product introductions is lacking.

The retailers mention problems with forecasting volatile products, products on promotion, and products with non-seasonal product trends. The studies discussed provide extensive evidence for traditional methods being valuable in the analysis of large time series, however they criticise the unsuitability to include macro-economic trends. This leads to the conclusion that the retailers are using hybrid methods to first analyse the data to get a rough idea of the demand and subsequently manually adjust it based on experience. This is critical and results in biased and overambitious forecasts. Retailers need to acknowledge that even if the manual interventions are sometimes necessary in case of completely abnormal suggestions by the model, in the majority of cases, the statistical and machine learning models outperform. This result of this chapter should encourage retail professionals to use their systems and trust the results. Rare examples exist of retailers using machine learning forecasting models as their predominant method. In contrast to the grocery retail sector, the fashion retail sector applies advanced forecasting approaches, according to the literature. It appears that only large grocery retailers are able to do so because of their financial stability, which allows them to overcome potential risks associated in the short term. Each organisation is on a different level of technological maturity. Smaller retailers are catching up and are starting to use machine learning techniques, while large retailers are experimenting and already applying AI algorithms in various other business operations.

The comparison of the research findings with the industry practices points out that the challenges and capabilities of a company are decisive and crucial factors for the strategy a company pursues. The study by Aktas and Meng (2017) groups their findings into managerial issues, people and capabilities, and technical and data issues. While the interviewees of this chapter largely agree with the findings by Aktas and Meng (2017), they demonstrate that the biggest challenge is in regard to the people within an organisation. The results indicate that the impact that modern forecasting methods can potentially have starts by bringing the people on the same journey. The aim is a culture of innovation and change where the people are required to get out of their comfort zone. From a managerial perspective, this means convincing the entire staff of a retail chain to be willing to put effort into this strategy. The journey might seem easier for smaller companies. On the other hand, large retail chains have the resources to invest in training. The literature lacks the notion of staff training whereas the findings emphasise the importance of consist-

ent training and workshops. In specific for the forecasting process, the results build on existing evidence of people's fundamental role and add the importance of staff training, which starts with the employees that work in the retail stores. In terms of training, the findings suggest the necessity to elaborate clear procedures for routine tasks on the shop floor and in the head office. On a managerial level, the findings of this chapter contradict the requirements of Fildes et al. (2018) that employees need analytical and technical skills. For the mere forecasting process, the experts claim that the intelligence sits in the system and people are not asked to deal with the large amounts of data and analyse them but have more of a supervision role. In practice, however, the larger retailers incorporated data scientist teams alongside their buying, supply chain, and marketing teams to support them in the decision-making process with numerical facts.

Moreover, the results provide new insight into who is responsible for demand forecasting. The process used to be the responsibility of the buying team, but due to fast-changing customer demands, it became necessary to take a full picture including cost factors, stock keeping, and stock-outs into account and, hence, it is moving to procurement departments and is becoming a supply chain function.

The second biggest challenge in the forecasting relates to the data inputs. Our findings contribute detailed examples to the study by Aktas and Meng (2017). This challenge is particularly important for companies that are going to implement machine learning forecasting models. It is not enough to have extensive amounts of data available, but machine learning only makes sense when the data is available and correct for the entire assortment. Data issues that are commonly faced by retailers in practice are issues with data formats, data exchange processes, out-of-date data, and data storage. In line with the findings by Syam and Sharma (2018), for machine learning forecasting models to work, unstructured data needs to be cleaned. The lesson to keep in mind is that short-term gains from quick data entries are lower than long-term gains from cleaning data, which results in more reliable demand forecasts.

A challenge that constantly appears in this regard is the connection of associated stores, both franchisee and symbol brands, to the head office. The findings of this study have shown that a fully integrated ERP system facilitates the data exchange. The results build on the evidence by Fildes et al. (2018) and suggest an end-to-end planning system to gain full visibility over the supply chain.

Our findings further address the decision of integrating suppliers into the system. As a consequence, the forecasting results are more accurate and the planning process for all business units involved improves, including suppliers. The implementation of such a comprehensive system is associated with a large initial investment, however, the total cost of ownership is lower due to lower maintenance costs and fewer emerging issues. To successfully introduce a new system within an entire retail chain, the findings suggest that it is necessary to attribute a sufficient period of time for carrying out a proof-of-concept and testing the system before its implementation. These results build on existing evidence of incompatibility between systems and requests the implementation of a single ERP system for the entire supply chain.

Furthermore, our findings reveal a simple but crucial problem, which is the timing of information sharing between order cycles in stores. The in-store system does not recognise the order until it arrives, and in case of missing items, the store has stock-outs. Again, an ERP system which includes visibility for stores and the head office would solve this problem by sharing information in real time. The notion of automated stock replenishment appeared during the interviews. However, the interviewed experts view this as close to impossible even for larger retailers because some sort of manual intervention is always required.

There are overall clear advantages of machine learning forecasting methods in contrast to traditional methods. In concrete terms, the results from the expert interviews show an immediately visible impact of machine learning forecasting methods. In one case, stock-outs could be reduced from 5% to almost 0% in less than two months, while the reduction in inventory holding is expected to be 13%. These outcomes result from testing the AI-based demand forecast, incorporated in an ERP system. Other advantages are fewer manual adjustments, higher speed of analysis, and lower required skills for interpretation.

The statistical methods presented in the literature review are only able to include a small number of variables which influence future demand and sales. Machine learning forecasting methods, instead, open new opportunities to take a large number of variables into consideration. The variables currently used by retailers are only a fraction of what they believe would actually make sense and improve the forecasting accuracy. The findings are divided by disagreement regarding the data that is useful to integrate in the forecasting method. Even though one interviewee claims that no other data than historic sales data, purchasing data, and data on wastage is necessary, all other interviewees add factors that could strongly influence the demand in-store and the demand in the warehouses. The comparison of the different variables, however, shows that not all variables impact the final forecasting result in any event. In line with the findings of Russel and Norvig (2021), the problem is to find the right number of explanatory variables and to avoid the problem of underfitting and overfitting the model. The key variables discovered in this research are CSO data, customer segmented data, sentiment data, competitor data, and data on socio-economic trends.

Retailers typically have multiple stores of different formats and are serving several customer segments in multiple locations, often internationally. Store sales can, hence, be explained by location, the local economy and competitive retailers, consumer demographics, own or competitor promotions, weather, seasons, and local events including, for example, festivals (Fildes et al., 2018). However, the motivation behind such data points with regard to single customers has the potential to forecast the demand of individual customers. Subsequently, this opens the opportunity to influence the demand with customised offers and shift the decision-making to the point of order closest to where demand is signalled. Moreover, it enables influencing the demand curves for specific products as well as managing stock-outs of limited products. This finding gives rise to another demand forecasting approach that differs from the methods discussed in the literature. This discovery of a forecasting method which starts at the individual customer is

new in the literature and could have major effects on the business, especially in terms of product assortment.

Summary
From a managerial perspective, this chapter provides insights that help retail professionals understand the opportunities and challenges when implementing machine learning forecasting methods, and how to do it successfully. We propose three fundamental steps:

1. The first step refers to the people within a business. The goal is to create a culture of change and attitude of openness towards new processes. The task is to bring the people on a journey of innovation.
2. The second step is to improve the visibility within the entire retail chain. The retail chain does not only consist of the head office and company-owned stores but involves forward and backward visibility to all the associated stores as well as to the suppliers. The solution may be a fully integrated ERP system with access to suppliers, all head office departments, and all the stores. This is the foundation of an accurate forecasting system.
3. The third step regards the quality of available data. Machine learning requires large amounts of data and the grocery retail sector produces significant amounts of it. However, the data is often only available in unstructured formats, unorganised, or incomplete. The goal of uniformity of data includes investments in data entry, data transfer, data exchange, and data storage. The task for retail professionals is to work on improving the quality of the data.

By following these three major steps, retailers lay the foundation of using modern forecasting methods. Key recommendations to retail professionals to support the three steps are:

- Invest in staff training and provide workshops to motivate and inspire people to learn and be innovative.
- Invest in technology and digitally transform your business.
- Standardise business tasks and create simple and clear procedures which include guidance on how to enter data into the system.

7 Conclusions

Based on a qualitative research approach and semi-structured expert interviews, it can be concluded that demand forecasting is a crucial process for grocery retailers and its accuracy has an overarching impact on the business. Our results indicate that machine

learning forecasting models outperform traditional forecasting methods. The focus of this chapter lies on the application of forecasting methods currently applied by retailers, specifically by Irish grocery retailers, in addition to insights from international demand forecasting practices. The FMCG industry is characterised by short-life products, high sales volumes, and highly fluctuating demand patterns. When it comes to forecasting the demand, this makes it particularly difficult, and the impact is enormous and immediately visible with stock-outs and lower customer satisfaction or overstock and higher stock holding costs. The results of this chapter stress the importance of accurate forecasting.

Retailers need to take the necessary steps to make their businesses ready for implementing machine learning forecasting methods. Although the demand forecasting methods discussed in the literature are numerous, practitioners are mainly relying on variations of the autoregressive integrated moving average for statistical forecasting methods and the category of neural networks for the machine learning forecasting methods. Despite the availability of machine learning models, statistical methods are still predominantly used together with adjustments by human intervention based on experience. Our results confirm that a one-size-fits-all model does not exist and the choice of the right method depends on business structure, the retailer's strategy, and technological maturity. The final choice of which method to use should first and foremost be based on the accuracy of the forecasting result.

In addition, we identified challenges that emerge in the forecasting process and recommend a three-step approach to solve the key challenges and get ready for the implementation of machine learning forecasting methods.

We acknowledge that our study has a number of limitations. The results are dependent on expert opinions of five professionals, who can be biased and overambitious. The validity and reliability of the research results are restricted to the answers of the interview participants, who represent four retail chains and one technology consultancy company. This chapter therefore represents a snapshot of current grocery forecasting practice. The nature of this research—which uses a qualitative approach—brings the restriction of not having a suitable data set that can be used for a quantitative study. To prove the insights from experts, it would be beneficial to conduct a case study with a sequential mixed-method approach, for example. The ideas of the experts, in that scenario, would form the input ideas for coding the AI application that can be tested within a retail organisation. Future research could build an AI tool and practically test it in a real-world environment, which will, however, be costly and time consuming.

Future research is also needed to establish a quantitative model whereby the individual demand patterns are the predominant variable for aggregate demand forecasts. This could have major impacts on the entire business and could lead to an individual customer-driven forecasting method using machine learning. A number of other important topics identified in this chapter remain under-researched, such as the demand forecasting of new product introductions and the influence of promotions on the aggregated forecast.

To conclude, demand forecasting is a model, and models are by definition wrong. Machine learning forecasting models, in contrast to traditional forecasting methods, have

proved to achieve more accurate results, having major positive ripple effects throughout the entire business and maximising business efficiencies and customer satisfaction, but that remains a difficult task.

References

Aburto, L., & Weber, R. (2005). Improved supply chain management based on hybrid demand forecasts. *Applied Soft Computing, 7*(1), 136–144. https://doi.org/10.1016/j.asoc.2005.06.001.

Adya, M., & Collopy, F. (1998). How effective are neural networks at forecasting and prediction? A review and evaluation. *Journal of Forecasting, 17*(56), 481–495. https://doi.org/10.1002/(sici)1099-131x(1998090)17:5/6<481::aid-for709>3.3.co;2-h.

Aichner, T., Coletti, P., & Lombardo, P. (2020a). Il futuro del mobile marketing in Italia: uno studio con il metodo Delphi. *Micro & Macro Marketing, 29*(1), 95–121.https://doi.org/10.1431/96400.

Aichner, T., & Jacob, F. (2015). Measuring the degree of corporate social media use. *International Journal of Market Research, 57*(2), 257–275. https://doi.org/10.2501/IJMR-2015-018.

Aichner, T., Maurer, O., & Frötscher, D. (2020b). Traditionelles WOM vs. eWOM in der Filmindustrie. *Marketing Review St. Gallen, 37*(2), 62–69.

Aichner, T., Maurer, O., Nippa, M., & Tonezzani, S. (2019). *Virtual Reality im Tourismus*. Springer Gabler. https://doi.org/10.1007/978-3-658-23865-0.

Aktas, E., & Meng, Y. (2017). An exploration of big data practices in retail sector. *Logistics, 1*(2), 12. https://doi.org/10.3390/logistics1020012.

Altmann-Richer, L. (2018). *Using predictive analytics to improve health care demand forecasting*. Institute and Faculty of Actuaries. https://www.actuaries.org.uk/documents/using-predictive-analytics-improve-health-care-demand-forecast. Accessed 15 Dec 2021.

Aman, A., & Hopkinson, G. (2010). The changing structure of distribution channels in Pakistan. *International Journal of Retail and Distribution Management, 38*(5), 341–359. https://doi.org/10.1108/09590551011037572.

Andrews, W. (2018). Build the AI Business Case: A CIO's guide to building the strategy and business case to implement AI in the enterprise. Gartner. https://aiuserforum.com/wp-content/uploads/2019/02/ai-business-case-ebook.pdf. Accessed 15 Dec 2021.

Antonio, V. (2018). How aI is changing sales. *Harvard Business Review.* https://hbr.org/2018/07/how-ai-is-changing-sales. Accessed 15 Dec 2021.

Aygün, T., & Oeser, G. (2017). Challenges and opportunities of Turkish food retail in Germany from a value chain perspective. *International Journal of Retail and Distribution Management, 45*(3), 308–327. https://doi.org/10.1108/IJRDM-03-2016-0039.

Bandara, K., Shi, P., Bergmeir, C., Hewamalage, H., Tran, Q., & Seaman, B. (2019). Sales demand forecast in E-commerce using a long short-term memory neural network methodology. https://arxiv.org/pdf/1901.04028.pdf. Accessed 15 Dec 2021.

Beheshti-Kashi, S., Karimi, H. R., Thoben, K. D., Lütjen, M., & Teucke, M. (2015). A survey on retail sales forecasting and prediction in fashion markets. Systems Science and Control Engineering, 3(1), 154–161. https://doi.org/10.1080/21642583.2014.999389.

Boone, T., Ganeshan, R., Jain, A., & Sanders, N. R. (2019). Forecasting sales in the supply chain: Consumer analytics in the big data era. *International Journal of Forecasting, 35*(1), 170–180. https://doi.org/10.1016/j.ijforecast.2018.09.003.

Box, G. E. P., Jenkins, G. M., & Reinsel, G. C. (2008). Time series analysis: Forecasting and control. John Wiley & Sons.

Bradlow, E. T., Gangwar, M., Kopalle, P., & Voleti, S. (2016). The role of big data and predictive analytics in retailing. *Journal of Retailing, 93*(1), 79–95.

Budak, A., & Sarvari, P. A. (2021). Profit margin prediction in sustainable road freight transportation using machine learning. *Journal of Cleaner Production, 314*, 127990. https://doi.org/10.1016/j.jclepro.2021.127990.

Carbonell, J., Michalski, R., & Mitchell, T. (1983). An overview of machine learning. In R. S. Michalski, J. G. Carbonell, & T. M. Mitchell (Eds.), *Machine learning an artificial intelligence approach* (pp. 3–23). Elsevier.

Chabaud, D., & Codron, J. M. (2005). How to integrate the specificities of some food departments into a retail store organization? Lessons and limits of the Aokian theory of the firm. *International Journal of Retail and Distribution Management, 33*(8), 597–617. https://doi.org/10.1108/09590550510608395.

Chambers, J. C., Mullick, S. K., & Smith, D. D. (1971). How to choose the right forecasting technique. *Harvard Business Review., 49*(4), 45–70.

Chern, C.-C., Fan, Y.-N., Wei, C.-P., Shen, F.-Y., Fan, Á., … Fan, Y. (2015). A sales forecasting model for consumer products based on the influence of online word-of-mouth. *Information Systems and E-Business Management, 13,* 445–473. https://doi.org/10.1007/s10257-014-0265-0

Chiang, W.-Y.K., Zhang, D., & Zhou, L. (2006). Predicting and explaining patronage behavior toward web and traditional stores using neural networks: A comparative analysis with logistic regression. *Decision Support Systems, 41*, 514–531. https://doi.org/10.1016/j.dss.2004.08.016.

Chong, A. Y. L., Ch'ng, E., Liu, M. J., & Li, B. (2015). Predicting consumer product demands via big data: The roles of online promotional marketing and online reviews. *International Journal of Production Research, 55*(17), 5142–5156. https://doi.org/10.1080/00207543.2015.1066519

Chu, C.-W., & Zhang, G. P. (2003). A comparative study of linear and nonlinear models for aggregate retail sales forecasting. *International Journal of Production Economics, 86*(3), 217–231. https://doi.org/10.1016/S0925-5273(03)00068-9.

Coresight Research. (2021). *Artificial Intelligence in Retail*. Retrieved December 15, 2021 from https://coresight.com/ai-in-retail.

Dayhoff, J. E., & DeLeo, J. M. (2001). Artificial neural networks: Opening the black box. *Conference on Prognostic Factors and Staging in Cancer Management, 91,* 1615–1635.

Doganis, P., Alexandridis, A., Patrinos, P., & Sarimveis, H. (2006). Time series sales forecasting for short shelf-life food products based on artificial neural networks and evolutionary computing. *Journal of Food Engineering, 75*(2), 196–204. https://doi.org/10.1016/j.jfoodeng.2005.03.056.

Doganis, R. (2010). *Flying off course* (4th ed.). HarperCollins Academic.

Feizabadi, J., & Shrivastava, A. (2018). Does aI-enabled demand forecasting improve supply chain efficiency? *Supply Chain Management Review*. https://www.scmr.com/article/does_artificial_intelligence_ai_enabled_demand_forecasting_improve_supply_c. Accessed 15 Dec 2021.

Fildes, R., Ma, S., & Kolassa, S. (2018). Retail forecasting: research and practice (No. 04). https://mpra.ub.uni-muenchen.de/89356/1/MPRA_paper_89356.pdf. Accessed 15 Dec 2021.

Fox, S., & Do, T. (2013). Getting real about big data: Applying critical realism to analyse big data hype. *International Journal of Managing Projects in Business, 6*(4), 739–760. https://doi.org/10.1108/IJMPB-08-2012-0049.

Gareth, J., Witten, D., Hastie, T., & Tibshirani, R. (2013). An introduction to statistical learning with applications in R. https://s3.amazonaws.com/academia.edu.documents/37162300/An_Introduction_to_Statistical_Learning_with_Applications_in_R.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1554142446&Signature=XoBYmk8VkhW5mAqZbxWxVt%2BoPho%3D&response-content-disposition=inli. Accessed 15 Dec 2021.

George, G., Haas, M. R., & Pentland, A. (2014). Big data and management. *Academy of Management Journal, 57*(2), 321–326. https://doi.org/10.5465/amj.2014.4002.

Guo, Z. X., Wong, W. K., & Li, M. (2013). A multivariate intelligent decision-making model for retail sales forecasting. *Decision Support Systems, 55*, 247–255. https://doi.org/10.1016/j.dss.2013.01.026.

Gur Ali, O., & Pinar, E. (2016). Multi-period-ahead forecasting with residual extrapolation and information sharing - Utilizing a multitude of retail series. *International Journal of Forecasting, 32*(2), 502–517. https://doi.org/10.1016/j.ijforecast.2015.03.011.

Harris, J. G. (2010). The journal of high-performance business how to turn data into a strategic asset. https://www.eiseverywhere.com/file_uploads/8fe42952af6a22ec92ee93ff8c9ea248_Accenture_Outlook_Turn_data_into_strategic_asset_analytics.pdf. Accessed 15 Dec 2021.

Hu, P., Lu, Y., & Wang, B. (2022). Experiencing power over AI: The fit effect of perceived power and desire for power on consumers' choice for voice shopping. *Computers in Human Behavior, 128*, 107091. https://doi.org/10.1016/j.chb.2021.107091.

Hui, C. L., Lau, T. W., Ng, S. F., & Chan, C. C. (2005). Learning-based fuzzy colour prediction system for more effective apparel design. *International Journal of Clothing Science and Technology, 17*(5), 335–348. https://doi.org/10.1108/09556220510616192.

Islas, M. A., Rubio, J. d. J., Muñiz, S., Ochoa, G., Pacheco, J., Meda-Campaña, J. A., Mujica-Vargas, D., Aguilar-Ibañez, C., Gutierrez, G.J., & Zacarias, A. (2021). A fuzzy logic model for hourly electrical power demand modeling. *Electronics, 10,* 448. https://doi.org/10.3390/electronics10040448.

Jacob, F., & Aichner, T. (2022). Customer participation and commodity marketing. In M. Enke, A. Geigenmüller, &, A. Leischnig (Eds.) *Commodity Marketing. Management for Professionals.* Springer. https://doi.org/10.1007/978-3-030-90657-3_9.

Kilcourse, B. (2018). Why the time is right for AI-enabled forecasting and replenishment in retail. https://offers.symphonyretailai.com/hubfs/Report/Symphony-RetailAI-AI-enabled-forecasting-and-replenishment-with-RSR.pdf?hsCtaTracking=8e34fe7b-c938-47b2-b978-59efabacfbeb%7Cfba1fc36-bc89-4c75-9a82-19b9de4e3278. Accessed 15 Dec 2021.

Kluge, P. N., Königsfeld, J. A., Fassnacht, M., & Mitschke, F. (2013). Luxury web atmospherics: An examination of homepage design. *International Journal of Retail and Distribution Management, 41*(11), 901–916. https://doi.org/10.1108/IJRDM-01-2013-0013.

Krauss, C., Do, X. A., & Huck, N. (2017). Deep neural networks, gradient-boosted trees, random forests: Statistical arbitrage on the S&P 500. *European Journal of Operational Research, 259*(2), 689–702. https://doi.org/10.1016/j.ejor.2016.10.031.

Krishna, A., V, A., Aich, A., & Hegde, C. (2019). Sales-forecasting of retail stores using machine learning techniques. *2018 3rd international conference on computational systems and information technology for sustainable solutions (CSITSS)*, 160–166. https://doi.org/10.1109/csitss.2018.8768765.

Lam, H. Y., Ho, G. T. S., Wu, C. H., & Choy, K. L. (2014). Customer relationship mining system for effective strategies formulation. *Industrial Management and Data Systems, 114*(5), 711–733. https://doi.org/10.1108/IMDS-08-2013-0329.

Leclaire, J. (2011). *Business analytics in retail for dummies*. Wiley Publishing Inc.

Lee, C. S., Cheang, P. Y. S., & Moslehpour, M. (2022). Predictive analytics in business analytics: Decision tree. *Advances in Decision Sciences, 26*(1), 1–30. https://doi.org/10.47654/v26y2022i1p1-30.

Lever, J., Krzywinski, M., & Altman, N. (2016). Points of significance: Model selection and overfitting. *Nature Methods, 13*(9), 703–704. https://doi.org/10.1038/nmeth.3968.

Li, C., & Lim, A. (2018). Production, manufacturing and logistics a greedy aggregation-decomposition method for intermittent demand forecasting in fashion retailing. *European Journal of Operational Research, 269*, 860–869. https://doi.org/10.1016/j.ejor.2018.02.029.

Liebergen, van, and Bart. (2017). Machine learning: A revolution in risk management and compliance? *Journal of Financial Transformation, 45,* 60–67.

Logility. (2016). Eight methods that improve forecasting accuracy. https://scg-lm.s3.amazonaws.com/pdfs/logility_wp_eight-methods-that-improve-forecasting-090618.pdf. Accessed 15 Dec 2021.

Ma, S., & Fildes, R. (2017). A retail store SKU promotions optimization model for category multi-period profit maximization. *European Journal of Operational Research, 260*(2), 680–692. https://doi.org/10.1016/j.ejor.2016.12.032.

Ma, S., Fildes, R., & Huang, T. (2016). Demand forecasting with high dimensional data: The case of SKU retail sales forecasting with intra- and inter-category promotional information. *European Journal of Operational Research, 249*(1), 245–257. https://doi.org/10.1016/j.ejor.2015.08.029.

Makridakis, S., & Winkler, R. L. (1983). Averages of Forecasts: Some empirical results. *International Journal of Forecasting, 29*(9), 987–996. https://doi.org/10.1287/mnsc.29.9.987.

Mccarthy, T. M., Davis, D. F., Golicic, S. L., & Mentzer, J. T. (2006). The evolution of sales forecasting management: A 20-year longitudinal study of forecasting practices. *Journal of Forecasting, 25*(5), 303–324. https://doi.org/10.1002/for.989.

Meuser, M., & Nagel, U. (2009). Das Experteninterview — konzeptionelle Grundlagen und methodische Anlage. In *Methoden der vergleichenden Politik- und Sozialwissenschaft* (pp. 465–479). VS Verlag für Sozialwissenschaften. https://doi.org/10.1007/978-3-531-91826-6_23.

Mohammed, N. A., & Al-Bazi, A. (2022). An adaptive backpropagation algorithm for long-term electricity load forecasting. *Neural Computing and Applications, 34*, 477–491. https://doi.org/10.1007/s00521-021-06384-x.

O'Neil. (2019). Retail demand forecasting accuracy: Driving sales, margin and customer satisfaction. https://blogs.oracle.com/retail/retail-demand-forecasting-accuracy:-driving-sales,-margin-and-customer-satisfaction. Accessed 15 Dec 2021.

Patterson, J., & Gibson, A. (2017). *Deep learning: A practitioner's approach*. O'Reilly.

Poccia, D. (2019). Amazon forecast—Time series forecasting made easy|AWS News Blog. https://aws.amazon.com/blogs/aws/amazon-forecast-time-series-forecasting-made-easy/. Accessed 15 Dec 2021.

Redman, T. C. (2013). Data's credibility problem. *Harvard Business Review, 91*(12), 84–88.

Ren, S., Chan, H.-L., & Siqin, T. (2019). Demand forecasting in retail operations for fashionable products: Methods, practices, and real case study. *Annals of Operations Research*. https://doi.org/10.1007/s10479-019-03148-8.

Rossi, P. E., & Allenby, G. M. (2003). Bayesian statistics and marketing. *Marketing Science, 22*(3), 304–328.

Russell, S. J., & Norvig, P. (2021). *Artificial Intelligence: A Modern Approach.* Pearson.

Sagaert, Y. R., Aghezzaf, E.-H., Kourentzes, N., & Desmet, B. (2017). Tactical sales forecasting using a very large set of macroeconomic indicators. *European Journal of Operational Research, 264*, 558–569. https://doi.org/10.1016/j.ejor.2017.06.054.

Samuel, A. L. (1959). Some studies in machine learning using the game of checkers. *IBM Journal*, July, 211–229. https://doi.org/10.1147/rd.33.0210..

Saunders, M., Lewis, P., & Thornhill, A. (2006). Understanding research philosophies and approaches. *Research Methods for Business Students*, January 2009, 106–136. https://doi.org/10.1176/appi.ajp.162.10.1985.

Schaer, O., Kourentzes, N., & Fildes, R. (2019). Demand forecasting with user-generated online information. *International Journal of Forecasting, 35*(1), 197–212. https://doi.org/10.1016/j.ijforecast.2018.03.005.

Schmidt, D. (2022). Getting Started with the Industrial Data Platform on AWS. https://aws.amazon.com/de/blogs/industries/getting-started-with-the-industrial-data-platform-on-aws/ . Accessed 08 July 2022.

Seaman, B. (2018). Considerations of a retail forecasting practitioner. *International Journal of Forecasting, 34*(4), 822–829. https://doi.org/10.1016/j.ijforecast.2018.03.001.

Singh, A., Nasiruddin, I., & Chaturvedi, D. K. (2012). Load forecasting techniques and methodologies: A review solar photovoltaic view project quadrotor view project. *International Conference on Power, Control and Embedded Systems.* https://doi.org/10.1109/ICPCES.2012.6508132.

Sun, Z.-L., Choi, T.-M., Au, K.-F., & Yu, Y. (2008). Sales forecasting using extreme learning machine with applications in fashion retailing. *Decision Support Systems, 46,* 413–421. https://doi.org/10.1016/j.dss.2008.07.009.

Sutherland. (2017). *Turning artificial intelligence into retail intelligence*. https://go.sutherlandglobal.com/rs/668-NEQ-306/images/Sutherland_Turning-Artificial-Intelligence_into_Retail_Intelligence_WP.pdf. Accessed 15 Dec 2021.

Syam, N., & Sharma, A. (2018). Waiting for a sales renaissance in the fourth industrial revolution: Machine learning and artificial intelligence in sales research and practice. *Industrial Marketing Management, 69*, 135–146. https://doi.org/10.1016/j.indmarman.2017.12.019.

Symphony Retail. (2018). 6 Factors to consider when selecting a solution for demand forecasting. https://offers.symphonyretailai.com/hubfs/Whitepaper/Symphony RetailAI – Demand Forecasting – Buyers Guide.pdf?hsCtaTracking=8eaa4160–9fde–4be3–a86f–fd71d2074618%7C2ac13ccc–b88f–4961–bec4–7a1d6c8459c1. Accessed 15 Dec 2021.

Symphony Retail. (2019). Artificial intelligence opportunities in retail. https://offers.symphonyretailai.com/hubfs/Report/Symphony RetailAI-AI: Opportunities in Retail.pdf?hsCtaTracking=614bd9e6-5132-432b-ac31-c34b12cfe42f%7C43a6710d-fbf8-4538-8766-3d6fd3802b1c. Accessed 15 Dec 2021.

Thomassey, S., Happiette, M., and Castelain, J. M. (2005). A short and mean-term automatic forecasting system-application to textile logistics. *European Journal of Operational Research, 161,* 275–284. https://doi.org/10.1016/j.ejor.2002.09.001.

Ubaid, A., Hussain, F., & Saqib, M. (2021). Container shipment demand forecasting in the Australian shipping industry: A case study of Asia-oceania trade lane. *Journal of Marine Science and Engineering, 9*(9), 968. https://doi.org/10.3390/jmse9090968.

Uysal, M., & Crompton, J. L. (1985). An overview of approaches used to forecast tourism demand. *Journal of Travel Research, 23*(4), 7–15. https://doi.org/10.1177/004728758502300402.

Winston, P. (1992). *Artificial intelligence*. Addison-Wesley.

Wong, W. K., & Guo, Z. X. (2010). A hybrid intelligent model for medium-term sales forecasting in fashion retail supply chains using extreme learning machine and harmony search algorithm. *Intern. Journal of Production Economics, 128*, 614–624. https://doi.org/10.1016/j.ijpe.2010.07.008.

Wood, S., & Reynolds, J. (2013). Knowledge management, organisational learning and memory in UK retail network planning. *Service Industries Journal, 33*(2), 150–170. https://doi.org/10.1080/02642069.2011.614340.

Xia, M., & Wong, W. K. (2014). A seasonal discrete grey forecasting model for fashion retailing. *Knowledge-Based Systems, 57*, 119–126. https://doi.org/10.1016/j.knosys.2013.12.014.

Xia, M., Zhang, Y., Weng, L., & Ye, X. (2012). Fashion retailing forecasting based on extreme learning machine with adaptive metrics of inputs. *Knowledge-Based Systems*. https://doi.org/10.1016/j.knosys.2012.07.002.

Yelland, P.M., & Dong, X. (2014). Forecasting demand for fashion goods: A hierarchical bayesian aApproach. In T M. Choi, C. L. Hui, & Y. Yu (Eds), *Intelligent fashion forecasting systems: Models and applications.* Springer. https://doi.org/10.1007/978-3-642-39869-8_5.

Yu, Y., Choi, T.-M., & Hui, C.-L. (2012). An Intelligent quick prediction algorithm with applications in industrial control and loading problems. *IEEE Transactions on Automation Science and Engineering, 9*(2), 276–287. https://doi.org/10.1109/TASE.2011.2173800.

Zhang, G., Eddy Patuwo, B., & Y. Hu, M. (1998). Forecasting with artificial neural networks. *International Journal of Forecasting, 14*(1), 35–62. https://doi.org/10.1016/S0169-2070(97)00044-7

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Autonomous Consumer Business

Rolf Weiber and Julian Morgen

Abstract

This article develops a conceptual proposal for an *"Autonomous Consumer Business"* (ACB), which is characterized by fully automated transactions between a provider and a consumer as demander. First, it is shown that the technological prerequisites for an ACB are in place today. *"Autonomous Consumer Analysis"* and *"Autonomous Consumer Cultivation"* are then presented as the fundamental components of an ACB. Through the interaction of these two components, the processes running between provider and consumer can be fully automated: From the identification of needs in the consumer's lifeworld to the creation of services on the provider side, the implementation of suitable services on the customer side, and the support of customers in the use of ACB services. In addition, determinants of ACB demand on the consumer side are explored in a survey of 44 experts modeled using the Delphi method. The article ends with a reflection on the future of ACB and gives an outlook on promising future research fields.

1 From Analog to Autonomous Business

The increasing pace of technological development is steadily opening new options in the design of innovative business models, which oftentimes have a disruptive character. One of the central starting points for new business model options is the *individualization*

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of services, which, in comparison to standardization, allows for better adaptation of service offerings to the specific needs of customers and is therefore usually accompanied by higher price willingness on part of the customers (Jacob, 1995, pp. 5ff.; Jacob & Kleinaltenkamp, 2015, pp. 280 ff.; Kleinaltenkamp et al., 2017, pp. 39 ff.; Wilken & Jacob, 2015, pp. 150 f.). As one of the first comprehensive elaborations on service individualization, the work of Jacob (1995) is particularly noteworthy in the German-speaking world. While Jacob (1995, p. 1) still stated that "the penetration of the topic of product individualization on the part of science has not yet progressed very far," this has since fundamentally changed, and the topic of individualization of offerings has experienced diverse considerations to date (e.g., Bebersdorf & Huchzermeier, 2021; Düll, 2009; Freichel, 2009; Lindemann et al., 2006; Minculescu, 2013). Particularly noteworthy in this context is the discussion of the so-called *"solution business,"* which focuses on solving idiosyncratic customer problems of greater complexity and seeks to generate added value for an individual customer in return (Jacob, 2013, p. 27). Recently, with the so-called Industry 4.0 and the possibilities of artificial intelligence (AI), a next "development stage" in service individualization can be identified, in which *personalized products and services* can be offered (Kaufmann, 2015, pp. 17 ff.; Mohr, 2020, pp. 126 ff.; Weiber et al., 2022, p. 19). These are characterized by the fact that solution concepts can be adapted to the specific circumstances in the consumer's lifeworld and flexibly tailored to the contexts of use in the consumer world. Their creation is no longer tied to any rigid production specifications. The additional possibility to observe and track personalized products in the usage processes of each individual consumer in real time and to support service performance in different usage contexts through targeted services can further increase customer value considerably. This form of service individualization is one of the core features of the fourth industrial revolution triggered by Industry 4.0 (Kaufmann, 2015, pp. 12 ff.; Mohr, 2020, pp. 92 ff.; Steven, 2019, pp. 89 ff.). This revolutionary development is reflected also by the fact that personalized products can also be created autonomously in the future; i.e., without the intervention of a customer as a person, opening up the possibility of an "Autonomous Consumer Business" (ACB).

In its pure form, ACB means that the individual transaction steps between a provider and a consumer are completely automated. On the consumer's side, this means that the entire process from the perception of needs and the purchase decision to the delivery and, if necessary, implementation of an offered service in the consumer's life is controlled completely autonomously by machines. The transaction steps can be largely standardized (e.g., automatic delivery of FMCG) but also highly individualized. The only decisive factor is that the consumer accepts collaboration with an autonomous business (as part of an initial agreement, a framework agreement, a subscription, or similar) and further allows this provider to collect data about the consumer's individual lifeworld (willingness to disclose). On the provider's side, not only are the service creation processes automated in the sense of the *smart factory* (Deng & Koh, 2020; Steven, 2019, pp. 115 ff.; Steven & Dörseln, 2020) but so too are the marketing activities. In this extreme scenario, the transaction steps between the provider and the consumer no

longer involve human actors but are carried out by the autonomous decisions and actions of machines. Even if such a full ACB is still a vision of the future, the explanations in Sect. 2 will nevertheless show that the availability of the technical infrastructure required for an ACB is being built up rapidly on both the provider and the consumer side.

To date, there is no well-founded work on ACB in marketing science, which is why the primary objective of this article is to develop the initial conceptual foundations of ACB, which consist of the derivation of fundamental components and possible manifestations of ACB. The considerations are based on the conceptual understanding of an ACB derived in Sect. 2.2 of this article and *"The Journey to Digital Business"* presented by Gartner®[1] back in 2014, which describes the path from the "Analog Business" of the 1990s to the "Autonomous Business" of the 2020s. In addition to these conceptual considerations, *the determinants of an ACB demand* on the consumer side are also examined. These were explored in a survey of 44 experts using the Delphi method. The findings are critically evaluated and the paper ends with a brief outlook on future research aspects in the environment of an ACB.

2 Concept of an Autonomous Consumer Business

In the business management literature, ACB has so far been discussed in a basic form at best. This chapter addresses this deficit with initial conceptual considerations on ACB. Based on *"The Journey to Digital Business"* of Gartner (2014), a definition of the term is provided, which serves as a starting point for further considerations. Three elementary components of an ACB are then derived: The first component discussed is the *technological infrastructure* required on the provider and demand side. This forms the essential prerequisite for the realization of an automated analysis of consumer needs *(Autonomous Consumer Analysis, ACA)* as the second component, and an automated market cultivation based on this (Autonomous Consumer Cultivation) as the third component. The considerations conclude in an analysis of possible manifestations of ACB from the perspective of both providers and consumers.

2.1 Development Path to the Autonomous Business

In business practice, the term "Autonomous Business" has been coined in particular by the work of Gartner (2014), which depicts the digital transformation and the accompanying successive change in business models in a ***development path*** with six stages. As shown in Fig. 1, "analog business" forms the starting point of the development, which

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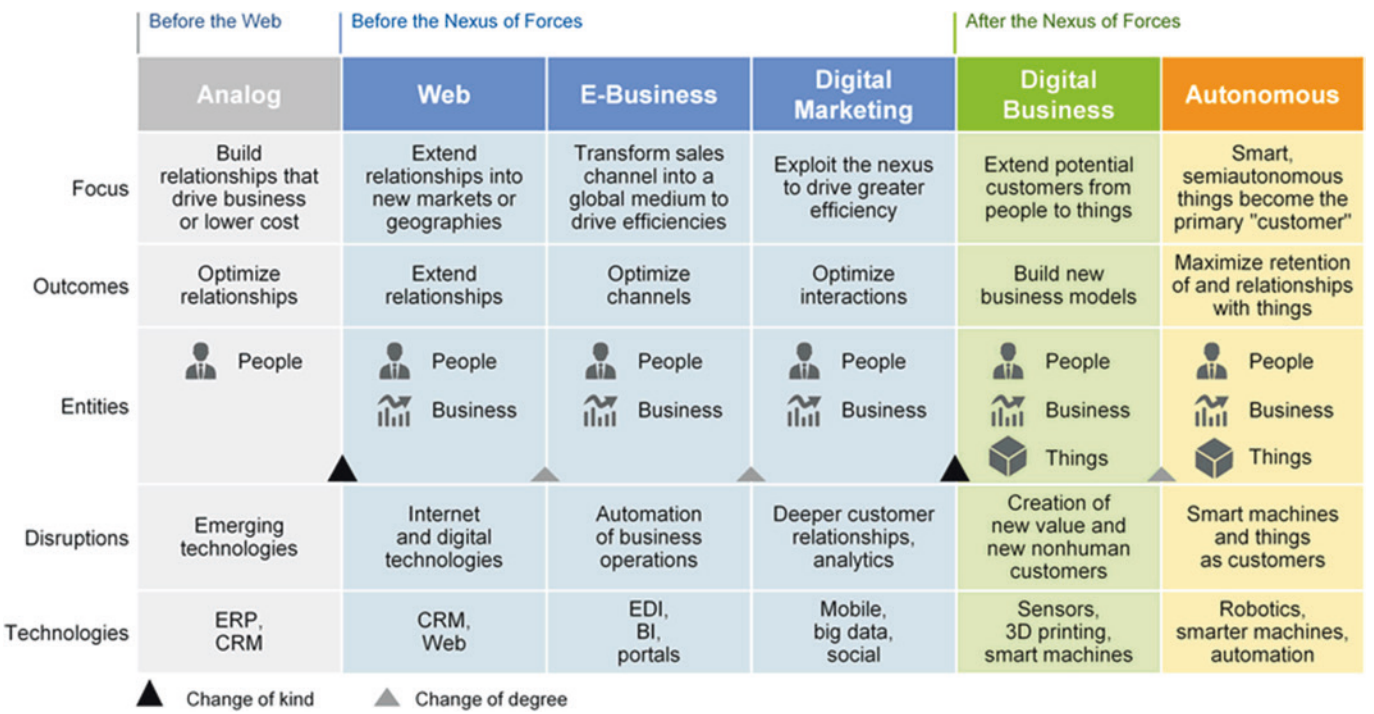

Fig. 1 The journey to digital business (Source: Gartner, 2014)

became a "web business" in the 1990s primarily due to the emergence of the Internet. Subsequently, the then-emerging digital technologies created the conditions for the Web Business to transform into an E-Business (Kollmann, 2019; Weiber, 2002a; Wirtz, 2020), and then Digital Marketing to gain particular importance for competitive success (Chaffey & Ellis-Chadwick, 2019; Hilker, 2019; Kollmann, 2020). D-Marketing is seen here as the first developmental step of a *"Digital Economy"* that is currently transforming into a D-Business and will ultimately result in an Autonomous Business. Gartner (2012) identifies four "force fields" that mutually reinforce each other and form a common "nexus of forces" as the ***driving forces*** of this digital transformation (see also Appelfeller & Feldmann, 2018; Kreutzer, 2017; Voigt et al., 2019, pp. 21 ff.).

- *Social:* Social media and social networks are leading to ever greater networking in society and business.
- *Mobile:* Mobility technologies lead to the fact that action is no longer tied to specific locations but is possible in a location and context-sensitive way, thereby increasing the possibilities for networking and interaction between people and objects.
- *Cloud:* Cloud technologies enable the on-demand provision of IT resources that can be accessed via the Internet in real time and on-demand.
- *Information:* Information can be used to build up a context-related understanding of how companies and consumers act.

It is this *"nexus of forces"* that can generate *innovative business models* in the digital world, which often have a disruptive effect on established companies and their business models. Figure 1 also shows that the last two stages in the digital development path are primarily characterized by the fact that additional "things" are actively involved in transactions and business modeling. The last stage is then distinguished primarily by automation, while it should be emphasized that "smart machines and things" appear as customers in the context of transaction episodes and determine the interaction there. Objects are enabled to trigger services without human intervention: For example, to initiate maintenance work (predictive maintenance; see Zonta et al., 2020) or to act as an interaction interface to the provider on behalf of consumers.

2.2 Definition

In general, the adjective "autonomous" is used whenever autonomy, self-determination, or independence in the actions or activities of people, machines, or objects are meant. In the business context, the term "autonomous" has recently been used primarily in connection with the so-called Industry 4.0, where it primarily describes autonomous manufacturing in the context of the smart factory, which is largely self-organized and controlled fully automatically in real time (Deng & Koh, 2020, pp. 2 ff.; Steven, 2019, pp. 115 ff.).

