Contributions to Management Science

George WJ Hendrikse · Gérard Cliquet · Ilir Hajdini · Aveed Raha · Josef Windsperger *Editors*

Networks in International Business

Managing Cooperatives, Franchises and Alliances

Springer

Contributions to Management Science

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Managing Cooperatives, Franchises, and Alliances in International Business

George WJ Hendrikse, Gérard Cliquet, Ilir Hajdini, Aveed Raha, and Josef Windsperger

Abstract Over the last three decades, the management of networks has become an important research field in international business, organizational economics, and international marketing. The current book presents new theoretical perspectives and empirical results on the management of cooperatives, franchise and retail chains, and alliances in international business.

Governance and management of networks, such as cooperatives, franchises and retail chains, alliances, joint ventures, public–private partnerships, supply chain networks, and networks in digital and sharing economy, have become important research topics in international business, organizational economics, international marketing, and organization theory over the last three decades (Grandori and Soda 1995; Nooteboom 1999; Miles et al. 2005; Gulati 2007; Karantininis and Nilsson 2007; Alon 2010; Ménard 2013; Ehrmann et al. 2013; Greve et al. 2014; Meyer and Wang 2015; Windsperger et al. 2015, 2020; Hendrikse and Feng 2013; Hendrikse et al. 2017; Sundararajan 2016; Gray and Purdy 2018; Jell-Ojobor et al. 2022).

The current book addresses theoretical and empirical perspectives on the management of cooperatives, franchise and retail chains, and alliances in international business by focusing on the following topics:

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1. *Cooperatives*: Board structure variety in cooperatives, evolution of product portfolio of cooperatives versus investor-owned firms (IOFs), cognition and incentives in cooperatives, communication openness, information exchange, horizontal ties in farmer–buyer relationships, and management of innovations in producer organizations in India.
2. *Franchises and Retail Chains:* Franchise systems in the information age, empowerment and decision-making in franchise networks, retailer's location choice and positioning strategy, sources of conflicts in franchising, franchise vs. independent retail and service stores, and gender differences and entrepreneurial orientation of franchisees.
3. *Alliances:* Principles of intra-organizational networks and organization design theory, market entry through multilateral networks in developing countries, quality management and performance in supply chain relationships, internationalization of e-service firms, and sharing economy and inter-organizational cooperation in the tourism sector.

An initial version of the papers was initially presented at the ninth international conference on Economics and Management of Networks (*EMNet*—https://emnet.univie.ac.at/) that was held online from September 23rd to September 24th, 2021. The purpose of the conference was to provide an international discussion forum for research in economics and management of networks.

The book is structured in three parts:

Cooperatives
Franchises and Retail Chains
Alliances

1 Cooperatives

Owners of an enterprise may be investors, suppliers, buyers, employees, families, governments, or foundations. A cooperative consists of a society of members and an enterprise, where the former owns the latter. Special about a cooperative in a supply chain is that the society of members and the enterprise are in adjacent stages of the supply chain, i.e., the society of members consists of either upstream sellers or downstream buyers of the cooperative enterprise. It entails that the members have an ownership as well as a transaction relationship with the cooperative enterprise. For a cooperative to thrive in the competitive process, it must create at least as much value as other organizational forms (Alchian 1950).

There are three sources of superior value for a cooperative. First, the organization of the members in the society of members may create superior value, e.g., (horizontal) coordination between the member firms, learning in the society of members, the organization of social capital, establishing focus, and the selection of members. Second, the exchange relationship between the society of members and the cooperative enterprise may be a source of superior value. Examples are countervailing power, elimination of double marginalization, market access and assurance, trust,

(vertical) coordination, reducing price volatility, and providing a yardstick regarding prices. Third, the cooperative enterprise may create superior value due to a commitment to certain behavior. This commitment resides in aspects of the member firms and the rules of governance of the cooperative. A crucial aspect of member firms is the portfolio of assets of the members, which is responsible for providing member services by the cooperative enterprise and the single origin constraint in the diversification behavior of the cooperative enterprise. Examples of the governance of the cooperative enterprise are the member delivery policy, the member remuneration policy, financial structure, representation in the general assembly, board composition, cooperative principles, and competition and tax policies. The five articles regarding cooperatives in this book address various aspects of these sources of value.