Accordingly, an autonomous business can also be characterized by the fact that it is based on an almost complete automation of transactions between provider and consumer, and that the autonomous actions of machines take the place of humans. This requires that, on the one hand, a comprehensive autonomous analysis of the consumer's lifeworld is possible, which cannot only identify acute or potential consumer needs but also encompasses automated purchasing decisions (see Sect. 2.3.2). On the provider side, this also means that there is extensive automation of the service creation processes. This makes it possible to automatically transform the information recorded in the consumer's lifeworld into control information for the provider-side production processes (Weiber, 2002b, p. 169) and extends to the distribution and implementation of services in the customer's lifeworld. If the focus is on consumers as demanders (see Fig. 1), an ACB can be characterized as shown in the following definition.

▶ **Autonomous Consumer Business** is understood to be a business model that operates with maximum autonomy and is supported by intelligent application environments and AI, in which companies can automatically recognize the needs on the consumer side and satisfy them by offering tailored services.

2.3 Fundamental Components of an ACB

The realization of an ACB is linked to certain prerequisites, whereby the following aspects are to be regarded as conditio-sine-qua-non of an ACB:

- Provision of the necessary technical infrastructure on the consumer and provider sides.
- Existence of a *market analysis concept* that also enables *ACA* using the technologies required for an ACB.
- Implementation of the knowledge gained from an ACA in *Autonomous Market Cultivation.*

2.3.1 ACB Component "Technological Infrastructure"

"The Journey to Digital Business" in Fig. 1 was the "megatrend" derived by Gartner in 2014 from the "Hype Cycle for Emerging Technologies" published at that time, which analyzed more than 2,000 technologies in 119 areas. However, the technologies included in the graphical representation of the 2014 Hype Cycle are only assigned to the three development stages of the "Digital Economy" ("Digital Marketing", "Digital Business" and "Autonomous"). They are complementary and additive; i.e., the technologies assigned to a development stage are indispensable for its realization and at the same time form *the prerequisite* for the next development stage.

Figure 2 also shows that the additional technologies relevant for an autonomous business are predominantly in the field of human support (e.g., virtual personal assistants,

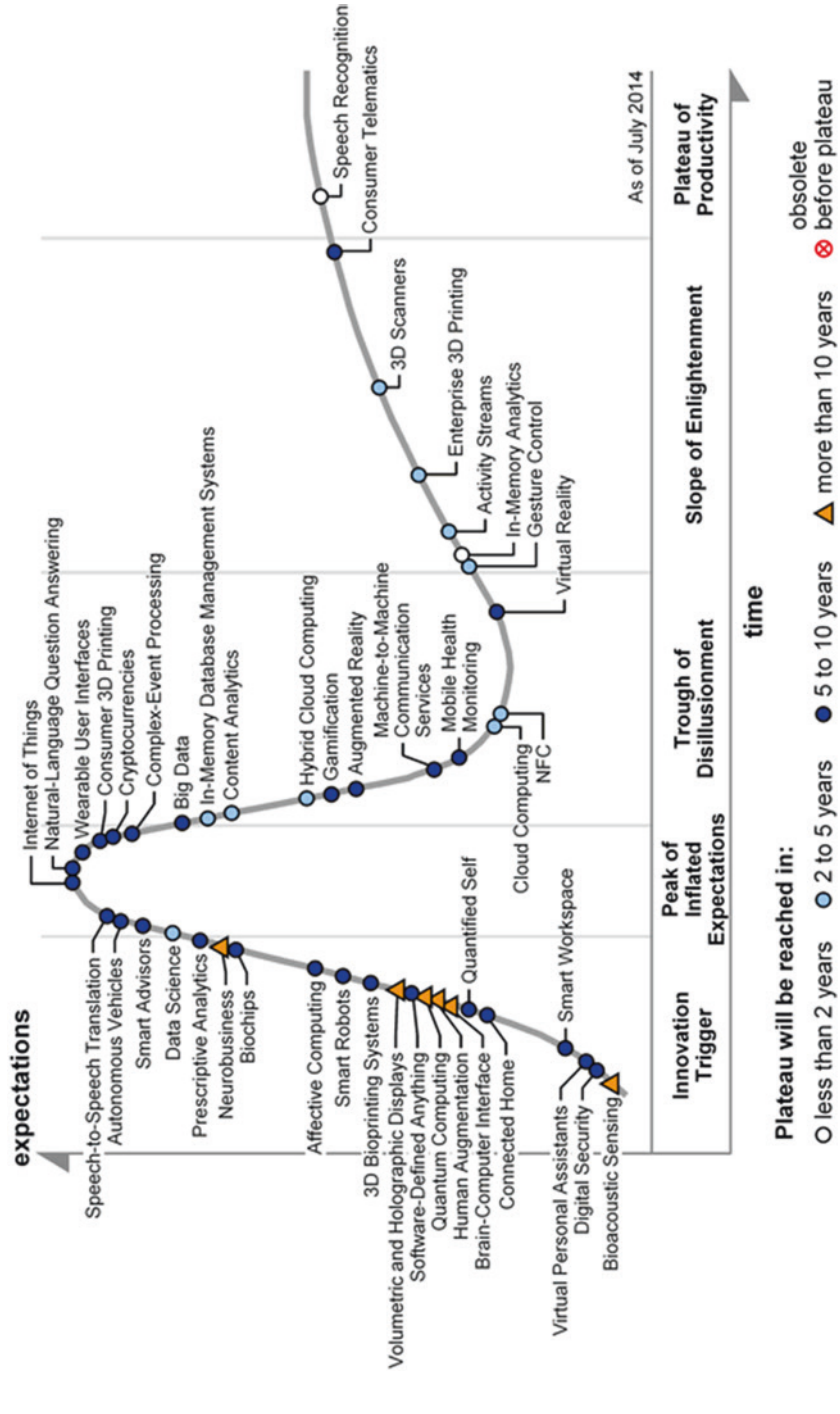

Fig. 2 Hype cycle for emerging technologies (Source: Gartner, 2014)

smart advisors, human augmentation, smart robots, natural-language question answering). However, it is also clear that the use of these technologies in a productive way is not expected for 5–10 years or even later. According to Gartner, the key to becoming a digital enterprise is to identify and deploy the right technologies in the right combination at the right time.

In addition to the forecasts in the 2014 Hype Cycle, two more recent developments should be highlighted that are of central importance for the establishment of an ACB business. These are the megatrends of *"Immersive Experience"* and *"Internet of Behaviors,"* which are postulated by Gartner: ***"Immersive Experiences"*** will enable an ever-closer connection between companies, consumers, and products in the future, as technologies become increasingly adaptive and context-related and can thus adapt even better to situational conditions in the consumer's lifeworld (Gartner, 2016b). The ***"Internet of Behaviors"*** also refers to technologies for the context-sensitive control of objects and processes in the consumer's lifeworld and is highlighted by Gartner as being particularly forward-looking (Gartner, 2020).

However, the technological prerequisites alone are not yet sufficient for an ACB, but also require the development of specific competencies in the companies, which then allow the use of these technologies that enable human-like or human-replacing capabilities. Furthermore, the realization of autonomously acting technologies is necessarily tied to a so-called ***"Algorithmic Business."*** "Algorithmic business is the industrialized use of complex mathematical algorithms pivotal to driving improved business decisions or process automation for competitive differentiation" (Gartner, 2022; see also Gartner, 2016a). Regarding services, Zysman et al. (2010, p. 2) even speak of an "algorithmic revolution," which is rooted in the fact that technology- and algorithm-based service delivery enables rapid replication, analysis, and reconfiguration of services by the provider. Selke (2017, p. 109) also assumes an "algorithmization of decisions;" i.e., algorithms will increasingly make decisions for users and relieve them. Algorithmic business becomes autonomous business when algorithms can act autonomously and without human intervention to make meaningful decisions (Bennett, 2016).

2.3.2 ACB Component "Autonomous Consumer Analysis"

For algorithms to be able to act independently, an ACB requires the constant generation of data from the consumers' lifeworld. This data can be automatically collected via smart applications (e.g., cyber-physical systems, Internet of Things (IoT), cloud technologies, but also data from social networks). The evaluation of this data then requires a suitable evaluation through analysis procedures based on Big Data analytics and AI. Regarding AI, it is particularly important to emphasize *deep learning,* which uses artificial neural networks to enable machines to act autonomously (Alzubaidi et al., 2021, p. 14). The autonomous evaluation of the collected data then also allows service offers to be created for consumers automatically, synchronously with demand, and context dependent. These can not only be offered to consumers but can also be automatically implemented in the consumer's lifeworld. To achieve this, a fundamentally different analysis approach is

required compared to "classic" analysis procedures within consumer behavior or market research, which is referred to here as ACA and defined, according to Weiber and Morgen (2021, p. 94), as:

▶ **Autonomous Consumer Analysis** refers to an autonomous approach, largely independent of the marketing decision-maker, in which the methods of self-learning AI are applied to consumer analysis with the aim of comprehensively capturing the lifeworld of a consumer and automatically transforming the findings from data analysis into specific service offerings tailored to a consumer.

The ACA follows a certain construction logic, which is mainly reflected in the following aspects (Weiber & Morgen, 2021, p. 94):

- ACA is based on AI methods and makes use of machine learning as well as deep learning. The prerequisites for self-learning AI (e.g., Big Data, high-performance computers, permanent data flow from the consumer's lifeworld) must be met and actions and reactions must be possible in real time.
- In addition to the data analysis methods familiar from classic consumer behavior analysis, ACA primarily uses decision-oriented analysis methods that enable autonomous action. Business analytics procedures form the methodological nucleus of ACA.
- By drawing on the insights and methods of "Autonomous Analytics," ACA can automatically generate individual customer models and permanently adapt them to the changing lifeworld of consumers (model dynamics).
- ACA can independently recognize need and problem situations in a consumer's current lifeworld in a context-sensitive manner and autonomously initiate marketing operations on this basis. It thus provides the input for the automatic design of customized service offerings for each individual consumer.
- ACA runs in real time and can thus also react directly to everyday situations with immediate solution offers and, if necessary, execute them synchronously as needed.

The above characteristics of an ACA result primarily from the possibilities of newer and AI-based analysis techniques. For ACA, forward-looking analyses are of fundamental importance (cf. for the following: Weiber & Morgen 2021, pp. 92 ff.). As an extension of classic forecasting methods, these "predictive analytics" are carried out in the context of ACA based on the constantly available data from the consumer's lifeworld. The forecast is not based on a specific a priori explanatory model, but on an almost infinite number of variable constellations generated from the available data and examined regarding their suitability for maximizing the probability of occurrence for one or more target variables. The selection of the (independent) variables included in a variable network is not based on theory, logical thinking, or experience, but is "learned" automatically by the AI based on statistical criteria and probabilities. The goal is to recognize variable networks that

allow output variables of interest (e.g., purchase decisions, customer loyalty, or supplier switching) to be reproduced with a high degree of accuracy and to be predicted based on the network structures found (cf. Matos et al., 2019). ***Predictive analytics*** usually lead to diverse scenarios (i.e., models with a large array of variable constellations) with a wide variety of results. In the next step, ***prescriptive analytics*** can be used to try to find starting points for changes in the variable constellations that can change the probability of events occurring in favor of a company (Bertsimas & Kallus 2019; Lepenioti et al., 2020).

The results achieved during an ACA are not static but are repeatedly checked and adjusted due to the permanently flowing data streams (e.g., through feedback loops, dynamization). ACA thus enables proactive interventions to be taken before undesirable events occur, so that events can be reacted to before they occur. This means that ACA enables providers to know today what customers will want tomorrow (so-called point of relevance; see Sect. 2.4.2) and to react to these wishes in advance. In this context, Backhaus and Paulsen (2018, p. 105) speak of "reverse information knowledge;" i.e., "providers can use digital forms of information extraction and processing to gain profound insights into consumers' latent needs and desires to formulate offers which consumers would not have thought of on their own." Due to the large variety of data on a consumer (Big Data), providers can even build up information knowledge "that is superior to that of the consumer" (Backhaus & Paulsen, 2018, p. 113).

2.3.3 ACB Component "Autonomous Consumer Cultivation"

With the help of an ACA, a provider is ideally supplied with data from a consumer's lifeworld continuously and in real time and can use this as a basis to consistently monitor consumers' needs and problems. This information can then be used to estimate the *probability* that a need or problem situation will result in a demand. A "full" ACB is then also linked to service offers which, in the ideal case, are automatically delivered to a customer and, if necessary, also implemented in his lifeworld. To achieve this, the identified customer requirements must first be transformed into performance requirements. Within the flexible production structures as part of Industry 4.0, the service production processes can be flexibly adapted to ensure the optimal service for each consumer within their specific situations.

▶ **Autonomous Consumer Cultivation** refers to automated market cultivation based on consumer-side information obtained through an ACA and with recourse to fully automated service creation processes modeled on Industry 4.0.

The possibilities of machine-based autonomous action, both regarding the detection of consumer needs and the creation of services on the part of the provider, give rise to new supply options and opportunities for the definition of innovative business models. The active participation of the consumer can be limited to the aspect of a purchase confirma-

tion and can, in extreme cases, even be eliminated. In the latter case, there is no longer an acquisition for individual service offerings. Rather, the acquisition level shifts to the readiness of a consumer for automatic transaction processing. As a result, so-called "permission marketing" becomes the focus of acquisition efforts (Godin, 2006; Saarbeck, 2013; Wissmann, 2013) and consumers' willingness to disclose becomes of central importance for market success (Gabriel, 2022, pp. 176 ff.; Hörstrup, 2012, pp. 225 ff.). In contrast, the actual service design as an active object of negotiation recedes into the background, as this is derived from the permanent monitoring of the customer lifeworld. According to Weiber and Morgen (2021, pp. 103 f.), a basic distinction can be made between two types of ACB offerings:

1. ***Push offers*** exist when a consumer is presented with service offers, e.g., directly in response to a specific problem situation that has arisen in the consumer's life. The consumer then only has to decide whether to accept such offers or services. If the ACA creates remarkable value for the customer, the probability of rejection can be considered low. The key to acceptance is a communication of ACA's values to the customer before a need arises (see also Reinartz, 2018, p. 133).
2. ***Pull offers*** exist when the purchase is fully automated and triggered by technologies anchored in the consumer's lifeworld according to certain control values. In these cases, the consumer himself places the purchase decision entirely in the hands of the algorithms (Reinartz & Imschloß 2017, pp. 44 ff.; Selke, 2017, p. 109). Such service offers are possible and useful especially when problem cases are automatically discovered in the consumer's lifeworld and solutions are required in any case (e.g., defects or failure of devices, purchase requirement of basic foods). In the case of pull offers, not only the creation of need and the purchase decision coincide but for products also the subsequent "consumption."

The concrete design of ACB transactions must be carried out against the background of the respective customer and provider situation. To capture these, possible *manifestations* of an ACB should be examined based on which market cultivation can then be further specified. Furthermore, the *determinants* of an ACB demand must be identified (see Sect. 3). Depending on these, the maximization of the occurrence probabilities for ACB offer variants is performed and a possible ACB for a given consumer is formulated.

2.4 Manifestations of an ACB

Different criteria can be used to classify possible manifestations of ACB. Only the following aspects are mentioned here, to which great importance is also attached in marketing in general for the differentiation of transactions (see for example: Ahlert et al., 2010, pp. 38 ff.; Backhaus & Voeth, 2014, pp. 195 ff.; Jacob & Kleinaltenkamp, 2015, pp. 279 ff.; Weiber et al., 2022, ch. 9):

Criteria primarily oriented to the provider side:

- Degree of individualization of transactions: Individual versus routine transactions
- Degree of integration of the customer in the service provision process of a provider (customer integration): "low" to "high"
- Complexity of transactions: simple versus complex transactions

Criteria primarily oriented to the demand side:

- Degree of demand pressure: free versus forced demand
- Need/goods category: basic/existential needs versus luxury needs
- Time of need emergence: point of need (PoN) versus point of relevance (PoR)
- Degree of integration of a provider into the usage processes of the demanders (provider integration): "low" to "high"

Criteria relevant on both sides of the market:

- Degree of service individualization: standard services versus individual services
- Degree of materialization: goods versus services - service bundles
- Degree of innovation: established versus innovative service offerings
- Degree of interaction between providers and customers: "low" to "high"
- Uncertainty/risk of provider- as well as demand-side decisions: "low" to "high"

The above aspects are used in the literature both individually and in combination to classify transactions. In addition to these theoretically or logically based classification criteria, the formation of manifestations is often also carried out empirically in the case of great heterogeneity of transactions, with methods of cluster analysis being used here in particular (Jacob, 2009, pp. 80 ff.). In the following, two approaches are presented that appear suitable for classifying ACB.

2.4.1 Provider-oriented Classification of an ACB: Autonomous Standard Business versus Autonomous Solution Business

On the provider side, the realization of an ACB also requires *automation* in the service creation processes. The possibilities for automation in this respect differ substantially depending on whether the aim is to produce *standardized* (or *customized*) *products,* or whether customized *solutions* are to be created for an individual customer:

From Standard Business to Autonomous Standard Business

Standardized services can be created using largely standardized processes (Meffert et al., 2018, p. 270). Modern manufacturing technologies also allow for a certain degree of customization, as flexible manufacturing systems have already enabled the production of batch size 1 with low setup times and costs. In addition, the use of product configu-

rators and the possibilities of modularization lead to the production of a wide range of customized products and services. If customer information can be automatically transformed into information relevant for the production, and if automated manufacturing flexibility is available within a given framework of options, this type of service provision is referred to as **Autonomous Standard Business**.

From Solution Business to Autonomous Solution Business

The situation is completely different when the service creation processes no longer move within a predefined manufacturing framework, but the idiosyncratic requirement profiles of the customer side also demand highly specific (idiosyncratic) manufacturing processes on the provider side. The manufacturing technology required for this is only available in the context of Industry 4.0. Industry 4.0 enables the manufacturing of so-called *personalized products*, which represent a "revolutionary step" in terms of product and service individualization (Kagermann et al., 2013; Kaufmann, 2015, pp. 17 ff.; Steven, 2019, pp. 190 ff.). ***Personalized products*** are no longer produced based on production plans specified by the provider or "rigid" product configurators. Instead, they are generated from the specific data, requirements, and specifications of a specific customer. They further allow providers to monitor the condition of the products used directly at the customer's location and to offer additional services in the context of the customer's product use. Of note here are Services 4.0, which, according to Mohr (2020, p. 162), are digital services "offered to the consumer within their lifeworld via a physical platform […] and relieve the user in their daily processes" (see also Weiber & Mohr, 2020, pp. 1091 ff.). Regarding production companies, Services 4.0 is particularly suited to transforming consumer goods manufacturers from product to solution providers (Weiber & Mohr, 2019, pp. 87 ff.). In the consumer's lifeworld, particularly so-called "butler services" contribute to relieving consumers in their everyday processes and generate specific value (Weiber et al., 2017, pp. 82 ff.).

Automated management of the four constitutive features of solutions

With a focus on the consumer, personalized products are ***"solutions,"*** which, in Jacob (2013, p. 27), generally represent "combinations of products and services that are created individually for specific customers and are suitable for meeting their idiosyncratic problems." The following aspects are highlighted in the literature as constitutive features of solutions (e.g., Gerster, 2018, pp. 6 ff.; Kawohl, 2010, pp. 23 ff.; Macdonald et al., 2016, pp. 96ff.; Tuli et al., 2007, pp. 1 ff.; Ulaga & Reinartz, 2011, pp. 5 ff.; Wilken & Jacob, 2015, p. 153; Woisetschläger et al., 2010, p. 6; Worm et al., 2017, pp. 490 ff.):

1. *Complexity;* i.e., there is a specific problem situation that can be described as a "complex consumption problem" and whose resolution is associated with a higher degree of difficulty. Standard services are not suitable for solving the problem.

2. *Individuality;* i.e., customized solutions are generated for a specific, individual problem situation for a customer.
3. *Integrativity;* i.e., solutions are based on the interaction of products and services (service bundle), which is particularly responsible for generating added value for the customer.
4. *Interactivity;* i.e., solutions are based on the direct exchange of information between the provider and the customer, which goes far beyond the level of "classic" communication.

Because of the constitutive features, it seems paradoxical to speak of "automation" in connection with "solutions." However, automated management of the four constitutive features of solutions is possible if the technological prerequisites for an "autonomous business" as described in Sect. 2.3.1 (see also Fig. 2) are met. The following brief notes may clarify this:

1. ***Complexity:*** The use of *AI* also allows the resolution of complex problems. It increasingly leads to results whose quality is superior to those solutions generated by humans (Verganti et al., 2020, pp. 212 ff.).
2. ***Individuality:*** ACB technologies automatically generate comprehensive information from a *consumer's lifeworld* in real time. Through the IoT, the monitoring of social media communications, the generation of customer behavioral and process data, etc., customer problems can be identified and described much better than before (Zhan et al., 2016).
3. ***Integrativity:*** The integrativity of service bundles is technically reflected in so-called *Integrated Product Service Systems* (IPSS), which represent problem solutions individually tailored to a customer and geared to the customer's benefit (Steven, 2019, p. 134; Uhlmann & Meier, 2017, p. 8). Classic IPSS become smart IPSS through the combination with cyber-physical systems (CPS) and, not only enable decentralized planning and control of production processes, but also open a wide range of possibilities for new business models (Boßlau et al., 2017, pp. 299 ff.; Steven & Grandjean, 2018, pp. 281 ff.; Steven, 2019, pp. 190 ff.). In this context, CPS are "physical objects extended by IoT modules with embedded systems, sensors and actuators. They can interact autonomously with their environment and make decisions autonomously within a given framework" (Steven, 2019, p. 84).
4. ***Interactivity:*** In ACB, the exchange of information between people from the provider company and the consumer is (completely) replaced by the *electronic exchange of information* between the systems on the provider side and those on the demand side. The key factor for ACB is the demand-synchronous object interaction supported by CPS and the IoT, which can also take place in real time in the future due to the 5G mobile network.

It seems reasonable to speak of an ***"Autonomous Solution Business"*** when the above circumstances are present and the corresponding technical possibilities are available. An autonomous solution business can even be described as particularly interesting because it opens a wide range of options for innovative business models (e.g., personalized products, on-demand availability) that generate substantial added value for customers and establish new price margins for the provider (Kaufmann, 2015, pp. 12 ff.; Steven, 2019, pp. 135 ff.; Uhlmann & Meier 2017, pp. 6 ff.).

2.4.2 Demand-driven Typification of an ACB: Elective Needs versus Compulsory Needs

The realization of an ACB requires an automated exchange of information between the lifeworld of a consumer and the production sphere of a provider. Technological developments (see Sect. 2.3.1) leave no doubt that complete automation will be possible at the *interaction level.* The problem here lies more in the question of the extent to which consumers will allow purchase decisions to be automated. From the consumer's point of view, the existing demand pressure can be highlighted as a central influencing factor. ***Demand pressure*** is defined as the degree to which the demand side *perceives a need to be satisfied.* The greater the demand pressure, the higher the probability that a need will also result in a purchase decision. It seems logical that the consent of a consumer to accept automated purchase decisions is to be expected with high probability if there is a high demand pressure. Since demand pressure can vary, it is dichotomized in the following into *"compulsory needs"* and *"elective needs":* A ***compulsory need*** is always present when a demand must be satisfied by the demanding party in any case, because otherwise they must expect massive disadvantages or loss of utility. In contrast, ***elective needs*** are not subject to this restriction and the consumer can also decide not to buy.

In addition to demand pressure, however, there are many other determinants for possible *purchase automation,* which on the one hand result from the possible characteristics of an ACB service and on the other hand can be based on the buying behavior of the customer. Figure 3 shows a collection of criteria which are largely self-explanatory and whose assignment is relatively easy to understand. As such, a more detailed presentation of these criteria will not be given below. In the last part of the figure, exemplary service offerings (differentiated into goods and services) that could be particularly accessible for an ACB are also listed for clarification purposes. The only criterion to be highlighted here is the demand-side *"awareness of need,"* which can be differentiated according to the PoN and the PoR.

- The ***Point of Need*** is the point in time when a need arises due to a desire or a deficiency and is also perceived by the consumer (Mohr, 2020, p. 202; Reinartz & Imschloß 2017, p. 44). The perception of need is generally the prerequisite for a need to arise at all and for the consumer to articulate a demand on the market.
- The ***Point of Relevance*** is even *before* the PoN and describes a situation in which *novel* needs for a consumer can be identified in the consumer's lifeworld through the technologies used in an ACA, but of which consumers are not yet aware (Backhaus & Paulsen, 2018, pp. 113 f.; Mohr, 2020, pp. 201 f.; Weiber & Mohr, 2020, pp. 1112 f.).

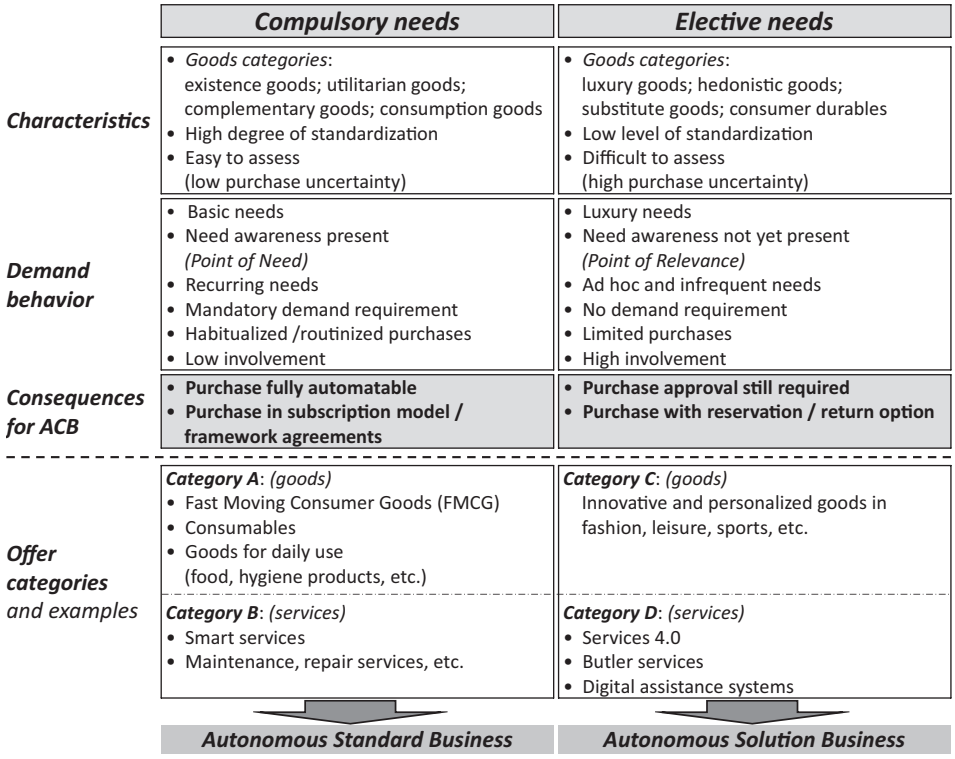

Fig. 3 Manifestations of an ACB from the demand perspective

In the case of *compulsory needs and existing PoN,* it can be assumed that an ACA can identify a need situation almost certainly. For consumers, it can be assumed that they are also highly willing to fully automate the purchase decision due to the threat of disadvantages in utility if compulsory needs are not satisfied. This would be possible, for example, by concluding framework agreements or so-called *subscription models* (Allmendinger et al., 2021, pp. 13 ff.; Baxter, 2016; Bischof & Rudolph, 2020, pp. 3 ff.; Chao et al., 2017; Choi et al., 2021; Tzuo, 2019, pp. 19 ff.; Ulaga & Mansard, 2020; Zuora, 2021). By satisfying such compulsory needs, customer satisfaction can be achieved.

Since *elective needs* are identified by an ACA even *before* the PoN, consumers are also not yet aware of them. They therefore have a good chance of arousing *"enthusiasm"* in the customer, which means that they can also be assumed to have a high purchase probability. Another reason for the high purchase probability is that elective needs arise directly from the consumer's lifeworld and can therefore be expected to generate a high level of innovation and utility perception by the customer. However, since elective needs tend to satisfy luxury needs and have a hedonistic character, complete automation of the

purchase decision will be difficult to achieve. The transformation of such elective needs into purchases is therefore unlikely to occur without the consumer's final consent. In these cases, automated distribution must also either be subject to final purchase approval by the consumer or a return option (e.g., money-back guarantee) must be offered.

The demand-side distinction of an ACB between *compulsory* and elective needs can also be related to the supply-side distinction between an Autonomous Standard and an Autonomous Solution Business (see also Fig. 3):

Since *compulsory needs* are largely standardized, they can also be satisfied with the standard processes available on the provider side. This means that providers can meet compulsory needs with an *Autonomous Standard Business.* In contrast, *elective needs* are usually associated with a high degree of innovation and represent personalized services for a consumer which can meet the idiosyncratic needs of a consumer in a special way. However, this means that the satisfaction of such elective needs on the part of the provider is usually accompanied by specific service creation processes adapted to a consumer. As such, they are more in the realm of an *Autonomous Solution Business.*

3 Determinants of ACB Demand

In order to successfully establish an ACB in practice, consumer acceptance is a fundamental prerequisite. To achieve a high probability of acceptance, it is necessary to discover the determinants that influence the probability of consumers accepting an ACB. To achieve this, the *expert survey* is first justified below as a suitable methodology for exploring possible ACB determinants. Subsequently, analyses on the expert surveys are presented. The key findings are briefly summarized in the third subsection.

3.1 Expert Survey to Identify Relevant Determinants

Various methods can be used to identify relevant determinants that influence the likelihood of consumers accepting an ACB. These can be distinguished according to whether consumers are surveyed as the *primary information carriers* or whether experts are surveyed as the customers' "agents" and thus secondary information carriers. The review of studies and scientific literature *(document analysis)* can also be used to generate criteria. Figure 4 shows a corresponding systematization of possible survey methods, while different methods can be used for the exploration of relevant criteria or items in each of the four quadrants. Even if the methods are similar in their basic ideas, the relevant aspects extracted are usually named differently in the various disciplines. The terms used here are, for example, attitude-relevant (salient), quality-relevant, assessment-relevant, preference-relevant, decision-relevant or also perception-relevant criteria or items. Descriptions of the various methods that can be applied in the four quadrants of Fig. 4 are provided, for example, by Böhler (2004, pp. 125 ff.), Böhler et al. (2022, pp. 113 ff.), Bruns and Jacob (2014, pp. 384 ff.), Jacob and Weiber (2015, pp. 290 ff.), Sarstedt and

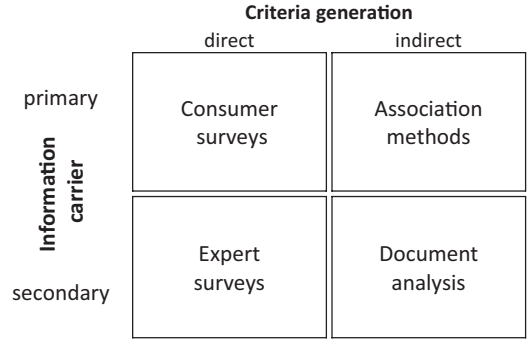

Fig. 4 Method groups for the identification of relevant criteria or items

Mooi (2019, pp. 58 ff.), Steiner (2007, pp. 207 ff.), Weiber et al. (2020, pp. 20 ff.), and Weiber and Gabriel (2021, pp. 60 ff.).

ACB is currently still a largely new phenomenon for consumers, as only a few ACB applications on the consumer side exist to date and a broader establishment is only expected in the future, depending on the availability of technologies. Thus, it is assumed that consumers currently only have limited knowledge and experience regarding an ACB. Since the existing considerations on ACB are primarily at the conceptual level, a description of the concept by the researcher, for example in the form of scenarios, has to be provided in a ***consumer survey.*** While this could increase the consumer's understanding of the topic, there is also a risk that these descriptions would strongly influence the determinants to be named by the consumer. Thus, a response behavior too close to the scenarios would be expected. In particular, the *repertory grid method* (e.g., Bruns & Jacob, 2016, p. 139; Bruns & Jacob, 2014, pp. 352 ff.; Goffin & Koners, 2011, pp. 300 ff.; Lemke et al., 2011, pp. 846 ff.; Macdonald et al., 2016, pp. 96 ff.), which is widely used due to its theoretical foundation, cannot be applied in the context of a consumer survey, or can only be applied using scenarios. Since the ACB is still in a conceptual phase, there is little literature or relevant studies on which to base a *document analysis.*

Against the above background, an ***expert survey*** was used in the present case: In expert surveys, it is assumed that experts have relevant knowledge in the field of investigation and can put themselves in the situation of the primary information carriers. They thus act as *"agents of the consumers"* and can indicate which criteria might be significant for the acceptance of an ACB from the consumer's point of view. It is therefore assumed that the experts to be interviewed have a high degree of congruence with the needs and opinions of the potential consumers. In expert surveys, the *"relevant criteria"* sought result from the competence of experts familiar with the field of investigation (Bogner et al., 2014, pp. 9 ff.; Mohr, 2020, pp. 242 ff.). In this context, they not only allow for initial orientation in theoretically new or unclear fields, but can also reveal discrepancies in content and increase the likelihood that the aspects considered relevant by the experts will be regarded as important decision variables for the adoption of an ACB by later customers. If this condition is *not* met, the probability that reliable results can be

Fig. 5 Composition and areas of activity in the expert panel

Fields of activity of the experts
Scientists - Fields of research:
Business Administration, Retail Service Management, Entrepreneurship, Computer Science, Innovation, Artificial Intelligence, Management, Marketing, Marketing Analytics, Business Management, Business Informatics
Corporate practice - Fields of work:
Digital Platforms, Digital Services, Innovation Management, Consumer Research, Operational Management, Strategy Development, Corporate Consulting (internal + external), Corporate Development, Business Start-up

Composition in the survey rounds
Survey round 1: Scientists: 19; Practitioners: 11; Total: 30
Survey round 2: Scientists: 27; Practitioners: 17; Total: 44

obtained without involving consumers is very low (Helm & Steiner, 2008, pp. 111 ff.). To ensure that this requirement was met, only those were asked to participate in the survey who had a professional understanding that would enable them to place an ACB in a broader context and assess its consequences. It was also ensured that the professional activities of the experts were close to a possible ACB. Furthermore, experts from both science and business practice were included in the expert panel (see Fig. 5).

In the present case, the expert survey was conducted based on the Delphi method first used in social science by Gordon and Helmer (1964). The ***Delphi method*** is a special form of expert survey based on a multi-stage questioning procedure with feedback steps that is used to assess future events, developments, or trends (Häder & Häder, 2000, p. 11). The experts are interviewed anonymously to exclude group dynamics, for example. Strategically, the Delphi method focuses on the key aspects of the subject matter in a feedback process that leads to more reliable and comprehensive results compared with other survey methods. The expert responses determined in the first round of questioning are usually summarized by average calculations or content analyses and presented to the experts in a second round for clarification, evaluation, or refinement of the assessments made previously. For this reason, the multi-stage survey process is also referred to as a controlled opinion-forming process. The result determined by the Delphi method is the aggregated group opinion of the surveyed experts, which covers the range of expert opinions. In the present case, two rounds of interviews were conducted with the following objectives:

- *Survey Round 1 (30 respondents):* Open-ended survey asking respondents to name determinants of demand for an ACB.
- *Survey round 2 (44 participants)*: Merging of similar mentions from survey round 1 into "main criteria" by means of content analysis. Subsequently, standardized questioning of the overall criteria regarding their importance for the acceptance of an ACB by the consumer.

After completion of the second expert survey, the results were reviewed, and those experts were identified whose assessments showed significant deviations from the average assessments of all other experts. The reasons for the deviating assessments were then discussed in *feedback meetings*. This way, the opinions of the few "outliers" were matched and only one expert was excluded from further analysis, resulting in a total of 44 valid expert assessments that could be used in survey round 2.

3.2 Results of the Expert Survey

The following section analyzes the responses from the expert surveys, first presenting the consolidated mentions from survey round 1 and then condensing the expert opinions into key determinants of ACB demand.

3.2.1 Exploration of Key Determinants of an ACB Demand

The first round of questioning with a total of 30 experts served to collect potential determinants that influence the probability of consumers accepting an ACB. To start the open survey, a brief definition of ACB was given (see definition, Sect. 2.2) and the experts were asked to spontaneously name aspects which, in their view, are important for the successful implementation of an ACB or could increase or hinder the likelihood of consumers accepting such offerings.

The range of expert nominations ranged between two and 14; on average, 4.3 aspects were mentioned by the experts. The total number of mentions was 129 aspects. The given answers were qualitatively analyzed, similar answers were summarized and sorted according to the frequency of mentioning.

This process resulted in 18 main criteria and further 13 individual nominations. The latter nominations were no longer taken into account in the following considerations due to their individual influence. Expert statements that could be assigned to more than one main criterion were assigned to all of them. Figure 6 shows the ***18 main criteria*** used in the second round of the survey, with the variable names for the subsequent quantitative evaluation shown in the pre-column.

3.2.2 Importance Analysis of ACB Determinants

In the second round of questioning, the expert panel was increased to 44 participants. The experts were asked to rate the importance (1 = "completely unimportant" to 6 = "very important") of the 18 main criteria found for the acceptance of an ACB on the consumer side. Since the manifestations of an ACB are considered to be very heterogeneous (see Sect. 2.4), the experts were asked to base their assessment on only one specific offer category (A to D) according to Fig. 3, which were specified in the survey.

Variable name	Description	Nominations
Accuracy offit	**Accuracy of fit** of the offers with the customer needs	18
Forecast accuracy	**Forecasting accuracy** of the identification of customer needs	18
Customer requirements	Offers corresponding to the actual **customer requirements**	18
Control	**Control** of customers over provider-side processes	12
Physical relief	High **physical relief** for the customer	10
Cognitive relief	High **cognitive relief** for the customer	10
Benefit	High **benefit** for the customer of the offers	8
Advantages	**Advantages** of an autonomous business for the customer compared to classic purchasing processes	8
Communicability	**Communicability** of the added value of the offers	8
Trust	Customer **trust** in the provider	8
Reputation	**Reputation** of the provider on the market	8
Purchase risk	Perceived **purchase risk** of customers	8
Opportunism	Excludability of **opportunistic provider behavior**	8
Transparency	**Transparency** of the processes for identifying needs	6
Time saving	Perceived **time savings** for the customer compared to classic purchasing processes	6
Easy return	**Easy return** of the offers	3
Money-back guarantee	**Money-back guarantee**	3
Free return	**Free return** of the offers	3

Fig. 6 Expert nominations of possible determinants of an ACB demand

In the first step, the experts' assessments of the four offer categories were checked for significant category differences using a *discriminant analysis* (Backhaus et al., 2021, pp. 206 ff.). However, no variables with a strong discriminatory effect were found (see Fig. 8). This result is also plausible in terms of content since the determinants for an ACB were determined in general and assessed as important across all offer categories. For the remainder of the study, therefore, the expert assessments of ***all four offer categories*** are considered together. The results of the importance ratings for all 44 respondents are shown in Fig. 7. According to the answers given, the importance assumed by the experts is highest on average for the "benefit" perceived by the customer, for the "accuracy of fit of the offerings" and for the "ease with which services can be returned." The perceived "control of customers" and the "transparency of provider processes" also have a mean value above average. Accordingly, all the parameters assessed by the experts are in the upper range of the importance scale.

In addition to importance, the experts were asked to assess the ***acceptance probability*** of the offer category assigned to them in each case using a five-point scale (1 = "very low" to 5 = "very high"). The corresponding question was:

Fig. 7 Importance of the identified determinants of an ACB demand

Variable name	Mean values importance	Standard deviation
Benefit	5.136	1.025
Accuracy offit	5.114	0.993
Easy return	5.023	1.263
Customer requirements	4.955	0.987
Trust	4.886	1.017
Communicability	4.818	1.105
Purchase risk	4.814	1.277
Free return	4.814	1.419
Forecast accuracy	4.791	1.226
Advantages	4.773	1.097
Physical relief	4.750	1.203
Time saving	4.705	1.193
Opportunism	4.500	1.311
Reputation	4.455	1.247
Cognitive relief	4.386	1.333
Money-back guarantee	4.250	1.700
Control	3.977	1.502
Transparency	3.814	1.419

Rating scale:
1 = "completely unimportant" to 6 = "very important"

What do you think is the likelihood that consumers will demand the offer category X you assessed in the future?

Figure 8 shows the demand probabilities estimated by the experts according to offer categories and indicates the criteria that were considered particularly important (importance > 5) by the respective experts in their offer category. All expected demand probabilities are relatively high and close together for categories A, B and C [4.00; 4.17]. Only the demand probability for offer category D is slightly lower (3.73). This is not surprising as category D contains *personalized products* which have the greatest degree of freedom. Regarding the most important determinants, the criteria "utility" and "fit" are represented in all four offer categories with values > 5. In categories C and D, it is noticeable that "communicability" and "easy return" are in the upper importance range, which is plausible for elective needs.

3.2.3 Extraction of Independent Determinants by Principal Component Analysis

Based on the importance analysis, it is further necessary to test whether all criteria listed in Fig. 7 are uncorrelated and represent independent determinants of ACB demand. To test this, a ***principal component analysis*** (PCA) was performed with the following objective: "Finding a small number of components (reduction of the data) while pre-

	Compulsory needs	Elective needs
Goods	**Category A:** (11 experts) Probability of demand: 4.000 Highest Importances (> 5): • Time saving (5.5) • Customer requirements (5.2) • Trust (5.1) • Physical relief (5.1) • Advantages (5.1) • Benefit (5.0) • Accuracy offit (5.0)	**Category C:** (12 experts) Probability of demand: 4.167 Highest Importances (> 5): • Easy return (5.2) • Purchase risk (5.1) • Free return (5.1) • Benefit (5.1) • Accuracy offit (5.1) • Customer requirements (5.0)
Services	**Category B:** (10 experts) Probability of demand: 4.100 Highest Importances (> 5): • Benefit (5.4) • Accuracy offit (5.2) • Purchase risk (4.9) • Advantages (4.8) • Forecast accuracy (4.8)	**Category D:** (11 experts) Probability of demand: 3.727 Highest Importances (> 5): • Easy return (5.6) • Physical relief (5.3) • Communicability (5.2) • Accuracy offit (5.2) • Trust (5.1) • Benefit (5.1)

Scale probability of demand: 1 = "very low " to 5 = "very high"
Rating scale: 1 = "completely unimportant" to 6 = "very important"

Fig. 8 Demand probability and importance by offer categories

serving a maximum of information or minimizing the loss of information" (Backhaus et al., 2021, p. 407). However, a data matrix is only suitable for PCA if there are also sufficiently high correlations between the output variables under consideration. To test this, a correlation analysis was performed. The variable-specific MSA values (Measure of sampling adequacy) were used to check which main criteria had a high ***independent explanatory power*** for the ACB probability and only few similarities with the other variables. Variables with a high independent explanatory power for ACB probability (MSA value <0.5) were then successively excluded from the PCA. This process was repeated until all MSA values were above 0.5. This was achieved after five steps. Figure 9 shows the removed variables and the corresponding MSA values.

As a result, the remaining 13 main criteria were included in the PCA. According to both Bartlett's test (chi-square $(78)=212.666$ $p<0.001$) and the Kaiser–Meyer–Olkin criterion ($KMO=0.713$), the remaining data matrix was suitable for PCA. PCA was performed using a *varimax rotation,* which allows a more "unique" assignment of the main criteria to the principal components and thus facilitates the interpretation. Figure 10 summarizes the key results of the PCA.

Fig. 9 Variables with high independent explanatory power for ACB acceptance probability

Step	Variable removed from PCA	MSA value	Importance
1	Advantages	.181	4.773
2	Time saving	.367	4.705
3	Cognitive relief	.314	4.386
4	Physical relief	.411	4.750
5	Reputation	.468	4.455

According to the Kaiser-Guttman *criterion,* only principal components with eigenvalues greater than 1 should be extracted. In the present case, this leads to four principal components that can explain 68.78% of the total output variance. In contrast to the previously isolated criteria (Fig. 9), the 13 criteria included in the analysis now all have MSA values greater than 0.5, and the communalities of the 13 output variables also all lie in the interval [0.5; 0.79]. This means that the extracted ***four principal components*** together can each reproduce significantly more than half of the respective variance of an output variable. The rectangularly (varimax) rotated loading matrix displayed in Fig. 10 shows almost a *single structure;* i.e., only a few variables have loadings on several principal components at the same time. Furthermore, the eigenvalues make it clear that the principal components have different *reproduction power* (as indicated by each eigenvalue) with respect to the total variance: Thus, the first principal component can reproduce 42.2% of the total variance, while the last principal component contributes only 11.8% to the variance reproduction. If, on the other hand, the mean values of the original *importance ratings* are considered in relation to the initial variables per factor, it is visible that the second principal component with 4.95 has the highest importance from the experts' perspectives. The last principal component loses considerably in importance with an average importance of 3.89.

The assignment of an output variable to a principal component was done according to loadings > 0.55. On this basis, an interpretation of the four principal components is possible:

- **Principal component 1**: *(explanatory power: 42.2% of total variance; importance: 4.81)*
  The variables that load highly on principal component 1 either address consumer uncertainty directly (opportunism, purchase risk) or are related to ways to reduce purchase uncertainty (easy return, free return, trust, and money-back guarantee). The component is therefore interpreted as **"uncertainty."**
- **Principal component 2**: *(explanatory power: 29.3% of the total variance; importance 4.95)*
  The second principal component comprises "forecast accuracy," "accuracy of fit," and "customer requirements." All three criteria aim to ensure that ACB services meet a consumer's idiosyncratic need situation, which is why these components are interpreted as **"personalization."**

Variable name	MSA	Principal components of ACB acceptance probability: Uncertainty	Personalization	Benefit creation	Process transparency	Communality
Easy return	.683	**.806**	.035	.279	.100	.739
Opportunism	.644	**.747**	.224	-.286	.318	.792
Purchase risk	.792	**.680**	.176	.360	-.054	.626
Free return	.661	**.622**	-.194	.481	.290	.740
Trust	.706	**.585**	.332	.134	-.205	.513
Forecast accuracy	.727	.184	**.855**	.140	.020	.785
Accuracy offit	.751	.142	**.747**	.030	.068	.584
Customer requirements	.689	-.068	**.739**	.068	.278	.633
Benefit	.780	.175	.212	**.833**	.134	.788
Communicability	.778	.199	.517	**.581**	.002	.645
Money-back guarantee	.756	.537	-.105	**.560**	.368	.749
Transparency	.536	-.088	.318	.040	**.818**	.779
Control	.713	.223	.022	.175	**.699**	.570
Eigenvalue		**3.770** (42.2%)	**2.618** (29.3%)	**1.499** (16.8%)	**1.054** (11.8%)	

Scale ofimportance of variables: 1 = "completely unimportant" to 6 = "very important"
Rotation method: Varimax with Kaiser normalization
Extraction method: principal component analysis; variance explanation = 68.779%.

Fig. 10 Results of the principal component analysis

- **Principal component 3:** *(explanatory power: 16.8% of the total variance; importance: 4.74)*
  The variables "benefit," "communicability," and "money-back guarantee" have a particularly high impact on the third principal component. They focus on the benefit of an ACB offer and the possibility of being able to communicate this easily or, if an ACB service is not to one's liking, of being able to return it. The common aspect of these three variables can therefore be interpreted as the possibility of **"benefit creation."**
- **Principal component 4:** *(explanatory power: 11.8% of the total variance; importance: 3.89)*
  The fourth principal component is primarily determined by the variables "transparency" and "control." The two variables can be interpreted as **"process transparency"** on the part of the provider, while this also refers to the perceived influence of a customer on the service provision process of the provider (see also Fig. 6).

	Final determinant		Aggregated variables
1	**Uncertainty**	**(4.81)**	*Easy return, Opportunism, Purchase risk, Free return, Trust, Money-back guarantee*
2	**Personalization**	**(4.95)**	*Forecast accuracy, Accuracy offit, Customer requirements*
3	**Benefit creation**	**(4.74)**	*Benefit, Communicability*
4	**Process transparency**	**(3.90)**	*Transparency, Control*
5	**Advantages**	**(4.77)**	
6	**Time saving**	**(4.71)**	
7	**Cognitive relief**	**(4.73)**	
8	**Physical relief**	**(5.09)**	
9	**Reputation**	**(4.64)**	

Fig. 11 Final determinants of ACB demand probability

3.3 Set of Final Determinants of ACB Demand

As a result, the analyses conducted lead to a total of ***nine mutually independent determinants of ACB demand***, which can serve as a starting point for standardized surveys with consumers in future studies (see Fig. 11).

The experts assigned a high level of importance to all parameters. Only "process transparency," which gives the customer an insight into the provider's processes, is less important, with an importance rating of 3.9. In contrast, the "reputation of a provider" is assigned a high level of importance. It can thus be concluded that a lack of process transparency can possibly be compensated for by a high reputation. It should be emphasized that the determinants six to eight are located in the area of *"convenience,"* which may also be why they were declared to be variables with independent explanatory power.

In addition to the determinants of ACB demand, the experts in survey round 1 were also asked to name services that, in their view, are particularly suitable for an ACB. The experts named a total of 90 different examples that could be clearly assigned to the offer categories formed a priori in Fig. 3. The results shown in Fig. 12 indicate particularly frequent mentions and can be interpreted as validation of the offer categories formed by the authors from the demand perspective.

4 Critical Appraisal and Future of the ACB

The conceptual considerations for an ACB presented in this paper assumed that the technological prerequisites presented in Sect. 2.3.1 are fulfilled and that these are also sufficiently established, especially on the consumer side. Furthermore, the presentations

	Compulsory needs	Elective needs
Goods	**Offerings in category A:** FMCG, habitualized purchases, utilitarian services, low-involvement services, spare parts	**Offerings in category C:** Offerings at low appraisal skills, fashion, baby food, modularly expandable products
Services	**Offerings in category B:** Repairs/maintenance, health monitoring	**Offerings in category D:** Offerings at low appraisal skills, leisure/travel/event planning, appointment bookings, support

Fig. 12 Options for ACB offerings (expert nominations)

were based on the current state of technology and the resulting possibilities of an ACB. However, future developments may result in further innovative technological aspects for ACB, which must then be taken into account. To support the hypothesis that ACB will be a ***meaningful business concept*** on the consumer market in the future, the expert surveys also included several general theses on ACB as a marketing concept and ACA as the associated analysis tool on an agreement scale (1 "do not agree at all" to 6 "agree completely;" see Fig. 13).

The results show that the experts consider ACB to be of noteworthy importance for the consumer market in the next five years (question 5) and assume that it will not only be relevant for a miniscule part of the population (question 6). However, the experts do not expect ACB to become a market-dominant concept because, for example, it will no longer provide a shopping experience (question 3). The statements that the technical infrastructure will be a key condition for implementation (question 7), with the IoT assuming particular importance (question 8), are met with a high level of agreement. In addition to technology, it is also confirmed that respect for privacy will play a vital role in establishing ACB (question 1). A "fully automated" ACB will only be an appropriate approach for certain needs (e.g., compulsory needs), while elective needs, for example, will still require purchase confirmation (question 4). Careful selection of the range of ACB services is therefore necessary (see also Sect. 2.4.1), and possible ACB service offerings must be coordinated with the customer in advance (question 2).

With regard to ***ACA as an analysis tool,*** it is confirmed that it is no longer just a matter of testing explanatory models, but that the structure-discovering (explorative) analysis methods become more important (question 9), which generate new business options for the individual customer on a data basis almost constantly. AI is seen as having the potential to bring about a "quantum leap" in the quality of information on consumer behavior (question 10). However, there is also widespread agreement with the statement that ACA should be subject to permanent ethical regulation (question 11).

No.	Statements on "Autonomous Consumer Business" (ACB) as a marketing concept	N	Mean value	Std. dev.
1	Respecting the **privacy** of the customer will play a very large role in establishing an ACB.	40	5.175	1.083
2	To ensure that an ACB does not lead to a flood of offers, it must be **narrowed down to specific offers** in advance in consultation with the customer.	40	4.775	1.230
3	The lower the **shopping experience** of an ACB offer for the customer, the higher the ACB demand probability.	39	4.051	1.572
4	Even with an ACB, **confirmation of purchase** by the customer will still be required before an offer is provided.	40	3.925	1.774
5	It is very likely that an ACB will become **widely established** over the next five years.	40	3.600	1.317
6	An ACB will only be relevant to a **very small part of the population** because of the comprehensive database required.	39	3.231	1.307
	Statements on "Autonomous Consumer Analysis" (ACA) as an analysis tool			
7	An ACA requires that behavioral, object, and process data from the customer's lifeworld is permanently recorded and made available to the provider via a suitable **technical infrastructure**.	39	5.000	0.946
8	ACA will only be possible if consumers connect the objects in their everyday life via the **Internet of Things**.	39	4.487	1.393
9	For an ACA, **exploratory analysis methods** are of much greater importance than confirmatory analysis methods.	35	4.429	1.313
10	The possibilities of AI with new analysis methods are leading to a **"quantum leap" in the quality of information** on consumer behavior.	40	4.175	1.567
11	An ACA must be permanently **ethically regulated**.	36	4.667	1.493

Scale: 1 = "do not agree at all" to 6 = "agree completely"
Note: Difference to N=40 = "cannot assess" or "no statement"

Fig. 13 Expert assessments of ACB and ACA

Due to the scope of the expert panel, it can be emphasized that the determinants explored by means of Delphi methodology represent a reliable set of criteria for ACB demand and can thus be used in future consumer surveys. Nevertheless, the set of criteria identified here should not be used as the sole basis but should always be supplemented on a case-by-case basis. In this context, an examination of the principal components extracted in Sect. 3.2.3 also appears to be quite meaningful.

Since this paper is the first to present fundamental components of an ACB, there are many starting points for ***further research efforts*** in the future. Only the following aspects shall be highlighted here as central:

- The further formulation of the components of an ACB presented in this paper and their extension depending on future technological developments should be a focus of future research.

- Even if the ACA has already been formulated in more detail (Weiber & Morgen, 2021), there is still a great need for research, especially in the development of a suitable *network of methods.* Progress in the field of AI must be permanently monitored and examined regarding its suitability for an ACA.
- *Market cultivation* has only been presented in rudimentary and rather rough form in this article, making it a further research for the future. In the marketing concepts to be developed here, emphasis must be placed on promoting consumers' "willingness to disclose," and rules must be established according to which the degree of automation can also be controlled depending on the context. Impulses for this are provided, for example, by the concept of *"provider integration,"* which focuses on the integration of providers into consumers' usage processes (Hörstrup, 2012; Weiber, 2017; Weiber & Hörstrup, 2009).
- Special attention should also be paid to the *implementation* of an ACB on the provider side. In this context, not only organizational adaptation needs to be explored, but also the specific competencies in connection with the requirements of an Industry 4.0 (Bosse & Zink, 2019; Ternès & Wilke, 2018).
- It was emphasized and confirmed by the expert surveys that ACB does not represent a universal marketing concept, but that the degree of automation must be designed depending on the requirements. In particular, the *manifestations of ACB* presented in Sect. 2.4 must be subjected to more in-depth analysis. Depending on the results, adaptation requirements regarding market development are to be expected.

Finally, it should be emphasized that ACB can be assigned to the *business relationships* action level (Jacob, 2009, p. 29) and describes a special form of *repurchase behavior.* This aspect should also be given special consideration in future research efforts, since it can be stated, according to Jacob (2011, p. 83), that "a profound understanding of repurchase behavior as a consequence of the structure of customer advantage […] is obviously decisive for success" (see also Jacob, 2002, pp. 18 ff.).

References

Ahlert, D., Kawohl, J., Kes, I., Brüggemann, F., Peperhowe, J., Schefer, B., & Schütrumpf, E. (2010). Solution Selling im B2C-Bereich – Ein konzeptioneller Ansatz zur Typologisierung von Solutions. In D. Woisetschläger, M. Michaelis, H. Evanschitzky, A. Eiting, & C. Backhaus (Eds.), *Marketing von Solutions – Innovative Ansätze und Best Practice* (pp. 31–60). Gabler.

Allmendinger, M., Walter, P., & Jagusch, S. (2021). Subscribe Now!? In S. Detscher (Ed.), *Digitales Management und Marketing* (pp. 13–28). Springer Gabler.

Alzubaidi, L., Zhang, J., Humaidi, A. J., Al-Dujaili, A., Duan, Y., Al-Shamma, O., Santamaría, J., Fadhel, M., Al-Amidie, M., & Farhan, L. (2021). Review of deep learning: Concepts, CNN architectures, challenges, applications, future directions. *Journal of Big Data, 8*(53), 1–74.

Appelfeller, W., & Feldmann, C. (2018). *Die digitale Transformation des Unternehmens*. Springer Gabler.

Backhaus, K., & Paulsen, T. (2018). Vom Homo Oeconomicus zum Homo Digitalis – Die Veränderung der Informationsasymmetrien durch die Digitalisierung. In M. Bruhn & M. Kirchgeorg (Eds.), *Marketing Weiterdenken* (pp. 105–122). Springer Fachmedien.

Backhaus, K., & Voeth, M. (2014). *Industriegütermarketing: Grundlagen des Business-to-Business-Marketings* (Vol. 10). Vahlen.

Backhaus, K., Erichson, B., Gensler, S., Weiber, R., & Weiber, T. (2021). *Multivariate Analysis: An Application-Oriented Introduction*. Springer Gabler.

Baxter, R. (2016). Subscription business models are great for some businesses & terrible for others. Harvard Business Review. https://hbr.org/2016/07/subscription-business-models-are-great-for-some-businesses-and-terrible-for-others. Accessed 4 Feb 2022.

Bebersdorf, P., & Huchzermeier, A. (2021). *Variabler Takt – Mit dem VarioTakt Varianz beherrschen bei grenzenloser Produktindividualisierung*. Springer Gabler.

Bennett, J. (2016). Preparing for Algorithms and Autonomous Business. https://www.gartner.com/smarterwithgartner/algorithms-autonomous-business/. Accessed 4 Feb 2022.

Bertsimas, D., & Kallus, N. (2019). From Predictive to prescriptive analytics. *Management Science, 66*(3), 1025–1044.

Bischof, S. F., & Rudolph, T. (2020). *Subskriptionsmodelle im Handel: Wie Subskriptionen den Konsum automatisieren*. Springer Gabler.

Bogner, A., Littig, B., & Menz, W. (2014). *Interviews mit Experten: Eine praxisorientierte Einführung*. Springer.

Böhler, H. (2004). *Marktforschung* (Vol. 3). Kohlhammer.

Böhler, H., Germelmann, C. C., Baier, D., & Woratschek, H. (2022). *Marktforschung* (Vol. 4). Kohlhammer.

Bosse, C. K., & Zink, K. J. (Eds.). (2019). *Arbeit 4.0 im Mittelstand – Chancen und Herausforderungen des digitalen Wandels für KMU*. Springer Gabler.

Boßlau, M., Gesing, J., Meier, H., & Wieseke, J. (2017). Geschäftsmodelle für Industrielle Produkt-Service-Systeme. In H. Meier & E. Uhlmann (Eds.), *Industrielle Produkt-Service-Systeme – Entwicklung, Betrieb und Management* (pp. 299–324). Springer.

Bruns, K., & Jacob, F. (2016). Value-in-Use: Antecedents, Dimensions, and Consequences. *Marketing: ZFP – Journal of Research and Management 38*(3), 135–149.

Bruns, K., & Jacob, F. (2014). Value-in-Use und mobile Technologien. *Wirtschaftsinformatik, 56*(6), 381–393.

Chaffey, D., & Ellis-Chadwick, F. (2019). *Digital Marketing: Strategy, Implementation and Practice* (Vol. 7). Pearson Education.

Chao, K., Roche, P., Kiermaier, M., & Sane, N. (2017). Subscription myth busters: What it takes to shift to a recurring-revenue model for hardware and software. https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/subscription-myth-busters. Accessed 4 Feb 2022.

Choi, M., Moss, S., Reasor, E., Nading, J., & Rempley, D. (2021). Sign up now: Creating consumer – and business- value with subscriptions. https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/sign-up-now-creating-consumer-and-business-value-with-subscriptions. Accessed 4 Feb 2022.

Deng, M., & Koh, C. (2020). *Smart Factory: Transforming Manufacturing for Industry 4.0*.

Düll, A. (2009). *Aktive Produktindividualisierung – Ansatzpunkte zur nutzerorientierten Konzeption von Mass-Customization-Angeboten im Konsumgütermarkt*. Springer.

Freichel, S. (2009). *FIT-Modelle der Produktindividualisierung: Die Abstimmung der Produktindividualisierung auf die Bedürfnisse und Handlungsziele des Nachfragers*. Dr. Kovac.

Gabriel, L. (2022). Die Macht digitaler Plattformen: Möglichkeiten und Konsequenzen der Personalisierung.

Gartner. (2012). The Nexus of Forces: Social, Mobile, Cloud and Information. https://www.gartner.com/en/documents/2049315. Accessed 4 Feb 2022.
Gartner. (2014). Hype Cycle for Emerging Technologies. https://www.gartner.com/en/documents/2809728. Accessed 4 Feb 2022.
Gartner. (2016a). Preparing for Algorithms and Autonomous Business. https://www.gartner.com/smarterwithgartner/algorithms-autonomous-business. Accessed 4 Feb 2022.
Gartner. (2016b). 3 Trends appear in the Gartner Hype Cycle for Emerging Technologies. https://www.gartner.com/smarterwithgartner/3-trends-appear-in-the-gartner-hype-cycle-for-emerging-technologies-2016b. Accessed 4 Feb 2022.
Gartner. (2020). Gartner identifies the top strategic technology trends for 2021. www.gartner.com/en/newsroom/press-releases/2020-10-19-gartner-identifies-the-top-strategic-technology-trends-for-2021. Accessed 4 Feb 2022.
Gartner. (2022). Information Technology – Gartner Glossary. https://www.gartner.com/en/information-technology/glossary. Accessed 4 Feb 2022.
Gerster, S. (2018). *Funktionsübergreifende Zusammenarbeit im Lösungsgeschäft – Eine empirische Betrachtung aus Anbietersicht*. Springer Gabler.
Godin, S. (2006). *Permission Marketing*. Pocket Books.
Goffin, K., & Koners, U. (2011). Tacit Knowledge, Lessons Learned and New Product Development. *Journal of Product Innovation Management 28*(2), 300–318.
Gordon, T. J., & Helmer, O. (1964). *Report on a long-range forecasting study*. RAND Corporation.
Häder, M., & Häder, S. (2000). Die Delphi-Methode als Gegenstand methodischer Forschungen. In M. Häder & S. Häder (Eds.), *Die Delphi-Technik in den Sozialwissenschaften* (pp. 11–32). VS Verlag.
Helm, R., & Steiner, M. (2008). *Präferenzmessung – Methodengestützte Entwicklung zielgruppenspezifischer Produktinnovationen*. Kohlhammer.
Hilker, C. (2019). *Digital Marketing Leitfaden: Strategien für Wachstum*. Books on Demand.
Hörstrup, R. (2012). *Anbieterintegration – Ein konzeptioneller Ansatz zur Analyse und Gestaltung kundenseitiger Nutzungsprozesse*. Verlag Dr. Kovac.
Jacob, F. (2013). Solutions Buying - Herausforderungen für die Kaufverhaltensanalyse in Industriegütermärkten. *Marketing Review St. Gallen, 30*(4), 26–35.
Jacob, F. (2011). Wiederkaufverhalten in Geschäftsbeziehungen. In: M. Kleinaltenkamp, W. Plinke, I. Geiger, F. Jacob, & A. Söllner (Eds.), *Geschäftsbeziehungsmanagement*. Gabler.
Jacob, F. (2009). *Marketing – Eine Einführung für das Masterstudium*. Kohlhammer.
Jacob, F. (2002). *Geschäftsbeziehungen und die Institutionen des marktlichen Austauschs*. Gabler.
Jacob, F. (1995). *Produktindividualisierung: Ein Ansatz zur innovativen Leistungsgestaltung im Business-to-Business-Bereich*. Gabler.
Jacob, F., & Kleinaltenkamp, M. (2015). Leistungsindividualisierung und -standardisierung. In K. Backhaus & M. Voeth (Eds.), *Handbuch Business-to-Business-Marketing* (Vol. 2, pp. 277–295). Springer Gabler.
Jacob, F., & Weiber, R. (2015). Business market research. In M. Kleinaltenkamp, W. Plinke, I. Wilkinson, & I. Geiger (Eds.), *Fundamentals of Business-to-Business Marketing* (pp. 275–325). Springer.
Kagermann, H., Wahlster, W., & Helbig, J. (2013). Deutschlands Zukunft als Produktionsstandort sichern – Umsetzungsempfehlungen für das Zukunftsprojekt Industrie 4.0, Abschlussbericht des Arbeitskreises Industrie 4.0. www.bmbf.de/files/Umsetzungsempfehlungen_Industrie4_0.pdf. Accessed 4 Feb 2022.
Kaufmann, T. (2015). Geschäftsmodelle in Industrie 4.0 und dem Internet der Dinge – Der Weg vom Anspruch in die Wirklichkeit. Springer.

Kawohl, J. M. (2010). *Lösungsorientierung von Handelsunternehmen – Konzeption und Erfolgsmessung*. Gabler.

Kleinaltenkamp, M., Minculescu, I., & Raithel, S. (2017). Customization of B2B Services: Measurement and Impact on Firm Performance. *SMR – Journal of Service Management Research 1*(1), 39–56.

Kollmann, T. (2020). *Digital Marketing: Grundlagen der Absatzpolitik in der Digitalen Wirtschaft* (Vol. 3). Kohlhammer.

Kollmann, T. (2019). *Electronic Business – Grundlagen elektronischer Geschäftsprozesse in der Digitalen Wirtschaft* (Vol. 7). Springer Gabler.

Kreutzer, R. T. (2017). Treiber und Hintergründe der digitalen Transformation. In D. Schallmo, A. Rusnjak, J. Anzengruber, T. Werani, & M. Jünger (Eds.), *Digitale Transformation von Geschäftsmodellen – Grundlagen, Instrumente und Best Practices* (pp. 33–58). Springer Gabler.

Lemke, F., Clark, M., & Wilson, H. (2011). Customer experience quality: An exploration in business and consumer contexts using repertory grid technique. *Journal of the Academy of Marketing Science 39*(6), 846–869.

Lepenioti, K., Bousdekis, A., Apostolou, D., & Mentzas, G. (2020). Prescriptive analytics: Literature review and research challenges. *International Journal of Information Management, 50,* 57–70.

Lindemann, U., Reichwald, R., & Zäh, M. F. (Eds.). (2006). *Individualisierte Produkte – Komplexität beherrschen in Entwicklung und Produktion*. Springer.

Macdonald, E. K., Kleinaltenkamp, M., & Wilson, H. N. (2016). How business customers judge solutions: Solution quality and value in use. *Journal of Marketing 80*(3), 96–120.

Matos, L. M., Cortez, P., Mendes, R., & Moreau, A. (2019). Using Deep Learning for Mobile Marketing User Conversion Prediction. *International Joint Conference on Neural Networks (IJCNN), 2019*, 1–8.

Meffert, H., Bruhn, M., & Hadwich, K. (2018). *Dienstleistungsmarketing – Grundlagen – Konzepte – Methoden* (Vol. 9). Springer Gabler.

Minculescu, I. (2013). *Leistungsindividualisierung im B-to-B-Bereich – Die Einzigartigkeit im Rahmen der Dienstleistungsgestaltung*. Springer Gabler.

Mohr, L. (2020). *Dienstleistung 4.0 - Konzeption und empirische Prüfung einer von smarten Assistenten angebotenen Dienstleistungsform*. Dr. Kovac.

Reinartz, W. (2018). Kundenansprache in Zeiten digitaler Transformation. In M. Bruhn & M. Kirchgeorg (Eds.), *Marketing Weiterdenken* (pp. 123–137). Springer Gabler.

Reinartz, W., & Imschloß, M. (2017). Vom Point-of-Sale zum Point-of-Need: Digitale Technologien und die neue Welt des Einzelhandels. *Zukunft Des Einzelhandels, 9*(1), 43–47.

Saarbeck, S. (2013). *Permission Marketing: Erfolgswirkung der Einwilligung*. Springer Gabler.

Sarstedt, M., & Mooi, E. (2019). *A Concise Guide to Market Research*. Springer.

Selke, S. (2017). Assistive Kolonialisierung – Von der „Vita activa" zur „Vita assistiva". In P. Biniok & E. Lettkemann (Eds.), *Assistive Gesellschaft – Multidisziplinäre Erkundungen zur Sozialform „Assistenz"* (pp. 99–119). Springer.

Steiner, M. (2007). *Nachfragerorientierte Präferenzmessung: Bestimmung zielgruppenspezifischer Eigenschaftssets auf Basis von Kundenbedürfnissen*. Gabler.

Steven, M. (2019). *Industrie 4.0: Grundlagen-Teilbereiche-Perspektiven*. Kohlhammer.

Steven, M., & Dörseln, J. N. (Eds.). (2020). *Smart Factory: Einsatzfaktoren-Technologie-Produkte*. Kohlhammer.

Steven, M., & Grandjean, L. (2018). Digitale Geschäftsmodelle für industrielle Produkt-Service-Systeme im Kontext von Industrie 4.0. In F. Keuper, M. Schonmann, L. Sikora, & R. Wassef

(Eds.), *Disruption und Transformation Management – Digital Leadership – Digitales Mindset – Digitale Strategie* (pp. 267–289). Gabler.

Ternès, A., & Wilke, C.-D. (Eds.). (2018). *Agenda HR – Digitalisierung, Arbeit 4.0, New Leadership*. Springer Gabler.

Tuli, K. R., Kohli, A. K., & Bharadwaj, S. G. (2007). Rethinking customer solutions: From product bundles to relational processes. *Journal of Marketing 71*(3), 1–17.

Tzuo, T. (2019). *Das Abo-Zeitalter* (Vol. 2). Börsenmedien AG.

Uhlmann, E., & Meier, H. (2017). Produktverständnis im Wandel. In H. Meier & E. Uhlmann (Eds.), *Industrielle Produkt-Service Systeme – Entwicklung, Betrieb und Management* (pp. 1–16). Springer.

Ulaga, W., & Mansard, M. (2020). Future-proof your business with the subscription business model. https://www.zuora.com/resource/subscription-resiliency-future-proof-your-business/. Accessed 4 Feb 2022.

Ulaga, W., & Reinartz, W. (2011). Hybrid offerings: How manufacturing firms combine goods and services successfully. *Journal of Marketing 75*(6), 5–23.

Verganti, R., Vendraminelli, L., & Iansiti, M. (2020). Innovation and design in the age of artificial intelligence. *Journal of Product Innovation Management, 7*(3), 212–227.

Voigt, K.-I., Hertlein, M. J., Rücker, M., & Veile, J. (2019). Marktveränderungen durch die digitale Transformation in der Industrie. In M. Steven & L. Grandjean (Eds.), *Marktchancen 4.0: Erkennen, entwickeln und umsetzen innovativer Geschäftsmodelle* (pp. 20–39). Kohlhammer.

Weiber, R. (2017). Anbieterintegration – Das Management der Wertkette des Konsumenten. In H. Corsten & S. Roth (Eds.), *Handbuch Dienstleistungsmanagement* (pp. 631–657). Vahlen.

Weiber, R. (Ed.). (2002a). *Handbuch Electronic Business.* (Vol. 2). Gabler.

Weiber, R. (2002b). Markterfolg im Electronic Business durch wettbewerbsorientiertes Informationsmanagement. In R. Weiber (Ed.), *Handbuch Electronic Business* (Vol. 2, pp. 143–180). Gabler.

Weiber, R., & Gabriel, L. (2021). Identifikation präferenzbildender Merkmale und Ausprägungen bei Conjointanalysen. In D. Baier & M. Brusch (Eds.), *Conjointanalyse* (Vol. 2). Springer.

Weiber, R., & Hörstrup, R. (2009). Von der Kundenintegration zur Anbieterintegration - Die Erweiterung anbieterseitiger Wertschöpfungsprozesse auf kundenseitige Nutzungsprozesse. In M. Bruhn & B. Stauss (Eds.), *Kundenintegration* (pp. 281–312). Gabler.

Weiber, R., & Mohr, L. (2020). Dienstleistungen 4.0. In T. Kollmann (Ed.), *Handbuch Digitale Wirtschaft* (Vol. 2, pp. 1091–1125). Springer Gabler.

Weiber, R., & Mohr, L. (2019). Dienstleistung 4.0 als Differenzierungsinstrument für Konsumgüterhersteller im Wettbewerb der Zukunft. In M. Steven & L. Grandjean (Eds.), *Marktchancen 4.0: Erkennen, entwickeln und umsetzen innovativer Geschäftsmodelle* (pp. 87–118). Kohlhammer.

Weiber, R., & Morgen, J. (2021). Autonomous Consumer Analysis. In M. Bruhn & K. Hadwich (Eds.), *Künstliche Intelligenz im Dienstleistungsmanagement. Forum Dienstleistungsmanagement* (pp. 83–111). Springer Gabler.

Weiber, R., Kleinaltenkamp, M., & Geiger, I. (2022). *Business- und Dienstleistungsmarketing – Die Vermarktung integrativ erstellter Leistungsbündel* (Vol. 2). Kohlhammer.

Weiber R., Mohr L., & Weiber T. (2017). Butler-Services als Dienstleistungen 4.0 zur Entlastung von Konsumenten in ihren Alltagsprozessen. In M. Bruhn & K. Hadwich (Eds.), *Dienstleistungen 4.0* (pp. 61–96). Springer Gabler.

Weiber, R., Gabriel, L., Morgen, J., & Nguyen, M. (2020). *Marktforschung als Grundlage einer marktorientierten Unternehmensführung*. Universität Trier.

Wilken, R., & Jacob, F. (2015). Vom Produkt-zum Lösungsanbieter. In K. Backhaus & M. Voeth (Eds.), *Handbuch Business-to-Business-Marketing* (pp. 147–164). Springer Gabler.

Wirtz, B. W. (2020). *Electronic Business* (Vol. 7). Springer Gabler.

Wissmann, J. (2013). *Einwilligungen im Permission Marketing: Empirische Analysen von Determinaten aus der Sicht von Konsumenten*. Springer Gabler.

Woisetschläger, D. M., Backhaus, C., Michaelis, M., Eiting, A., & Evanschitzky, H. (2010). Marketing von Solutions – Grundlagen des Solution Marketing und Herausforderungen auf dem Weg zum Solution Seller. In D. Woisetschläger, M. Michaelis, H. Evanschitzky, A. Eiting, & C. Backhaus (Eds.), *Marketing von Solutions – Innovative Ansätze und Best Practice* (pp. 3–30). Gabler.

Worm, S., Bharadwaj, S. G., Ulaga, W., & Reinartz, W. J. (2017). When and why do customer solutions pay off in business markets? *Journal of the Academy of Marketing Science 45*(4), 490–512.

Zhan, Y., Tan, K. H., Li, Y., & Tse, Y. K. (2016). Unlocking the power of big data in new product development. *Annals of Operations Research, 270*(1), 577–595.

Zonta, T., da Costa, C. A., da Rosa Righi, R., de Lima, M. J., da Trindade, E. S., & Li, G. P. (2020). Predictive maintenance in the Industry 4.0: A systematic literature review. *Computers & Industrial Engineering, 150,* 106–889.

Zuora (2021). 9 keys to building a successful subscription business. https://de.zuora.com/guides/nine-keys-building-successful-subscription-business/. Accessed 4 Feb 2022.

Zysman, J., Feldman, S., Murray, J., Nielsen, N. C., & Kushida, E. E. (2010). *Services with Everything: The ICT-Enabled Digital Transformation of Services*. BRIE Working Paper 187a.

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Inside the Heart of Neuromarketing: A Comparison of Selected Studies and Look into the Effects of Product Role on the Human Brain

Jane Nikolitsch, Thomas Aichner and Laura Da Ros

Abstract

Neuromarketing can help companies increase revenue and sales, and more accurately target customers with the products and services that are right for them. Through a systematic literature review, the present paper provides an overview of the history of neuromarketing, from the acknowledgment of the inner processes dominating decision-making to the introduction in marketing research of neuroscientific instruments providing direct insight into the brain of the consumer. The aim is to identify common grounds and divergences of different experiments while offering an overview of the core elements and contributions to the development of science. The analysis of ten selected experiments led to the definition of the five key elements that were used as starting points for a structured comparison among the studies. The results showed the relevance of data quality for experimental significance, together with the importance of the role played by instrumental choice in the output, revealing different outcomes according to whether electroencephalography (EEG), functional magnetic resonance imaging (fMRI) or functional near-infrared spectroscopy (fNIRS) were employed.

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1 Introduction

The brain, the safe harbor shielding the thousands of intimate thoughts and feelings being processed every day, has been seen for centuries by economists as a black box, an obscure mechanism determining the transformation of an input, the stimulus, in an output, the response, and over which the individual had no control. Therefore, reading and understanding what was going on inside it was still seen more like rocket science rather than the future of science.

But what if researchers were now able to access this deep and unconscious world? What if this possibility had met marketing? And what if we could better understand what is going on in our brains when we step into our favorite store to buy the coat that we saw previously in the shop window and the salesperson provides us with a memorable buying experience? In answering such questions, insights from neuromarketing can help us.

Neuromarketing can be defined as "the application of neuroscientific methods to analyze and understand human behavior in relation to markets and marketing exchanges" (Lee, Broderick, Chamberlain, 2007, p. 200) and appeared as a concept for the first time in 2002, in a paper written by Smidts (2002). Despite the skepticism of many researchers regarding its ethical basis, neuromarketing has gained nowadays consistently more attention, not only by researchers but also by firms.

Due to the saturation of global markets, it has become increasingly difficult for customers to distinguish between different products of similar quality and make a purchasing decision, making customer relationship building a strenuous and costly task for companies trying to differentiate themselves. Traditional marketing techniques have proven ineffective in this regard. The question here is why they fail, and the answer lies in how deeply and specifically marketers can understand what's going on in the black box. In this context, the purchase intention of consumers and understanding the human mind is one of the important aspects of neuromarketing. Neuromarketing provides a great route for reading consumers' minds and preferences, allowing marketers to conduct successful and efficient targeted marketing. Apart from that, technology also provides a direct window into the brain's decision-making centers, positively affecting the crucial decision-making process toward purchasing specific goods (Jayadatta et al., 2021, p. 1).

The aim of this paper is not only to provide an insight into the heart of neuromarketing and the scientific techniques allowing researchers to understand the human brain, but also to explain how these techniques can be used in practice by firms to offer the most suitable solutions to their customers' needs. Throughout the years, several experiments have been carried out by researchers from every corner of the world, which contributed to the evolution of neuromarketing by adding every time a new piece to the puzzle. But what are the common grounds bringing researchers and their experiments closer? And what are instead the main differences characterizing these processes? Furthermore, during the research another question arose – whether the role played by the product can trigger different responses among consumers and offer new contributions to researchers of neuromarketing.

2 Literature Review

2.1 Emotions: The Fuel of Our Decisions

In the past decades they gained the interest of economists, revealing their potential in several different fields. An emotion is defined as a "mental state of readiness that arises from cognitive appraisals of events or thoughts" (Bagozzi et al., 1999, p. 184) or a "process, in which the perception of a set of stimuli, allows a cognitive assessment that enables people to label and identify a particular emotional state" (Consoli, 2010, p.3). Hence, emotions arise from emotional stimuli, which cause somatic changes in the body, which can nowadays be measured by means of complex and accurate scientific instruments.

With respect to emotions as fuel for our decisions, studies in this field were for long based on the conviction of pure rationality underlying human decision-making processes, principle applied also to marketing, where the consumer was believed to be a rational handler and buyer, not affected by emotions and non-cognitive processes. Shafir et al. (1993) claimed the decisive role of reasons in decision-making concerning choices among alternatives, which were seen as sources of conflicts and uncertainty. The authors argued that, in order to explain the resolution of these conflicts, scholars used either formal models, concerned with value maximization, or reason-based analysis, a more informal method based on weighing positive and negative aspects of the alternatives. Therefore, reason and emotion were treated as completely separated processes, the one reliable and measurable, the other vague and subjective, in a Romantic interpretation viewing emotion as embedded in the body and reason as dominator of the brain (Damasio, 1999).

2.1.1 Emotions and Decision-Making

Life is constantly put to the test by the necessity of making choices: from the everyday dilemma regarding which clothes we are going to wear to the choice of how our future should look like. Many scholars have been fascinated by human behavior in these situations, which brought them to formulate various theories explaining the mechanism underlying decision-making. A first approach was characterized by a focus on the mathematical and empirical side of choices, in a probabilistic view of equal alternatives being chosen in a predictable way. Slovic (1975), sustained by different experiments, argued that equally valued alternatives were chosen according to their score in the attribute that was valued as most important. This conclusion proved to agree with Tversky's (1972) model of elimination-by-aspects, which linked attributes with a probability depending on their importance, thus simplifying and rationalizing each decision: selecting one aspect simply eliminated all the alternatives that did not contain it. According to Loewenstein and Lerner (2003), emotions began to be accounted for in research only after the development of behavioral decision theory, which aimed at understanding cognitive biases

characterizing the attitude towards future events and the aforementioned heuristic rules used to simplify the process.

They argued for the existence of two types of affective influences, namely expected and immediate emotions (Bagozzi et. al., 2016). The former consists of an anticipation of the emotional consequences of choices. To a certain extent, they could be associated with an expected utility model having as an object the emotional utility coming from a determined action. The latter is felt right at the time the choice is made and can affect it directly or indirectly, namely through anticipatory and incidental influences. For example, at the moment of a decision, we may feel anxious about the positivity or negativity of the outcome, as well as being influenced by elements that are not pertinent to the choice itself, such as a bad mood making our perspectives look worse. According to Kemp et al. (2020), there is growing evidence that emotions can actually improve decision-making in many cases. They do so by providing evaluative information, triggering action or immediate avoidance responses, focusing individuals' attention, and committing them to stick to their decisions. Importantly, emotions help people decipher complex problems. Consequently, they increase the likelihood that a decision will be made rather than an impasse (No author, 2020).

2.1.2 The Somatic Marker Hypothesis

One of the major contributions leading to the acknowledgement of the importance of emotions while making judgements and taking decisions was represented by the Somatic Marker Hypothesis developed by Damasio (1996) through different experiments and papers. In this paragraph, the focus will be on Damasio (1996) and Bechara and Damasio (2004). The idea at the basis of the hypothesis is that the response to outer stimuli is influenced by marker signals, which are generated at different levels of operation of bioregulatory processes, such as emotions and feelings, and that may occur consciously or unconsciously.

In order to test its assumptions, Damasio undertook different experiments involving patients with bilateral damages to the ventral and medial parts of the prefrontal region. These patients showed intact general intellectual and problem-solving abilities, even if important deficits marked their decisions in real-life situations, both social, financial, and personal, leading to systematic losses they were not able to learn from. Moreover, this pattern of disadvantageous choices was shown to be different from the one these patients showed before incurring the injury. Another key observation in this experiment was that injured participants were not able to experience feelings and show emotions in the appropriate situations.

The first experiment presented by the author aims to prove exactly the latter observation, using skin conductance response as a testing tool, which will be explained later on in the paper. Participants belonged to three different groups: people not affected by injuries to the brain, patients with damage to areas of the brain outside the frontal cortex, and subjects with damage to the ventromedial frontal cortex (VM patients). Each participant was shown both an emotionally neutral and emotionally charged picture. The

first two groups showed somatic changes signaled by skin conductance response, while VM patients seemed not to react to those inputs, thus confirming the assumption of an inability to generate somatic responses to emotional stimuli. This happened because the ventromedial prefrontal cortex is the agent establishing the relation between current situations and the bioregulatory states that arose in previous analogous situations, thus representing a learned experience from the past. As similar situations are faced, this link and the relative emotional dispositions are reactivated, accelerating their processing.

Other experiments were carried out by means of the gambling task, firstly presented by Bechara et al. (1994). In their research, the authors demonstrated that VM participants repeatedly choose disadvantageous decks of cards, while normal subjects and participants with other brain damage managed to develop a strategy to better perform the task. Moreover, the key finding was that VM patients focused on immediate outcomes, both punishment, and reward, and were not sensitive to future consequences. As previously stated, somatic markers help simplify the decision-making process, and a lack of markers for future scenarios inhibits the provision of positive signals guiding decision-making.

In a later elaboration, Bechara and Damasio (2004, p. 339) summarize the definition of emotion as a "collection of changes in body and brain states triggered by a dedicated brain system that responds to specific contents of one's perceptions, actual or recalled, relative to a particular object or event". These mental and physical states, called somatic states, are generated by primary inducers, stimuli of the surrounding environment triggering an immediate somatic response, or by secondary inducers, which arise from the memory of emotional events. Moreover, the two structures responsible for the activity of primary and secondary inducers are, respectively, the amygdala and the ventromedial prefrontal cortex. This supports the argument presented above since a lesion to the latter structure would induce an inability to remember what it feels like to experience a particular situation, for example by picturing the feeling of a big loss in a gambling task.

These complex theories aim at demonstrating that the hot processes, which were ignored and almost hidden for centuries, play a decisive role in decision-making and must not be neglected.

2.2 Bridging Brain and Behavior: from the Black Box to Neuroeconomics

For a long time, researchers and scholars were deeply convinced of the impossibility for science to access and understand the mysteries of the human brain, the "black box" (Camerer et al., 2005). Behaviorism, an experimental field of research aimed at predicting and controlling human behavior in a purely objective manner, was one of the main supporters of the necessity to reject introspection, meaning that research had to be focused merely on behavior rather than on mental states and subjective experiences (Watson, 1994). The core research paradigm of Behaviorism was the Stimulus–Response (SR) model, which assumed that the effect of a stimulus on an organism is determined

by a certain probability of a certain response (Foscht et al., 2017). All the private and abstract elements were enclosed in a black box and treated as a bridge connecting both extremes, rather than as a flood of different stimuli acting on input transformation.