Hendrikse and Nilsson address the relationship between the Board of Directors, as representative of the society of members, and the management of the cooperative enterprise. They examine why agricultural cooperatives exhibit different principles for the allocation of decision rights between the Board of Directors and the Management. A mass-action interpretation of the Nash equilibrium in an investment proposal game shows that, on the one hand, board structure variety is an equilibrium outcome while, on the other, the Traditional model (the board has full control) and the Management model (the professional management makes up the Board of the cooperative society) perform better than the Corporation model (the Management is in full control of the cooperative firm).

Deng and Hendrikse highlight the diversification behavior of the cooperative enterprise. They develop an agent-based model to address the relationship between the ownership structure of an enterprise and the evolution of its product portfolio. The coherence and evolution of a product portfolio is operationalized by transition rules regarding the Moore environment. The distinguishing feature of a cooperative is the single origin constraint according to Cook (1997), which is modeled as a cooperative assigning an infinite lifetime to the first product in its product portfolio, while all other products have finite lifetime. All products of an investor-owned firm (IOF) are assumed to have finite lifetime. The simulation results show that the single origin constraint pulls the activities of the cooperative in one cluster centered on the first activity, while the IOF's product portfolio develops in a centrifugal way. The cooperative and the IOF are more diversified in a mixed duopoly.

The study of *Wei and Hendrikse* investigates the design of the contract of the manager of the cooperative enterprise by the society of members. They extend the results of Feng and Hendrikse (2012) by investigating the relationship between cognition and incentives in cooperatives versus investor-owned firms (IOFs) in a multi-tasking principal-agent model. The principal chooses the incentive intensity as well as the precision of monitoring, while the agent chooses the activities. The authors show that a cooperative is uniquely efficient when either the synergy between the upstream and downstream activities or the knowledgeability of the members regarding the cooperative enterprise is sufficiently high.

Widadie, Bijman, and Trienekens highlight the exchange relationship between the society of members and the cooperative enterprise. They investigate the direct and indirect effect of open communication, information exchange, and intra-organizational ties on the quality (trust, satisfaction) and continuity (commitment,

dependence) of the vertical relationship between farmers and their buyers. Data were collected in the Central Java and Yogyakarta provinces of Indonesia. The results demonstrate that open communication and information exchange improve relationship quality, while intra-organizational ties (only relevant for producer organization—PO—members) improve both relationship quality and relationship continuity. Moreover, open communication, information exchange, and intra-organizational ties indirectly influence relationship continuity through relationship quality. The paper adds to the literature by distinguishing between relationship quality and relationship continuity in the value chain and by investigating the impact of intra-organizational ties in a PO on the vertical buyer–farmer relationship.

Many of the explanations of poor or superior performance of cooperative enterprises lie in their governance and management. In the search for a better legal form of organization of small producers, the Producer Company (PC) was born as a legal provision in the early 2000s in India. In his paper, *Singh* examines the governance of the society of members in the performance of the cooperative enterprise with case studies. The NDDB's Milk Producers' Companies (MPCs) in terms of governance innovations were designed by the promoting entity—National Dairy Services (NDS) of National Dairy Development Board (NDDB). The major governance factors in the relatively superior performance of milk PCs included: membership rules, member commitment to patronage of the milk PCs and its linkage with member equity like in the new generation cooperatives elsewhere, role of Board of Directors and its composition besides very transparent and democratic functioning of the Board.

2 Franchises and Retail Chains

Franchising is a governance form by which an enterprise (the franchisor) establishes a chain of geographically dispersed entrepreneurs (franchisees) to offer unified products or services that require proximity to customers (Tracey and Jarvis 2007). In such a network, entrepreneurial franchisees are independent partners who are contractually committed to develop retail outlets under the franchisor's brand name and unified standards through a series of exchange relationships with primary stakeholders (Castrogiovanni et al. 2006; Raha et al. 2021).