This perspective began to be questioned between the end of the 1920s and the beginning of the 1930s, because it was considered as implying a simplified and generalized correlation between stimuli and responses, and ignoring the necessity of individuals to express the inner states of their organisms in subjective terms (Moore, 1999). The consequence was the appearance of neobehaviorism, whose paradigm was represented by the Stimulus-Organism-Response (S-O-R) model. The organism, the "O" element, accounted in this field for the great variety of internal structures and processes that could not be directly observed from the outside, both biological and psychological, including on one side processes involving bodily parts such as the nervous system and on the other side concepts such as thinking or emotion (Buxbaum, 2016).

Together with the increasing importance gained by emotions in the field of decision-making and judgment, neobehaviorism contributed significantly to paving the way to the birth of neuroeconomics. This discipline attempted to revisit the fundamental economic theories, which risked falling into obsolescence, not recognizing that deliberation was often preceded by automatic and almost unconscious processes (Camerer et. al., 2005). In particular, the most characteristic sign of this new discipline was the adoption of neuroscientific instruments, which allowed direct measurements of emotions and thoughts, also leading to a more objective definition of behavior, in collaboration with behavioral economics and psychology (Hammou et al., 2013; Hubert & Kenning, 2008; Lee et al., 2007). Hence, the revolution lay in the capacity of economics to embrace the evolution of the traditional Homo Oeconomicus into Homo Neurobiologicus, driven in its economic life by neurobiology (Kenning & Plassmann, 2005)."Harris et al. 2017" and "Hubert et al. 2008" were changed to "Harris et al. 2018" and "Hubert and Kenning 2008" to match the reference list. Please confirm.confirmed, thank you

2.2.1 Neuroscientific Techniques

As previously stated, the encounter between neuroscience and economics materializes in the application of the sophisticated instruments developed in the former in the core research and theories of the latter. Hence, an overview of these tools is fundamental and will be a background to the delineation of neuromarketing, a concrete example of applied Neuroscience. Therefore, this paragraph will be mainly based on Glaenzer (2016) and Lim (2018). Figure 1 shows an overview of the most used instruments, categorized by activity, namely recording or manipulation of neural processes, and by location of the accounted process, namely inside or outside the brain. Here, the focus will be on the recording activity, with particular importance given to electroencephalography (EEG), functional magnetic resonance imaging (fMRI), facial electromyography (EMG), and Eye-tracking (ET).

First of all, we may identify neuroimaging as a broader category containing all brain-mapping tools, which can locate neurons in different brain areas as they fire, meaning

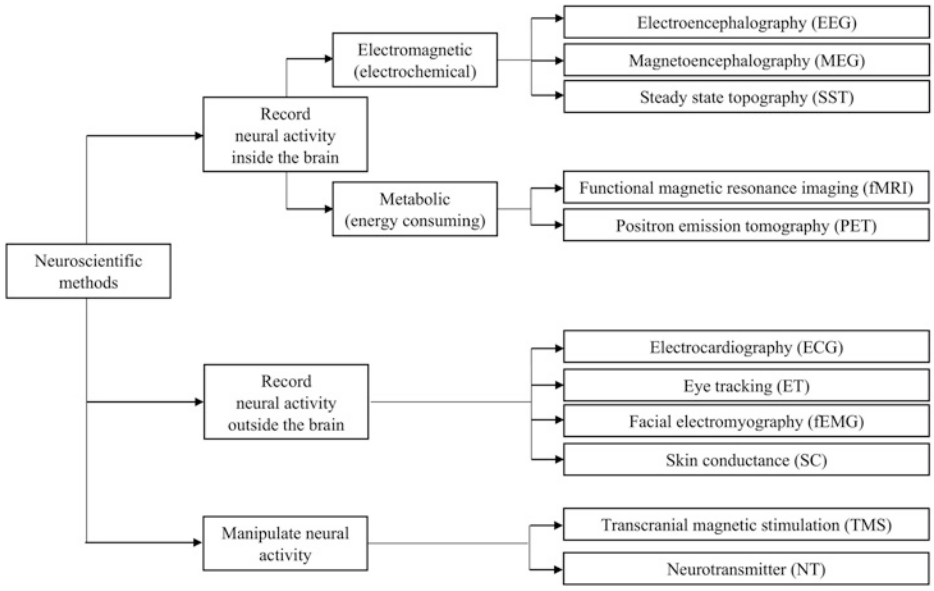

Fig. 1 Main neuroscientific methods, divided by activity and localization. (*Source*: Lim, 2018)

that an electrical signal is sent to the cell and chemical substances, the neurotransmitters, are released to create a connection with other neurons. As a matter of fact, different machines may display either an increase in electricity or in the blood being sent to these cells, both indicators of the two different processes. Neuroimaging techniques may be divided into electromagnetic and metabolic processes.

2.2.1.1 Electromagnetic Processes

Among electromagnetic processes we find Electroencephalography (EEG), Magnetoencephalography (MEG), and Steady State Topography (SST) (Lim, 2018). Armed with electrodes placed on a helmet and transmitting the waves generated by the aforementioned firing of neurons, EEG is responsible for recording electrical neural processes going on inside our brain. Brainwaves are divided into four types, according to their frequencies. The most common ones are Delta (<4 Hz), Theta (4–7 Hz), Alpha (8–12 Hz), and Beta (15–30 Hz). They represent neural activation states, ranging from asleep to focused and intensifying as their frequency increases, hence implying a greater galvanization (Venkatraman et al., 2015). In neuromarketing experiments involving EEG, the international 10–20 system is the most frequently used placement criteria for electrodes. The underlying principle is based on the application of electrodes on the external skull, above the cortical region of interest, to create the electromagnetic field influencing neuronal activity. According to this system, the magnetic coils are placed at distances of 10 or 20% from chosen anatomical landmarks, accounting therefore for different head sizes (Herwig et al., 2003).

Moreover, electroencephalographic activity also includes event-related potentials, namely positive and negative voltage changes signaling sensory, cognitive, and motor processes affecting neuronal activity (Friedman & Johnson, 2000). In particular, the late positive potential (LPP) is a component of the ERP that signals the intensity of an emotion, both with positive and negative valence (Brown et al., 2012).

Analogously, MEG uses a helmet placed on the scalp to measure magnetic field changes. Both methods are non-invasive since the enormous number of neurons and synaptic connections makes it possible for electrodes to detect neuronal activity directly and clearly from the surface, and they both display a high temporal resolution. (Ariely & Berns, 2010; Kenning et. al., 2005). Moreover, they may be used both to record a continuous neuronal activity and to infer the generalized response to a stimulus being proposed repeatedly, called respectively "event-related potential" and "event-related field" (Savoy, 2001). However, EEG results are less expensive and more portable than MEG, even if the latter provides a better spatial resolution (Lim, 2018).

The third electromagnetic technique is given by Steady State Topography, which uses helmets equipped with 64 electrodes to observe electricity flows during task-related fluctuations. These fluctuations represent the reaction of the brain to stimuli such as visual and acoustic inputs of an ad, which appears in the form of a so-called steady-state visually evoked potential (ibid.).

2.2.1.2 Metabolic Processes

Under the metabolic techniques appear Functional Magnetic Resonance Imaging (fMRI) and Positron emission Topography (PET) (ibid.). When we are exposed to stimuli, a greater flow of highly-oxygenated blood reaches our brain to sustain neuronal activation. The hydrogen protons composing water, which, in turn, is contained in blood, produce a magnetic field, which is the subject of fMRI measurement (Glaenzer, 2016). As a matter of fact, fMRI operates by means of a scanner detecting so-called blood oxygenation level-dependent (BOLD) signals. This instrument has a very precise spatial resolution and yields a real-time three-dimensional representation of even deep brain regions, at the cost however of cheapness and temporal resolution, since a temporal lag of a few seconds separates the firing of neurons from fMRI detection of the signal (Pinel, 2003, as cited in Glaenzer, 2016).

A similar approach characterizes functional near-infrared spectroscopy (fNIRS), a non-invasive optical imaging technique based on the detection of fluctuations in the concentration of oxygenated and deoxygenated molecules of hemoglobin. The ray of semi-infrared light of a light-emitting diode (LED) is used in this particular case to capture the hemodynamic response to brain activations. (León-Carrión & León-Domínguez, 2012; Cui et al., 2010). The common denominator in these distinct metabolic processes is therefore the concept of "vascular coupling," which defines the close relationship between neuronal activity and hemodynamic response, namely the variation in blood flow. The innovative character of fNIRS is however represented by its lower cost, its higher temporal resolution allowed by the possibility of real-time analysis performance

and, in particular, its portability. As a matter of fact, scanners require the avoidance of movements that may lead to biased results, thus creating a restricting environment for participants. On the contrary, fNIRS adopts probes placed on the scalp by means of a hat and allows for a higher freedom of movement (ibid.).

These instruments represent the revolutionary power of neuroeconomics, but are also sustained and complemented by traditional tools such as eye-tracking, body language, facial electromyography, and the aforementioned skin conductance**.**

2.2.2 Biometric Techniques

Eye-Tracking (ET) is among the most used techniques, thanks to its portability, cheapness, and capacity of yielding a high temporal resolution. The protagonists of this method are the pupil and cornea, whose movements are tracked by an optical camera using infrared light reflecting on the cornea, and giving insights into the type of information being processed and the duration of the process itself (Venkatraman et al., 2015). The aforementioned camera may take different forms: it may be based on contact lenses, electrooculogram, or video (Ventraakman et al., 2015, as cited in Lim, 2018).

Facial electromyography (EMG) also represents an important biometric measure to detect and analyze neural activity. This technique consists of the measurement of voluntary and involuntary movements of mainly three facial muscles: zygomaticus major, corrugator supercilii and orbicularis oculi. The former expresses voluntary movements, while involuntary movements are carried out by the other two (Ohme et al., 2011). Through electrodes placed on the skin of the subject, combinations of muscle movements are measured and systematically linked to emotions. In particular, researcher Dan Hill identified seven basic emotions and was able to associate the 24 different muscle combinations (Kottier, 2014). Today, this technique is helped by the use of software able to reduce the variance linked to personal expressions and generalize them for observational purposes.

The last biometric technique we will consider is skin conductance response (SC), a non-invasive method measuring the tonic activity belonging to the sympathetic nervous system (SNS), responsible for an automatic response to external stimuli. Exposure to the latter causes the emission of sweat by the eccrine glands, and this makes the skin a better conductor of electricity. Analogously, the SNS causes the heart rate to accelerate in response to a stimulus generating arousal, in opposition to the calm state controlled by the parasympathetic nervous system (PNS). This activity is commonly measured by means of electrocardiograms (Venkatraman et al., 2015).

2.3 Neuromarketing: The Highway to Success

The “black box” concept dominated not only the field of judgment and decision-making, but classical consumer research, in which theoretical constructs were applied also in the explanation of consumer behavior. As well as economists, marketers were convinced of

the impossibility to access the human mind (Hubert & Kenning, 2008). The potential of applied neuroscience could not pass unnoticed in the area of marketing research, even if preceded by the economic field, which was able to detect it in advance, conducting research in fields common also to marketing (Lee et al., 2007, 2017).

2.3.1 The Origins of Neuromarketing

Neuromarketing is a new field of economic research applying the aforementioned neuroscientific measurement techniques to "analyze and understand human behavior in relation to markets and marketing exchanges" (Lee et. al., 2007, p. 200).

Scholars encountered some difficulties when trying to estimate exactly its emergence, even if they all agreed that Ale Smidts was to be considered one of the fathers of neuromarketing. With the research paper "Kijken in het brein" (Smidts, 2002), Smidts was one of the first scholars to systematically introduce this new revolutionary field, explaining how neuroscience and marketing came together to serve the necessities and desires of customers. The earliest appearance of the term "neuromarketing" in the title of a scholarly publication can be traced back to mid-2007. Lee et al. (2007) and Fugate (2007) both published papers (at approximately the same time), in the International Journal of Psychophysiology and the Journal of Consumer Marketing. Prior to this, marketing-relevant topics had been examined in research in the emerging field of neuroeconomics (Lee et al., 2018).

Sustained by numerous experiments and technological improvements, neuromarketing gained always more attention: in 2005, Harper Collins added the word to the dictionary (Morin, 2011), defining it as "the process of researching the brain patterns of consumers to reveal their responses to particular advertisements and products before developing new advertising campaigns and branding techniques".

2.3.2 Potential and Concerns

To ensure an understanding of what customers need and think about the goods they come in contact with, market researchers have long used methods such as observations, experiments, and surveys, which were often not able to gain sufficient insights into the brain and heart of the consumer. In particular, one of the biggest problems of traditional methods is represented by self-assessment. Neuromarketing researchers seem to be convinced that the failure associated with this method can be due to customers' unwillingness or even incapability of expressing their feelings about research objects, since personal preferences are often built at a subconscious level, which may be difficult to access even by the subject, and their perception may be biased for instance by common beliefs. Moreover, motoric indices, also identified as observational measures, may fail to understand and represent the emotion itself by only registering its expression (Smidts, 2002; Lee et al., 2007; Hubert & Kenning, 2008; Ariely et al., 2010; Morin, 2011; Kaplan, Dalal & Luchman, 2012; Venkatraman et al., 2012; Hammou et al., 2013; Harris et al., 2018). Hence, the application of neuroscientific tools represents a concrete solution to this

problem, since it enables one to gain a direct insight into what the customer feels and thinks by observing what goes on inside her brain.

Nevertheless, the power of neuromarketing displayed a double-sided character: on one side, it radically changed the idea of market research, while on the other side it raised an ethical problem concerning the privacy of our thoughts and feelings. A widespread concern is that neuromarketing may depart from the aim of understanding customers and their needs and providing a more suitable product, to focus on finding the "buy button" that may lead the customer to buy goods he or she does not need or even want (Blakeslee, 2004; Hubert & Kenning, 2008; Fisher et al., 2010).

However, when detached from its exploitative interpretation, the aim of marketing consists in helping create a product that best suits the needs and desires of its buyers (Dolnicar et al., 2018,). This information obtained by means of market research is useful especially if gained before the product is created, avoiding the huge effort that may be put into an uninteresting product (Ariely et. al., 2010). In particular, the competitive advantage determined by the adoption of neuromarketing in a company's strategy can be thought of as a solution to the problem of visual pollution (Hammou et al., 2013).

Potential and actual consumers are surrounded every day by millions of stimuli involving all senses: of 11 million pieces of information they receive, only 40 are processed by the brain in a conscious manner, while the others are taken care of unconsciously (Torreblanca et al., 2012). Hence, understanding the processes that trigger a buying decision or a preference determination even before a product is developed and before resources are poured into a potential market failure may enhance the survival and success of a firm.

Several experiments involving different tools, aspects, and environments were carried out throughout the years, which contributed to the development of neuromarketing and increased the knowledge of our brain and its reactions to stimuli, adding from time to time a new piece to the puzzle.

According to the aim of this paper stated at the beginning, the following research questions (RQ) were formulated:

RQ1: What similarities and differences can be detected when comparing neuromarketing experiments?
RQ2: How does the role played by the product in neuromarketing experiments affect neural response?

3 Methodology

This section describes the approach used in the research and analysis of relevant materials and data. First of all, the research process and selection criteria for the obtained papers will be outlined. After that, the results of this process will be presented, followed by the description of the methodology and key elements used to analyze each specific.

Because of the qualitative nature of the research questions, the most appropriate and effective method used to analyze the data is a systematic literature review. As a matter of fact, qualitative data do not have the concise character of quantitative data, and systematic reviews can be used as tools to "identify, appraise and then synthesize research" (Evans & Pearson, 2001, pp. 111).

3.1 Research Process and Selection Criteria

Scopus was the principal tool used in the process, in connection with Google Scholar to ensure access to the full text when this was not directly available.

The first step was to select a set of keywords to be entered into the database. Since the focus was on neuromarketing experiments, these were the first words used in the search, which yielded 75 results. The word "neuromarketing" is as a matter of fact one of the most frequently used keywords, together with the word "Marketing," "Marketing research," "Neuroscience," and "Consumer behavior" (Balconi et al., 2014; Hammou et al., 2013; Kottier, 2014; Lee et al., 2007; Morin, 2011; Smidts, 2002). Due to the design of the research, it was decided to use as a complementary keyword the word "Experiment", in order to be able to detect studies containing at least one neuromarketing experiment. In order to carry out the first selection, the results were ordered by the number of citations to individuate the most-cited articles. This represented the first criterion used to ensure a qualitative selection.

After that, the abstract was carefully read to extract the key information regarding the aim of the study and ensure it implied the description of the experiment, fundamental for the subsequent analysis. Moreover, particular attention was given to the instruments and techniques that were employed in the research, to make sure they belonged to the aforementioned neuroscientific and neuroimaging tools. As a matter of fact, studies using merely biometric techniques or subjective assessment measures were excluded because they were not relevant to the paper.

Employing the same criteria, a second study was conducted using as keywords "consumer neuroscience AND marketing experiments," which yielded the much more restricted result of 8 documents. Finally, the authors decided to include as keywords the most frequently cited brain structures and areas from the literature review process, namely "nucleus accumbens" and "striatum," both coupled together with "marketing," to avoid purely neuroscientific results. The search generated 11 and 15 results respectively.

In order to ensure a complete overview of the most important neuromarketing experiments and their development throughout the years, in the first selection process articles written from 2002 to 2018 were considered, thus covering the development of neuromarketing from its emergence to now. At the end of this process, 23 articles were downloaded, and the time ranged between 2004 and 2018.

Moreover, in order to provide an answer to the second research question, a further selection was carried out. As a matter of fact, only those studies using fMRI or fNIRS

were used, in order to guarantee an optimal spatial resolution and highlight the involved brain areas through the employment of BOLD signals. The number of selected studies was therefore reduced to seven, excluding those studies merely using EEG and biometric techniques.

3.2 Analysis of the Material

The first step of this process was to carefully read again the abstract of each article to operate a further selection and a first comparison. When the abstract was not sufficient to assess the relevance of the paper to the research, an important contribution was given by the conclusions, which often summarized the research questions and hypothesis and their answer, acceptance or rejection. This process led to a further reduction in the number of chosen articles.

As a matter of fact, a further selection criterion used was the target of the experiment. For the purpose of this paper, only studies having as a target either the product itself or abstract marketing features of a product were considered. This led to the exclusion of studies having as targets specific brain areas, also because closer to the neuroscientific field.

Experiments employing merely biometric measures were also omitted from the analysis. The reason for this choice lies in the intention to compare studies using neuroimaging techniques as the main research tool and considering biometric measures as complementary instruments. Before reading the articles, the first set of comparison elements to be used to answer the first research question was delineated. This served as a guideline to extract the relevant data from the texts and effectively summarize the content. To the set belonged the used neuroscientific tools, the sample, the research question or questions, the results, and the interested brain areas.

After that, the material was classified by year, and each article was read and analyzed, to highlight the aforementioned elements and find possible additional characteristics for the comparison. A summary is provided in Table 1.

4 Assessment Process

After the previously outlined selection stages, 10 articles were chosen to constitute the final sample of the research. As mentioned above, only articles having target products or their marketing features and employing neuroimaging techniques were chosen. The considered time ranged from 2004 to 2018. In the following section, the selected studies and their contributions will be briefly introduced and summarized in Table 1 according to the elements used in the comparison process.

Table 1 Analysis and summary of the selected studies by means of five common key elements: Problem, Instruments and Experimental Settings, N, Results, and Involved Brain and Body Areas

Study	Problem	Instruments and experimental setting	N	Results	Involved brain and body areas
McClure et al., (2004a, b) **Neural correlates of behavioural preferences for culturally familiar drinks**	Brand influence on behavioural vs. stated preferences	Event-related fMRI while participants tasted noncarbonated versions of the drinks	N = 67, four groups	Marginal role of sensory information in preference decisions, biased by brand knowledge	Merely sensory information: VMPFC Brand knowledge: Hippocampus, DLPFC and Midbrain
Plassmann et al., (2008). **Marketing actions can modulate neural representations of experienced pleasantness**	Influence of price changes on experienced pleasantness (EP) HP: increased price = higher activity in mOFC and area encoding actual EP	fMRI while tasting different wines and an affectively neutral solution Estimation of BOLD response to stimuli, to compare response to high and low prices	N = 20	Experienced pleasantness correlated with prices, since price increase activates bilateral mOFC and adjoining rostral anterior cingulate cortex (rACC) for both wines	Wine 1 and 2: greater activity in left mOFC vMPFC in the high-price condition
Ohme et al., (2009). **Analysis of neurophysiological reactions to advertising stimuli by means of EEG and galvanic skin response measures**	Assess the existence of differences in frontal cortex activity, facial muscle activity and arousal level when watching two versions of the advertisements of a product HP: ability of brain to detect even small differences between stimuli	EEG, EMG, SC analysis while viewing two versions of an ad of the product Version 1 (no-gesture) only showed the face of a model; Version 2 (gesture) also showed a particular manual gesture	N = 45 women, Age 20 – 35, with above-average income	Emotional response: at 22nd second of the ads, V1 generated more positive emotions than V2 EMG detected a difference in the activity of the corrugator supercili from the 23rd second on. SC recorded greater arousal during the differentiating scene in V2	Left and right frontal cortex: prefrontal, frontal, temporal, parietal and occipital regions EMG: zygomaticus major, corrugator supercili and orbicularis occuli muscles

(continued)

Table 1 (continued)

Study	Problem	Instruments and experimental setting	N	Results	Involved brain and body areas
Reimann, et. al., (2010). Aesthetic package design: A behavioral, neural, and psychological investigation	Aesthetic product experiences and their measurement H1: aesthetic products boost affective processes leading to higher reaction times H2: aesthetic products lead to greater activation of NACC and VMPFC H3: aesthetic product design produce a higher affective involvement	E1a, E1b: reaction time in choosing between pictures of standardized and aesthetic products E. 2: isolation of aesthetic from price and brand effects E. 3: fMRI to elucidate neuronal response to aesthetic packages and subsequent affective involvement questionnaire	E1: N = 326, online task E2: N = 176, university laboratory E3: N = 17, university brain imaging facility	E1: Aesthetic products chosen more often and with higher reaction times E2: unbranded aesthetic products with lower price chosen more often than standardized ones Higher price still led to preference for aesthetic unbranded products than branded standardized ones E3: preference for aesthetic products and increased activation in reward system. High correlation between affective involvement and activation differences between aesthetic and standard products	VMPFC, showing stronger influence of aesthetics in choice than brand Striatum, NACC in particular cingulate and primary visual cortex, responsible for processing preferred and increased visual stimuli precuneus

(continued)

Table 1 (continued)

Study	Problem	Instruments and experimental setting	N	Results	Involved brain and body areas
Berns and Moore, (2012). **A neural predictor of cultural popularity**	Neural responses to music and their ability to predict the commercial success of songs and artists	20 songs of unknown artists listened in 15-s clips in 60 trials in fMRI scanner Stage 1: songs without popularity information played and rated for popularity and likability Stage 2: replay and further likability rating, in 2/3 of the trials showing popularity	N = 32 Age range: 12–17.9	Significant correlation between neural activation and average likability reward-related regions Subjective reports did not properly predict commercial success, while the activity in NAcc was significantly correlated with future sales Non-hits associated to low neural activity both in NAcc and OFC	Cuneus, ventral striatum (NACC particularly) and OFC
Balconi et. al., (2014). Advertising, brand and neuromarketing or how consumer brain works	Correlation between neural responses and explicit preferences HP1: significant brain response for preferred products HP2: higher DLPFC activation supporting reward mechanisms	EEG recording while viewing five advertisements and subsequent preference rating in a six-point Likert scale Brands: Barilla, Enterogermina, CheBanca!, Calzedonia and Samsung	N = 30 Age range: 20–40	Increased activation in frontal area for Samsung and Barilla Increase in theta frequency band in DLPFC while being exposed to preferred stimuli Coherence between preference ranking and neural response	DLPFC, in particular left PFC, hypothesized to be linked to preferred stimuli

(continued)

Table 1 (continued)

Study	Problem	Instruments and experimental setting	N	Results	Involved brain and body areas
Yücel et al., (2015). **Coffee tasting experiment from the neuromarketing perspective**	Connection between EEG outputs and stated preferences for coffee brands	EEG recording and body language observation while tasting five cups of coffee of different brands	N = 30 Age range: 18–26	Changes in brain waves frequency observed during tasting: decrease from 9–10 Hz Alfa waves to 7–8 Theta waves recorded when drinking preferred coffee, meaning relaxation, while opposite and stressful condition recorded when drinking less preferred one	
Garrison et. al., (2018). A fMRI study on the impact of advertising for flavored e-cigarettes on susceptible young adults	Test preference of young adults for sweet/fruit flavours as opposed to tobacco flavours for e-cigarettes Interference of advertising of sweet flavours with health warnings HP: greater NAcc response = lower response to health warnings Visual attention and distraction from warning labels	Susceptibility to e-cigarette use assessed by means of interview fMRI and eye-tracking recording while viewing 60 pictures of each: sweet/fruit and tobacco flavours e-cigarettes; menthol and regular cigarettes; control images of flavours with NO tobacco product 26 ads in each category contained health warnings	N = 26 Age range: 18–35 Criterion: susceptible to e-cigarette use	Greater NAcc activity for sweet/fruit ads and control images vs. tobacco flavour ads No difference between sweet/fruit flavours and control images Negative correlation between NAcc response to ads with health warnings and post-scan recognition of information from those labels Eye-tracking results: longer dwell time for sweet/fruit-flavoured e-cigarettes ads and longer for warning labels in tobacco-flavoured e-cigarettes ads Increased liking and intent to try sweet/fruit-flavoured e-cigarettes	NAcc

(continued)

Table 1 (continued)

Study	Problem	Instruments and experimental setting	N	Results	Involved brain and body areas
Jung et al., (2018). **The Neural Correlates of Celebrity Power on Product Favorableness: An fMRI Study. Neuro-Quantology, 16(2)**	Impact and neural correlates of celebrity power on car favourableness Hp: greater activation of OFC, posterior cingulate cortex and temporal pole when associating celebrity face with car	fMRI scanning and simultaneous 4-point-scale estimation of favourableness by subjects while viewing images of cars paired with and without celebrities' faces, in random order	N = 33 Mean age: 20.6 years	Higher favourableness for car-celebrity association, also sustained by fMRI Positive correlation between stated favourableness scores and registered Bold activity	OFC, insula, posterior cingulate cortex, visual cortex

(continued)

Study	Problem	Instruments and experimental setting	N	Results	Involved brain and body areas
Meyerding et al., (2018). Can neuromarketing add value to the traditional marketing research? An exemplary experiment with functional near-infrared spectroscopy (fNIRS)	Feasibility of a mobile fNIRS system for food-related neuromarketing research Influence of brand strength in food-related context HP1: organic and regional labels increase activation in PFC HP2: brand strength influences PFC activation	Two experiments using mobile fNIRS system to observe PFC activity E1: 8 food pictures with three labels each: organic (OL), regional (RL), non-labelled (NL) E2: pictures of 8 cola drinks and 5-time cola tasting to express preference, but always the same drink was provided Questionnaire at the end regarding consumption and purchasing habits	N = 26 Age range: 20–27	Majority preferred labelled to non-labelled product options, and Coca Cola and Pepsi to the less-known Topstar and Vita Cola E1: 93% showed greater PFC activation for OL vs. NL, while 90% displayed greater PFC activation for RL vs. NL. 97% pf subjects reported a greater activation for OL vs. RL E2: 90% of the subjects displayed greater PFC activity when viewing Pepsi as opposed to Topstar pictures, but in only 77% of the cases this held true for the taste Coca Cola ranked as preferred to Vita Cola in 84% of the cases 95% of the participants preferred Coca Cola to Pepsi, but in 84% of the cases the taste of Pepsi led to greater PFC activity Feasibility of mobile fNIRS system confirmed	PFC

4.1 Included Experiments

Experiment 1
In 2004, McClure et al. (2004) carried out the first experiment focused on neuromarketing. Participants had to provide a stated preference for either Pepsi or Coke or none of them, while their behavioral preferences were tested using an fMRI scanner during anonymous or semi-anonymous tastings. The researchers found out that stated preferences were influenced by the brand: when the subjects knew the brand of the drink, they preferred Coke, whereas Pepsi was favored during anonymous tastings.

Experiment 2
Plassmann et al. (2008) observed using fMRI that, in a wine tasting, a higher price was correlated with a higher experienced pleasantness. The same distributed wine was presented at a high and low price condition, and reported a higher experienced pleasantness in the high-price condition, followed by an increased activation in left medial orbitofrontal cortex (mOFC), ventromedial prefrontal cortex(vmPFC), and rostral anterior cingulate cortex (rACC).

Experiment 3
The experiment conducted by Ohme et al. (2009) employed EEG, MEG and SC analysis to prove the ability of the brain to detect an imperceptible difference between two versions of an advertisement. The difference consisted in the inclusion in the second version of a hand gesture of the model, compared to version 1, which only showed her face.

Experiment 4
Reimann et al. (2010) studied the effects of aesthetic product design on the brain and decision-making. By means of three experiments, they showed that aesthetic products, even if unbranded and more expensive, required a greater reaction time and generated a higher affective involvement than standardized products, triggering activation in the neural reward circuitry.

Experiment 5
In an fMRI study, Berns and Moore (2012) tested whether neural activation was correlated with the ability to predict the commercial success of a song. While being scanned, participants listened to and rated by likability 15-s clips of rather unknown songs and artists. The results showed that, while ratings were not correlated with future sales, activation in the reward circuitry was, particularly in NACC and OFC, thus positively answering their research question.

Experiment 6
Balconi et al. (2014) studied the correlation between preference ranking by means of a Likert scale and neural responses to advertisements of five well-known brands. Using

EEG they observed a high correlation between these two elements, recording a significant activation in the DLPFC, in particular the left area, which they linked to positive reactions and preferred stimuli.

Experiment 7
Yücel et al. (2015) conducted an EEG experiment to test neural responses to the tasting of different coffees and their correlation to stated brand preferences. They found out that participants entered into a relaxed neural status while drinking their preferred coffee, while a more stressful condition was observed for the other ones.

Experiment 8
Combining fMRI and eye-tracking measurements, Garrison et al. (2018) observed that sweet/fruit flavors for e-cigarettes led to increased activation in NAcc and lower attention to health warning labels placed in advertisements, in comparison with the response to advertisements of tobacco-flavored e-cigarettes and menthol and regular cigarettes.

Experiment 9
Jung et al. (2018) confronted neural responses for car pictures when coupled with faces of celebrities or presented alone, showing a greater neural activity for the former over the latter. Simultaneously to the fMRI scanning procedure, also statements of favorableness for such cars were collected and analyzed, showing a high positive correlation with fMRI conclusions.

Experiment 10
Meyerding and Mehlhose (2018) tested the feasibility of fNIRS in neuromarketing research by means of two experiments, demonstrating brand influence on PFC activation. In the first experiment, food labeled as organic or regional led to a greater PFC activation than non-labeled food in more than 90% of the cases. In the second experiment, four cola brands were displayed and associated with taste tests, yielding to an increased PFC activation for the well-known Coca-Cola and Pepsi rather than Vita Cola and Topstar, even if the tasted drink was always the same.

4.2 Core Characteristics and Summary

In this section, the experiments and their core characteristics are presented, in order to provide a basis for the subsequent analysis and comparison. To this extent, the chosen key elements are: Problem, namely the statement of the research question(s) and of the hypotheses; Instruments and experimental setting, introducing the employed neuroscientific tool and the design of the experiment; N, the sample and other relevant characteristics such as age range; Results, also referred to the initial Problem and its solutions;

Involved brain and body areas, representing an important parameter for the analysis. The results are summarized in Table 1 following time order.

5 Results

Already from the statement of the research question(s) and the formulated hypotheses, the analysis revealed that all studies focus on an element of the marketing mix. The marketing mix is the perfect and most profitable combination of procedures and policies produced by the marketing executive in his role as "mixer of ingredients" ' (Borden, 1964, p. 7). The four elements of this recipe are the four Ps: product, price, promotion, and placement (Costantinides, 2006), where promotion was not included in the experiments considered.

As regards the *product,* four out of ten experiments focus on brand and its influence on product preference, with particular attention given to the correlation between stated and behavioral preferences. In McClure et al., (2004a, b) brand knowledge plays a decisive role in behavioral preferences for drinks, activating different neural areas; Yücel et al. (2015) investigate the correlation between stated preference for coffee brands and EEG recordings, while brand and labels are the focus of the experiment conducted by Meyerding et al. (2018), who use fNIRS to assess the effect of regional and organic labeling on products and the effect of brand strength for soft drinks on the brain. Against the tide of their colleagues, Berns et al. (2012) research the neural reactions to unbranded products, namely songs, to determine their predictive power regarding future sales. Finally, departing from the topic of branding, Reimann et al. (2010) show that product aesthetics affects reaction times, different brain areas, and the effective involvement generated by the product.

Price is the featured marketing-mix element of one of the studies, namely the experiment carried out by Plassmann et al. (2008), which researches the effect of price itself on experienced pleasantness during a wine tasting, revealing a sort of neural "snob-effect" linked to taste and perception.

Promotion respectively advertising is the target of the remaining four studies, with particular interest placed on its implications in various brain areas and structures. For instance, Ohme et al. (2009) proved that the brain is able to detect even small variations in advertisements; Balconi et al. (2014) showed different commercials and paired neural responses to such stimuli with stated preferences; Garrison et al. (2018) tested the power of e-cigarette advertising on perceived health warnings, while Jung et al. (2018) assessed the effect of famous faces on car favorableness.

A further relevant comparative aspect is represented by the interest in the correlation between stated and behavioral preferences. As a matter of fact, 70% of the studies directly investigate the coherence between cognition and affect, meaning that they require a statement of product preference, either through rating scales or questionnaires, with the aim of comparing it to brain response and neural activation. This comparison

can be performed either before or after the experiment is carried out, yielding thereby different outcomes. For instance, McClure et al., (2004a, b) interviewed participants before the tasting experiment was conducted, proving that brand knowledge affected the outcome of the taste tests. As a matter of fact, the anonymous tasting displays a lack of correlation between the initial statements and the behavioral fMRI output. On the contrary, Balconi et al. (2014) show coherence between preferences outlined by EEG measurement and stated preferences, obtained subsequently by means of a Likert-scale ranking.

To conclude, one of the core distinctive elements characterizing each experiment is represented by its target, determined by the product and its role in the research. As a matter of fact, the target of the experiment may be either the product itself or an abstract feature of it, and this depends on the possibility given to the participant to consume the product directly during the process (Berns et al., 2012). Hence, the design of the experiment can determine the primary or secondary role played by the product: four experiments were designed to provide a direct sensorial experience, either addressing taste or hearing, while other four studies focus on advertising, shifting the product to a secondary position. The remaining research presented a mixed character, which will be explained later on in the analysis of the results.

As regards the first category, McClure et al., (2004a, b) offered participants the possibility to taste distinct soft drinks, as well as Yücel et al. (2015) and Plassmann et al. (2008), respectively recorded the neural effects of coffee and wine tasting. Moreover, being music a product that can be consumed directly inside the scanner, it also plays a primary role in Berns' (2012) study. On the other hand, Ohme et al. (2009), Garrison et al. (2018), Balconi et al. (2014) and Jung et al. (2018) focus on advertising, shifting the role of the product from protagonist to featured element.

The remaining studies present instead a mixed character. On the one hand, Meyerding et al. (2018) include two different experimental settings, one focused on product labeling and one providing a direct sensorial experience of soft drinks. On the other, the target of the remaining study by Reimann et al. (2010) is product aesthetics, researched by means of visual stimuli of different packages, but providing no concrete interaction with the product itself.

With regard to the neuroscientific tools and experimental procedure employed, two main observations can be drawn. First of all, the choice of the instruments to employ shows heterogeneous principles. As a matter of fact, three out of ten studies use a combination of neuroimaging tools and biometric measures; five use merely fMRI; one applies mobile fNIRS, also with the aim of assessing its feasibility in neuromarketing studies; and one employs only EEG.

Among the experiments combining neuroscientific and biometric measures we find Ohme et al. (2009), who couple EEG with electromyography and skin conductance response to observe activity in the frontal cortex and facial muscles and measure the arousal generated by visual stimuli; Yücel et al. (2015) associate EEG recording with body language observation during a coffee tasting to compare behavioral and stated pref-

erences and Garrison et al. (2018) use eye-tracking as a complementary tool for fMRI scanning to observe responses to different advertisements for e-cigarettes and normal cigarettes. Moreover, Reimann et al. (2010) decided to add reaction time observation to fMRI scanning, which does not represent any biometric measure, but provides complementary support to their thesis.

In a further analysis, a particular similarity emerged: the studies do not merely assess neural and biometric responses to stimuli. Instead, they all further employ traditional assessment measures, like interviews, questionnaires, and rating scales, either as preliminary information gathering or post-experimental assessment.

The experimental procedure was carefully analyzed, with the aim of detecting common elements and structures in the studies. Before the actual experimental process began, pre-tests were performed and preliminary questions were asked in the majority of the studies. These tests were run for different reasons, namely comparing stated and behavioral preferences, ensuring an optimal experimental design, and selecting the appropriate sample. For instance, Mc Clure et al. (2004) gathered primary preference statements for Coke and Pepsi, with the aim of comparing stated and behavioral preferences resulting from fMRI scanning, while Yücel et al. (2015) asked the participants if they liked coffee and which brand they used to buy, to test whether the answers were coherent with EEG results. In Berns et al. (2012) pre-tests were used to rank individual preferences for music genres and detect which songs the experiment should have been later performed. Moreover, Reimann et al. (2010) showed pictures of product aesthetics to students before conducting the experiment, to ensure a common understanding of the difference between standardized and aesthetic packages.

As regards optimal sampling, Plassmann et al. (2008) used preliminary questions to ensure the participants liked and occasionally drank wine, while Garrison et al. (2018) decided to include only young adults susceptible to e-cigarette use, individuated by means of different questions relative to their relationship with smoke. Finally, Jung et al. (2018) used as a criterion to select the subjects' interest in celebrities, being the effect of these individuals on car favorableness the focus of the research.

According to the researched problem, each group of researchers designed the experiment in a specific manner. Some were split into different versions and steps, to observe different reactions, while others were further divided into distinct experiments employing different neuroscientific and biometric instruments, with the aim of exploring different aspects.

One of the common grounds shared by the studies is represented by the interest in data quality: after data gathering and before performing the analysis of the results, 90% of the studies performed preliminary data analysis, to detect and correct possible disturbances, by means of methods such as ANOVA, independent component analysis, Gaussian smoothing, and normalization. Researchers employed to this extent image realignment techniques, which provide motion parameters helping the recognition and avoidance of artifacts caused by head and muscular movements, time slicing effects, and external factors and possibly leading to biased results (Balconi et al., 2014; Berns et al., 2012; Garrison et al., 2018; McClure et al., 2004a, b; Meyerding et al., 2018; Ohme

et al., 2009; Jung et al., 2018; Plassmann et al., 2008; Reimann et al., 2010). Only Yücel et al. (2015) did not report using pre-processing of collected data.

Moreover, another practice used to improve data quality is represented by the inclusion of control stimuli in the experiment, usually placed between relevant stimuli and helping distract the consumer. For instance, control stimuli can be pictures or advertisements that are not strictly correlated to the research object, or a control solution in the tasting of different drinks (Garrison et al., 2018; Ohme et al., 2009; Plassmann et al., 2008).

Due to the ethical concerns raised by scholars and researchers throughout the years, the majority of the considered studies demanded previous written consent by participants and approval by the local ethical committee, to make sure the experimental design and procedures were in line with the World Medical Association Declaration of Helsinki (2000), which demands a clear statement and elucidation of the experimental procedures in a protocol and the safeguard of participants regarding privacy and mental and physical integrity. Moreover, the Declaration also requires written and especially informed consent, to make sure the subject knows the methods, aim, funding sources, and possible conflicts of interest, besides implied risks and benefits. Finally, the majority of the experiments used exclusion criteria, with the aim of preserving data quality and avoiding interference with the employed neuroscientific tools. In particular, patients with psychopathologies or taking specific and possibly interfering medications were excluded. Moreover, right-handedness and normal or correct-to-normal vision were specified as inclusion criteria. A deeper analysis of the sample size and age range revealed that experiments involved on average thirty-three participants, with ages ranging from 12 to 50 years and a mean age of 25 years.

As regards the obtained results of the studies, an observation can be made regarding the relationship between the outcomes of the experiments and the employed instruments. As previously stated, the choice of which instruments to use in the experiment shows a heterogeneous character: of the five studies in which products played a primary role, only one uses the electromagnetic instrument EEG (Yücel et al., 2015), while the remaining use fMRI and fNIRS. On the contrary, the experiments have as target an abstract feature of the product used in equal measure EEG and fMRI.

However, it is important to point out that the main difference resulting from this choice is reflected in the nature of the output data. As a matter of fact, the output of fMRI scanning reveals which areas of the brain are involved in processing particular stimuli, allowing thereby the identification of the involved brain circuitries. On the contrary, EEG reveals mainly affective reactions, linked to the electric processes underlying emotional experience.

The last but not less important element of the analysis is represented by the involved brain and body areas, strictly connected to the results obtained from the studies. In particular, this last key element raised the second research question, namely the influence played by the role of the product on the brain. As a matter of fact, a first comparison highlighted the involvement of all three brain circuits: the Reward Circuitry (Berns et al., 2012; Garrison et al., 2018; Reimann et al., 2010), the Valuation Pathway (Berns et al., 2012; McClure et al., 2004a, b; Jung et al., 2018; Meyerding et al., 2018; Plassmann et al., 2008; Rei-

mann et al., 2010) and the Self-Regulation Network (Garrison et al., 2018; McClure et al., 2004a, b). The Valuation Pathway represents the most frequently addressed circuit, while the Self-Regulation network can be detected in only two of the studies.

However, no clear differences among the results were detected, and therefore a deeper analysis of the seven studies involving BOLD signal measurement was carried out, with the aim of comparing brain responses to stimuli directly provided by the product or by a feature of it. From this further analysis, it can be observed that all studies in which the product plays a primary role report activation in the Valuation Pathway, in particular regarding increased activity in the orbitofrontal cortex, whereas the other half of the studies report a rather mixed character, involving both the Reward Circuitry and the Valuation Pathway.

Table 2 summarizes the results of the analysis, highlighting the main comparison aspects for each one of the key elements, and providing a basis for the presentation of the drawn conclusions.

Table 2 Summary of the results of the comparison among the ten selected studies, analyzed by means of five key elements: Problem, Instruments and experimental setting, N (sample), Results and Involved brain and body areas

Problem	Instruments and experimental settings	N	Results	Involved Brain and body areas
Marketing Mix • Product • Price • Placement	**Heterogeneous employment of instruments**	**Consent and approval**	**Nature of the outcome determined by instruments used**	**Brain circuits involved In all studies** • Reward Circuitry • Valuation Pathway • Self-Regulation • Network
Stated vs. behavioral Preferences • Preliminary • Post hoc	**Combination of neuroimaging techniques and biometric measures**	**Inclusion and exclusion criteria to ensure optimal sampling**	**EEG** studies yield emotional output regarding arousal and valence	**Relevance of Valuation Pathway in studies implying the primary role of the product**
Target • Product as • protagonist • Product as featured • element	**Preliminary data analysis** • Stated vs. behavioral • preferences • Optimal sampling • Optimal experimental • design **Control stimuli**		**fMRI** and **fNIRS** studies elucidate involved brain areas and circuits	**Focusing on elements of the marketing mix, no clear evidence of different reactions to product role in brain**

6 Discussion

The analysis of the ten selected neuromarketing studies pointed out the five main elements determining their intrinsic character, thus creating the basis for a structured comparison of similarities and divergences, with the aim of understanding how these elements can influence the nature, quality, and output of the experiment itself. The five key elements used to summarize the papers served as starting points for the comparison, dividing the content into five areas common to all studies.