The popularity of franchising in dual distribution systems has been attributed to a bundle of skills provided by the franchisee. Franchise systems are examples of hybrid organizational formats containing both "firm" and "market" qualities (Ménard 2013). The choice of organizational format has its roots in the information asymmetry manifest in specific locations. However, the advent of ongoing advances in information technology (IT), such as blockchain and smart contracts, warrants a re-evaluation of the changing role of the franchisor–franchisee relationship. In his paper, *Sen* argues that while modern IT systems provide insights based on sophisticated analysis of micro-level consumer data, the specific knowledge of an individual within the channel cannot be overlooked. This specific knowledge is likely to be idiosyncratic and related to circumstances of time and place (Hayek 1945). In such

cases, allocation of decision-making to the individual with specific knowledge could be the preferred option. The combination of modern blockchain technology with the idiosyncratic knowledge of the franchisee has the potential to provide an informed as well as a humanistic response to consumer needs. The author argues that the hybrid nature of franchising can also be utilized to reward franchisees for their incremental contributions to making the chain more competitive.

In his study, *Michael* argues that empowerment, defined as giving front-line, customer contact employees wide latitude to address customers' needs, is frequently heralded as the solution to service quality. Franchise networks, by contrast, emphasize standardization to ensure a common consumption experience over time and space. Whether standardization or empowerment is preferred when customers engage with multiple units of a network remains an open question. This paper theoretically examines the contingency of customer decision rules, and how customers aggregate service experiences across distinct points of service. A model is proposed, which demonstrates that profitability is enhanced by empowerment when customers reward good service more than they penalize bad service; otherwise, standardization is appropriate. Implications for theory and practice are discussed, including a method for eliciting customer decision rules.

Basset, López-Fernández, and Perrigot examine how specific sources of franchisor/franchisee conflicts are related to the key elements of franchising, i.e., know-how, assistance, and brand name. Their empirical study takes on a qualitative approach with 27 in-depth interviews with franchisors and other representatives operating in various industry networks in the French market. The findings contribute to the literature on conflicts in franchising by focusing on the main elements of franchising as potential sources of conflicts, as well as on the practice by advising franchisors that may minimize such conflicts.

Franchising is growing in most countries and most industries worldwide. Some people fear that chain-based businesses, including franchised businesses, will soon eliminate independent businesses. However, the coexistence of both franchised and independent businesses is often noted irrespective of industry and location. The study of *Le Bot, Perrigot, and Cliquet* aims to understand how consumers react to retail offers made by both types of businesses (i.e., franchised or independent), mainly in terms of entrepreneur profiles, retailing mix, and customer relationship management. Their empirical study is based on a qualitative approach using a series of twenty interviews with customers. The findings show that consumers have a very different image perception of franchised and independent stores.

Based on the relevant management literature, *Ruiz-Molina and Colla* argue that male and female entrepreneurs show different levels of risk aversion and self-confidence or self-efficacy. This study aims to contribute to the extant literature on this issue by identifying the most discriminating characteristics of entrepreneurial orientation across gender and its association with franchisee performance from a survey of 226 French franchisees. They conclude that proactiveness, competitive aggressiveness, and commercial autonomy are the most differentiating entrepreneurial orientation dimensions between male and female franchisees. Relevant

associations between gender, entrepreneurial style, individuals, and network perceived performance are observed.

Toumi and Cliquet aim to address the gap in the retail literature concerning the links between marketing strategy at the corporate level and the store location strategy of individual units. Specifically, the objective of their research is to better predict site choices according to the chain's marketing policy by examining the impact of store chain positioning defined at the corporate level on retailers' locational preferences. Adaptive conjoint analysis is used to generate the importance values of locational attributes within each price segment for retail network development managers. Their empirical analysis stems from a survey among managers in the clothing and accessories retail sector in France. It provides a better understanding of locational decisions within this sector as well as a set of locational attributes that may ensure the coherence of the retail marketing mix. One of the main results concerns the specific attribute of store size. A discussion with development managers shows that this attribute is so crucial in the clothing and accessories retail sector that no other attribute can compensate for a deficit in store size, which should not be either too small or too large.

3 Alliances

Alliances are inter-organizational networks characterized by two forms of governance: Either only decision rights are allocated between the network partners, or decision and ownership rights are assigned between them (Windsperger et al. 2023). Specifically, licensing, joint ventures, consortia, public–private partnerships, supply chain networks, and networks in the digital and sharing economy have become important inter-organizational governance forms in international business over the last three decades. The following papers address theoretical and empirical governance issues of inter-organizational networks in the international business context.

The significance of network theory has increased in response to the changes that companies are currently experiencing. During the second half of the twentieth century, the business environment became turbulent for organizations. The environment was changing and becoming more unstable as competition became more globalized. The concept of the mechanistic organizational structure was no longer sustainable in such an environment. Thus, companies have been forced to adapt their business style, reduce their number of employees, lower their level of formalization and expertise, and shift to an organic intra- and inter-organizational structure. The aim of *Kolarević and Aleksić Mirić's* study is to enrich the intra-organizational network literature and to point out the complex ways with which intra-organizational networks influence the performance of employees, managers, and organizations. They apply both quantitative and qualitative approaches to obtain a comprehensive analysis of intra-organizational networks.

Globalization and increased market saturation in most developed countries have prompted private sector firms to expand into international markets that offer growth

potential. Thus, private firms increasingly channel foreign direct investments into such markets, which are located in relatively untapped developing countries. At the same time, the local economies in developing countries often lack technology, education, or access to international trade. Furthermore, foreign multinational companies require market-relevant knowledge and skills. Therefore, the format of public-private development partnerships (PPDPs) seeks to combine the needs of the private and public sectors. In this study, *Brockmann-Hosseini, Jell-Ojobor, and Windsperger* explore the case of the Volvo Group forming a PPDP in Zambia to assess how MNCs enter markets in developing countries using this format. Based on transaction cost theory, institutional theory, and resource-based theory, they find that PPDPs help to reduce transaction costs, mitigate institutional risks, and create unique resources for multinational companies entering less developed countries. The results of the study contribute to the understanding of value creation for PPDP's stakeholders from developed and developing countries.

Salam and Yaqub investigate the association between Quality Management Practices in Purchasing (QMPPs) and purchasing performance within supply chain relationships in the service industry. A set of hypotheses derived from the key aspects of quality management practices in purchasing and purchasing information system practices, as envisaged in previous research in the areas of quality management, purchasing, and supply chain management, has been tested on a sample of 100 purchasing managers drawn from the hotel industry in Thailand. The findings indicate that quality management practices in purchasing have a significant direct impact on the use of purchasing information service practices and the purchasing performance, as well as an indirect impact on purchasing performance of service organizations mediated through purchasing information system practices. The theoretical and managerial implications of the findings are not only instrumental in furthering research in supply chain networks and service industry domains but also offer useful insights to the industry practitioners enabling them to manage service operations competitively.

According to *Vayle and Jell-Ojobor*, there is a lack of research about how e-service firms enter international markets by using different market and network modes. Their study thus attempts to address this gap by systematically analyzing the relevant literature and developing a conceptual model that explains the internationalization modes of e-service firms. Specifically, they explore how their specific knowledge attributes affect the internationalization process and their choice of market entry mode. Their conceptual framework distinguishes between hard and soft service components of e-service firms by two types of knowledge characteristics—codifiable and non-codifiable (intangible) firm know-how. They develop three propositions about the entry mode choice of e-service firms regarding low-control modes, network modes, and high-control modes.

The sharing economy has recently enjoyed increasing interest thanks to the growing popularity of information and communication technologies including digital platforms. The aim of the study of *Klimas, Czernek-Marszałek, Wójcik, and Juszczyk* is to examine whether and how the popularization of the sharing economy impacts the development of the tourism sector and stimulates inter-organizational

cooperation within it. Recognition of the two-faceted effects of the sharing economy (i.e., the accelerating and limiting effects) on the development of the tourism sector informs their use of a quantitative approach via structural equation modeling. Data from 368 Polish tourism companies show that the sharing economy can, paradoxically, both accelerate and limit the development of the tourism sector. The results also reveal that the popularization of the sharing economy (measured by two intentionally chosen factors: the increase in information and communication technologies as well as experience tourism) positively and significantly impacts intrasectoral cooperation in the tourism sector.

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Part I
Cooperatives

Board Structure Variety in Cooperatives

George WJ Hendrikse and Jerker Nilsson

Abstract This paper investigates why agricultural cooperatives exhibit different principles for the allocation of decision rights between the Board of Directors and the Management. A mass-action interpretation of the Nash equilibrium in an investment proposal game shows that, on the one hand, board structure variety is an equilibrium outcome while, on the other hand, the traditional model (the board has full control) and the management model (the professional management makes up the Board of the cooperative society) perform better than the corporation model (the Management is in full control of the cooperative firm).