The analysis revealed that all experiments focus on an element of the marketing mix, either product, price, or promotion. This aspect is as a matter of fact fundamental in the delineation of the difference between a merely neuroscientific experiment and a neuromarketing study, since the experimental design and results serve the common purpose of elucidating the effect of these elements on the human brain and behaviors.

To this extent, the majority of the studies display an interest in the difference between stated and behavioral preferences. Moreover, they frequently employed verbal subjective assessments, either by means of rating scales, interviews or questionnaires, with the aim of complementing neuroscientific instruments and unveiling possible inconsistencies between the statements and behaviors. This was considered as a matter of fact one of the revolutionary aspects of neuromarketing, since several scholars demonstrated the incapacity or unwillingness of many subjects to reveal their true reactions (Smidts, 2002; Lee et al., 2007; Hubert & Kenning, 2008; Ariely et al., 2010; Morin, 2011; Kaplan & Luchman, 2012; Venkatraman et al., 2012; Hammou et al., 2013). Hence, this aspect can be considered as one of the core issues underlying the birth and development of neuromarketing as a scientific field, since numerous studies demonstrated that the brain can reveal hidden and subconscious aspects of human behavior, providing answers that may differ completely from what is verbally stated by the individual. This happened to be the case in particular in blind tasting cases, where people were often not able to distinguish the product they declared to prefer (McClure et al., 2004a, b, anonymous teste test; Meyerding et al., 2018, cola taste test; Yücel et al., 2015). On the contrary, experiments involving visual stimuli normally registered a positive correlation between statements and facts. This can be due to the implication of different reward mechanisms, either generated by well-known faces (Jung et al., 2018), pleasant aesthetic elements (Reimann et al., 2010) or flavors (Garrison et al., 2018), or social value linked to brands (Balconi et al., 2014; McClure et al., 2004a, b, semi-anonymous taste test; Meyerding et al., 2018, labeling test).

The last comparison element that emerged in the analysis of problem statements was the target of the experiment, delineated by the role played by the product, either as protagonist or background actor. Half of the studies allow a direct experience of the product, offering the possibility to "consume" it while being tested by means of neuroscientific tools, while the other half focus either on features of the product, like advertisements, or abstract elements such as aesthetics. This aspect inspired the second research question, particularly focused on the effects of different experimental targets on the human

brain. Further analysis of this relationship revealed as a matter of fact the relevance of the Valuation Pathway, namely the circuit responsible for value-based decision-making. As a matter of fact, this circuit provides choice motivation by means of value representation, calculation, learning, and by placing a fundamentally subjective value to each alternative (Kim, 2016; Rangel et al., 2008). This system was detected in all studies targeting the product, in particular in relation to the response of the orbitofrontal cortex, which has the task of valuing alternatives and determining the best choice (Wallis, 2012).

However, the analysis did not show any other clear and significant difference between studies involving a primary or secondary role of the product. This condition may be due to the intrinsic character of the studies, since they all focus on the marketing mix. Indeed, the experiments are designed to observe the influence of an element of the marketing mix on the human brain, such as product (Berns et al., 2012; McClure et al., 2004a, b; Meyerding et al., 2018; Reimann et al., 2010), price (Plassmann et al., 2008) and promotion (Garrison et al., 2018; Jung et al., 2018). Since none of the experiments directly focus on the actual role of the product, it is difficult to assess clear neural responses related to this aspect and provide a thorough comparison among experiments, even if the relevance of this topic should not be neglected.

In fact, since it directly addresses the Valuation Pathway, the possibility to test the product may represent strength for companies, guiding the customer towards the choice of their offers instead of choosing the products of competitors. Since there was no possibility of carrying out an experiment directly researching this aspect, the second research question remains open to further research, representing a possible reinforcement tool available for firms to convince the customer and create an advantage over the competition.

The intrinsic character of the experiment is related not only to the elements defining the research problem but also to the choice of the neuroscientific instruments and neuroimaging techniques to apply to reach the desired result. The heterogeneity characterizing such choices has shown that they are mainly guided by the nature of the researched problem and the desired output. As previously stated, the output of EEG measurements in the analyzed studies is mainly linked to arousal levels and positive or negative emotional valence surrounding sensorial stimuli and their perception in the human brain. Moreover, the high temporal resolution guaranteed by this technique allows the recording of almost imperceptible reactions, being therefore suitable to record emotional responses to stimuli. For instance, Ohme et al., (2009) used EEG to compare the emotional response to a small change in a visual stimulus, particularly by measuring the different amount of alpha waves between the two hemispheres, and identifying the valence of the generated emotions. Moreover, Yücel et al. (2015) associated preference for different brands of coffee to a relaxed mental state, defined by the passage from alpha to theta waves and representing a decrease in intensity. On the contrary, being based on BOLD signals yielding a better spatial resolution, fMRI and fNIRS are more appropriate for experiments researching which brain areas and circuits are involved in processing specific stimuli.

As previously observed, qualitative assessment methods are largely used among researchers, together with neuroimaging techniques, in particular with the purpose of revealing incongruities and convergences between self-assessment and behavioral outputs. This application demonstrated the complementary role of such methods, used as support to the validation of the study rather than as a pure substitute (Harris et al., 2018; Hubert & Kenning, 2008).

The fundamental role played by the brain makes its owner the special guest of neuromarketing studies: participants are essential to the feasibility of the study, and their safeguard and integrity have been at the center of ethical issues. Therefore, the importance of written and, in particular, informed consent must be a highlight in every experiment, being a very intimate and delicate aspect of human nature the focus of such studies. The reference to the World Medical Association Declaration of Helsinki (2000) is, therefore, an important piece of evidence of professionality in scientific research.

Furthermore, the average age of 25 years characterizing experimental samples can also reveal important information. Since neuroimaging tools cannot be easily found outside research and academic environments, some of these experiments were carried out in universities, hence addressing university students as a target. In two other cases, young adults were targeted as a consequence of a clear choice made by researchers and linked to the nature of the study, even though only Garrison et al. (2018) justified their choice, explaining the attractiveness of e-cigarettes to young adults susceptible to their use.

Finally, the criteria adopted to select and exclude candidates represents another instrument used by researchers to design an optimal experiment, avoiding factors of interference and ensuring the most suitable group of participants was chosen, which often reflected the target of the product itself (Berns et al., 2012; Garrison et al., 2018; Jung et al., 2018; Ohme et al., 2009; Plassmann et al., 2008).

- Regarding the experimental procedure, the broad interest displayed by researchers in preliminary data analysis and control stimuli reveals the essential role played by data quality in neuromarketing experiments: during a clinical MRI scan, nurses usually make sure that every movement is reduced to the minimum, also trying to guarantee that the patient enjoys a relaxed mental status. Otherwise, the output would be distorted and useless. The same happens during neuromarketing experiments, and using correction measures is therefore essential to improve data quality and ensure the significance of the results.

To this extent, control stimuli can be used as complementary tools. Think about a situation in which you are buying a perfume, trying on different alternatives to make sure you buy the perfect scent. However, after a few trials, you feel like your nose is full of a mixture of different perfumes, therefore biasing your perception and subsequent decision. Control stimuli can be used to avoid such an experience, “distracting” our brain and avoiding such consequences.

Overall, the studies revealed a generalized interest for quality, both regarding input and output data, making sure the collected data were significant and not biased by either internal factors linked to feelings and muscular movements within the sample or external factors associated with the surrounding environment.

In particular, 90% of the studies implemented data quality improvement techniques, to make sure noise was reduced to the minimum, which represents a fundamental practice in determining the quality of neuromarketing services (Ariely et al., 2010). Moreover, also the inclusion and exclusion criteria applied to sample selection give an important contribution to the quality of the experiment, making sure the chosen subjects really are representative of the potential target customers for the product itself.

7 Conclusion and Further Research

The aim of this paper was to introduce the origins and practices of neuromarketing, providing an overview of the most common neuromarketing experiments and their findings through a comparison among ten selected studies.

Five key elements were identified as representative of the character of each study and further used to carry out the comparison: problem, instruments and experimental setting, sample, results, and involved brain and body areas. These elements revealed that the marketing character separating neuroscientific from neuromarketing studies was given by the focus on an element of the marketing mix, either product, price, or promotion. This detail in particular determined, however, the impossibility to give a thorough answer to the second research question since the neural responses were primarily linked to the effect of these elements in the experiments. Hence, with the material at hand, it was not possible to accurately determine the role of the product and its effect on the human brain, leaving the question open for future research.

However, the analysis of the studies in which the product played a primary role pointed out the importance of the Valuation Pathway, namely the brain circuit responsible for motivating value-based decision-making, attaching to each alternative a value, and guiding the customer towards product choice. This observation revealed the potential relevance for companies of such further research, suggesting that direct contact with the product may positively influence customer interest.

The visual pollution given by the existence of a multitude of stimuli has given firms a hard time trying to convince actual and potential customers of the validity of their offerings, leading to failures already in the steps preceding product launching. Therefore, analyzing a new aspect influencing customer choice like the role of the product in the campaign may represent a possible solution to the issue, since it directly addresses the decision-making mechanism.

The other two aspects that emerged from the analysis are the generalized relevance of input and output quality and the focus on consistencies and divergences between stated and behavioral preferences. The former materialized in particular attention to sampling criteria and preliminary data analysis, with the aim of reducing potential noise coming from internal and external sources and guaranteeing significant results and good experimental quality.

The latter represents a forte of neuromarketing supporters, since it offers the possibility to assess whether our brain speaks the same language or the language of our subconscious, revealing real preferences and feelings and validating the advantages of neuromarketing techniques over traditional assessment methods.

Since its appearance in the early 2000's and despite the ethical concerns raised by some scholars for its possible dual soul, neuromarketing has continuously confirmed its importance for researchers and firms: not only does it provide the possibility for companies to build a competitive advantage but it also represents an occasion for companies to sell their products and services more effectively.

For future research, however, it is necessary to develop experiments with solid scientific rigor that either validate or refute previous findings. Ideally, this will achieve conceptual generalization and theory building in the field of neuromarketing (Duque-Hurtado et al., 2020). The goal must be to explain decision-making and consumption processes more holistically. Therein lies the great challenge: to use neuroscience and neuromarketing to understand holistically why people choose, consume, and buy the way they do.

References

Ariely, D., & Berns, G. S. (2010). Neuromarketing: The hope and hype of neuroimaging in business. *Nature Reviews Neuroscience, 11*(4), 284–292.

Bagozzi, R. P., Gopinath, M., & Nyer, P. U. (1999). The role of emotions in marketing. *Journal of the Academy of Marketing Science, 27*(2), 184–206.

Bagozzi, R. P., Belanche, D., Casaló, L. V. & Flavián, C. (2016). The role of anticipated emotions in purchase intentions. *Psychology & Marketing, 33*(8), 625–646.

Balconi, M., Stumpo, B., & Leanza, F. (2014). Advertising, brand and Neuromarketing or how consumer brain works. *Neuropsychological Trends, 16*(2), 15–21.

Bechara, A., & Damasio, A. R. (2004). The somatic marker hypothesis: A neural theory of economic decision. *Games and Economic Behavior, 52,* 336–372.

Bechara, A., Damasio, A. R., Damasio, H., & Anderson, S. W. (1994). Insensitivity to future consequences following damage to human prefrontal cortex. *Cognition, 50*(1–3), 7–15.

Berns, G. S., & Moore, S. E. (2012). A neural predictor of cultural popularity. *Journal of Consumer Psychology, 22*(1), 154–160.

Blakeslee, S. (2004). If you have a "Buy Button" in your brain, what pushes it. *New York times, 19*(2004), 154–155.

Borden, N. H. (1964). The concept of the marketing mix. *Journal of Advertising Research, 4*(2), 2–7.

Brown, S. B., van Steenbergen, H., Band, G. P., de Rover, M., & Nieuwenhuis, S. (2012). Functional significance of the emotion-related late positive potential. *Frontiers in Human Neuroscience, 6,* 33.

Buxbaum, O. (2016). *Key Insights into Basic Mechanisms of Mental Activity*. Springer International Publishing.

Camerer, C., Loewenstein, G., & Prelec, D. (2005). Neuroeconomics: How neuroscience can inform economics. *Journal of Economic Literature, 43*(1), 9–64.

Consoli, D. (2010). A new concept of marketing: The emotional marketing. *BRAND. Broad Research in Accounting, Negotiation, and Distribution, 1*(1), 52–59.

Damasio, A. R. (1999). *The feeling of what happens: Body and emotion in the making of consciousness*. Harcourt.

Damasio, A. R. (1996). The somatic marker hypothesis and the possible functions of the prefrontal cortex. *Philosophical Transactions: Biological Sciences. Executive and Cognitive Functions of the Prefrontal Cortex, 351*(1346), 1413–1420.

Dolnicar, S., Grün, B., & Leisch, F. (2018). *Market Segmentation*. In Market Segmentation Analysis (pp. 3–9). Springer.

Duque-Hurtado, P., et al. (2020). Neuromarketing: Its current status and research perspectives. *Journal of Management and Economics for Iboamerica, 36*(157), 525–539.

Evans, D., & Pearson, A. (2001). Systematic reviews of qualitative research. *Clinical Effectiveness in Nursing, 5*(3), 111–119.

Fisher, C. E., Chin, L., & Klitzman, R. (2010). Defining Neuromarketing: Practices and professional challenges. *Harvard Review of Psychiatry, 18*(4), 230–237.

Foscht, T., Swoboda, B., & Schramm-Klein, H. (2017). *Käuferverhalten: Grundlagen – Perspektiven – Anwendungen*. Gabler Verlag.

Friedman, D., & Johnson, R., Jr. (2000). Event-related potential (ERP) studies of memory encoding and retrieval: A selective review. *Microscopy Research and Technique, 51*(1), 6–28.

Fugate, D. L. (2007). Neuromarketing: A Layman's look at neuroscience and its potential application to marketing practice. *Journal of Consumer Marketing, 24*(7), 385–394.

Garrison, K. A., O'Malley, S. S., Gueorguieva, R., & Krishnan-Sarin, S. (2018). A fMRI study on the impact of advertising for flavored e-cigarettes on susceptible young adults. *Drug and Alcohol Dependence, 186,* 233–241.

Glaenzer, E. (2016). Are the Brain and the Mind One? Neuromarketing and How Consumers Make Decisions, *Honors Theses*, paper 812. Retrieved January 15, 2022 from htt://digitalcommons.colby.edu/honorstheses/812.

Hammou, K. A., Galib, M. H., & Melloul, J. (2013). The contributions of Neuromarketing in marketing research. *Journal of Management Research, 5*(4), 20–33.

Harris, J. M., Ciorciari, J., & Gountas, J. (2018). Consumer neuroscience for marketing researchers. *Journal of Consumer Behavior, 17*(3), 239–252.

Herwig, U., Satrapi, P., & Schönfeldt-Lecuona, C. (2003). Using the international 10–20 EEG system for positioning of transcranial magnetic stimulation. *Brain Topography, 16*(2), 95–99.

Hubert, M., & Kenning, P. (2008). A current overview of consumer neuroscience. *Journal of Consumer Behavior, 7,* 272–292.

Jayadatta, S., & Shivappa, R. N. (2021). Application, challenges, promises and potential role of neuromarketing as an emerging tool of market research. *International Journal of Management and Information Technology, 6*(2) September, 01–14.

Jung, Y. S., Kim, Y. T., Baeck, J. S., Lee, J., & Kim, J. G. (2018). The Neural Correlates of Celebrity Power on Product Favorableness: An fMRI Study. *NeuroQuantology,* 16(2).

Kaplan, S., Dalal, R.S., & Luchman, J. N. (2012). Measurement of emotions. In R. R. Sinclair, M. Wang, & L. Tetrick (Eds.), *Research Methods in Occupational Health Psychology: Measurement, Design and Data Analysis* (pp. 61 – 75). Routledge.

Kenning, P., & Plassmann, H. (2005). NeuroEconomics: An overview from an economic perspective. *Brain Research Bulletin, 67,* 343–354.

Kemp, E., Briggs, E., & Anaza, N. A. (2020). The emotional side of organizational decision-making: Examining the influence of messaging in fostering positive outcomes for the brand. *European Journal of Marketing, 54*(7), 1609–1640.

Lee, N., Broderick, A. J., & Chamberlain, L. (2007). What is "Neuromarketing"? *A Discussion and Agenda for Future Research, International Journal of Psychophysiology, 63,* 199–204.

Lee, N., Brandes, L., Chamberlain, L., & Seniorb, C. (2017). This is your brain on neuromarketing: Reflections on a decade research. *Journal of Marketing Management, 33*(11/12), 878–892.

Lee, N., Brandes, L., & Chamberlain, L. (2018). Welcome to the jungle! The neuromarketing literature through the eyes of a newcomer. *European Journal of Marketing, 53*(1/2), 4–38.

Lim, W. M. (2018). Demystifying Neuromarketing. *Journal of Business Research, 91,* 205–220.

Loewenstein, G., & Lerner, J. S. (2003). The Role of Affect in Decision Making. In R. J. Davidson, K. R. Scherer, K. R., & H. H. Goldsmith (Eds.), *Handbook of Affective Sciences* (pp. 619 – 642). Oxford University Press.

McClure, S. M., Li, J., Tomlin, D., Cypert, K. S., Montague, L. M., & Montague, P. R. (2004a). Neural correlates of behavioral preference for culturally familiar drinks. *Neuron, 44,* 379–387.

McClure, S. M., York, M. K., & Montague, P. R. (2004b). The neural substrates of reward processing in humans: The modern role of FMRI. *The Neuroscientist, 10*(3), 260–268.

Meyerding, S. G., & Mehlhose, C. M. (2018). Can neuromarketing add value to the traditional marketing research? An exemplary experiment with functional near-infrared spectroscopy (fNIRS). *Journal of Business Research, 107,* 172–185.

Moore, J. (1999). *The basic principles of behaviorism, The philosophical legacy of behaviorism, 41–68*. Springer.

Morin, C. (2011), Neuromarketing: The new science of consumer behavior. *Society, 48*(2), 131 – 135.

Ohme, R., Matukin, M., & Pacula-Lesniak, B. (2011). Biometric measures for interactive advertising research. *Journal of Interactive Advertising, 11*(2), 60–72.

Ohme, R., Reykowska, D., Wiener, D., & Choromanska, A. (2009). Analysis of neurophysiological reactions to advertising stimuli by means of EEG and galvanic skin response measures. *Journal of Neuroscience, Psychology, and Economics, 2*(1), 21.

Plassmann, H., O'Doherty, J., Shiv, B., & Rangel, A. (2008). Marketing actions can modulate neural representations of experienced pleasantness. *Proceedings of the National Academy of Sciences, 105*(3), 1050–1054.

Rangel, A., Camerer, C., & Montague, P. R. (2008). Neuroeconomics: The neurobiology of value-based decision-making. *Nature Reviews. Neuroscience, 9*(7), 545.

Reimann, M., Zaichkowsky, J., Neuhaus, C., Bender, T., & Weber, B. (2010). Aesthetic package design: A behavioral, neural, and psychological investigation. *Journal of Consumer Psychology, 20*(4), 431–441.

Savoy, R. L. (2001). History and future directions of human brain mapping and functional neuroimaging. *Acta Psychologica, 107,* 9–42.

Shafir, E., Simonson, I., & Tversky, A. (1993). Reason-based choice. *Cognition, 49,* 11–36.

No author,. (2020). An emotional high: Utilizing emotion-based decision-making to boost messaging impact in B2B sales. *Strategic Direction, 36*(9), 33–35.

Slovic, P. (1975). Choice Between Equally Valued Alternatives. *Journal of Experimental Psychology: Human Perception and Performance, 1*(3), 280–287.

Smidts, A. (2002). Kijken in het brein: Over de mogelijkheden van Neuromarketing, Erasmus Research Institute of Management, *Inaugugural Addresses Research in Management Series*. Reference number ERIM: EIA-12-MKT.

Torreblanca, F., Juárez, D., Sempere, F., & Mengual, A. (2012). Neuromarketing: La emocionalidad y la creatividad orientadas al comportamiento del consumidor, *3C Empresa*. *Investigación y Pensamiento Crítico, 6,* 20–30.

Tversky, A. (1972). Elimination by aspects: A theory of choice. *Psychological Review*, 79, 281–299. In E. Shafir (Ed.), *Preference, Belief and Similarity: Selected Writings* (pp. 463–490). The MIT Press.

Venkatraman, V., Clithero, J. A., Fitzsimons, G. J., & Huettel, S. A. (2012). New scanner data for brand marketers: How neuroscience can help better understand differences in brand preferences. *Journal of Consumer Psychology, 22*(1), 143–153.

Venkatraman, V., Dimoka, A., Pavlou, P. A., Vo, K., Hampton, W., Bollinger, B., Hershfield, H. E., Ishihara, M., & Winer, R. S. (2015). Predicting Advertising Success Beyond Traditional Measures: New Insights from Neuropsychological Methods and Market Response Modeling. *Journal of Marketing Research, 52*, 436–452.

Wallis, J. D. (2012). Cross-species studies of orbitofrontal cortex and value-based decision-making. *Nature Neuroscience, 15*(1), 13.

Watson, J. B. (1994). Psychology as the Behaviorist Views It. *Psychological Review, 101*(2), 248–253.

Yücel, N., Yücel, A., Yılmaz, A. S., Çubuk, F., Orhan, E. B., & Şimşek, A. İ. (2015). Coffee tasting experiment from the neuromarketing perspective. *In The 2015 WEI International Academic Conference Proceedings, Harvard-USA* (pp. 29–35).

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Using NPS Open-Text Responses to Uncover the Voice-Of-The-Customer

Jens Sievert

Abstract

The Net Promoter Score (NPS) is a frequently used metric by businesses, but academics remain critical. This article describes how the NPS works, which aspects are viewed skeptically by the academic community, and why it is worthwhile to take a closer look at the NPS and its applications. With the help of a basic text-mining approach, we shed light on the reasons promoters, passives, and detractors communicate about their NPS ratings in the insurance industry. The extraction of potential NPS antecedents is one of the achievements of this study, and the following significant factors influencing NPS ratings have been identified: (1) customer satisfaction; (2) price-to-performance ratio and value-for-money; (3) service quality; (4) claims handling; (5) hassle-free insurance; (6) contact person on-site and (7) the refusal to engage in insurance-related Word-of-Mouth (WOM) behavior. Our research indicates that there might be general antecedents of the NPS as well as industry-specific ones. The study will give managers and academics fresh insights on how to use NPS as a brand health metric, researching all potential customers.

1 Introduction

Identifying customer needs is the fundamental task of companies to develop demand-driven products and achieve better success in the market. The introduction and evolution of the service-dominant logic by Vargo and Lusch (2004, 2008, 2016) has put greater

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focus on the consumer as a co-creator of value, their resource integration, and the value-in-use. Today, companies are increasingly focused on the customer journey to understand the customer experience, with all relevant touchpoints, usage scenarios, and all means to co-create value (Hartwig & Jacob, 2021; Tueanrat et al., 2021).

For companies, this leaves the question of how to capture and analyze customer needs continuously. Therefore, companies are encouraged to listen to the voice of the customer and use methods to discover, collect, and systematically process positive and negative customer opinions, attitudes, preferences, and ideas. In recent decades, several such methods (e.g., participatory observations, focus groups, surveys, user experience tests, netnography, crowdsourcing) for integrating customers into the product development and general market research process have become established (Griffin & Hauser, 1993; Griffin et al., 2009; Heinonen & Medberg, 2018; Timoshenko & Hauser, 2019).

Many companies are using the Net Promoter Score (NPS), which is described as the gold standard in customer experience research (Reichelt, 2003; Qualtrics, 2022d). One data source that is typically collected with the NPS survey is the open-ended question about reasons for ratings on the NPS scale. The author believes that the systematic analysis of this text data will provide a better general understanding of NPS and how to manage customer experience. Therefore, this article explains the concepts behind the NPS and presents critical aspects of the measurement system as discussed in academia. Afterward, it shows that further developments in the measurement system have partially addressed the academic criticism and that the NPS dominance in the practical application requires further examination of the NPS. Lastly, this article presents a basic text mining approach to reveal the reasons for NPS ratings for a product in the German insurance industry. By using freely available, well-documented, and established text mining packages in R, the article demonstrates that simple metrics like word frequencies and co-occurrences of words help to identify the Voice-of-the-Customer and to better understand NPS drivers and inhibitors (Feinerer, 2015; Feinerer et al., 2008; R Core Team, 2021).

2 The Net Promoter Score

2.1 Introduction to the Net Promoter Measurement System

2.1.1 Measuring and Calculating the NPS

The Net Promoter Score was introduced in a Harvard Business Review article by Reichheld (2003) as a transaction-based loyalty metric with great promise as “the one number you need to grow.“ Companies only need to ask customers one question: “How likely is it that you would recommend [company/brand/product/service] to a friend or colleague?” Survey respondents can rate on an 11-point scale, ranging from 0 to 10 with the extremes of zero being labeled “very unlikely” and ten labeled “very likely.“

After respondents have given a rating on the scale, they are assigned to one of three NPS categories according to their response behavior

(1) **Promoters**: Respondents who answered with 9 or 10 are called promoters. They are considered convinced, loyal customers who repeatedly purchase. They are also advocates and enthusiastic fans who are assumed to spread positive word-of-mouth proactively. In this way, they contribute to a positive brand perception through their recommendation behavior and ultimately the financial performance by generating sales via own (re-)purchases and ideally bring new customers to the brand, the company, the product, or the service at hand (Dost et al., 2016; Reichheld, 2003).

(2) **Passives**: Respondents with a scale rating of 7 or 8 are characterized as passives. They have a positive experience and opinion. Regarding their recommendation behavior, they are – as the name describes – passive. Despite a positive assessment, they do not participate in spreading recommendations by word of mouth. They contribute financially to the company's success because they are potential (re-)purchasers but do not generate any additional recommendation-driven purchases beyond that (Reichheld, 2003).

(3) **Detractors**: Respondents with a rating of 0 to 6 are called detractors. They are fierce critics of the brand who are assumed not to be buyers (anymore) and use negative word-of-mouth to criticize the target brand and discourage potential customers in their social network from buying (Reichheld, 2003).

After assigning each NPS respondent to their respective NPS category, the aggregated calculation of the actual Net Promoter Score is carried out using the following formula:

$$NPS = \frac{(\sum Promoters - \sum Detractors)}{Samplesize} \times 100$$

The calculation result is thus a single score with a value ranging from -100 to 100.

2.1.2 Interpreting and Using the NPS

After the NPS has been determined, the challenge of its interpretation emerges. According to Reichheld (2003, 2006), every company must strive to create an excess of promoters over detractors, i.e., the NPS should be greater than zero. In practice, values above zero are described as good, above twenty as favorable, above 50 as excellent, and values above 80 as world-class (Qualtrics, 2022c). A positive NPS is the only way to ensure that there are more positive recommendations from promoters than negative recommendations from detractors. However, as with many other measurement instruments, cultural and industry-specific differences in the response behavior of respondents to the NPS exist (CheckMarket, 2012). Therefore, it is recommended to compare the NPS only within similar cultures and industries if benchmarks are available. An internal

comparison with historical NPS values (longitudinal comparison) is an adequate strategy without an external benchmark.

While the NPS is an easy value to measure, calculate and monitor, it is also a system that requires organizations to follow a culture that embraces change and makes meeting customer needs and preferences and delivering the best customer experience the top priority (Markey & Reichheld, 2011). Bendle et al. (2019) describe, among other things, testimonials from organizations where the NPS serves to uncover problem areas in customer experience and where shifts in NPS values act as a trigger for in-depth analyses of possible root causes. A mere observation of the NPS is therefore insufficient. A score alone has limited value and does not indicate potential points of improvement to deliver better customer experiences and match customer expectations. Therefore, the NPS query is usually accompanied by follow-up questions in which customers are asked to justify their rating on the NPS scale. In Reichheld's original proposal, this is done via the following question: "What is the primary reason for your score?". There are many variations of this question, all of which aim to reveal the reasons behind the evaluation. For example, while doing research for this article and reading NPS-related literature, Adobe asked for an NPS voting and added the following question: "What would have to change for you to be (more likely) to recommend Adobe." The NPS follow-up question must be open-ended to determine the causes underlying the rating. The statements in the open-ended text field are highly relevant since the respondents formulate the qualitative feedback on their initiative, without receiving any thematic or content-related specifications. This helps to identify key topics that should be subject to closer examination. Based on the author's experience as a market research professional about half to two-thirds of the NPS respondents fill the open-text field making this a valuable source of data.

2.2 Ongoing Criticism of the NPS by Academia

For a long time, the NPS was regarded with skepticism in the academic community. The criticism relates, among other things, to the sometimes luridly formulated promises as to the ultimate measuring instrument for a company's financial performance, the NPS scale and calculation method for the aggregated NPS, the categorization of respondents into promoters, passives, and detractors, as well as an insufficient anchoring of existing findings and theories on word-of-mouth behavior. The following paragraphs highlight the most critical aspects.

2.2.1 The NPS and Performance

Reichheld (2003) introduced the NPS as a transaction-based instrument to measure loyalty. Promoters only recommend if they are convinced of the product, as they put their reputation on the line by making the recommendation (Baehre et al., 2022; Reichheld, 2003) - the same applies to detractors if they advise others against a product. A kind of "intensive loyalty" is thus measured via the query of the "willingness to recommend"

(Baehre et al., 2022; Reichheld, 2003). Accordingly, the NPS is said to be superior regarding its connection to corporate success compared to other metrics like the retention rate/repurchase rate or satisfaction. Reichheld bases his claims of superiority on a correlation-based study in the U.S., which links the NPS with sales figures from 12 industries (Reichheld, 2003). In the scientific debate on NPS, there have been numerous attempts to test Reichheld's statement, with mixed results: Keiningham et al. (2007a, 2007b) could not replicate the clear superiority of the NPS over other measurements by using data from the same industries studied by Reichheld (2003). In further studies, Keiningham et al., (2007a, 2007b, 2008) state that recommendation probability alone is not a good predictor of a customer's future loyalty, nor is it the "ultimate question" of loyalty measurement.

In contrast, some studies state that NPS is an equally good estimator of current gross margins and current sales growth compared to other metrics, but an equally poor estimator of future sales growth, future gross margins, and net cash flow (van Doorn et al., 2013). De Haan et al. (2015) also show little difference between NPS and, for example, customer satisfaction in the ability to estimate retention rates for various industries. In this sense, it has been repeatedly confirmed that NPS is not inferior to other metrics but not superior either.

2.3 The NPS Scale and Categories

A considerable part of the argument against the NPS is directed against the scale and the measuring instrument itself. It has been questioned why the NPS scale has a value range of 0–10 and thus 11-scale points (Grisaffe, 2007). Even though 5-point and 7-point Likert scales have established themselves as the standard in science and practice, other scale formats are not entirely unusual. For example, the Swedish Customer Satisfaction Barometer (SCSB) and the American Customer Satisfaction Index (ACSI) use a 10-point scale, measuring satisfaction as a bi-polar construct from 1 = "very dissatisfied" to 10 = "very satisfied" (Anderson, 1998). Reichheld (2003, 2006) justifies his choice for an 11-point scale with the attempt to force a better distribution of answers and to make it more difficult to answer at the positive end of the scale.

However, in the following step, a classification into promoters, passives, and detractors is made, with the justification that this provides the most straightforward, most intuitive, and best predictive power (Grisaffe, 2007; Reichheld, 2003). This is and remains difficult to understand. It is criticized why, for example, a person with a rating of 6 points is called a detractor, although their answer is clearly positioned in the positive half of the willingness to recommend scale. The classification of passives in response categories 7 and 8 is not explained in a transparent manner either (Goodman & Gonier, 2011). In practice, there are also discussions about introducing a European NPS, which assigns the 8 to the promoters. Such discussions aim to incorporate the experience of culture-related

response behavior and to show that in Europe, the highest rating is chosen less frequently than in the U.S., where the NPS was developed (CheckMarket, 2012).

From a measurement theory point of view, combining the scale into groups also removes variance from the measurement instrument, which is necessary for the predictive power of models. This is particularly evident when various distributions result in the same NPS (Gisaffe, 2007). Consider two example distributions of promoters, passives, and detractors in Table 1, which result in an identical NPS. The NPS value is zero when the number of promoters is identical to the number of detractors (example 1) and when there are only passives (example 2).

It is easy to argue that in both cases, the market conditions are completely different and should trigger other company activities. It should be much easier for companies to turn the passives in example 2 into promoters, because this group has not yet had any massive problems with the product (Goodman & Gonier, 2011).

2.4 The NPS and word-of-mouth behavior.

The positive effects of word of mouth (WOM) are stunning. WOM drives between 20 and 50 percent of all purchase choices (Bughin et al., 2010) and shows a substantial return on investments (Dost et al., 2016; Godes & Mayzlin, 2009). The logic of the NPS of a necessary promoter surplus thus becomes relatively easy to understand. East et al. (2011) describe that the NPS was ultimately designed to measure the effect of positive and negative word of mouth on sales. According to their findings, however, the traditional NPS does not adequately reflect negative recommendation behavior. According to Reichheld (2006), detractors are responsible for 80–90% of negative word of mouth – a thesis he does not support with data. But research on word-of-mouth shows that former customers account for 50% and non-customers for 30% of negative word of mouth (East et al., 2007, 2011). Since the NPS – in its original form as a transactional metric – surveys customers shortly after the purchase or usage experience, Reichheld's NPS value cannot capture the primary source of negative word of mouth. There is also criticism that it is not the probability of recommendation but the actual recommendation behavior that must be measured via frequency and valence to make statements about the effects of WOM on the market (East et al., 2007).

Table 1 Examples of NPS category distributions with identical NPS value

NPS category	Example 1	Example 2
No. of Promoters	500	0
No. of Passives	0	1000
No. of Detractors	500	0
NPS	0	0

Moreover, people who receive word of mouth from promoters are not necessarily the most attractive target group. Following the concepts of strong vs. weak ties, people with similar interests tend to flock together in a social network and build stronger relationships, as measured by the length of time, emotional intensity, closeness, and reciprocity between two people (Granovetter, 1973). Strong relationships tend to communicate redundant information since their members have similar interests. It is argued that promoters are more likely to interact with peers who are more likely to be aware customers and already promoters of the discussed product. Consequently, the incremental sales figures in a network of promoters are expected to be lower than in a network of detractors and passives (Dost et al., 2016; Godes & Mayzlin, 2009; Haenlein & Libai, 2013).

In summary, the academic landscape has been very critical of the NPS, and the claims made in the original paper. Among other things, this is due to the very bold statements by Reichheld (2003), and the managerial language used. Furthermore, much criticism is justified because Reichheld's approach has methodological weaknesses and he makes statements without sufficient explanations and against existing scientific knowledge and theories (East et al., 2007; Gisaffe, 2007; East et al., 2011; Bendle et al., 2019; Baehre et al., 2022). Nevertheless, there are also good reasons to investigate the NPS and its application further. These are discussed in the next section.

2.5 A Plea for NPS Usage

Despite all the criticism, the NPS is, without a doubt, a popular and widely used measurement instrument in the marketing business (Baehre et al., 2022; Raassens & Haans, 2017). Moreover, after 20 years of scholarly discussion on the NPS, it is unlikely that practitioners will abandon it (Bendle et al., 2019). On the contrary, conciliatory voices are growing in the academic world, calling on science to engage more closely with practice (Bendle et al., 2019). Some aspects that argue for turning to the NPS are discussed below:

2.5.1 The Simplicity of the NPS

As a single-item scale, with an intuitive division of the NPS categories and the aggregated calculation of the NPS, the measurement system impresses with its simplicity. Reichheld deliberately contrasts the NPS to multi-item scales that dominate market research practice, which he says are difficult to interpret due to complex weighting algorithms (Reichheld, 2003). Even among scholars, more and more voices are discussing the advantages of single-item scales (Rossiter, 2002, 2005, 2008). It can be argued that single-item measurements like the NPS have advocates, especially as Pollack and Alexandrov (2013) have shown nomological validity of the NPS in interaction with other metrics.

The dimensional reduction of the NPS scale by grouping respondents into promoters, passives, and detractors corresponds to today's common market research practice to simplify scales and make them easily interpretable and comparable. For example,

the formation of so-called Top2Boxes is a widespread procedure in practice, where the responses in the positive parts of a 5-point Likert scale are summarized and divided by the total number of responses (= sample size) and presented as percentage values (SurveyMonkey, 2022). In addition, many survey tools now offer ready-made and easy-to-use NPS packages as well as online NPS courses, further driving awareness and use of the NPS (Qualtrics, 2022a; Zenloop, 2022).

2.5.2 The NPS Advances to Become a Better Metric and Predictor of Sales

The NPS is now used in various ways and has evolved since its introduction in 2003. Following Reichheld's original suggestions, it was queried as a transaction-based loyalty metric directly after purchasing or using a product or service (Baehre et al., 2022). For example, ImmobilienScout24 asks the NPS question right after users have sent a contact request to a provider via the property rental platforms for long-term apartments (Cechini & Sievert, 2012). This form of feedback focuses on determining how consumers' experiences at those times affected their overall loyalty so that firms may enhance those experiences (Markey, 2014).

Today the NPS is also measured for relational purposes, where the assessment is not focused on the transaction or usage but on the overall satisfaction and loyalty of a customer towards a brand (Baehre et al., 2022; Markey, 2014; Qualtrics, 2022b). This form of NPS measurement helps to analyze the relationship between customers and a company (Markey, 2014). The results can be interpreted as a brand health measure, especially if a representative sample of all target customers – a group containing current customers, former customers, customers of competing products/services, and even non-customers – are covered in the analysis (Baehre et al., 2022; Markey, 2014). Considering all target customers facilitates a competitive analysis, an often ignored and undervalued method for benchmarking the NPS (Markey, 2014). Baehre et al. (2022) have shown that changes in brand health NPS over time can be used to predict sales growth. Their analyses in the U.S. sportswear industry indicate that the Brand Health NPS is more suitable for predicting future sales growth than brand awareness and purchase intent but equally good as a brand consideration metric (Baehre et al., 2022). These new findings are interesting as the authors point out that previous studies, which have been highly critical of Reichheld's methodology, have also shown methodological weaknesses.

2.5.3 A Brand Health NPS Captures Negative Word-of-Mouth

Including all target customers in the Brand Health NPS also allows the primary sources of negative word of mouth identified by East et al. (2011) to be surveyed and analyzed. This may help to better link NPS with actual recommendation behavior in the marketplace. There is already some evidence on the relationship of NPS with actual referral behavior: Raassens and Haans (2017) show that (individual) promoter scores are significantly related to electronic word-of-mouth (eWOM) behavior. Individuals with high (low) promoter scores are more likely to spread positive (negative) online word-of-mouth.

The authors also show that eWOM behavior persists over time and that the relationship between promoter score and WOM valence is stronger with increasing WOM frequency (Raassens & Haans, 2017). The division into promoters, passives, and detractors is also described as at least "partly justified," even though they explicitly advocate the consideration of the full scale (Raassens & Haans, 2017).

It is evident that there are some arguments in favor of including the NPS in the portfolio of Voice-of-the-Customer (VoC) metrics to be queried, even if the superiority and the isolated application of the NPS are still viewed critically (Baehre et al., 2022; Bendle et al., 2019; de Haan et al., 2015; Pollack & Alexandrov, 2013; Raassens & Haans, 2017). Much is still unknown about the NPS. Recently, Baehre et al. (2022) have called for more academic attention and proposed a research agenda that addresses the topics of generalizability, the relationship to other predictors of future performance, the identification of NPS antecedents, understanding of non-customers role, and the usage of NPS by managers.

Recent research shows that the NPS is a legitimate performance metric and that original NPS shortcomings have been reduced by enhancing the methodology by calculating NPS changes over time and researching all potential customers (Baehre et al., 2022). Still, many questions about the NPS remain unanswered. This article, therefore, follows the call by Bendle et al. (2019) to take a conciliatory role between the academic and practical perspectives. Our following analyses of the open-text answers elaborating on the NPS ratings can shed light on the usage of NPS by business professionals and may potentially reveal NPS antecedents as requested by Baehre et al. (2022).

3 Extracting the Voice-of-the-Customer from NPS open-test answers

3.1 An Introduction to Text Analysis

Most data exists in the unstructured form of texts. Such data contains general information about companies, consumers, markets, and society, which must be extracted using suitable methods (Berger et al., 2020). Texts from product reviews, social media activities, online forums, brand communities, and surveys are data sources that can provide information about customer needs, preferences, satisfaction, and user experience (Berger et al., 2020). For example, Decker and Trusov (2010) have already shown that an analysis of online product reviews is suitable for uncovering aggregated consumer preferences and thus making them accessible to user-oriented product development that gets closer to customers and their needs.

The analysis of texts used to be a time-consuming and resource-intensive process: texts had to be collected, read through and, depending on the methods chosen, category or coding schemes had to be created, coding had to be carried out, its reliability tested, and findings had to be generated (Glaser & Strauss, 1967; Krippendorff, 1980; Mayring,

2014). Researchers often had to immerse themselves in the texts – an undertaking becoming increasingly difficult as the volume of texts increases. Nowadays, computer-assisted (partially) automated text analyses play an increasingly important role, and researchers have many tools and methods at their disposal in a filled toolbox (Berger et al., 2020). Researchers must make a variety of choices when selecting and using them. Berger et al. (2020) provide a good overview of data pre-processing steps, different approaches, tools and forms of text analysis, and validation techniques.

In the following, an exemplary analysis of an NPS open-text dataset was conducted with the help of R, a free software environment and programming language for statistical calculations and graphics, using specific text analysis packages (R Core Team, 2021; Welbers et al., 2017). Several well-documented text mining packages like tm (Feinerer, 2015; Feinerer & Hornik, 2020; Feinerer et al., 2008), quanteda (Benoit et al., 2018), and tidytext (Silge & Robinson, 2016) are available in R. The "tm" text mining package was chosen in this analysis as it is one of the most commonly used (Welbers et al., 2017) and the author has previously applied it in the business setting. The open-text responses of the NPS survey have rarely been the focus of studies, although the respondents' reasoning for their NPS rating can provide valuable insights for managing customer expectations and recommendation behavior.

3.2 Description of the Data

The starting point of any analysis is the data source. The NPS data analyzed here were collected from December 2019 until January 2020 as part of a market survey among German insurance customers. Following the client's request, the overall research question is not revealed here, and all references to brand names in the open text fields have been removed from the data. The survey was conducted online with the help of an online access panel and resulted in a sample size of 1,216. By a selective invitation process of the panel provider, a gender, age, and education structure were achieved that reasonably represents the customer structure of the insurance product in the overall market (see Table 2). All respondents had purchased the insurance contract themselves, and 75.6% could be identified as customers of 1 of 14 relevant insurance companies. A further 20.4% stated that they were customers of another insurance company. The sample does not adequately reflect the market shares, as the motivation for the study was to deliberately over-represent a particular insurance company.

All respondents were asked to indicate their willingness to recommend their respective insurance companies on the 11-point NPS scale. Subsequently, they had the opportunity to justify their assessment via an open-text response field. The corresponding question was: "Please explain the reasons for your assessment". As a result, in the total sample, there is a surplus of promoters (505) over detractors (304) leading to a positive NPS of 16.5 (see Table 3).

Table 2 Descriptives – Gender, age, education, insurance brands

	Total sample	… with open-text answer	… without open-text answer
Gender			
Male	591 (48,6%)	382 (49.7%)	239 (53.3%)
Female	625 (51,4%)	386 (50.3%)	239 (46.7%)
Total	1,216 (100%)	768 (100%)	448 (100%)
Age			
18 - 25	69 (5.7%)	27 (3.5%)	**42 (9.4%)*** **
26 - 35	174 (14.3%)	83 (10.8%)	**91 (20.3%)*** **
36 – 45	185 (15.2%)	108 (14.1%)	77 (17.2%)
46 – 55	258 (21.2%)	**182 (23.7%)*** **	76 (17.0%)
56 – 65	287 (23.6%)	194 (25.3%)*	93 (20.8%)
65 +	243 (20.0%)	**174 (22.7%)*** **	69 (15.4%)
Total	1,216 (100%)	768 (100%)	448 (100%)
Education			
No secondary school qualification (yet)	2 (0.2%)	2 (0.3%)	0 (0%)
Secondary school leaving certificate	562 (46.1%)	353 (46.0%)	208 (46.4%)
High school diploma, college entrance qualification	272 (22.4%)	178 (23.2%)	94 (21.0%)
Higher education (university, advanced technical college)	381 (31.3%)	235 (30.6%)	146 (32.6%)
Total	1,216 (100%)	768 (100%)	448 (100%)
Purchased insurance brands			
One of 14 focal brands	919 (75.6%)	575 (74.9%)	344 (76.8%)
Others	248 (20.4%)	**174 (22.7%)** **	74 (16.5%)
No response	49 (4%)	19 (2.5%)	**30 (6.7%)** **
Total	1,216 (100%)	768 (100%)	448 (100%)

Significance level: * $p<0.1$, ** $p<0.05$, *** $p<0.001$

Not all respondents provide a helpful written explanation for their evaluation: some answer fields remain empty; some contain random combinations of numbers and letters. From the original 1,216 respondents, a sub-sample of 768 respondents with open-text data remains to be analyzed in the next step. It was checked if the remaining sub-sample and the excluded respondents differ on the surveyed dimensions of gender, age, education as well as NPS score. Table 2 and Table 3, therefore, show descriptive statistics for

Table 3 Descriptives - NPS category, NPS score and NPS scale

	Total sample	… with open-text answer	… without open-text answer
NPS Category			
Promoters	505 (41.5%)	**353 (46.0%)*****	152 (33.9%)
Passives	407 (33.5%)	241 (31.4%)	**166 (37.1%)****
Detractors	304 (25.0%)	174 (22.7%)	**130 (29.0%)****
Total	1,216 (100%)	768 (100%)	448 (100%)
Net Promotor Score			
Aggregated Score	16.5	23.3	4.9
Net Promoter Scale			
Mean	7.64	**7.77*****	7.40
SD	2.29	2.38	2.12

*Significance level: * $p<0.1$, ** $p<0.05$, *** $p<0.001$*

the entire sample, the subgroups with and the subgroup without open-text answers. Proportion values (z-test) and mean values (t-test) were compared with the help of appropriate statistical tests. In each case, the higher proportion or mean value is displayed in bold letters and marked with an indication of the significance level. The tests reveal that the two sub-samples do not differ in terms of gender distribution and educational status but differ in terms of age distribution, use of relevant brands, and their NPS assessment. The sub-group with open-text answers contains low (higher) proportions of young (older) respondents, more people using "other" brands, significantly more promoters, and significantly fewer passives and detractors. A comparison of the mean values of the NPS ratings shows a significantly larger value for persons with open-text answers (7.77 vs. 7.40, $p=0.007$). Due to the differences, it cannot be ruled out that the following results of the text analysis insufficiently reflect the reasons of persons without open-text answers.

3.3 Pre-processing Text Data

As unstructured data, texts are often "messy" and must be prepared for formal analysis to bring a specific structure and consistency to the data (Berger et al., 2020). For the preprocessing and analysis of text data, the text-mining package "tm" (Feinerer & Hornik, 2020) was used, which is common in text analysis (Welbers et al., 2017). The text is edited and changed step by step, as described in Welbers et al. (2017) and Berger et al. (2020), and thus made accessible for analysis (see Table 4, for an example):

Table 4 Example of pre-processing steps

Processing step	Text
Raw data	"too expensive and unfriendly"
Tokenization	"too", "expensive", "and","unfriendly"
Stopword deletion	"expensive","unfriendly"
Stemming	"Expens", "unfriend"
Synonym replacement	"Expensive", "unpleasant"

(1) **Importing data:** The initial step is acquiring and importing text data into the R environment. This may be a challenging process, depending on the data collection procedures and complexity of the data and format. Here a.csv-file was created with a pipe as delimiter because text usually contains characters like commas and semicolons that can interfere with the ability to distinguish variables and cases when importing text data into a software environment. The text data was automatically translated from German to English via DeepL before it was imported into R.

(2) **Cleaning**: Cleansing is the manipulation of text with string operations, e.g., by transforming words to lowercase, removing numbers, special characters, punctuation, and excessive whitespace. This is usually done to remove non-meaningful text and non-textual information. But certain text units are deleted or replaced as they are of particular interest to the researcher. An example is the brand names of insurance companies that have been replaced with the word "brand" to maintain confidentiality in this study.

(3) **Tokenization**: Tokenization is the process of splitting a text into smaller chunks of data. Depending on the research interest, this could be sentences, phrases, and words. Words are most typically used as units of interest, as they are semantically the most meaningful text components.

(4) **Stemming:** Stemming is a normalization technique that helps to find words of similar meaning but slightly different writing. The aim is to find the common stem of a term. Stemming is widely used with English text data. For example, in the dataset of this study, the words "satisfaction" and "satisfied" are replaced by the stem "satisf."

(5) **Stopwords:** Some words are rarely informative as they are frequently used in most texts. There are predefined lists containing words with no significant meaning and low information value that can be used for deletion. However, the researcher should carefully review the stopwords as they may unfold meaning in the specific context of interest. It is also possible to generate individual lists that can be iteratively changed to have the best outcome – a strategy applied in this analysis.

(6) **Synonyms:** Replacing words of similar meaning is extremely useful to reduce the complexity of text data. It is also important to achieve uniformity when a specific vocabulary (e.g., industry- or product-related) is necessary. In this insurance dataset, respondents use various words like "price," "rates," "tariffs," for insurance

premiums, or words like “servants,” “consultants,” “staff,” “employees,” “representative” or “adviser” for insurance staff. Those terms have been replaced by the generic terms “price” and “staff.” Word replacements are also useful to replace a word stem with a commonly used term in the data. For example, the stem “satisf” from above was replaced with the term “satisfied.”

(7) **Document Term Matrix**: A document term matrix (DTM) is the dominant format to represent a collection of text that is distributed among several documents (= text corpus). The DTM is a sparse matrix representing words in columns and documents in rows, whereas cells quantify the information value of a term (Welbers et al., 2017). The information value is calculated by applying so-called weighting schemes, which can be represented by the simple term occurrence (1 = yes, 0 = no) in a single document, the term frequency in a single document or, a little more complicated, by considering the term frequency in a single document in relation to the frequency of documents in a corpus containing the term. Furthermore, it is common to define cut-off values to exclude terms with very low and high occurrence among all documents - a term that occurs in less than 1 percent of all documents has a low information value, like a term that occurs in more than 80 percent of all documents in a corpus. This analysis applied a simple term frequency weighting with lower cut-off values of 1 percent.

The terms represented in the DTM are shaped by the outcome of the pre-processing steps undertaken, the weighting schemes applied, and the chosen cut-off values, i.e., with applying sting operations, word replacements, deletion of stopwords and stemming, the pre-processed terms ending up in the DTM, as well as their corresponding weights, are changing. The researcher has much power and great responsibility to apply all steps in the best interest to extract the most valuable information and meaning hidden in the text. In an explorative and iterative research phase, testing different settings and approaches is normal for achieving the best results.

3.4 Analysis of the Text Data

After pre-processing the data and creating the document-term matrix, the text is represented in the form of numbers, and matrices and ready for analysis. The matrix represents a bag of words in which positions of terms and grammar no longer matter (Welbers et al., 2017). First, the analysis focuses on entity extraction by finding common terms based on their frequency and using word clouds to gather more insights into the vocabulary used. Afterward, the co-occurrence of words is analyzed with the help of correlational analysis. Finally, the output of each analytical step is grouped by the NPS category, namely promoters, passives, and detractors, to reveal the reasons for the NPS evaluation of each group.

3.4.1 Extracting Relevant Terms

The terms in the DTM are ranked by their frequency of occurrence. The term counts are summed up over all documents in our DTM. Afterward, the resulting term sum is sorted in descending order to extract the most used terms by promoters, passives, and detractors (see Table 5). Only terms occurring with a frequency of at least 3 percent in the respective net promoter group documents are displayed for better readability. In Fig. 1, word clouds are displayed that also show terms occurring in at least 1 percent of the term-document-matrices of promoters, passives, and detractors. Word clouds are very popular among business professionals – as they show much information in limited space. The term frequencies and word clouds are indeed valuable to get first insights about pressing topics in respective NPS groups:

- **Positive terms dominantly used by promoters and passives:** Certain terms like adjectives are especially helpful in text analysis as their meaning can be described as positive, neutral, or negative. As expected, the data shows that positive terms are frequently used by promoters and passives, whereas only a few positive and some negatives are present in detractors. The promoter group contains terms like "good" (41%, rank 1), "satisfied" (18%, rank 4), "fast" (8%, rank 9), "great" (7%, rank 12), "cheap" (7%, rank 18), "reliable" (6%, rank 21), "competent" (4%, rank 25) and "uncomplicated" (4%, rank 26). Many of those terms are also used by passives, but mostly with lower relative frequencies, i.e., "good" (37%, rank 1), "satisfied" (15%, rank 3), "cheap" (6%, rank 12), "reliable" (5%, rank 14), "fat" (4%, rank 17), "uncomplicated" (4%, rank 18) and "competent" (4%, rank 19). Detractors are also using positive terms like "good" (11%, rank 6), "cheap" (5%, rank 16), and "satisfied" (4%, rank 21), but also negative ones like "expensive" (8%, rank 8) and "bad" (5%, rank 15). The text data indicate that differences in the rating of the NPS scale are also reflected in the open text responses. However, it also shows that passives and even detractors are frequently using positive terms to explain their NPS ratings.
- **Customer satisfaction is a driver of NPS**: "Satisfied" is one of the positive terms that is frequently used by passives (15%, rank 3) and promoters (18%, rank 4), but ranks low in detractors (4%, rank 21). Customer satisfaction is a consequence of a good product experience and, therefore an expected antecedent or driver of the willingness to recommend.
- **Price perception drives of NPS ratings:** The term "price" is also mentioned often with promoters (18%, rank 3) and passives (14%, rank 4), but relatively infrequent with detractors (7%, rank 11). The term "cheap" was used by promoters (7%, rank 23), passives (6%, rank 12), and detractors (5%, rank 16), whereas only detractors mentioned "expensive" (8%, rank 8) in their explanation. This indicates that the price can be a relevant separator for different NPS evaluations and is an important product feature.

Table 5 Frequency analyses of terms per NPS category (cut-off: < 3%)

	Detractors		**Passives**		**Promoters**	
Rank	Terms	Frequency	Terms	Frequency	Terms	Frequency
1	no(t)	102 (59%)	good	89 (37%)	good	144 (41%)
2	insurance	48 (28%)	not	46 (19%)	very	64 (18%)
3	recommend	34 (20%)	satisfied	35 (15%)	price	63 (18%)
4	yet	31 (18%)	price	33 (14%)	satisfied	63 (18%)
5	claim	29 (17%)	yet	31 (13%)	service	59 (17%)
6	good	19 (11%)	service	28 (12%)	insurance	30 (8%)
7	companies	14 (8%)	insurance	25 (10%)	claim	29 (8%)
8	expensive	14 (8%)	event	21 (9%)	not	29 (8%)
9	never	14 (8%)	claim	19 (8%)	fast	27 (8%)
10	other	12 (7%)	problem	19 (8%)	brand	26 (7%)
11	price	12 (7%)	very	15 (6%)	yet	26 (7%)
12	online	11 (6%)	cheap	14 (6%)	great	25 (7%)
13	event	9 (5%)	advise	13 (5%)	performance	25 (7%)
14	need	9 (5%)	reliable	12 (5%)	staff	25 (7%)
15	bad	8 (5%)	condition	11 (5%)	event	24 (7%)
16	cheap	8 (5%)	everything	10 (4%)	experience	24 (7%)
17	staff	8 (5%)	fast	10 (4%)	value	24 (7%)
18	friend	7 (4%)	uncomplicated	10 (4%)	cheap	23 (7%)
19	give	7 (4%)	competent	9 (4%)	everything	22 (6%)
20	problem	7 (4%)	performance	9 (4%)	problem	22 (6%)
21	satisfied	7 (4%)	value	9 (4%)	reliable	21 (6%)
22	service	7 (4%)	experience	8 (3%)	customer	18 (5%)
23	advise	6 (3%)	never	8 (3%)	money	18 (5%)
24	anything	6 (3%)	settlement	8 (3%)	ratio	18 (5%)
25	brand	6 (3%)	use	8 (3%)	competent	15 (4%)
26	everyone	6 (3%)			uncomplicated	15 (4%)
27	experience	6 (3%)			process	14 (4%)
28	matter	6 (3%)				
29	principle	6 (3%)				
30	reason	6 (3%)				
31	settlement	6 (3%)				
32	very	6 (3%)				

Fig. 1 Word clouds

- **Service perception differs between NPS groups**: The term "service" is more prevalent in promoters (17%, rank 5) and passives (12%, rank 6) than in detractors (4%, rank 22). The service quality may also be an expected antecedent of the NPS.
- **Claims handling is vital for NPS ratings:** The term "claim" is mentioned by detractors (17%, rank 5), passives (8%, rank 9), and promoters (8%, rank 7) and seems equally essential to all customers. As one of the primary contact points of customers and insurance companies, it is expected to drive recommendation behavior.
- **Terms like not, never, and yet prompt caution:** The term "not" – a mix of the terms "no" and "not" – is very present in the text data. It is the most frequent word used by detractors (59%, rank 1), but also of high relevance in passives (19%, rank 2) and promoters (8%, rank 8). It is a necessary next step to explore words co-occurring with "not", as this is fundamental for the meaning of the text, e.g., in combinations like "not good" or "not satisfied". Negation can potentially alter the insights of a pure term extraction technique. The same applies to terms like "never" which is prevalent in detractors (8%, rank 9) and passives (3%, rank 23), and the term "yet" which is frequently used by detractors (18%, rank 4), passives (13%, rank 5), and promoters (7%, rank 11). Therefore, a researcher must be careful to draw preliminary conclusions on just term frequencies and needs to also explore the co-occurrences of terms.

3.4.2 Analyzing Co-occurrences of Words

This section looks at co-occurring words, as a combination of words in a text may hold meaning. The previous section already discussed the example of negations, where the words "not" and "good" in a single document, sentence, or other units of analysis may change the interpretation. The data is displayed in the form of a matrix (DTM), where each column is a vector for a specific term in our corpus. Therefore, one can determine the correlation between different word vectors to analyze co-occurrences of terms. As this study is interested in an overall Brand Health-like output, only the co-occurrence

of frequent terms (Table 5) is relevant, i.e., rare combinations are of little interest. Only co-occurrences characterized by a correlation value above 0.3 are considered to extract at least moderately linked terms. This leads to the exclusion of "cheap," "condition," "everything," "expensive," "experience," "great," "need," "online," "other," "reliable," "service," and "very" as they do not show correlations of at least 0.3 with other terms. The results of the co-occurrence analyses are displayed in Fig. 1 and Table 6 and discussed below:

(1) **Price-performance and value-for-money:** Promoters and passives mention the price/performance ratio and detractors the value-for-money aspect as a reason for their NPS score. Together with the insights from the most frequent terms (Table 5) we also observe that detractors find the product to be "expensive," whereas the passives mention "cheap." Furthermore, the detractors are talking about "bad offers". It clearly indicates that an insurance company must stay up to date with its prices and insurance services. Relevant quotes are: *"Price/performance ratio is ok," "Because it is cheap," "Very expensive for little service," "Very expensive and does not cover all damages."*

(2) **No experience with claims yet:** The terms "not" and "yet" occur frequently and are linked for promoters, passives, and detractors. Example text answers reveal the following: *"No claims have been made yet, so only partly assessable," "Friendly and competent but have not yet had to report a claim," "I have not had a claim yet, but I find them quite expensive," "have never used the insurance, do not know the benefits."*

It is evident that many customers are paying their insurance premiums but have never filed a claim with the insurer. An essential aspect of the product experience is not tangible to customers until they file a claim.

(3) **Service quality:** "Service" was already an important word in the term frequency analysis. The co-occurrence analysis now reveals that promoters and passive mention "service" and the term "good". Relevant quotes are: *"Good service," "Very good service," "very good customer service," "good support and service."*

(4) **Claims handling:** An insurance event will usually lead to a claim process that involves the active collaboration of the insurance staff and the customer. Promoters and passives mention "good service", "fast claims", "claim settlement", "claim process", "no problem", "fast settlement", and "fast process" which are various combinations indicating a good company performance with regards to that aspect. While the co-occurrences do not specifically show the negative experience, some quotes from detractors contain negative sentiments about the claims process. Positive and negative example quotes are: *"Super fast claims processing."*, "*good rates, fast claims settlement."*, *"problems with claims processing", "[…] and uncomplicated in settlement," "problems with claims processing," "I am quite disappointed with my claims handler", "long processing time in case of claims […]."*

Table 6 Co-occurrence of frequent terms

Rank	Terms	Detractors	Passives	Promoters
1	good	value (0.53) money (0.43)	service (0.31)	service (0.43)
2	No(t)	yet (0.44) insurance (0.35)	problem (0.49) yet (0.34)	problem (0.48) yet (0.38)
3	price	performance (0.56) ratio (0.56)	performance (0.43) ratio (0.36) terms (0.32)	ratio (0.50) performance (0.47)
6	service	performance (0.36) ratio (0.36)	good (0.31)	good (0.43)
7	yet	not (0.44) claim (0.39)	not (0.38)	not (0.38) problem (0.32)
9	claim	yet (0.39) event (0.31)	settlement (0.55) fast (0.32) process (0.32) event (0.30)	settlement (0.57) fast (0.30)
10	event	settlement (0.34) claim (0.31)	claim (0.3)	n.a
11	problem	n.a	not (0.49)	not (0.48) yet (0.32) never (0.31) without (0.30)
13	fast	phone (0.66)	settlement (0.66) claim (0.3)	process (0.38) settlement (0.34) claim (0.3)
14	staff	office (0.39)	office (0.89)	n.a
15	performance	ratio (1.0) price (0.56) service (0.36)	ratio (0.74) price (0.43)	ratio (0.84) price (0.47)
18	value	money (0.84) good (0.53)	money (0.81)	money (0.81)
19	recommend	give (0.4) principle (0.37) insurance (0.31) anyone (0.3) general (0.3)	n.a	n.a
21	never	use (0.33)	n.a	problem (0.31)
24	advise	against (0.34)	n.a	handling (0.3)
32	bad	offer (0.35)	n.a	n.a
43	everyone	themselves (0.91) decide (0.39) right (0.35)	n.a	n.a

Note: Correlation value in brackets

(5) **A hassle-free insurance:** The text responses also show that the terms "not," "without," and "never" are correlated with "problem". Example quotes are: "*No problem," "Without problem," "Never had any problem," "No problem so far," "Everything went without problems."*
It is not precisely clear what aspect of the product experience is without problems, but it's evident that a "hassle-free" insurance experience is important to some customers.

(6) **Contact person on site:** The term "staff" was mentioned in the frequent terms analysis (Table 5) by detractors (5%, rank 17) and promoters (7%, rank 14). The correlational analysis reveals that "staff" and "office" are linked. Example quotes are: "Good personal service on site," "competent insurance agent on site," "Contact person directly on site", "Bad experience with the head of the office."

(7) **Recommending inhibitors in general:** It is surprising why detractors are the only NPS group mentioning "recommend" in the most frequent words (Table 5). Looking at the co-occurrences reveals a correlation between "recommend" and "give," "principle," "insurance," and "general". The text data contains interesting quotes that can be used to interpret the co-occurrences: *"I do not recommend any insurance in principle," "As a matter of principle, I do not make any recommendations," "I do not recommend anything to anyone as a matter of principle,""[…] in general I am reluctant to make recommendations."*
Furthermore, detractors seem to believe that everyone must find their own insurance product: "Everyone has to know for themselves," "Everyone has to decide for themselves," "Let everyone decide for himself where to insure himself."
Other detractors are indecisive to either recommend for or against an insurance product or brand: *"There are no reasons against it, but there are no reasons for it either," "It is therefore difficult to recommend it to others or to advise anyone against it."*
Additionally, some find that insurance is not a good topic to talk about: *"I do not talk about insurance with friends," "I am absolutely satisfied, but I never talk about such topics with my friends," "I tend not to talk about insurance with friends. The topic does not matter."*
It is argued by critics of the NPS that the question is phrased, and the response options are designed like a single-pole scale. People with low ratings say they are "very unlikely" to recommend. In contrast, the whole interpretation of the NPS is that those people engage in negative word-of-mouth (Reichheld, 2003, 2006, 2011). Here, the text analysis reveals barriers that hinder detractors from speaking about the insurance brand of interest. This is a relevant insight as a willingness to recommend must be transferred into actual word-of-mouth behavior (East et al., 2007). It seems especially hard to find occasions to discuss a complex topic like insurance.
Furthermore, it is stated that a metric like the NPS is a better predictor of performance in industries with short interpurchase cycles (Gruca & Rego, 2005), which is not the case for the insurance business. In addition, the contact frequency between insurance companies and their customers is low, and when the interaction happens, it is usually about a claim where the customer gets easily dissatisfied.

4 Discussion and Final Remarks

The Net Promoter Score is a frequently used metric by businesses. In recent years it has evolved as a tool to analyze brand health, the relationship between a company and all potential customers, and the competitive landscape (Baehre et al., 2022; Markey, 2014; Markey & Reichheld, 2011). The relational approach enables business professionals to make judgments and take action to enhance selling, service, product design, pricing, or other practices depending on what they discover (Markey, 2014). The brand health NPS is also a good predictor of sales growth when using changes in brand health NPS as an independent variable (Baehre et al., 2022). It was also frequently stated that the NPS is not inferior to similar voice-of-the-customer metrics (de Haan et al., 2015; van Doorn et al., 2013). This article, therefore, follows the proposal by Bendle et al. (2019) to forge a stronger partnership between academics and practitioners.

The applied text analysis approach aimed to shed light on the reasons stated by survey respondents about their NPS ratings. Survey data from different brand users of an insurance product in Germany was used. The sample was acquired by a panel provider, according to specific quotas (age, gender, education) and matches the requirement of a brand health NPS. The analysis focused on the pure market view and revealed what aspects are characteristic for promoters, passives, and detractors.

Following reasons for NPS ratings in the insurance business were identified

(1) Customer satisfaction
(2) Price/performance ratio and value-for-money
(3) Service quality
(4) Claims handling (intangible before a claim event)
(5) Hassle-free insurance
(6) Contact person on-site
(7) General reluctance to recommend insurance to others

These categories are essential from an overarching perspective to survive in the insurance market. Insurance professionals must deliver the best customer experience to generate satisfaction, have to offer attractive contracts with respect to price and performance ratios, and need to provide outstanding and hassle-free service quality when interacting with customers, especially in claims handling where expectations are high, and processes are black boxes for users. Those aspects seem to be evident at firsthand. However, they are potential drivers and inhibitors of brand health NPS and therefore likely to be linked to financial success. The extraction of possible NPS antecedents is one of the achievements of this study. It could show that easy-to-use and freely available text-mining packages can be used to generate insights from open-text answers in NPS surveys.

However, there is much room for improvement. The study has only scratched the surface of the tools and methods available to analyze text. The counting of term frequencies, creating and displaying word clouds, and using correlational measures are text-mining basics (Berger et al., 2020; Welbers et al., 2017). The possibilities seem endless. Nevertheless, not many studies from business professionals and academics dealing with NPS open textbox answers have been published so far. This is astonishing as the follow-up question is widely used by practitioners. The author knows from discussion with business professionals and business units that the open-text answers are frequently read, but only few analyze them in a systematic way (Cechini & Sievert, 2012). The author urges more researchers and practitioners to apply text-mining approaches to NPS open-text data and to share results.

More research is needed to understand the systematic bias in open text answers uncovered in this study. In this analysis, people providing text tend to be older and more positive with respect to their NPS rating and categorization. Are the critical voices sufficiently represented in the analyzed sample? What motivates people to provide open-text responses? While the open format is suitable to collect unbiased feedback, it is also a cognitive challenge to write text and express opinions.

The industry specifics are of great interest. Searching for NPS benchmarks reveals significant differences between industries (Qualtrics, 2022c). Gruca and Rego (2005) mention the NPS is better used in sectors with higher re-purchase cycles. Our research indicates that there might be general antecedents of the NPS, but also industry specific ones. Customer satisfaction, price-performance, and service quality may be known antecedents, whereas the characteristics of the insurance-customer relationship seem to be industry-specific, e.g. insurances have only a few touchpoints with customers, and in claims handling negative emotions are involved due to damages and the fear of an unsuccessful settlement. There is much room for additional research on NPS and industry specifics.

The applied sample selection is optimal for an overall brand health check and to reveal more general reasons for the NPS rating. On the contrary, it does not allow an in-depth analysis of specific reasons mentioned by the respondents – especially the negative ones where immediate action is required. Understanding particular customer experience problems requires more data about the issue at hand. This is the strength of the traditional transaction-based metric, which can be queried at every step in the customer journey to reveal compelling in-depth insights.

Overall, it can be argued that the Experience and Brand Health NPS are valuable metrics to assess the customer experience. Open-text answers can provide additional insights and help managers to act on specific problems or to defend strong positions. This study gives managers and academics fresh insights on how to use NPS, how to extract meaning form open text responses and how to ultimately serve the customer.

References

Anderson, E. W. (1998). Customer satisfaction and word of mouth. *Journal of Service Research, 1*(1). https://doi.org/10.1177/109467059800100102.

Baehre, S., O'Dwyer, M., O'Malley, L., & Lee, N. (2022). The use of Net Promoter Score (NPS) to predict sales growth: insights from an empirical investigation. *Journal of the Academy of Marketing Science, 50*(1). https://doi.org/10.1007/s11747-021-00790-2

Bendle, N. T., Bagga, C. K., & Nastasoiu, A. (2019). Forging a stronger Academic-practitioner partnership–The case of net promoter score (NPS). *Journal of Marketing Theory and Practice, 27(2)*. https://doi.org/10.1080/10696679.2019.1577689

Benoit, K., Watanabe, K., Wang, H., Nulty, P., Obeng, A., Müller, S., & Matsuo, A. (2018). quanteda: An R package for the quantitative analysis of textual data. *Journal of Open Source Software, 3*(30), 774.

Berger, J., Humphreys, A., Ludwig, S., Moe, W. W., Netzer, O., & Schweidel, D. A. (2020). Uniting the tribes: Using Text for Marketing Insight. *Journal of Marketing, 84*(1). https://doi.org/10.1177/0022242919873106

Bughin, J., Doogan, J., & Vetvik, O. J. (2010). A new way to measure word-of-mouth marketing. *McKinsey Quarterly, 2*, 113–116.

Cechini, J., & Sievert, J. (2012). Zusammenhang zwischen Net Promoter Score und User Experience. In *Mensch and Computer 2012: 12. Fachübergreifende Konferenz für interaktive und kooperative Medien. Interaktiv informiert – allgegenwärtig und allumfassend!?* https://doi.org/10.1524/9783486718782.143

CheckMarket. (2012, January). *Why there needs to be a European variant of the Net Promoter Score*.https://www.checkmarket.com/blog/nps-euon. Accessed 15 Apr 2022.

de Haan, E., Verhoef, P. C., & Wiesel, T. (2015). The predictive ability of different customer feedback metrics for retention. *International Journal of Research in Marketing, 32*(2). https://doi.org/10.1016/j.ijresmar.2015.02.004

Decker, R., & Trusov, M. (2010). Estimating aggregate consumer preferences from online product reviews. *International Journal of Research in Marketing, 27*(4). https://doi.org/10.1016/j.ijresmar.2010.09.001

DeepL. (2022). *DeepL Translate: The world's most accurate translator*. https://www.deepl.com/translator.

Dost, F., Sievert, J., & Kassim, D. (2016). Revisiting firm-created word of mouth: High-value versus low-value seed selection. *International Journal of Research in Marketing, 33*(1). https://doi.org/10.1016/j.ijresmar.2016.01.002

East, R., Hammond, K., & Wright, M. (2007). The relative incidence of positive and negative word of mouth: A multi-category study. *International Journal of Research in Marketing, 24*(2). https://doi.org/10.1016/j.ijresmar.2006.12.004

East, R., Romaniuk, J., & Lomax, W. (2011). The NPS and the ACSI: A critique and an alternative metric. *International Journal of Market Research, 53*(3). https://doi.org/10.2501/IJMR-53-3-327-346

Feinerer, I. (2015). Introduction to the tm Package: Text Mining in R. *R Vignette*.

Feinerer, I., & Hornik, K. (2020). Tm: Text Mining Package. R package version 0.7–8. https://CRAN.R-project.org/package=tm

Feinerer, I., Hornik, K., & Meyer, D. (2008). Text mining infrastructure in R. *Journal of Statistical Software, 25*(5). https://doi.org/10.18637/jss.v025.i05

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory*. Aldine Publishing.

Godes, D., and Mayzlin, D. (2009). Firm-created word-of-mouth communication: Evidence from a field test. *Marketing Science, 28*(4). https://doi.org/10.1287/mksc.1080.0444

Goodman, J., & Gonier, D. (2011). The passives are not passive: Why you should be careful with the net promoter score. *Quirk's Marketing Research Review, 25*(10), 72–78.

Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology, 78*(6), 1360–1380.

Griffin, A., & Hauser, J. R. (1993). The voice of Customer. *Marketing Science, 12*(1), 1–27.

Griffin, A., Price, R. L., Maloney, M. M., Vojak, B. A., & Sim, E. W. (2009). Voices from the field: How exceptional electronic industrial innovators innovate. *Journal of Product Innovation Management, 26*(2). https://doi.org/10.1111/j.1540-5885.2009.00347.x.

Grisaffe, D. B. (2007). Questions About the Ultimate Question: Conceptual Considerations in Evaluating Reichheld's Net Promoter Score. *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior, 20*, 36–53.

Gruca, T. S., & Rego, L. L. (2005). Customer satisfaction, cash flow, and shareholder value. *Journal of Marketing, 69*(3). https://doi.org/10.1509/jmkg.69.3.115.66364.

Haenlein, M., & Libai, B. (2013). Targeting revenue leaders for a new product. *Journal of Marketing, 77*(3). https://doi.org/10.1509/jm.11.0428.

Hartwig, K., & Jacob, F. (2021). Capturing marketing practices for harnessing value-in-use. *Journal of Marketing Theory and Practice*. https://doi.org/10.1080/10696679.2021.1895671.

Heinonen, K., & Medberg, G. (2018). Netnography as a tool for understanding customers: implications for service research and practice. *Journal of Services Marketing, 32*(6). https://doi.org/10.1108/JSM-08-2017-0294.

Keiningham, T. L., Aksoy, L., Cooil, B., & Andreassen, T. W. (2008). Linking customer loyalty to growth. *MIT Sloan Management Review, 49*(4), 51–57.

Keiningham, T. L., Cooil, B., Aksoy, L., Andreassen, T. W., and Weiner, J. (2007a). The value of different customer satisfaction and loyalty metrics in predicting customer retention, recommendation, and share-of-wallet. *Managing Service Quality: An International Journal, 17*(4), 361–384. https://doi.org/10.1108/09604520710760526.

Keiningham, T. L., Cooil, B., Andreassen, T. W., Aksoy, L. (2007b). A longitudinal examination of net promoter and firm revenue growth. *Journal of Marketing, 71*(3), 39–51. https://doi.org/10.1509/jmkg.71.3.39.

Krippendorff, K. (1980). *Content analysis: An introduction to its methodology.* Sage Publications.

Markey, R. (2014). The benefits of a competitive benchmark net promoter score. https://www.bain.com/insights/the-benefits-of-acompetitive-benchmark-net-promoter-score. Accessed 15 Apr 2022.

Markey, R., & Reichheld, F. (2011). Introducing: The net promoter system®. https://www.bain.com/insights/introducing-the-net-promoter-system-loyalty-insights. Accessed 15 Apr 2022.

Mayring, P. (2014). Qualitative content analysis: theoretical foundation, basic procedures and software solution. https://nbn-resolving.org/urn:nbn:de:0168-ssoar-395173.

Pollack, B. L., & Alexandrov, A. (2013). Nomological validity of the net promoter index question. *Journal of Services Marketing, 27*(2). https://doi.org/10.1108/08876041311309243.

Qualtrics. (2022a). Measure, analyse and improve NPS across your organisation. https://www.qualtrics.com/uk/customer-experience/nps-software. Accessed 15 Apr 2022.

Qualtrics. (2022b). Transactional vs. Relational NPS. https://www.qualtrics.com/uk/experience-management/customer/transactionalvs-relational-nps. Accessed 15 Apr 2022.

Qualtrics. (2022c). What is a good net promoter score?. https://www.qualtrics.com/uk/experience-management/customer/good-net-promoter-score. Accessed 15 Apr 2022.

Qualtrics. (2022d). *What is NPS? Your ultimate guide to Net Promoter Score.* https://www.qualtrics.com/experience-management/customer/net-promoter-score. Accessed 15 Apr 2022.

R Core Team. (2021). *R: A Language and Environment for Statistical Computing.* R Foundation for Statistical Computing,https://www.R-project.org/.

Raassens, N., and Haans, H. (2017). NPS and online WOM: Investigating the relationship between customers' promoter scores and eWOM Behavior. Journal of Service Research, 20(3). https://doi.org/10.1177/1094670517696965

Reichheld, F. (2006). Ultimate question: For driving good profits and true growth (Hardcover). *Harvard Business School Press Books*.

Reichheld, F. (2011). The ultimate question 2.0. *Harvard Business Review*.

Reichheld, F. (2003). The one number you need to grow. *Harvard Business Review*, *81*(12), 46–54.

Rossiter, J. R. (2002). The C-OAR-SE procedure for scale development in marketing. *International Journal of Research in Marketing, 19*(4). https://doi.org/10.1016/S0167-8116(02)00097-6

Rossiter, J. R. (2005). Reminder: A horse is a horse. *International Journal of Research in Marketing, 22*(1). https://doi.org/10.1016/j.ijresmar.2004.11.001

Rossiter, J. R. (2008). Content validity of measures of abstract constructs in management and organizational research. *British Journal of Management, 19*(4). https://doi.org/10.1111/j.1467-8551.2008.00587.x

Silge, J., & Robinson, D. (2016). tidytext: text mining and analysis using tidy data principles in *R. JOSS, 1*(3). https://doi.org/10.21105/joss.00037

SurveyMonkey. (2022). *How to use a Top 2 Box score in your survey analysis*. https://www.surveymonkey.com/mp/top-2-box-scores. Accessed 15 Apr 2022.

Timoshenko, A., & Hauser, J. R. (2019). Identifying customer needs from user-generated content. *Marketing Science, 38*(1). https://doi.org/10.1287/mksc.2018.1123

Tueanrat, Y., Papagiannidis, S., & Alamanos, E. (2021). Going on a journey: A review of the customer journey literature. In *Journal of Business Research, 125*. https://doi.org/10.1016/j.jbusres.2020.12.028

van Doorn, J., Leeflang, P. S. H., & Tijs, M. (2013). Satisfaction as a predictor of future performance: A replication. *International Journal of Research in Marketing, 30*(3). https://doi.org/10.1016/j.ijresmar.2013.04.002

Vargo, S. L., and Lusch, R. F. (2004). Evolving to a New Dominant Logic for Marketing. *Journal of Marketing, 68*(1). https://doi.org/10.1509/jmkg.68.1.1.24036

Vargo, S. L., & Lusch, R. F. (2008). Service-dominant logic: Continuing the evolution. *Journal of the Academy of Marketing Science, 36*(1). https://doi.org/10.1007/s11747-007-0069-6

Vargo, S. L., & Lusch, R. F. (2016). Institutions and axioms: An extension and update of service-dominant logic. *Journal of the Academy of Marketing Science, 44*(1). https://doi.org/10.1007/s11747-015-0456-3

Welbers, K., van Atteveldt, W., & Benoit, K. (2017). Text analysis in R. *Communication Methods and Measures, 11*(4). https://doi.org/10.1080/19312458.2017.1387238

Zenloop. (2022). *Free 8-Day NPS® online course*. https://www.zenloop.com/en/resources/academy/nps-online-course. Accessed 15 Apr 2022.

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Part IV: Selling More or Consuming Less?

Demanded and Imparted Sales Competencies – Triangulating Insights from the Field

Markus Bick and Matthias Murawski

Abstract

Sales professionals need to possess specific competencies to be successful at their job, but these competencies are unstable and subject to change, especially in the digital age. As such, we aim to answer the following question: What are the current competencies required for sales professionals? To answer this, we conducted a case study with a renowned German company in the children's entertainment industry and developed a list of required – or demanded – competencies. In the next step, we took these competencies as the basis to assess how the Master in International Sales Management program of ESCP Business School helps students develop the required sales competencies. Our findings show that there is a match between the demanded competencies according to the case study and the imparted competencies through the study program. However, this match is of different strength for the single competencies.

1 Introduction

Sales is one of the business functions that has been significantly impacted by digitalization (Lambrecht et al., 2014; Reinartz & Imschloß, 2017). With sales professionals losing ground in the retail industry and fighting price wars against digital goods (Druecke

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et al., 2018), it appears as though sales departments will have to be restructured. Although the sales field is frequently researched, with many studies devoted to developing optimization approaches, information regarding the various competencies required for sales professionals is limited.

Lambert et al. (2014) conducted a study that analyzed the competencies required to offer services and ranked them in order of significance, whereas another competence research is focused on defining the competencies required for direct selling (Sypniewska, 2013). Due to the development of digital sales and the emergence of larger buyers and buying circles, generating an increasing number of strategic accounts, Lacoste (2018) completed a study examining the difference between sales employee competencies in relation to standard customers versus sales employee competencies in relation to strategic accounts, highlighting a possible shrinking domain of traditional sales forces. As a result of existing disparities in the required competencies based on the type of goods or services sold, the method of selling, and the sales position, different competencies may be required. Supported by developing digital sales approaches and new customer payment methods, which disrupt the customer journey's norm, this raises the likelihood of variances in required sales competencies (Geiger & Turley, 2006; Reinartz & Imschloß, 2017).

For decades, competencies and competency modeling have existed as separate fields of study (Bloom, 1956). Despite the fact that research on this topic has progressed over time, there are still research gaps to be addressed. The goal of this study is twofold. First, we use an exploratory case study approach to solve the existing gap relating to the required – or demanded – competencies of sales professionals. Murawski and Bick (2017, p. 729) highlight the necessity for this research by proposing "How will job profiles and required digital competencies change in the future?" as a prospective research field. This idea has been adapted into a sales-oriented research question (RQ):

RQ1: What are the current competencies required for sales professionals?

Second, our goal is to connect the findings on RQ1 with the Master in International Sales Management (MISM) program of ESCP Business School – of which Prof. Frank Jacob is the Academic Director. In this context, we examine the perspective of the students of this program to elaborate the imparted competencies. We, therefore, formulate our second research question as follows:

RQ2: How helpful is the Master in International Sales Management program of ESCP Business School in developing competencies required for sales professionals?

Thus, our methodology contains two steps. First, in order to answer RQ1, competencies required for sales professionals in the form of a competency lexicon are identified based

on a case study with a German media company.[1] Second, a questionnaire asking for the "match" between the MISM program of ESCP Business School and the development of required competencies is conducted and descriptively analyzed in order to answer RQ2.

This paper is organized as follows. The theoretical background of our study and an overview of related work on sales competencies is presented in Sect. 2. The case study to identify competencies required for sales professionals ("analysis 1") and the results of it are presented in Sect. 3, before "analysis 2" – the questionnaire study to investigate the match between demanded and imparted competencies (i.e., taught in the MISM program) – is outlined in Sect. 4. The outcomes of both analyses 1 and 2 are subsequently discussed, and some concluding remarks are formulated in Sect. 5.

2 Theoretical Background

A comprehensive literature review was done to acquire an overview of the present state of research regarding sales professional competencies. We used Boolean logic searches with the query "Sal* Competenc*" to go across several databases (such as EBSCO and JSTOR). This search yielded 391 unique entries because the publication date was not limited. Based on the criterion, English language, and related to the competencies of sales professionals rather than, for example, sales professional trainers, 36 articles were deemed eligible for the literature review. Forward and backward-searching yielded an additional nine publications for further review, for a total of 45 papers to develop a fundamental knowledge basis for the research topic.

2.1 Competency and Competency Modeling

Competency, and hence competency modeling, is predicated on a loosely defined concept, competence. The definition revolves around "a set of skills, behaviors, and attitudes needed to perform an activity or process in a competent manner as defined by a set of parameters that can be measured" (Lambert et al., 2014, p. 87). However, as Westera (2001, p. 76) pointed out, the term "competence" is "based on common parlance rather than agreed definition, which easily causes a confusion of thoughts."

This is corroborated by Shippmann et al. (2000), who identified a variety of competency definitions in an attempt to find common ground, noting that the differences could be explained by the number of places in which the phrase is used and where it originated.

[1] The basis for the respective parts is the following paper: Murawski, M., Bühler, J., Blatz, K. C., & Bick, M. (2019). Comparing the required competencies of sales professionals servicing digital and physical channels of sale: a case study of a German children's entertainment company. Fortieth International Conference on Information Systems, Munich, Germany, Paper ID 2348.

Even more recent articles (Ilomäki et al., 2016) have been unable to agree on a definition, hence why the language and meaning in research revolving around the topic vary.

Spencer and Spencer's (1993) research laid the foundation for defining competencies in the workplace, seeking to define competencies and laying out principles for assessing competencies and developing a related model. The competency model is made up of multiple distinct lexica from various fields of work. Various competencies for sales professionals (e.g., "customer service orientation" or "relationship building") are established, among other things. Other forerunners of competency modeling, according to Schley (2002), are Lucia and Lepsinger (1999), who brought the concept closer to the general public by writing in a more accessible, although academically accurate, style. Since then, several versions of the competency model have been made, such as the Association for Talent Development (ATD) sales competency model (Sisakhti, 2015) and Bartram's (2005) great eight competencies, resulting in a dilution of the terminology used to convey various competencies. Numerous strategies used to determine competency models further exacerbate this dilution (Mirabile, 1997).