> Problems with governance usually do not stem from member issues but, more likely, board-management relations. (Anderson 1994, p. 60)

1 Introduction

This paper concerns the different governance models (henceforth "board models" or "board structures") of agricultural cooperatives. Board models differ in the way the Board of Directors delegates tasks and responsibilities to the professional managers. The aim of this study is to investigate why agricultural cooperatives exhibit different principles for the allocation of decision rights between the Board of Directors and the Management.

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It is observed that different board models exist in cooperatives at the same time and even in similar markets (Bijman et al. 2013, 2014; Chaddad and Iliopoulos 2013). This observation gives rise to several questions: (1) Why do different board models co-exist—why does one board model not outcompete the others? (2) Is any board model better when it comes to satisfying member interests, and if so, how? Answers to these questions may be valuable contributions to the knowledge of the internal governance of cooperatives. Research within this field has to a large extent been based on agency theory, property rights theory, and various behavioral approaches, while formal economic theorizing has been missing.

The two questions are addressed in an investment proposal game between the Board (representing the members) and Management (Myerson 2004, 2009). The Board as well as the Management chooses whether to propose an investment project. This is unproblematic as long as only one party comes forward with the proposal, but it results in a problem when neither of the parties formulate a proposal, i.e., inertia, or both parties formulate a proposal, i.e., duplication. Nash equilibria can be interpreted in a rationalistic or mass-action way (Kuhn et al. 1996). The rationalistic interpretation entails that the players choose the strategies that belong to the Nash equilibrium. This paper adopts the mass-action interpretation of Nash equilibrium, which entails that the equilibrium mixed strategy is a population-statistical distribution of the board models. This model is able to capture the fact that board structure variety is an equilibrium outcome and thus also determine whether models with either Board or Management control serve the member interests better compared to the corporation control model.

The article is organized as follows. Section 2 presents the conceptual framework concerning cooperative board models. This is followed by an account of the model in Sect. 3. Section 4 comprises a discussion of the results, and conclusions are formulated in Sect. 5.

2 Cooperative Board Models

2.1 Classes of Cooperative Board Models

A cooperative is an enterprise that is owned and controlled by parties (patrons) who sell products to the firm or buy from it. The patrons are organized in a society of members and elect a Board of Directors representing them in decision-making. Boards have the authority to decide about their cooperative's investments, but they may allocate more or less of the decision power to another party, most likely the professional managers (Aghion and Tirole 1997; Baker et al. 1999, 2002). Hence there are different ways of allocating the responsibilities between the governing bodies. A *cooperative board model* determines the relative power of the Board of Directors and the professional management when it comes to deciding about investments.

The present study deals with a categorization of cooperatives in terms of board models, which are based on decision rights. Other researchers have classified

cooperatives on the basis of property rights. The two ways of categorizing cooperatives are not identical but they are related, because there is often control right variety for a given allocation of ownership rights. Thus, researchers have presented a wide range of cooperative organizational models (Nilsson 1999; Chaddad and Cook 2004; Chaddad and Iliopoulos 2013; Grashuis and Cook 2017). The range of models stretches from the traditional one, which is characterized by collective ownership and full member control, to various hybrid models, which may have property rights in the hands of individual members as well as external ownership and control rights by non-members (Hess et al. 2013; Grashuis 2018). In between these extremes there are variants as well as combinations, which means that it may be difficult to identify a cooperative's board model on the basis of its organizational chart. For example, the Management may have considerable influence in a traditional cooperative. Likewise, Management has an interest in satisfying member interests, because it wants to ensure that sufficiently large volumes of products are delivered (Hakelius and Nilsson 2020; Morfi et al. 2021).

Just as there are differences between investor-owned and cooperative firms as concerns behavior and performance, differences exist between cooperatives with different board models (Hendrikse and Van Oijen 2004; Van der Krogt et al. 2007). For example, Cook (1994, p. 46) states that some cooperatives have a "... conservative, defensive, operation-oriented corporate culture, one that is almost anti-offensive," while others "... have been aggressively innovative and expansion oriented." One of the reasons for the differences in strategies may be the relationship between the Board of Directors and the Management.

Corporate governance is a recurrent issue in the literature on cooperatives (Anderson 1994; Cornforth 2004; Fulton and Giannakas 2007). Researchers have not only constructed classifications of board models but also discussed how the different models affect the cooperatives' operations and performance. Researchers have especially noted that cooperatives change their decision model as they experience difficulties due to changing market conditions (Hendrikse 2007).