2.2 Competencies of Sales Professionals

The acceptance of competencies in the workplace leads to studies examining sales professionals' performance in relation to their competencies (Sypniewska, 2013). Other potential influencing elements, such as cultural origins (Sanchez, 2010) and the impact of information technology, have been investigated in studies on this topic (Geiger & Turley, 2006). Furthermore, due to the nature of the goods or services sold, research reveals that competencies that are regarded as critical for one business may be different for another (Lambert et al., 2014; Yan et al., 2009).

Top performers are frequently distinguished from mediocre workers using competency models (Campion & Odman, 2011). Additionally, competency models enable a company to get a competitive edge (Vakola et al., 2007) by determining what competency is required rather than what is currently being done. "There is only one compelling reason for adopting a skill- or competency-based approach: To create a competitive advantage, because it leads to an organization performing better," writes Lawler (1994, p. 12). Kim and Hong (2005) discovered a link between specific competencies and sales professional performance, bolstering the theory that companies intend to use competencies to predict individual performance (Lambert et al., 2014), allowing the best-suited employee to be hired for a job or to better train an employee (Olesen et al., 2007; Suen & Yang, 2013). Communication competence (Downing, 2011; Sanchez & Levine, 2009), emotional competence (Ramesh, 2013; Vij et al., 2010), and entrepreneurial attitude are some of the competencies that have been devoted to a sales-related study subject (Rajabi et al., 2015). In McClelland's (1973) publication, the migration of competencies to sales began, leading to the first measurements of competency modeling in sales in the 1990s.

Due to technological advancements, sales professionals are undergoing a transformation, culminating in the burgeoning discipline of digital competence (Ilomäki et al., 2016; Murawski & Bick, 2017). Companies have evolved to require new sorts of payment, such as time or personal information, which can then be transformed into revenue as new means of earning money emerge (Lambrecht et al., 2014). This transition encourages business models to be rethought and reveals potential challenges. The shrinking of the standardized sales domain and the introduction of strategic account managers are two of these shifts (Lacoste, 2018).

In the following section, we present our empirical approach to identifying competencies required for sales professionals using the essential ideas of case study research (Yin, 2018).

3 Analysis 1: Identifying Competencies Required for Sales Professionals

To learn more about the competency profiles of sales professionals, we (i) develop a competency lexicon based on different resources analyzed in the context of our case study (Campion & Odman, 2011; Mirabile, 1997; Spencer & Spencer, 1993), and conduct (ii) behavioral event interviews (Campion & Odman, 2011; Kim & Hong, 2005; McClelland, 1973). Before going over the two mentioned steps, we introduce the case company and our method for data collection and sampling in detail.

3.1 Case Company Overview

The case involves a medium-sized German corporation that works in the children's entertainment industry. The majority of the company's revenue comes from the sale of children's music and video products. According to the 2017 audit report, the company had a very successful year in 2017, with a revenue of EUR 26.4 million and a profit of EUR 9.3 million. This is mirrored in the company's financial records, which show an 88 percent increase in revenue from digital distribution channels in 2017, culminating in EUR 9.4 million in revenue. The increase in streaming revenue was partly responsible for this expansion. Furthermore, as a Google preferred partner, the company's digital development can be attributable to increasing revenue from its YouTube channels (four main and two minor channels).

According to the case company's financial statement, physical sales decreased by 17% in 2017, from EUR 19.8 million in 2016 to EUR 16.5 million in 2017, despite a good film offering in 2017, ranking in the top 20 in Germany. According to the backend support of the physical sales channels, such an advantage can improve income across all sectors. This drop, however, can be explained by the market's shift from physical to digital consumption. As a result, the example company was able to earn a greater profit, but

in various areas, as previously stated. Most associated financial institutions have assigned the company an A + credit rating, indicating that it is a low-risk organization, bolstering its strong market position.[2]

3.2 Information Gathering and Sampling

The following sources were considered for our case study, as described by Yin (2018):

- Documentation: E-mails, letters, and any other written communication between the salesperson and the consumer were taken into account.
- Archival records: Market position and consumer group studies from third-party members were employed.
- Digital artifacts: Participants' software.
- Interviews: Salespeople and HR personnel were interviewed.

We were able to convince responsible persons from the case company to provide us with the above-mentioned sources. Following discussions with the firm's CEO regarding the extent of the study as well as the level of support and time required from each individual and the company, seven possible participants were identified. This group included everyone who works in sales at the company. Sales professionals who had previously been identified were contacted and asked whether they would be interested in participating. Due to the small sample size, all participants were required to participate in order to generate representative data for the institution (Lucia & Lepsinger, 1999). Incentives to participate included the promise of baked goods (a company tradition recommended by the CEO) upon completion of the study, as well as a time limit of two hours per individual. Individuals would spend around 30 min collecting data and the remaining 90 min conducting a reduced behavioral event interview. The ultimate response rate was 100 percent positive. The seven participants' job titles were Key Account Manager Digital, Senior Key Account Manager, Head of Licensing, Senior Manager TV and Licensing, Senior Manager E-Commerce, Senior Marketing Manager, and Senior Director Online. Upon agreeing to participate, the employees were asked to supply the information shown in Table 1.

3.3 Competency Lexicon Development

Following the completion of the data collection, which yielded 52 legitimate sources, the data was manually coded and analyzed, allowing a competency lexicon to be created.

[2]The basis for the case description remains the already above-mentioned earlier publication. As the first study was conducted in the year 2017 we remain with the context relevant at that time. However, the company and the internal structure did not change severely over time.

Table 1 Information to be provided by the case study participants

Documentation	
E-mails/ Newsletters	Digital communication between themselves and their clients from 2018. The suggested number was no more than ten e-mails, from different customers, with a suggested minimum of five e-mails
Physical communication	Written communication in any form. This could be mailings, letters, gifts, or other forms of non-digital communication from 2018. The suggested maximum was 10
CV – acquisition of current position	The original CV, as well as a quick description of their journey through the ranks of the company until they obtained their current position, if applicable
Digital artifacts	
Software	A list of software tools being used and a short description of these tools
General information	
Customers	List of participants' customers serviced and a description of each customer
Revenue	List of revenue of their 10 largest customers, if applicable

The case-specific competency lexicon was built using the Spencer and Spencer (1993) competencies as the coding categories. The coded data determined whether competencies were applicable to this situation and whether or not further competencies were required. We also conducted a descriptive analysis of the data (i.e., we determined the overall frequencies of the competency categories), which served as the foundation for the lexicon. Because the competencies can be complicated and unclear, a coding guide and template specifying the rules of behavior for recognizing competencies throughout the process can assist limit the risk of error and ensure data analysis consistency. The template and guide were also subject to change during the procedure because no pilot study was created and the sample size was too small for trial runs. If there were any changes, the preceding coding was updated to guarantee compatibility.

3.4 Behavioral Event Interview Guidelines

A series of behavioral event interviews with the seven sales professionals at the case company were undertaken to confirm the created competency lexicon. This interview method was chosen for competency analysis based on numerous applications in competency-based approaches (McClelland, 1973; Spencer & Spencer, 1993), and it is claimed to be superior to traditional interviews in terms of competency identification because people are often unable to accurately assess their own competencies. The behavioral

event interview examines significant prior events to identify competencies. One positive and one negative critical event were discussed for this case study, as this would result in "interviewees [telling] vivid short stories about how they handled the toughest, most important parts of their jobs and, in doing so, reveal their competencies to do the job" (Spencer & Spencer, 1993, p. 98). The following sections were included in the semi-structured behavioral event interview.

Explanation and introduction: The desired situations may negatively expose an individual. As a result, developing a foundation of trust by clarifying the future procedure and assuring the candidate that the interview will have no negative consequences because the data would be treated privately is crucial.

Job responsibilities: This is used to describe what the person's job entails. This categorizes people according to their sales channel (i.e., physical or digital) and reveals work details that may not have been released previously. Furthermore, this phase enables the researcher to determine whether the events depicted in the interview are typical of the tasks performed by the respondent.

Behavioral event: This section focuses on getting the interviewee to give vivid, short anecdotes that will be used to collect data on competencies. The goal is to collect at least two detailed stories, but four would be great. Because of the time constraint, obtaining the specified six crucial events is unrealistic.

Characteristics required for the job: If the behavioral section fails to discover the requisite amount of major occurrences, this area is addressed.

Conclusion: The recording has been paused to allow for the completion of the next phase in private. Positive feedback is offered at the end of the interview to allow the interviewees to leave the meeting feeling good about themselves and satisfied with the interview in general. Any questions the interviewee may have are also answered.

The resulting interviews were transcribed, and the coding guide and competency lexicon produced in the preceding stage were used to code them.

3.5 Competency Lexicon for Sales Professionals in the Case Company

During our review of internal resources and the follow-up interviews with the sales professionals, we uncovered a total of 18 separate competencies. In addition to the competencies identified using Spencer and Spencer's (1993) competency model, the review of the list of digital artifacts proposes that the category of "digital competencies" should be included. Individuals using up to 21 different types of software to complete their job requirements were identified using the list of digital artifacts, and distinctions in the number and complexity of software used by the participants were also elaborated. The final competency lexicon based on our case study is shown in Table 2. It is the answer to

Table 2 Identified competencies required for sales professionals

Competency	FRQ	Definition
Customer service orientation	16	A desire to help or serve others, to meet their needs
Impact and influence	12	Intentions to persuade, convince, influence, or impress others in order to get them to support the speaker's agenda
Concern for order, quality, and accuracy	8	An underlying drive to reduce uncertainty in the surrounding environment
Analytical thinking	7	Understanding a situation by breaking it down into smaller pieces or tracing the implications of a situation in a causal, step-by-step way
Digital competencies	7	Advanced digital skills and knowledge
Technical/professional/ managerial expertise	7	Includes both the mastery of a body of job-related knowledge and also the motivation to expand, use, and distribute work-related knowledge to others
Information seeking	6	An underlying curiosity, a desire to know more about things, people, or issues drives information seeking
Relationship building	6	Working to build or maintain friendly, warm relationships or networks of contacts with people who are, or might someday be, useful in achieving work-related goals

research question 1. Table 2 includes the eight most frequent competencies in terms of absolute frequency (FRQ) out of the total 18 we identified.

The final competency lexicon was discussed with the Human Resources Manager of the case company, who agreed that the indicated competencies would be beneficial when hiring people.

4 Analysis 2: Check If the Master in International Sales Management Program at ESCP Business School is Helpful to Develop Competencies Required for Sales Professionals

To identify the "match" between the MISM program at ESCP Business School and the competencies required for sales professionals, we created an online questionnaire and asked students to share both their experiences and opinions.

4.1 Questionnaire Development and Sample

We used the main result of analysis 1 (i.e., the competencies listed in Table 2) to create the questionnaire. To ensure an acceptable length and to increase the response rate, we decided to ask four central questions:

(1) How would you assess the general importance of the following competencies [the ones from Table 2] for sales professionals? [From (1) *Not important at all* to (5) *Extremely important*]
(2) How helpful was/is the "Master in International Sales Management" program of ESCP Business School for you to develop the following competencies [the ones from Table 2]? [From (1) *Not helpful at all* to (5) *Extremely helpful*]
(3) Please indicate up to three aspects of the "Master in International Sales Management" program of ESCP Business School that particularly helped you to develop your competencies as a sales professional.
(4) Please indicate up to three aspects of how the "Master in International Sales Management" program of ESCP Business School could be improved regarding the development of competencies as a sales professional.

Questions (3) and (4) were designed as optional and open-text answers. We used the open-source tool "Limesurvey" to program the questionnaire and asked the latest cohort (53 students) of the MISM program of ESCP Business School via e-mail to fill it during December 2021 and January 2022. In total, we received 20 answered questionnaires, of which nine had to be discarded because of either massive incompleteness or obvious uselessness (e.g., unrealistic short filling duration). Thus, eleven complete and reliable answer sheets could be taken for the following analysis.

4.2 Results

Tables 3 und 4 and the following overviews on the results of (3) and (4) contain the aggregated answers on the four questions we asked in the questionnaire.

The absolute frequencies in Table 3 confirm that the most important competencies as identified in the case study (see Table 2) are seen as extremely or very important also by the students. *Customer service orientation* and *relationship building* show the highest frequencies for *extremely important*, while technical aspects seem to play a relatively less important role. Except for one respondent who assessed *customer service orientation* as *little important*, all mentioned competencies are at least *relatively important* according to the students. This is in line with the findings of the previously presented case study.

The "match" between required and imparted competencies can be analyzed from the results shown in Table 4. We can conclude that for most competencies the variety of

Table 3 Results on (1) - How would you assess the general importance of the following competencies for sales professionals?

Competency / Answer	Extremely important	Very important	Relatively important	Little important	Not important at all
Customer service orientation	7	3	0	1	0
Impact and influence	6	4	1	0	0
Concern for order, quality, and accuracy	3	5	3	0	0
Analytical thinking	6	2	3	0	0
Digital competencies	3	5	2	0	0
Technical/professional/ managerial Expertise	2	7	2	0	0
Information seeking	4	6	1	0	0
Relationship building	7	4	0	0	0

Table 4 Results on (2) - How helpful was/is the "Master in International Sales Management" program of ESCP Business School for you to develop the following competencies?

Competency / Answer	Extremely helpful	Very helpful	Relatively helpful	Little helpful	Not helpful at all
Customer service orientation	2	1	3	3	2
Impact and influence	0	5	3	3	0
Concern for order, quality, and accuracy	2	5	2	2	0
Analytical thinking	4	3	4	0	0
Digital competencies	1	5	2	2	1
Technical/professional/ managerial Expertise	1	4	3	3	0
Information seeking	2	3	4	2	0
Relationship building	3	3	3	2	0

answers is larger compared to the previous step of the analysis (see Table 3). For example, regarding *customer service orientation*, all answer categories have been selected. According to the students, the MISM program is particularly helpful for developing *analytical thinking* and *relationship building*. This is not surprising, as these two competencies are essential learning objectives of the MISM program. A bit unexpected is the fact that the MISM program is assessed as *less helpful* for *information seeking*, although this is another core element of study programs in general.

In addition to the pure assessment via scores, we asked for further qualitative insights of the students regarding the MISM program (see overview *Results on (3)* and overview *Results on (4)*). We selected the constructive answers (some students only provided very generic statements) and summarized them under different themes. The following overview *Results on (3)* contains those aspects of the MISM program that particularly helped the students to develop competencies as sales professionals. Here, two themes could be identified. The first one is *International* which emphasizes the value of cross-national and -cultural studies. The second theme is *Lectures & Teaching* which highlights different sub-topics students evaluated positively.

Results on (3)

Please indicate up to three aspects of the "Master in International Sales Management" program of ESCP Business School that particularly helped you to develop your competencies as a sales professional.

Selected answers – International:

- International mind.
- A wide range of nationalities.
- To work with a network of international students.

Selected answers – Lectures & Teaching:

- Guest speakers from different companies and backgrounds in the sales field and professors' interactions regarding previous experiences in the field.
- Multiple class presentations to do in class on a frequent basis.
- Group projects that help to develop adaptation skills and build relationships.
- Hybrid mode so we could meet with classmates.
- To develop leadership skills in group work and guide the group.

Regarding the potential improvement of the MISM program, the mentioned themes (see following overview *Results on (4)*) are *Topics*, *Lectures & Teaching*, and *Support*. For *Topics*, students often formulated the desire for less theory and more practical and recent cases. *Lectures & Teaching* include the need for interaction and classes that are usefully designed (especially in the context of online or hybrid classes). The last theme *Support* is about an idea to better connect different cohorts of the MISM program.

Results on (4)

Please indicate up to three aspects of how the "Master in International Sales Management" program of ESCP Business School could be improved regarding the development of competencies as a sales professional.

Selected answers – Topics:

- Personally, I am very passionate about international sales, but our classes are quite theoretical toward this domain. More practical classes like import–export should be included.
- More negotiation practices.
- Some of the classes are too theoretical compared to what we are supposed to learn.
- More up-to-date topics - e.g., courses like digitizing the sales process, entrepreneurship.
- More industry-related courses - retail, SaaS, expansion, etc.

Selected answers – Lectures & Teaching:

- Overall, all classes should have more challenging group work to be done on a frequent basis. I am still afraid that too many classes are mostly 2h30 min of conference and 30 min of group work. No need to be a scientist to understand that most of us don't follow the class after 30 min of lecture with this model course.
- Students should have the opportunity to interact and their opinion should be always taken into consideration.

Selected answers – Support:

- Develop a "Buddy Program" between the 2nd Year Master Students and ESCP Alumni, so that questions regarding the jobs in sales, guidance, etc. could be tackled.

5 Discussion and Conclusion

Our results show that there is a "match" between the competencies required for sales professionals (derived from our case study) and most of the competencies imparted through the MISM program of ESCP Business School. However, the strength of this match differs for the investigated competencies. Aside from this key finding, our study offers further insights into the MISM program, including already successful elements and those topics that could be improved. For the latter, a more detailed look at the mentioned aspects is necessary. For example, it is not a new phenomenon that students often dislike theory compared to practical insights. Simply replacing theoretical content with practical content is obviously not the right reaction, but it could make sense to put more effort into explaining both the value of theory in general and the link between theory and practice.

It is also important to mention the context of the questionnaire study which took place during the Covid-19 pandemic. Consequently, many lectures had been conducted in fully

online or hybrid mode. It can be assumed that this has an effect on some of the competencies that have been considered in this study. For example, relationship building is more difficult in online settings compared to lectures on-site (Yarmand et al., 2021). This context is also reflected in the qualitative feedback we collected from the students. Here, the particularities of, for example, hybrid lectures have been emphasized.

We furthermore have to admit that our analysis also has some limitations. For the case study, despite the fact that we had a 100% participation rate in the case company's interviews and access to very insightful resources of the company, we recognize that our findings are only a first step toward a comprehensive understanding of the required competencies of sales professionals. Furthermore, a case study must be interpreted in the given context, for instance, the specific industry (here: entertainment). That means, companies of other industries could show different demanded competencies. A natural way to overcome this limitation would be to investigate further companies through multiple case studies across different industries.

For the questionnaire study with MISM students, the sample size is rather small. Thus, it is not feasible to derive generalizable results out of it. The corresponding avenue for further research is to extend the sample, for example, with other cohorts of the MISM program. In addition, other sources to identify sales competencies should be incorporated; for example, an examination of job advertisements that represent labor market demands in terms of required competencies (Murawski & Bick, 2017) would provide another valuable perspective to our work.

References

Bartram, D. (2005). The great eight competencies: A criterion-centric approach to validation. *Journal of Applied Psychology, 90*(6), 1185–1203. https://doi.org/10.1037/0021-9010.90.6.1185.

Bloom, B. S. (1956). *Taxonomy of educational objectives, handbook 1: cognitive domain*. Longman.

Campion, M. a., & Odman, R. B. (2011). Doing competencies well: Best practice in competency modelling. *Personnel Psychology, 64*, 225–262. https://doi.org/10.1111/j.1744-6570.2010.01207.x.

Downing, J. R. (2011). Linking communication competence with call center agents' sales effectiveness. *Journal of Business Communication, 48*(4), 409–425. https://doi.org/10.1177/0021943611414539.

Druecke, F., Herrenbrueck, S., Sobbe, G., & Woegerer, S. (2018). Musikindustrie 2017 in Zahlen. http://www.musikindustrie.de/fileadmin/bvmi/upload/02_Markt-Bestseller/MiZ-Grafiken/2017/BVMI_ePaper_2017.pdf. Accessed 6 Aug 6 2018.

Geiger, S., & Turley, D. (2006). The Perceived impact of information technology on salespeople's relational competencies. *Journal of Marketing Management, 22*(7–8), 827–851.

Ilomäki, L., Paavola, S., Lakkala, M., & Kantosalo, A. (2016). Digital competence – an emergent boundary concept for policy and educational research. *Education and Information Technologies, 21*(3), 655–679. https://doi.org/10.1007/s10639-014-9346-4.

Kim, S.-K., & Hong, J.-S. (2005). The relationship between salesperson competencies and performance in the korean pharmaceutical industry. *Management Revue, 16*(2), 259–268.

Lacoste, S. (2018). From selling to managing strategic customers - a competency analysis. *Journal of Personal Selling and Sales Management, 38*(1), 92–122. https://doi.org/10.1080/08853134.2018.1426991.

Lambert, B., Plank, R. E., Reid, D. A., & Fleming, D. (2014). A Competency Model for Entry Level Business-to-Business Services Salespeople. *Services Marketing Quarterly, 35*(1), 84–103. https://doi.org/10.1080/15332969.2014.856746.

Lambrecht, A., Goldfarb, A., Bonatti, A., Ghose, A., Goldstein, D. G., Lewis, R., et al. (2014). How do firms make money selling digital goods online? *Marketing Letters, 25*(3), 331–341. https://doi.org/10.1007/s11002-014-9310-5.

Lawler, E. E. (1994). From job-based to competency-based organizations. *Journal of Organizational Behavior, 15*(1), 3–15.

Lucia, A., & Lepsinger, R. (1999). *The art and science of competency models: pinpointing critical success factors in organizations San Francisco*. Wiley.

McClelland, D. C. (1973). Testing for competence rather than intelligence. *American Psychologist, 28*(January), 1–14.

Mirabile, R. J. (1997). Everything you wanted to know about competency modeling. *Training & Development* 51, 73+-73+.

Murawski, M., & Bick, M. (2017). Digital competences of the workforce – a research topic? *Business Process Management Journal, 23*(3), 721–734. https://doi.org/10.1108/BPMJ-06-2016-0126.

Olesen, C., White, D., & Lemmer, I. (2007). Career models and culture change at Microsoft. *Organizational Development Journal, 25*(1), 31–35.

Rajabi, R., Brashear Alejandro, T. G., & Chelariu, C. (2015). Entrepreneurial motivation as a key salesperson competence: trait antecedents and performance consequences. *2015 AMA Summer Educators' Proceedings, 26*(1), M6–M7.

Ramesh, G. (2013). Identifying emotional competence proficiencies in personal selling: a study with reference to salesmen in chennai city. *Global Management Review, 8*(1), 21–28.

Reinartz, W., & Imschloß, M. (2017). From point of sale to point of need: how digital technology is transforming retailing. *GfK-Marketing Intelligence Review, 9*(1), 43–47. https://doi.org/10.1515/gfkmir-2017-0007.

Sanchez, A. R. (2010). Salespeople's communication competence: a study of the Mexican market. *Journal of Business & Economic Studies, 16*(1), 1–19.

Sanchez, J. I., & Levine, E. L. (2009). What is (or should be) the difference between competency modeling and traditional job analysis? *Human Resource Management Review, 19*(2), 53–63. https://doi.org/10.1016/j.hrmr.2008.10.002.

Schley, D. G. (2002). Book review: the art and science of competency models: pinpointing critical success factors in organizations. *Academy of Management Learning and Education, 2*(June), 210–213.

Shippmann, J. S., Ash, R., Battista, M., Carr, L., Eyde, L. D., Hesketh, B., et al. (2000). The practice of competency modeling. *Personnel Psychology, 53*(3), 703–740. https://doi.org/10.1197/jamia.M1726.Limited.

Sisakhti, R. (2015). ATD - world class competency model for sales. *TD: Talent Development, 69*(5), 52–57.

Spencer, L. M., & Spencer, S. M. (1993). *Competence at work: models for superior performance*. Wiley.

Suen, H.-Y., & Yang, J.-M. (2013). HR professionalism in the computing environment: predicting job performance within different HR roles. *International Management Review, 9*(1), 19–32.

Sypniewska, B. A. (2013). Examination of the individual competencies that differentiate results in direct sales. *Contemporary Economics, 7*(1), 83–100. https://doi.org/10.5709/ce.1897-9254.76.

Vakola, M., Soderquist, E. K., & Prastacos, G. P. (2007). Competency management in support of organisational change. *International Journal of Manpower, 28*(3/4), 260–275. https://doi.org/10.1108/01437720710755245.

Vij, S., Sharma, R., & Sharma, M. K. (2010). A study of identifying the emotional competence of indian salespeople. *IUP Journal of Marketing Management, 9*(3), 24–40.

Westera, W. (2001). Competences in education: a confusion of tongues. *Journal of Curriculum Studies, 33*(1), 75–88. https://doi.org/10.1080/00220270120625.

Yan, A., Rao, Y., Liao, C., & Gao, C. (2009). Competency identification of sales staff in the agricultural seed industry: Evidence from seed firms in China. *Soc Behav Personal, 37*(4), 513–524. https://doi.org/10.2224/sbp.2009.37.4.513

Yarmand, M., Solyst, J., Klemmer, S., Weibel, N. (2021). "It feels like i am talking into a void": understanding interaction gaps in synchronous online classrooms. In Kitamura, Y. (Ed.), *Proceedings of the 2021 CHI conference on human factors in computing systems. CHI '21: CHI conference on human factors in computing systems*. Yokohama Japan, 08 05 2021 13 05 2021. ACM Special Interest Group on Computer-Human Interaction. Association for Computing Machinery (ACM Digital Library) (pp. 1–9).

Yin, R. K. (2018). *Case study research and applications* (6th ed.). SAGE.

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How an Advertising Man Became a GDP Critic

Martin H. Oetting

Abstract

Humanity is hurtling ever faster toward its own extinction—driven by the very economic systems it has designed. Attempts to truly change direction have so far not entered the mainstream. Marketing is an integrally supportive part of the dominant systems and, by extension, currently refusing to provide meaningful answers for how to deal with the impending breakdown. Three central crises of our current paradigms are explored, and three attempts at developing new narrative and discursive (media) projects are described as both an attempt and personal perspective on how to deal with the current state of the world.

1 "What You Are Doing Here Is Dangerous"

On September 22nd, 2017, Frank Jacob gave me the most intense, upset look that I had ever received from him. It was some time after 10 PM and he had just witnessed the maiden production of "vollehalle," a stage show about the climate crisis that I had put on with a friend for the first time that night. We were standing near the venue's bar when Jacob said to me, "What you are doing here is very dangerous, very dangerous indeed." He was referring to the end of our show: a fifteen-minute "dialogue" between me and a voice in a video on a big screen that we had set up on stage. In the video—punctuated by my live questions from the stage—the British economist and playwright Tim Jackson had spoken about meaning, purpose, and how economic growth in terms of GDP was not

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what we should be working toward in our search for solutions to humanity's towering problems. "Don't you realize," Jacob asked me, "that this very show you are putting on is a GDP-generating event itself?".

I thought his point was squarely beside the one we were trying to make with our show.

From 1999 until 2016, I worked in advertising, single-mindedly focused on economic growth in monetary terms: growth of sales, growth of revenue, growth of income, growth of business, growth of share prices. In 2009, I received my doctorate under Frank Jacob's auspices about how consumer conversations can help grow brands.

Now, in 2017, I was doing a show that culminated in a requiem for economic growth. What happened? And was Frank Jacob right? Was I doing something dangerous?

2 From Advertising Executive to GDP Critic

In early 2004, almost five years into my career as an advertising executive, I felt like I was done with the possibilities that traditional advertising had to offer: television ads, outdoor, print, radio, online. I had helped manage these formats for notable clients like Vattenfall or Procter & Gamble, but I did not want to continue doing so. Instead, I was getting interested in the power of informal communication between people—aka word of mouth—and thought that a doctorate in this space might give me a leg up when it came to understanding how marketing could evolve. I turned to my Alma Mater, ESCP Business School, and met Frank Jacob. He took me on as one of his first doctorate students, and our relationship turned out to be as productive as it was amicable. I worked through my doctorate with him while consulting freelance and then joining a start-up in the then emerging field of "Word-of-Mouth Marketing." In 2009, I had two accomplishments to celebrate: At ESCP Business School, I received my doctorate, and for our word-of-mouth marketing company, I had managed to win over my old client P&G to commit to a long-term collaboration. It was an exciting time. We went on to have 200 employees all over Europe, and we built a company that we were proud of.

My passion for word-of-mouth marketing, however, began losing steam in early 2012. I felt that a life well-lived should not only be about helping this shampoo brand or that floor cleaner franchise gain 1.5% more market share. A voice inside my head said that I might not want to help move plastic bottles off supermarket shelves for the rest of my life. Yet I was still locked into the need for growth: It took us another four years to sell our company to the Bertelsmann group, providing me with a tidy share of growth in my bank account—which I had been waiting for in order to dare to leave in early 2016, finally free to choose a new direction.

But 2016 was not just any year. That summer, the Brits voted for Brexit, which made me sad. That same year, the new xenophobic right-wing party AfD was on the rise in Germany, which made me sadder still. And then in November, Donald Trump got elected President of the United States of America. That did not just make me sad. It made me stop in my tracks and ask: "What is going on in the world that this has become possible?".

Luckily, I wasn't alone with these concerns. All around me, former marketing colleagues were planning meetings and debating what types of campaigns to create—to remind people that our system was good, that we all had good lives, and that no one should vote for right-wing extremists. To me, all of it felt like it was ignoring the actual problem. I was convinced that nobody voted for Trump or the AfD because they had forgotten how good their lives were. Deeper and very real problems were driving this, and I had to find out what they were. More importantly, I had no excuse not to try—most people had families to support, deadlines to meet, mortgages to pay. I was free: I had enough savings to last for a while and at the time neither a family nor a relationship. I could explore, search, and ask questions. So rather than looking for a new job in early 2017, I went on a year-long exploration of the political unease that seemed to be permeating our world. Developing the show that had upset Frank Jacob was part of that process.

At the end of 2017, I had developed a basic understanding of three central issues. I saw most of them from the vantage point of my home country, Germany, but many seemed just as applicable (with some modification) to the rest of the "global north."

2.1 Issue I: Single-Minded Focus on GDP Growth

The Club of Rome had started saying this publicly in 1972 (Meadows et al., 1972). Their predictions turned out to be accurate, and a growing number of researchers and academics have joined them over the years: Our economic systems and policies, designed to constantly increase material output, are at odds with the realities of our limited planet—and with the realities of our societies. After World War II, when the world was in tatters, it may have made sense to work toward powerful increases in consumption and production. We needed to lift ourselves out of the mayhem, and GDP growth seemed to be a useful yardstick to help guide this process. But we made a critical error: We forgot to include a *kill-switch*, acknowledging growth to be a means to an end, not the end itself. It needs to take us someplace where we can eventually *arrive* (Trebeck & Williams, 2019). But we did not devise and implement a collective mechanism at which we would jointly declare:

> *The volume of our economies is now such that our systems can move into post-war phase 2, marked by a steady-state, so we can all live long and prosper and make sure our planet can support us and our lifestyles.*

We assumed the resources of our planet were indefatigable, and that we needed the growth promise to pacify unfairly unequal societies. So we implicitly labeled the growth idea as *a goal without end* and neither bothered to design nor enter phase 2. As a result, more than seventy-five years after World War II, we continue running our systems as though we have just been through a world war and everything is shattered—despite all evidence pointing to the dire need for a different course of action.

Across Europe, the GDP-growth reasoning has been institutionalized on every level of the political system, all the way to the design of the Maastricht Treaty, which makes GDP growth a de-facto obligation for any member state of the currency union (Fioramonti, 2017, p. 52). Put simply: We hardwired a post-crisis approach to recovery from the devastation of World War II into the institutions and laws of our world, making it permanent. As a result, we created the mindsets that snugly fit this logic—in business schools, economics classes and across popular media. In this process, we morphed "post-crisis survival mode" into "required standard operating procedure." And since there is no evidence that "green growth" or "decoupling" can work (limited decoupling effects can be observed in energy consumption, but to a much lesser extent than we need, and none exist in the consumption of nature; see Spangen et al., 2019), the consequence is this: Our economies are currently designed to eat up our world, they have come very far in doing so, and they are constantly increasing their pace.[1]

2.2 Issue II: Stripping Away of Government Responsibility

Alongside the GDP-growth focus, a second powerful notion had been shaping our economic and social policies: The Cold War incentivised the careful design and creation of social welfare systems in the "capitalist Western world." But it only worked as long as the Soviet Block existed—communism provided a competing system, after all, which offered a different set of answers when it came to defining and ensuring equality and prosperity for all.

To give an example of how this played out: When the (then West-)German constitution ("Grundgesetz") was written in 1949, a clause was included that can be translated as "the ownership of property entails responsibility:"[2] Those who own a lot also need to carry a larger share of the burden of keeping our society intact. It can be confidently assumed that this clause was included under the impression of a very different German societal design that was being implemented only a few kilometers further east, the potential attractiveness of which was still under discussion. But when some thirty years later Keynesianism hit its bumps in the road, and another decade after that the Cold War was over and the "End of History" was proclaimed (Fukuyama, 1992), all incentives to maintain well-functioning welfare systems seemed to be falling away. Instead, a thirty-year project was launched in the 80s which stripped the responsibility that the state has to its citizens' well-being down to a much narrower notion: Government must make sure that enough jobs are created in order to avoid unemployment. The rest will sort itself

[1] For an extensive exploration of the range of problems associated with GDP growth, see also Jackson (2017). Interestingly, the book began its existence as a report to the UK government on how to achieve sustainable growth.

[2] Grundgesetz für die Bundesrepublik Deutschland, Art. 14.

out. Therefore, we ideally need less government, less state, less taxes, and more companies that are free to grow, and grow globally, to create jobs without fail. This watering down of responsibility for the fates of those less fortunate to the simple idea that the growth paradigm will take care of everything, undoubtedly heavily contributes to the full array of social problems we are facing today—including, but not limited to, outrageous income and wealth differences, the gig economy, underpaid care workers, contract staffers working outside the established social net and protection, the shifting of jobs to other parts of the world, and so forth. These problems are very real; and they are driving extremist activity at the voting booth, on the Internet, and—increasingly—on the streets.

And yet, if I was to quote the line from the German constitution about ownership and responsibility at a dinner party of the rich and famous, I would probably be yelled at about taxation and communism and most likely thrown out of the room. Or at the very least, laughed at and ignored.

2.3 Issue III: Humanity's Impossible Relationship with the Natural Systems

Whether it was the effects of Christianity, the results of the Enlightenment, or any other school of thought pushing us, the third crucial concept rose much before Milton Friedman's Chicago Boys redesigned Chile under Pinochet or before we began our overreliance on GDP growth. At some point, mankind began perceiving itself as distinctly different from the rest of life on Earth. We began talking and thinking about us *vs.* the environment (Göpel, 2020, p. 39 f). We mentally and conceptually left the planet and its boundaries governing the conditions for life—which our very existence is inexorably linked to.

A deep irony lies in the scary stories we enjoy telling in the cinema or in our sci-fi literature about imagined alien races that travel the universe to ravish each habitable planet until extinction, and then to move on to the next. On our own planet, we, the human race, are behaving exactly like those aliens. Yet myopically, we are only capable of executing the first part of the strategy, while we are not at all able to move everyone to the next habitable planet once this one is spent. Seen in that context, the activities of hyper-capitalist men and women—who first build empires to ravish the planet, and then build their spaceships to travel to the next, by themselves—take on an entirely new and unimaginably cynical significance.

Based on this imagined exceptionalism in terms of our relationships with the world that we inhabit, we have been able to design consumption arrangements that separate us as far as possible from the world that we need to live. Through this design, most of us in the global north cannot witness the effects of our economic activity on the Earth and on the life that inhabits it, which makes it incredibly easy for us to simply not take an interest in any of it, or to outright deny the existence of these effects. My latest fast-fashion outfit looks neat and clean while I cannot see the devastation it causes being made,

shipped, and sold. The steak I consume tastes wonderful while I don't feel the destruction that bovine elevation causes worldwide. And while I am happily looking at neat charts of the rising stock portfolio on my computer screen, I cannot assess how much devastation each point increase means for our shrinking earthly resources. It is all hidden from my eyes. We have managed to veil destruction as consumption and the pursuit of extinction as our "right to choose." (For the popularization of "the right to choose" through television; see Brandes, 2015.)

2.4 A Perfect Storm

The most publicly discussed outcome of all of this is probably the climate crisis, in which the three mentioned problems coalesce into a perfect storm. But other, more deadly threats are looming just as large—most particularly, the destruction of our worldwide ecosystems and the on-going global biodiversity loss, which scientists consider to become the most likely cause of the extinction of our own species as well (UN Report, 2019). Today, a growing consensus is forming among those academics that do understand the effects of what we are doing to our natural systems (O'Neill et al., 2018). We are on a path that will—unless we make very radical changes very fast—most likely spell the end of our civilization on this earth a lot sooner than many people can and would like to imagine—well within this century, quite possibly within my lifetime.

During the very same decades that we should have spent refurbishing our economic and social systems, to move into a post-growth steady-state era and jointly build a sustainable no-carbon world, we have continued on the most obsessive growth expansion that could be imagined—with half of humanity's historical fossil-fuel emissions having occurred since the late 1980s (Boden & Marland, 2017). And in the process, we have taught the entire globe that the only reliable sign of a well-developed society is to be one that continues to increase its material output.

Once this triple package of calamities and their effects had presented itself to me, I felt powerfully overwhelmed. Up until this point, I had spent my life with the vague yet powerfully entrenched notion that things would be all right, overall, and that mankind was on the right track. It turned out that nothing could be further from the truth. The track we are currently on is swiftly leading us into a place where no one wants to be—but where we will end up fairly quickly if we don't manage to execute a large number of significant U-turns.

All of this has been on my mind since late 2017. It very much was in early 2021 when I received the kind invitation to contribute a text to this book. My question for the rest of the piece is the same question I have been asking myself since then:

- What does it mean for us as individuals when we realize that the foundations of our established world are in dire risk of being torn away—by us ourselves, "The Aliens," in the process of consuming what is left of the eco-systems that make this world inhabitable?

What is the role of the marketing academic and practitioner, at such a juncture in the history of our world, and of humanity? Is this not the time when we must let "normal" science go? We seem to be at a breaking point of pretty much every paradigm that governs our established civilization and, by extension, the science and art of marketing—which is both so firmly embedded within and instrumental for enabling that self-destructive civilization. What is there to do, at this point in time, if one wants to be part of the solution?

3 Searching For A Path

Marketing is a lot of different things: Setting prices. Deciding where and when to try and sell, and where and when not to. Feeding those thoughts that a customer expresses about a product back into the production process and ensuring that this feedback materializes in an improved version of said product, or in the next solution tailored to that or another customer. Understanding the zeitgeist and how a company's offering can prosper within that zeitgeist. Designing an advertisement and understanding how Facebook's algorithm teaches the marketer what to change about the advertisement to better reach her goals. This list could go on for a very long time.

But if we boil it all down to what marketing is ultimately trying to achieve, then in my experience—as someone who has primarily seen the practical side of it, both in the B2C and in the B2B space—it is always this:

- Both finding solutions and telling stories to ensure that one more client buys, buys again, and buys more.

Sustainability as a concept has been discussed in marketing circles, of course. Notions of the sort have been hinted at as early as fifty years ago when Kotler suggested to forego short-term consumer satisfaction in favor of "long-run consumer welfare" (Kotler, 1972). Since then, a significant amount of thought has been put into rethinking the marketing process in order to make it more sustainable (Murphy, 2005). But thought is not necessarily action, and respective action is all too often marginally focused on appearance rather than centrally concerned with the very nature of the business in question. So despite all the progress that has been made, the big picture—the paradigm—remains unchanged: If a school of marketing existed that works towards clients buying no more than the *same amount* or *less than before*, then this school of marketing has not yet crossed my path.

This leads to a conundrum: We now know that the continued existence of our species is dependent on our ability to *reduce* the amount of nature which we consume.

Yet the marketing discipline is still mostly geared toward ensuring its *increase*.

If marketing wants to continue doing *meaningful* work against this background and accept that the discipline of marketing is part of a society that needs to exist within its planetary boundaries, then the results are two alternative consequences. Either we decide

that the practice of marketing needs to be disassembled and find its end. Or we change the above summary of the objective of marketing to something like this:

- Both finding solutions and telling stories to ensure that any potential client will remain capable of buying in the future.

In other words, as the paradigm of twentieth century exploitative economics is quickly destroying itself and us in the process, marketing has a total of three choices: Actively participate in that destruction, decide to abolish itself, or pivot to a truly meaningful understanding of what sustainability is—and then help make that economic sustainability become a planetary reality.

The tools that marketing has at its disposal are solutions and stories. I have been an advertising man throughout most of my career, overwhelmingly as a practitioner (despite my brief foray into academia under Frank Jacob's tutelage), and as such I will hopefully be forgiven for lumping everything "that is not stories" together as "solutions." I know precious little about how to redesign production processes such that it reduces their CO2 footprint, or how to rejig distribution channels such that consumers buy only when they *need* to buy, and not when they *can*. But I have spent some time studying how and why we tell ourselves stories about and around products, services, and companies.

This is where my writing takes a sharp turn—moving away from global considerations and sweeping generalizations. I do not have the hubris to suggest any precise plan for what to do next. The only thing I have, for now, are the attempts and experiences I have been through since that pivotal American election that upended my life in late 2016. Since then, I have spent six years on a journey trying to understand how stories might help us become part of the solution. Allow me, in the remainder of this essay, to focus on what I have seen and learned working on these stories—a mere glance at some of my uncertain attempts at searching for answers, without any claims to completeness or reliability.

4 Three Attempts at Moving Forwards

4.1 Exhibit 1: "vollehalle"

Early in 2017, I met Kai Schächtele, a journalist and writer. For a documentary, Kai had traveled to Paris in 2015 where had personally felt the epochal wind of change blowing through the halls of the Climate Conference—as 197 nations agreed to limit the heating of the atmosphere to a maximum of 2.0 °C, and possibly to 1.5 °C. He returned to Germany impressed by the energy, passion, and expertise of the remarkable people he had met and seen in Paris: NGO representatives, delegates from all corners of the earth, experts and consultants—thousands of engaged and inspiring human beings. He was convinced that their capabilities, their solutions, and their remarkable work deserved the

kind of mediated storytelling that would introduce them to wider audiences. It is hard to overstate his disappointment when he returned with these stories and found nothing but closed doors as he attempted to pitch them to German media outlets. There seemed to be a consensus that stories about climate change—regardless how inspiring—were not what audiences wanted. Meanwhile, governments around the world seemed to avoid acting on anything that had been decided in Paris. The German government under Angela Merkel—who had once, years ago, been optimistically labeled "Climate Chancellor"—was, painfully ironically, *leading the pack* when it came to inactivity. To be more precise, Merkel was continuously accepting or including "pro fossil" positions and proponents inside her government, and the disastrous policies that came with them.

I myself was still shell-shocked by the American election, wondering what to do. After a few weeks of deliberation, Kai and I decided to take to the stage together. We both enjoy speaking in front of a crowd, and we did not want to design yet another media project that begged for clicks on the Internet. Instead, we opted for the tangible hand-to-hand experience of a real crowd in front of us, with whom we would share all of the above.

The first vollehalle show was a two-hour marathon, a mix between reading, speech, TED talk, multimedia experiment, and a thinly veiled rant. It was our attempt to come to terms with the predicament humanity is in by covering the central issues as well as the solutions and the remarkable people that fought for them, all in front of 200 people in the audience (we had managed to sell out the room). The show culminated in the scripted discussion I had with the Tim Jackson video, and which had so grated on Frank Jacob's notions of what was responsible and what was not.

Over the course of 2018, we experimented with the format, trying to make the show more urgent, sharper, shorter—and we were failing miserably. Back then, our slogan was "vollehalle—entertainment for a different world." After one particularly flawed performance, Kai had a conversation with a person in the audience—someone he had invited, hoping to impress her with our work. She told him flatly, "That's supposed to be entertainment? I walked out more depressed than I came in." And so we failed our way into late 2018, when two colleagues, Michael Bukowski and Maren Kling, joined us. As a foursome, we did our first show at the large Berlin conference *re:publica* in May 2019, and this version of the show finally worked for the audience, snow-balling into a small German tour: fifteen performances across the country, with a combined viewership of around 2,500 people. The fact that the Fridays for Future movement under Greta Thunberg's leadership had sprung up in the meantime clearly worked in our favor—these courageous teenagers had made it clearer than anyone else that the issue needed to be on everyone's agenda.

We slowly began developing a first understanding of how to speak about the climate emergency in a way that *was* entertaining and inspiring: We made fun of ourselves, of relevant and accurate German stereotypes and tropes (such as the 'economic miracle' or the fetishisation of the automobile), but we also offered practical hands-on solutions—we celebrated people who were pioneering work against the climate crisis, and whom

people could join or follow, be they bicycle activists, CO2 tax proponents, or climate-activist lawyers. Our show told audiences that the problem was dire, but that courageous and inspiring people were working on solutions we all could latch onto and make part of our lives. After working on vollehalle for two years, we finally did manage to provide entertainment that inspired.

However, we realized towards the end of 2019 that while we had a show that gave people inspiring ideas for everyday life, we had dialed back the debate about the underlying systems that our societies are running on. But the climate crisis will not be addressed by installing a few more wind turbines and cutting down on meat consumption. It is nothing more than the most urgent indictment of an economic system that systematically encourages us to live beyond the means of this earth. If we wanted to do the problem justice, we had to get back to the systems level. Over the 2019/2020 winter, we worked on an entirely new concept, centered around the critical element that is currently failing in society, but which is crucial for progress: honest and earnest dialogue between two antagonists in the societal struggle around the climate crisis. We enriched the conversation with little lectures about paradigm shifts and what they ask of us, with information about the state of the climate emergency, with a caricature of a lobbyist pursuing his own selfish goals, and with videos of people who work towards real solutions. And we were convinced: With this show, 2020 was going to be our breakthrough year. It premiered on March 6th 2020 at Futurium, a Berlin venue owned and operated by the German Ministry of Education and Research. We were joined on stage by celebrity pianist and musician activist Igor Levit, who contributed four darkly compelling pieces to our show that night. But then, after two gigs in the following week, the Covid pandemic shut us down. Since then, we have conducted a few experiments with online formats, but we have been able to do only two more live performances (in September 2020 and in September 2021).

For the fifth version of the show, we are combining all that we have learned, working for the first time with an established theater director. We are hoping that after the pandemic, we can pick up where we left off in early 2020.

4.2 Exhibit 2: "Wellbeing Economies Film"

While we were developing the initial version of vollehalle, I attended the first Summer Academy of the "Netzwerk für Plurale Ökonomik," a student initiative that tries to push the economics discipline towards a more heterogeneous approach. Their website describes the background to their mission:

> *In their education, young economists are usually taught only one way of thinking—neoclassical model economics. Afterwards, doctoral students, postdocs, and professors of economics are also subjected to much pressure to conform. In this way, the search for solutions to specific societal problems is pushed into the background, in order to retain a sheen of mathematical objectivity and an exaggerated dogmatism. This is not only an internal problem of an academic discipline, but it also affects all of society, i.e. all people, through expert opinions and economic policy recommendations from economists to politicians.*

I was surprised to discover the extent to which the discipline of economics seems to be an outlier among the social sciences, in that its majority appears to refuse a truly critical exchange between *different* schools of thought, preferring dominance by a single one of them, pushing the others to the side.

My most ground-breaking encounter at the Summer Academy was with the professor who taught my "Prosperity Economics" module, Katherine Trebeck, a political economist and researcher with Oxfam GB at the time. Focussing on the GDP as the world's "central yardstick," she showed us during the week how the measurements we use impact the outcomes we create, and how the dominant concept of "growing the GDP," as the central tenet for economic policy around the world, is no longer serving us and rather doing the opposite. She explained how new and better measures for progress were needed, and already widely available.

I had grown up a citizen of post-war "economic miracle" Germany, and—until preparing the vollehalle segment with Tim Jackson a few weeks earlier—I had never engaged with the notion that what we celebrate as economic growth every year might be anything but beneficial. Katherine's workshop was eye-opening in many respects, and what inspired me most was a very concrete project she was working on: Getting a group of governments to join forces in a new alliance, an anti-G7 initiative of sorts, which would shift its focus away from GDP growth, and towards measurements that actually matter, assessing and addressing the wellbeing of people and planet. The working title was "WE7," i.e. "Wellbeing Economies Seven." The project struck me as an amazing David vs. Goliath tale that I felt needed to be told.

Five months later, in January 2018, I founded a small film production company, designed to find, develop and tell stories for change. Only days after we had begun operating, Katherine told us exciting news about her project: In March 2018, a first summit was going to take place in Ljubljana, Slovenia, with Scotland and Costa Rica completing the trio of founding members. The three countries would sign the Ljubljana Declaration about becoming "Wellbeing Economies" and tell the world how they intend to shift the focus of their economic policies, based on alternative measurements. But this was not all. An ally of Katherine's in the creation of this alliance, the man who had originally come up with the idea of putting together an alternative summit, was now taking his "post-GDP ideas" into politics on a very different stage. Lorenzo Fioramonti, an Italian-born Professor of Political Economy in Pretoria, South Africa, had been invited by the controversial "5 Star Movement" in his home country Italy, to run for office in the 2018 Italian election, and potentially become a Minister in the next Italian government.

I could hardly contain my excitement. With my colleague Nick Scholey, who had joined my company as a camera operator and editor, I decided that we would make a documentary film about this—about the ambitious political projects these two people were pursuing. Neither of us had ever made a documentary, but we decided we would learn how along the way.

Three and a half years later, we had ten terabytes of footage: Of Lorenzo's political battles in the tumultuous Five-Star-Lega government, which eventually fell apart—and then of his brief stint as a Minister for Education, in the "Conte 2" Government that followed. And of Katherine traveling around the world, helping save the Wellbeing Economies Government project, after the summit in Ljubiljana was canceled at the last minute. Since the early summer of 2020, I have been editing the film, trying to wrestle all of that footage into a shape that audiences can understand and follow and hopefully feel inspired by. Gladly, we have found an established film production company that is helping us, and I am very hopeful that the film will see the light of day in early 2023. Ironically, a realisation which I have been accepting only hesitatingly is that my marketing background may be of use when it comes to promoting the film.

4.3 Exhibit 3: "Zeichenwende"

There is a common thread that unites the above projects and many conversations I have been having about effecting change: our experience of life is powerfully framed by underlying foundational stories, narratives, and paradigms that we are mostly unaware of. The most fundamental challenge to any changing of a social paradigm is its *invisibility* to most people in everyday life. Rather than seeing a piece of *theoretical* scaffolding that helps provide meaning and direction as strictly what it is—a once potentially helpful but always malleable artificial construct—many will perceive "laws of nature" instead: "This is how the world works."

I had experienced this first hand. Growing up in my professional life, I had learned that a city's administration needed to be *efficient*, that entrepreneurship needed to be *free* to *create monetary value*, and that everyone needed to become their own *brand* to *succeed* in the *marketplace*.

Once you have been told these things frequently enough, over a sufficiently long period of time, the room for imagination regarding these concepts diminishes, fades; it ultimately disappears. Imagining alternative frames—that a city administration needed to make sure people had *good lives*, that free unencumbered entrepreneurship was useful *only up to a point*, and that everyone primarily needed to live *meaningful lives*—becomes increasingly impossible.

Jacques Chlopczyk is a psychologist with an unusual appetite for stories that question unquestioned paradigms (Chlopczyk, 2017). When we began talking in early 2021, I realized that he knew about the influence of narratives in ways that could significantly broaden my horizon. And we also found that my marketing training allowed me to dig into these stories in ways that helped us find the core, and bring out the most salient themes and ideas. So we turned our conversations into a project that we called "Zeichenwende" (a German wordplay which can roughly be translated as "changing times/changing signs"). We wanted to begin identifying those stories that hold us back as a society, make them explicit, and begin conversations about these deeper foundations of what we think is possible and what we think is not. And then see where that takes us.

Overview

We developed three components of a strategy that might enable people to come to terms with the required changes and deal with the powerful myths and stories that are so entrenched in our world:

1. **Respectful farewell:** The stories of the past had good reasons to exist, they were once justified. This must be acknowledged and celebrated. But these reasons are now fading. This, too, must be acknowledged. And with it comes the time to let go.
2. **A vision of what is to come next:** The new is not yet in the world—but we need to make it plausible, attainable, attractive, and desirable. Therein lies a balancing act and an art.
3. **A new "we":** Despite all the uncertainty about the future, one thing is abundantly clear: we can only achieve the future together, eventually everyone needs to be a part of it. So we must fuse liberal individualism and a new common public spirit, in an inviting new way. And, just as importantly, we must include the entire living world within this "we"—in order to finally acknowledge our shared fate on this Earth.

One of the stories that we identified as in need of a farewell was the "lonely hero/self-made man" (Swansburg, 2014):

> *When the Pew Economic Mobility Project conducted a survey in 2009—hardly a high point in the history of American capitalism—39 percent of respondents said they believed it was "common" for people born into poverty to become rich, and 71 percent said that personal attributes like hard work and drive, not the circumstances of a person's birth, are the key determinants of success.*

The US-influenced global cinema is full of this story's icons: John McClane in "Die Hard," Max Rockatansky in "Mad Max," Rocky, Rambo, Dirty Harry, the list is endless. They are all rugged individuals who shape the world around them through sheer force of will, determination, and a disregard for societies' norms and rules. In real life, this story is usually framed in terms of "outstanding achievers" who should be left alone to do their work and not be hindered by the constraints of bureaucracy and politics. Recent pop star incarnations include Steve Jobs and Elon Musk. The foundational idea was to—correctly, of course—point out that individuals can be creative, strong, capable, and efficient, and that a single person can achieve incredible things. But nowadays, against the backdrop of the predicament we find ourselves in, this message is turning into a problem: Our world has become so densely populated and so interconnected that the solo efforts of "men on a warpath" (most often, the corresponding fictional stories focus on men in war or war-like situations) can no no longer serve as blueprints. We need all

voices, all colors, all shapes, all perspectives to work in peaceful commonality and fruitful exchange. Even more so since the notion of "going it alone" is very often fictitious: Those who seem to achieve a great deal "on their own" often have a beneficial family background, patrons, supporters, help from the state and society, or all of the above. And, most importantly, they are often simply just lucky (Gladwell, 2008).

Appreciating and celebrating the achievements of individuals is important for people's confidence in their own strength—so we can feel agency and develop an ambition to take matters into our own hands. But now is the time to bring our interconnectedness, interdependence, solidarity, and diversity to the fore. We need a turn towards the communal and the pluralistic. The Covid pandemic in particular has shown us how much we (want to) live in communities of people; it has reminded many of the extent to which we are social beings. In dealing with the great challenges of our time, we will only be successful if we seek cooperation and common ground—and if we play to the strength that lies in diversity.

4.4 Learning From These Exhibits

It is nearly impossible to succinctly summarize the insight and understanding that these three projects (and about a half dozen more that I have been involved in during these five years) have provided me with—they have changed both who and what I am. For that, I am eternally grateful to everyone mentioned in this piece, and to a whole host of other remarkable people. But I believe I can extract three considerations that will hopefully serve the reader.

Deep-seated lack of imagination at the systemic level Largely thanks to Greta Thunberg and the global Fridays for Future movement, the Overton window—the argumentative space that is considered reasonable for debate and discourse within a given society (Astor, 2019)—is now undoubtedly including a forceful debate about how to tackle the climate crisis in many societies of the global north. (With the most notable exception being the United States of America where a potent mixture of deep-pocketed lobbying and deeply polarized politics has unfortunately turned it into a partisan issue.) However, this does not mean that climate protection efforts are progressing the way they must—far from it. But it does make the issue viable for everyday news broadcasts and for ongoing discussions both in the private and public spheres. What the Overton window does not yet include is a deeper-level critique of the underlying systems. "Anti-capitalist" movements or demands for "system change" are still often considered extremist, unreasonable, and dangerous. This unwillingness to address problems at the systems level seems to stem from a deep-seated lack of "systems imagination"—a surprising creativity shortage most often expressed in an alarmingly simplistic response to demands for fundamental change: "So you want to bring back communism, is that it?" It often strikes me as

confoundingly remarkable that any alternative to our current state of being can only ever be imagined as 'communism' (not denoting the *ideal* of communism, of course, but its misnamed distorted tyrannical offspring which was practiced by the dictatorships of the former Soviet bloc). Sometimes, the theme is varied with critics suspecting the specter of an eco-dictatorship hidden inside the dreams of those who are simply worried about the future. Apparently, most people have lost all ability (or willingness) to think creatively about what kind of society they want to live in, and what that could look like. The world has become a black and white space, where only two options exist: "what we have now" or "communism, i.e. tyranny." This viewpoint, of course, woefully ignores how our current incarnations of capitalism already demonstrate a wide variance of societal and economic designs—easily illustrated if we were to compare, say, Denmark, Chile, and Costa Rica. Or West Germany in 1980 with the united Germany of 2022. If we want to make true progress on climate change, and if we want to tackle the various crises that threaten the on-going wellbeing and welfare of humanity on earth, we need to move beyond this simplistic reluctance and think outside the existing system boxes. A wide variety of ideas and schools of thought abound, and they must find their way into the mainstream of political and public debate.[3]

What we need to say vs. what others need to hear Those who truly dare to acknowledge the multiple crises of our time can easily get distressed by the severity of the situation, and by the alarming consequences that result from it. It is not easy to accept that we may soon be past all points of no return—as a consequence of us continuously doing what we have done comfortably, habitually, for roughly four generations. A common and very understandable reaction is the desire to immediately communicate one's thoughts and feelings of worry, sorrow, or fear to as many other people as possible—to try and alleviate these feelings by sharing, and to hopefully produce an impact, *fast*. Unfortunately, this sentiment—however relatable—is not useful for effecting change. Instead, it puts the desire to relieve one's own distress in the driver's seat, which is not a good starting point for effective communication. In most cases, the recipient is at a completely different stage in their own understanding of the need for change. Often, she or he cannot relate at all to the fear or distress of the other, or, worse still, they may easily feel overwhelmed, strained or put under pressure by it. So rather than making an impact, we are creating conflict instead. Bearing all this in mind is not easy for anyone who wants things to change quickly. But there is no way around it: Urging and fear do not make us persuasive. Those who really want to make an impact should therefore carefully distinguish: What do I *absolutely want to say* because it has to come out, because it is so bothering me, because things are so bad? (These feelings and thoughts belong

[3] See, for instance, the resources center on the Wellbeing Economy Alliance website: https://weall.org/resources

in conversations with good friends and therapists.) And what *does another person need to hear*, so they feel more inclined towards change, and inspired to really get involved? 99% of the time, these two are very different.

The company you keep The most delightful discovery I have made in this half-decade has been the people I have encountered. An interesting mechanism sets in once you decide to focus on this most intractable of all problems. You meet other people who think similarly, and who have taken on the same task. What unites such people is a focus on that which is not themselves. In the current business world, it is easy to become enamored with oneself because success is still, all too often, framed in terms of individual achievement *at the expense of others*—be that on the personal level, through promotions, commendations and salary raises, be that on the company level, with market share won, competitors crushed, and profit gained. Once the survival of our species becomes the focus of one's attention, the focal area shifts to others. It must—otherwise, you will simply end up building a bunker for yourself. As a general rule, the people who live with that different focus are delightful, open, friendly, inviting people; they have to be. (There are exceptions, every now and again. But most of the time, the logic holds.) And that makes living and working in this space a rewarding and entirely coherent experience. We can only make this work if we do so collectively—and the people who understand this are already living and thinking and acting that way.

5 Conclusion

The marketing discipline—both in theory and practice—is both constrained and enabled by the legal and institutional frameworks that govern our societies. In that sense, it is only to be expected that marketing in the aggregate will always optimize outcomes according to the paradigm within which it operates. And as I have pointed out, the currently dominant framework is (GDP) growth, pursuing the limitless exploitation of our planet. However, as I have also pointed out, we are no longer at a stage where we can assume to be conducting "normal science." When our global systems of survival are hanging in the balance, we can safely assume to be up to our ears into a paradigm shift. In such a situation, I consider it incumbent upon every individual within any discipline to reassess his or her role when it comes to making the necessary changes happen—and thereby also changing the discipline, regardless of what institutions, traditional expectations or neighbors might say.

The extent to which our systems are failing us is still largely invisible to most people within our societies. Our economies are designed such that in the global north, they still manage to successfully shield us from most of their destructive effect on the planet and on all ecological and planetary systems which we need to survive—through a combina-

tion of media mechanisms, production logistics, colonialist heritage, taxation logic and shopping systems (two of which at least partially fall under the purview of marketing). That makes changing mindsets very difficult. Entire islands disappearing in the rising tide from the climate crisis are a mere blip in our news shows and Facebook timelines. And we observe hardly anything at all of the outright destruction that the global agricultural, fashion and car industries are inflicting directly and at this very moment, in terms of pollution and destruction of ecosystems. We successfully manage to not look where the chips fall—because they are not quite yet falling in our backyard. As a consequence, even most of the people who *are* beginning to see the need for ambitious climate protection are still far away from the full-on realization that *everything* must change. The term "Great Acceleration" denotes the combined speeding up of all human-made developments that are impacting the earth (Steffen et al., 2015). The curves in all of these areas are growing at an alarmingly increasing pace—but we still manage not to see them because their growth is still slow enough to hardly make itself noticeable within the time span and geography of a single human life in the (currently still moderate and wealthy) habitats of the global north—wildfires and floods notwithstanding. The point when all of the combined impacts will be felt by all of us, too, is coming closer and closer—yet when it is here, it will be too late. All of this has psychological consequences.

In the 1999 film "The Matrix," Morpheus offers Neo a blue pill and a red pill at a pivotal moment in the story:

> *"You take the blue pill, the story ends, you wake up in your bed and believe whatever you want to believe. You take the red pill, you stay in wonderland, and I show you how deep the rabbit hole goes."*

Everyone who takes the red pill, forced to explore the extent of the rabbit hole, never able to turn back to the previous stage of ignorance, must find means to protect themselves from thoughts of doom and outright depression. My personal approach is twofold: On the one hand, I am doing the best I can to cherish the moments of life that I can experience with my partner, her daughter, her dog, and with my friends and family in the here and now. On the other hand, I am increasingly turning toward writing post-apocalyptic fiction. I am currently working on a novel and a screenplay; both deal with what the worst outcomes might mean for us. When I immerse myself in these (still) imagined worlds, I find a sense of peace—probably partly coming from the quiet hope that these stories will one day find audiences, and thereby help shift the debate and thus, reality.

The last time I spoke to Frank Jacob about this was at the vollehalle venue in 2017. A lot has happened since then, in all of our lives. I would be curious to know which of the two pills he took, if any, and how he thinks about these issues today. Maybe I will find out upon the publication of this book.

References

Astor, M. (2019). How the politically unthinkable can become mainstream, New York Times, 26 February (online). https://www.nytimes.com/2019/02/26/us/politics/overton-window-democrat-shtml. Accessed 4 Jan 2022.

Boden, T.A., Marland, G. et al. (2017). *Global, regional, and national Fossil-fuel CO2 emissions. Carbon dioxide information analysis center, Oak Ridge National Laboratory.* U.S. Department of Energy.

Brandes, S. (2015). »Free to Choose«. Die Popularisierung des Neoliberalismus in Milton Friedmans Fernsehserie (1980/90). *Zeithistorische Forschungen/Studies in Contemporary History, 12*(3), 526–533

Chlopczyk, J. (2017). *Beyond Storytelling: Narrative Ansätze und die Arbeit mit Geschichten in Organisationen*. Springer Gabler.

Fioramonti, L. (2017). *The world after GDP*. Polity Press.

Fukuyama, F. (1992). *The end of history and the last man*. Free Press.

Gladwell, M. (2008). *Outliers—The story of success*. Little, Brown and Company.

Göpel, M. (2020). *Die Welt neu denken – eine Einladung*. Ullstein.

Jackson, T. (2017). *Prosperity without growth – foundations for the economy of tomorrow* (2nd ed.). Routledge.

Kotler, P. (1972). What consumerism means for marketers. *Harvard Business Review, 50*(May-June), 48–75

Meadows, D. H., Meadows, D. L., et al. (1972). *The limits to growth*. Universe Books.

Murphy, P. (2005). Sustainable marketing. *Business & Professional Ethics Journal, 24*(1/2), 171–198.

O'Neill, D., Demaria, F., et al. (2018). The EU needs a stability and wellbeing pact, not more growth—238 academics call on the European Union and its member states to plan for a post-growth future in which human and ecological wellbeing is prioritised over GDP, The Guardian, 16 Sep (online). https://www.theguardian.com/politics/2018/sep/16/the-eu-needs-a-stability-and-wellbeing-pact-not-more-growth. Accessed 4 Jan 2022

Spangen, J. H., Kerschner, C., et al.(2019). *Decoupling Debunked. Evidence and arguments against green growth as a sole strategy for sustainability (open access)*. EEB European Environment Bureau. https://www.academia.edu/39819762/Decoupling_Debunked_Evidence_and_arguments_against_green_growth_as_a_sole_strategy_for_sustainability_open_access_. Accessed 4 Jan 2022.

Steffen, W., Broadgate, W., et al. (2015). The trajectory of the Anthropocene: The Great Acceleration. *The Anthropocene Review,* 16 January. https://doi.org/10.1177/2053019614564785

Swansburg, J. (2014). The Self-made man, Slate.com, 29 Sept (online). http://www.slate.com/articles/news_and_politics/history/2014/09/the_self_made_man_history_of_a_myth_from_ben_franklin_to_andrew_carnegie.html. Accessed 4 Jan 2022.

Trebeck, K., & Williams, J. (2019). *The economics of arrival—Ideas for a grown-up economy*. Policy Press.

UN Report (2019). Nature's Dangerous Decline 'Unprecedented'; Species Extinction Rates Accelerating. https://www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report/. Accessed 4 Jan 2022.

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Bibliography of Professor Dr. Frank Jacob

Monographs

Jacob, F. (1995). *Produktindividualisierung. Ein Ansatz zur innovativen Leistungsgestaltung im Business-to-Business-Bereich*. neue betriebswirtschaftliche forschung (nbf). Gabler. https://link.springer.com/book/10.1007/978-3-322-86558-8.

Jacob, F. (2002). *Geschäftsbeziehungen und die Institutionen des marktlichen Austauschs. Business-to-Business-Marketing*. DUV. https://link.springer.com/book/10.1007/978-3-663-10151-2.

Jacob, F. (2009). *Marketing: Eine Einführung für das Master-Studium*. W. Kohlhammer.

Edited Books

Kleinaltenkamp, M., Fließ, S., & Jacob, F. (1996). *Customer Integration. Von der Kundenorientierung zur Kundenintegration*. Gabler. https://link.springer.com/book/10.1007/978-3-322-82511-7.

Kleinaltenkamp, M., Plinke, W., Jacob, F., & Söllner, A. (2006). Markt- und *Produktmanagement. Die Instrumente des Business-to-Business-Marketing*. Gabler. https://link.springer.com/book/10.1007/978-3-8349-9050-1.

Kleinaltenkamp, M., Plinke, W., Geiger, I., Jacob, F., & Söllner, A. (2011). *Geschäftsbeziehungsmanagement. Konzepte, Methoden und Instrumente*. Gabler. https://link.springer.com/book/10.1007/978-3-8349-6928-6.

Fließ, S., Haase, M., Jacob, F., & Ehret, M. (2015). *Kundenintegration und Leistungslehre. Integrative Wertschöpfung in Dienstleistungen, Solutions und Entrepreneurship*. Springer Gabler. https://link.springer.com/book/10.1007/978-3-658-07448-7.

Journal Articles

Plötner, O., & Jacob, F. (1996). DIN ISO 9000–9004 und die Auswirkungen für das Marketing im Business-to-Business-Sektor. *io Management Zeitschrift, 65*(9), 59–64.

Kleinaltenkamp, M., Jacob, F., & Leib, R. (1997). Outsourcing kaufmännischer Dienstleistungen. *Information Management, 12*(1), 65–72.

T. Aichner (ed.), *Serving the Customer,* https://doi.org/10.1007/978-3-658-39072-3

Jacob, F., & Bogajewskaja, J. (2000). Prozesskostenrechnung im Projektgeschäft. Ein Instrument zum Controlling der Kundenintegration. *Controlling, 12*(12), 585–592.

Kleinaltenkamp, M., & Jacob, F. (2002). German approaches to business-to-business marketing theory: Origins and structure. *Journal of Business Research, 55*(2) 149–155.

Jacob, F. (2003). Kundenintegrations-Kompetenz Marketing. *ZFP, 25*(2) 83–98.

Jacob, F. (2006). Preparing industrial suppliers for customer integration Industrial. *Marketing Management, 35*(1), 45–56

Jacob, F., & Ehret, M. (2006). Self-protection vs opportunity seeking in business buying behavior: An experimental study. *Journal of Business & Industrial Marketing, 21*(2), 106–117

Jacob, F., & Ulaga, W. (2008) The transition from product to service in business markets: An agenda for academic inquiry. *Industrial Marketing Management, 37*(3), 247–253

Jacob, F., & Sievert, J. (2010). Kundenintegration—Der Vertrieb als strategisches. *Instrument Marketing Review St. Gallen 27*(1), 26–31.

Fandel, G., Fließ, S., & Jacob, F. (2011). Editorial. *Z Betriebswirtsch, 81*(1). https://doi.org/10.1007/s11573-011-0484-5.

Fliess, S., Jacob, F., & Fandel, G. (2011). Von der Kundenintegration 1.0 zur Kundenintegration 2.0 – Implikationen für Praxis und Forschung. *Z Betriebswirtsch, 81*(5). https://doi.org/10.1007/s11573-011-0485-4.

Jacob, F., & Bruns, K. (2012). Value in Context-A Resource-Dynamical Perspective. *Journal of Macromarketing, 32*(4), 443.

Jacob, F., & Oetting, M. (2012). Kundenpartizipation als Auslöser von Mundpropaganda. *Betriebswirtschaftliche Forschung Und Praxis, 64*(5), 544–561.

Jacob, F. (2013). Solutions Buying — Herausforderungen für die Kaufverhaltensanalyse in Industriegütermärkten. *Marketing Review St. Gallen 30*(4), 26–35 https://doi.org/10.1365/s11621-013-0254-6.

Plötner, O., Lakotta, J., & Jacob, F. (2013). Differentiating market offerings using complexity and co-creation: Implications for customer decision-making uncertainty. *European Business Review, 25*(1), 65–85.

Wilken, R., Jacob, F., & Prime, N. (2013). The ambiguous role of cultural moderators in intercultural business negotiations. *International Business Review, 22*(4), 736–753.

Bruns, K., & Jacob, F. (2014). Value-in-Use Und Mobile Technologien. *Wirtschaftsinf, 56,* 381–393. https://doi.org/10.1007/s11576-014-0437-z.

Bruns, K., & Jacob, F. (2014). Value-in-Use and Mobile Technologies. *Business & Information Systems Engineering, 6,* 349–359 https://doi.org/10.1007/s12599-014-0349-x.

Jacob, F., & Bruns, K. (2014). Vom Produkt-Marketing zum Marketing für Mobile-Use-Leistungen. *Marketing Review St. Gallen, 31*(5), 14–21 https://doi.org/10.1365/s11621-014-0399-y.

Jacob, F., Kleipaß, U., & Pohl, A. (2014). Nature and role of customer satisfaction in the solution business. *European Management Journal, 32*(3), 487–498.

Reichelt, J., Sievert, J., & Jacob, F. (2014). How credibility affects eWOM reading: The influences of expertise, trustworthiness, and similarity on utilitarian and social functions. *Journal of Marketing Communications 20*(1–2), 65–81.

Aichner, T., & Jacob, F. (2015). Measuring the degree of corporate social media use. *International Journal of Market Research 57*(2), 257–276.

Bruns, K., & Jacob, F. (2016). Value-in-Use: Antecedents, Dimensions, and Consequences. *Marketing: ZFP – Journal of Research and Management, 38*(3), 135–149.

Petri, J., & Jacob, F. (2016). The customer as enabler of value (co)-creation in the solution business industrial. *Marketing Management, 56,* 63–72.

Aykac, T., Wilken, R., Jacob, F., & Prime, N. (2017). Why teams achieve higher negotiation profits than individuals: The mediating role of deceptive tactics. *Journal of Business & Industrial Marketing, 32*(2), 567–579.

Dinkevych, E., Wilken, R., Aykac, T., Jacob, F., & Prime, N. (2017). Can outnumbered negotiators succeed? *The case of intercultural business negotiations, International Business Review, 26*(3), 592–603.

Petri, J., & Jacob, F. (2017). Hunting for value: How to enable value-in-use? *A Conceptual Model. Journal of Creating Value, 3*(1), 50–62. https://doi.org/10.1177%2F2394964317694780.

Hartwig, K. L., & Jacob, F. (2018). How individuals assess value-in-use: theoretical discussion and empirical investigation. *Marketing: ZFP – Journal of Research and Management 40*(3), 43–59

Sebald, A. K., & Jacob, F. (2018). Help welcome or not: Understanding consumer shopping motivation in curated fashion retailing. *Journal of Retailing and Consumer Services, 40,* 188–203.

Schätzle, S., & Jacob, F. (2019a). Stereotypical supplier evaluation criteria as inferred from country-of-origin information. *Industrial Marketing Management, 78,* 250–262.

Schätzle, S., & Jacob, F. (2019b). Will a supplier's origin make a difference to its business customers? *Industrial Marketing Management, 87,* 196–207.

Sebald, A. K., & Jacob, F. (2019). What help do you need for your fashion shopping? A typology of curated fashion shoppers based on shopping motivations. *European Management Journal, 38*(2), 319–334.

Raithel, S., Jacob, F., & Benkenstein, M. (2020). Tuning the sounds of service: Essays in honour of Michael Kleinaltenkamp. *SMR-Journal of Service Management Research, 4*(2–3), 70–74.

Aichner, T., Coletti, P., Jacob, F., et al. (2021). Did the volkswagen emissions scandal harm the "Made in Germany" image? A cross-cultural, Cross-Products. *Cross-Time Study. Corporate Reputation Review, 24*(4), 179–190. https://doi.org/10.1057/s41299-020-00101-5.

Bulawa, N., & Jacob, F. (2021). More than a snapshot: Dynamic value-in-use emergence in e-services. *Electron Markets*. https://doi.org/10.1007/s12525-021-00502-2.

Hartwig, K., von Saldern, L., & Jacob, F. (2021). The journey from goods-dominant logic to service-dominant logic: A case study with a global technology manufacturer. *Industrial Marketing Management, 95,* 85–98.

Hartwig, K., & Jacob, F. (2022). Capturing marketing practices for harnessing value-in-use. *Journal of Marketing Theory and Practice, 30*(2), 137–153.

Book Chapters

Kleinaltenkamp, M., & Jacob, F. (1995). Gestaltung des Leistungsprogramms. In M. Kleinaltenkamp & W. Plinke (Eds.), *Technischer Vertrieb*. Springer. https://doi.org/10.1007/978-3-642-97616-2_11.

Weiber, R., & Jacob, F. (1995). Kundenbezogene Informationsgewinnung. In M. Kleinaltenkamp, & W. Plinke (Eds.), *Technischer Vertrieb*. Springer. https://doi.org/10.1007/978-3-642-97616-2_8.

Fließ, S., & Jacob, F. (1996). Customer Integration – Was ändert sich im Marketing?. In M. Kleinaltenkamp, S. Fließ, & F. Jacob (Eds.), *Customer Integration*. Gabler. https://doi.org/10.1007/978-3-322-82511-7_2.

Jacob, F. (1996a). Business Reengineering und Customer Integration. In M. Kleinaltenkamp, S. Fließ, & F. Jacob (Eds.), *Customer Integration*. Gabler. https://doi.org/10.1007/978-3-322-82511-7_13.

Jacob F. (1996b). Produktindividualisierung als spezielle Form des Dienstleistungsmarketing im Business-to-Business-Bereich. In M. Kleinaltenkamp (Eds.), *Dienstleistungsmarketing. Konzeptionen und Anwendungen* (S. 193–223). Gabler.

Plötner, O., & Jacob, F. (1996). Customer Integration und Kundenvertrauen. In M. Kleinaltenkamp, S. Fliess, & F. Jacob (Eds.), *Customer Integration: Von der Kundenorientierung zur Kundenintegration* (S. 105–120). Gabler.

Jacob, F. (1998). Auftragsmanagement. In M. Kleinaltenkamp & W. Plinke (Eds.), *Auftrags- und Projektmanagement*. Springer. https://doi.org/10.1007/978-3-642-71938-7_1.

Jacob, F., & Plötner, O. (1998). Prozeßorientiertes Kommunikationsmanagement (ProKom). In M. Kleinaltenkamp & M. Ehret (Eds.), *Prozeßmanagement im Technischen Vertrieb. VDI-Buch*. Springer. https://doi.org/10.1007/978-3-642-58868-6_5

Kleinaltenkamp, M., & Jacob, F. (1999). Grundlagen der Gestaltung des Leistungsprogramms. In M. Kleinaltenkamp & W. Plinke (Eds.), *Markt- und Produktmanagement*. Springer. https://doi.org/10.1007/978-3-642-58256-1_1.

Weiber, R., & Jacob, F. (2000a). Kundenbezogene Informationsgewinnung. In M. Kleinaltenkamp & W. Plinke, W. (Eds.), *Technischer Vertrieb* (S. 509–596). Springer. https://doi.org/10.1007/978-3-642-57165-7_7.

Jacob, F., & Kleinaltenkamp, M. (2004a). Herausforderungen bei der internationalen Vermarktung von Service-to-Business-Leistungen. In M. A. Gardini & H. D. Dahlhoff (Eds.), *Management internationaler Dienstleistungen*. Gabler. https://doi.org/10.1007/978-3-663-10714-9_7.

Jacob, F., & Kleinaltenkamp, M. (2004b). Deutschsprachige Ansätze für eine Industriegütermarketing-Theorie. In K. Backhaus & M. Voeth, M. (Eds.), *Handbuch Industriegütermarketing*. Gabler. https://doi.org/10.1007.

Jacob, F., & Kleinaltenkamp, M. (2004c). Leistungsindividualisierung und -standardisierung. In K. Backhaus & M. Voeth (Eds.), *Handbuch Industriegütermarketing*. Gabler. https://doi.org/10.1007/978-3-322-91260-2_23.

Kleinaltenkamp, M., & Jacob, F. (2006). Grundlagen der Gestaltung des Leistungsprogramms. In M. Kleinaltenkamp, W. Plinke, F. Jacob, & A. Söllner (Eds.), *Markt- und Produktmanagement*. Gabler. https://doi.org/10.1007/978-3-8349-9050-1_1.

Jacob, F., & Oguachuba, J. S. (2008a). Transaktionsbezogenes Marketing für Gründungsunternehmen. In J. Freiling, & T. Kollmann (Eds.), *Entrepreneurial Marketing*. Gabler. https://doi.org/10.1007/978-3-8349-9603-9_25.

Jacob, F., & Oguachuba, J. S. (2009). Verhaltensimplikationen der Kundenmitwirkung — Hebelwirkung für die Einstellung zur Marke. In M. Bruhn & B. Stauss (Eds.), *Kundenintegration*. Gabler. https://doi.org/10.1007/978-3-8349-9407-3_4.

Jacob, F. (2011). Wiederkaufverhalten in Geschäftsbeziehungen. In M. Kleinaltenkamp, W. Plinke, I. Geiger, F. Jacob, & A. Söllner (Eds.), *Geschäftsbeziehungsmanagement*. Gabler. https://doi.org/10.1007/978-3-8349-6928-6_3.

Jacob, F., & Sievert, J. (2011). Die Kundenmitwirkung als Instrument des Commodity Marketing. In M. Enke & A. Geigenmüller (Eds.), *Commodity Marketing*. Gabler. https://doi.org/10.1007/978-3-8349-6388-8_11.

Bick, M., Bruns, K., Sievert, J., & Jacob, F., (2012). Value-in-use of mobile technologies. In A. Back, M. Bick, M. Breunig, K. Pousttchi, & F. Thiesse (Eds.), *MMS 2012: Mobile und Ubiquitäre Informationssysteme* (S. 56–67). Gesellschaft für Informatik e. V.

Jacob, F. (2013b). Auftragsmanagement. In M. Kleinaltenkamp, W. Plinke, & I. Geiger (Eds.), *Auftrags- und Projektmanagement*. Springer Gabler. https://doi.org/10.1007/978-3-658-01352-3_1.

Jacob, F., Bruns, K., & Sievert, J. (2013). Value in Context – Eine ressourcen-dynamische Perspektive. In G. Schmitz (Eds.), *Theorie und Praxis des Dienstleistungsmarketing. Fokus Dienstleistungsmarketing*. Springer Gabler. https://doi.org/10.1007/978-3-8349-6869-2_2.

Jacob, F., & Sievert, J. (2014). Die Kundenmitwirkung als Instrument des Commodity Marketings. In M. Enke, A. Geigenmüller, & A. Leischnig (Eds.), *Commodity Marketing*. Springer Gabler. https://doi.org/10.1007/978-3-658-02925-8_11.

Haase, M., Fließ, S., Jacob, F., & Ehret, M. (2015). Kundenintegration und Leistungslehre – Einführung der Herausgeber. In S. Fließ, M. Haase, F. Jacob, & M. Ehret (Eds.), *Kundenintegration und Leistungslehre*. Springer Gabler. https://doi.org/10.1007/978-3-658-07448-7_1.

Jacob, F. (2015a). Das Lösungsgeschäft aus Kundensicht. In S. Fließ, M. Haase, F. Jacob, & M. Ehret (Eds.), *Kundenintegration und Leistungslehre*. Springer Gabler. https://doi.org/10.1007/978-3-658-07448-7_19.

Jacob, F. (2015b). Repeat Purchasing in Business Relationships. In M. Kleinaltenkamp, W. Plinke, & I. Geiger (Eds.), *Business Relationship Management and Marketing. Springer Texts in Business and Economics*. Springer. https://doi.org/10.1007/978-3-662-43856-5_3.

Jacob, F., & Kleinaltenkamp, M. (2015). Leistungsindividualisierung und -standardisierung. In K. Backhaus & M. Voeth (Eds.), *Handbuch Business-to-Business-Marketing*. Springer Gabler. https://doi.org/10.1007/978-3-8349-4681-2_14.

Jacob, F., & Oguachuba, J. (2015). Transaktionsbezogenes Marketing für Gründungsunternehmen. In J. Freiling & T. Kollmann (Eds.), *Entrepreneurial Marketing*. Springer Gabler. https://doi.org/10.1007/978-3-658-05026-9_23.

Jacob, F., & Weiber, R. (2015). Business Market Research. In M. Kleinaltenkamp, W. Plinke, I. Wilkinson, & I. Geiger (Eds.), *Fundamentals of Business-to-Business Marketing. Springer Texts in Business and Economics*. Springerhttps://doi.org/10.1007/978-3-319-12463-6_6.

Kleinaltenkamp, M., Jacob, F., & Plötner, O. (2015). Industrielles Servicemanagement. In K. Backhaus & M. Voeth (Eds.), *Handbuch Business-to-Business-Marketing*. Springer Gabler. https://doi.org/10.1007/978-3-8349-4681-2_16.

Reichelt, J., Sievert, J., & Jacob, F. (2015). How credibility affects eWOM reading: The influences of expertise, trustworthiness, and similarity on utilitarian and social functions. In A. Kimmel & P. J. Kitchen (Eds.), *Word of Mouth and Social Media*. Routledge. https://doi.org/10.4324/9781315776279.

Wilken, R., & Jacob, F. (2015). Vom Produkt- zum Lösungsanbieter. In K. Backhaus & M. Voeth (Eds.), *Handbuch Business-to-Business-Marketing*. Springer Gabler. https://doi.org/10.1007/978-3-8349-4681-2_8.

Jacob, F. (2016). Order Management. In M. Kleinaltenkamp, W. Plinke, & I. Geiger (Eds.), *Business Project Management and Marketing. Springer Texts in Business and Economics*. Springer. https://doi.org/10.1007/978-3-662-48507-1_1.

Jacob, F., Hartwig, K., & Bulawa, N. (2020). Co-creation und Wertorientierung im Verkauf. In S. Roth, C. Horbel, & B. Popp (Eds.), *Perspektiven des Dienstleistungsmanagements*. Springer Gabler. https://doi.org/10.1007/978-3-658-28672-9_19.

Jacob, F., & Aichner, T. (2022). Customer Participation and Commodity Marketing. In M. Enke, A. Geigenmüller, & A. Leischnig (Eds.), *Commodity Marketing. Management for Professionals*. Springer. https://doi.org/10.1007/978-3-030-90657-3_9.

Working Papers and Conference Proceedings

Jacob, F., & Kleinaltenkamp, M. (1994). Einzelkundenbezogene Produktgestaltung—Ergebnisse einer empirischen Untersuchung. Arbeitspapier Nr. 4 der Berliner Reihe Business-to-Business-Marketing, Freie Universität, Berlin.

Bogajewskaja, J., Jacob, F., & Michaelis, K. (1998). Prozesskostenrechnung im Projektgeschäft-ein Instrument zum Controlling der Kundenintegration, Arbeitspapier Nr. 11 der Reihe „Business-to-Business-Marketing", edited by Michael Kleinaltenkamp, Freie Universität Berlin.

Weiber, R., & Jacob, F. (2000). *Informationsgewinnung im Business-to-Business-Marketing. Grundlagen der Marktforschung* (2. Aufl.). Universität Trier Forschungsberichte zum Marketing. Berlin, Trier

Plötner, O., Jacob, F., & Zedler, C. (2006). Competence Commercialization von Industrieunternehmen: Phänomen, Einordnung und Forschungsfragen, ESCP-EAP Working Paper No. 17, ESCP-EAP.

Oetting, M., & Jacob, F. (2007). Empowered Involvement and Word of Mouth: An Agenda for Academic Inquiry, ESCP-EAP Working Paper No. 28, ESCP-EAP.

Jacob, F., & Oguachuba J. S. (2008). Kategorisierung produktbegleitender Dienstleistungen in der Automobilindustrie, ESCP-EAP Working Paper No. 39, ESCP-EAP.

Plötner, O., Lakotta, J., & Jacob, F. (2010). Differentiating Market Offerings Using Complexity and Co-Creation: Implications for Customer Decision-Making Uncertainty. ESCP Europe Working Paper No. 53, ESCP Europe.

Jacob, F., & Rettinger, B. (2011). The role of customer co-production in value creation. Proceedings of the Naples Forum on Service.

Jacob, F., Wilken, R, Aykac, T., & Prime, N. (2012). Power asymmetry in intercultural business negotiations and its impact on negotiation strategies. Proceedings of the 28th IMP-conference in Rome.