In a survey among 33 of the largest agricultural cooperatives in the Netherlands, Bijman et al. (2013) identified three main categories of board models. The traditional model implies that the members decide, although via the Board of Directors. "The main characteristic of the Management Model is that the professional managers make up the Board of Directors of the cooperative" (Bijman et al. 2014, p. 655). In the corporation model, the management has full control of the cooperatives' business activities, because it presupposes that "cooperatives ... have a legal separation between the cooperative association and the cooperative firm, where the association is the full owner of the firm" (Bijman et al. 2014, p. 211).

Bijman et al. (2013) found that 15 cooperatives adopt the traditional model, running the business activities within the cooperative society with a Board of Directors as the decision-making body, while ten cooperatives are governed by the Management model. They have their operations within a fully owned subsidiary, in which the Board of Directors and the Management of the cooperative enterprise constitute one decision-making body. The remaining eight cooperatives are characterized as having adopted the corporation model, in which the chief executive officer controls the cooperative firm, while the Board of Directors heads the cooperative

society of members. Thus, the cooperative business firm is formally separated from the cooperative society.

2.2 Switches of Board Models

The traditional model is the one that cooperatives have used since the inception of the cooperative business form. It is still by far the most widespread one among cooperatives around the globe (Chaddad and Iliopoulos 2013). The farmer domination and thus the production orientation that is immanent in the traditional model is instrumental for the production of large volumes of high-quality agricultural products.

However, many cooperatives with a traditional board structure have during recent years adopted other models. Such shifts make research about cooperative board models interesting. It has been claimed that cooperatives shift their board model because increasingly competitive markets require new strategic action, whereby another type of leadership is needed. The new strategies contain a multitude of elements (Trechter 1996; Van Bekkum 2000; Kyriakopoulos et al. 2004; Cechin et al. 2013). Production must be more differentiated due to the increasing market demand for variety, convenience, and innovations; the production orientation of traditional cooperatives must be substituted by market orientation; there is a need for heavy investments that cannot be carried by the members of traditional cooperatives; and in competitive markets there is a need for rapid and thus centralized decision-making (LeVay 1986; Bager 1996; van Bekkum 2000).

In order to solve these problems many traditional cooperatives have felt the need to strengthen the Management's autonomy, to establish a legal separation between cooperative society and the business firm, and to professionalize the supervisory bodies. This has meant a re-orientation towards more customer focus, diversification, and innovation, all of which were accomplished through changes in the decision-making structure.

In cases when the professional management gets more power, the members may fear agency problems as a consequence of the information asymmetry between the Board and the Management. The result may be a loss of member commitment (Hogeland 2006; Österberg and Nilsson 2009; Nilsson et al. 2012). For example, the largest vegetable marketing cooperative in the Netherlands lost many members when management power was strengthened after a strategic shift from serving producers to serving both customer and producers (Bijman and Hendrikse 2003).

The analysis in the next section shows that a cooperative's choice of board model has an impact on performance. It also entails that the differences between cooperatives and investor-owned firms may at least partly be due to a difference in the allocation of power (Bond 2009), next to the identity of the owners of the enterprise. At least some of the variation in the behavior of cooperatives and investor-owned firms is due to the firms' internal governance.

3 Model

This section presents a non-cooperative investment proposal game between the Board and the Management in an agricultural cooperative. The Board advocates strategies, which are in the long-term interest of members. Assume that the Board must choose between proposing an investment project, M, or doing nothing, N. The Board receives payoff U when such a policy is adopted. The value U represents the investment project serving member interests, such as decisions regarding prices paid to the members or services rendered to members, whereby the directors experience more appreciation by the membership and a higher chance of being reelected.

Similarly, the Management is assumed to propose strategies, which are geared towards developing the downstream market(s) even though these investments go beyond what is in the interests of the members. Assume that the Management chooses between proposing an investment project, E, or doing nothing, N. The Management receives payoff D when such a policy is adopted. The value D reflects the focus on downstream activities, like investments in foreign operations and the processing of non-member products. The managers may want to promote their reputation in the market for managers, or they may want to expand the business firm in order to strengthen their power and get a higher salary.

If the Board chooses M and the Management N, then the Board receives payoff U, while the Management receives nothing. If the Management decides E and the Board does nothing, then the former receives D and the latter nothing. Each player loses an amount L when they choose M and E, i.e., L is the loss associated with having a duplication of proposals. Finally, if both players choose N, then each player earns nothing. The players decide simultaneously. Table 1 summarizes the game.

The payoff (-L, -L) has different interpretations. One is that none of the proposals are implemented and that there are costs for each party due to duplication, e.g., the time dedicated to dealing with the duplication. A lack of proper response to market opportunities and threats may lead to a loss of competitiveness. Another interpretation is that both proposals are implemented, but that the costs of having two proposals are higher for each player than the benefits. The interpretation of L in this case is the net cost. If the payoff for each player is positive when they both formulate an investment proposal, then Table 1 does not reflect a coordination game anymore, i.e., there is only one equilibrium. We focus on the case where the interaction between the Board and the Management is characterized as a coordination game.

The mass-action interpretation of this game highlights the mixed strategy Nash equilibrium. The probability that an outcome occurs is interpreted as the proportion

Table 1 Coordination game between the Board and the Management

Board	Management	
	E (proposing investment)	N (doing nothing)
M (proposing investment)	(-L, -L)	(U, 0)
N (doing nothing)	(0, D)	(0, 0)

or fraction that this type of occurrence occupies in the population of cooperatives. The traditional model of board structure is associated with the Board choosing M and the Management choosing N, i.e., the Board's choice is implemented by the Management. The Management model is the mirror image of the traditional model. The Management is in charge of both formulating proposals and making decisions.

The mixed strategy equilibrium consists of the Board of Directors choosing M with probability D/(L + D) and the Management choosing E with probability U/(L + U). These probabilities are determined by each player choosing the frequency of proposing an investment in order to maximize the expected payoff. We associate this mixed strategy equilibrium with the corporation model. The decision-making process in a cooperative with the corporation model may run smoothly in the sense that neither conflict nor inertia occurs. Sometimes a cooperative with the corporation model behaves like the traditional model, i.e., the proposal of the Board is implemented when the Board chooses M and the Management chooses N, and sometimes it behaves according to the Management model, i.e., the proposal of the Management is adopted when the Management chooses E and the Board chooses N. However, problems regarding decision rights will also occur endogenously in our model. The duplication of proposals occurs when the Board as well as the Management formulate a proposal. Our model highlights delay, or inertia, as another problem, which is represented by the situation when both parties choose to do nothing. Duplication, or conflict, occurs with probability DU/(L + D)(L + U), while delay, or inertia, occurs with probability LL/(L + D)(L + U). Hendrikse (1998) highlights type I and type II errors as alternative problems.

There are a number of results regarding performance. A first observation is that the total surplus in a cooperative with the traditional board model is U, while the cooperative with the Management model generates a surplus D. The efficient choice of board model depends therefore on the value of U versus D. The traditional model is efficient in markets where U is larger than D, while the management model is efficient when D is larger than U. Second, the corporation model is never efficient due to the occurrence of conflict and inertia. These payoffs in the various board models reflect a V-shaped pattern when the relationship between board model and performance is presented in a graph. On the horizontal axis is the amount of power allocated to the Management in a specific board model, and on the vertical axis is the total surplus. If the Management has no (some, all) power, i.e., the traditional (Corporation, Management) model, then the surplus is U (0, D).

The calculation of the population composition in terms of the equilibrium mixed strategy is based on the value of U, D, and L. This requires that these values are known. However, they are often hard to measure. An empirical strategy to test the validity of our approach is to use population compositions to infer these values. Bijman et al. (2013) provide an example, reporting the population composition. This is possible because the equilibrium fractions in a certain population are expressions of U, D, and L and can therefore be rearranged in such a way that the value of U, D, and L are expressions in terms of the observed fractions of each population type. Following this approach allows the researcher to rank the U (D, L) across

populations and explain the ranking based on a detailed description of the population.

4 Discussion

According to the preceding section, the board structure variety in the agricultural cooperative business sector is an equilibrium phenomenon. There are, however, differences concerning the performance of the three models. *The Traditional Model* performs best for the members in cases when there are good investment opportunities in upstream activities. Thus, the cooperative provides financial means to the farmer-members who can then make profitable investments in their farming operations. *The Managerial Model* best benefits the members when the cooperative business firm has promising opportunities in downstream markets, operating on market for value-added products. In contrast, *The Corporation model* is not good for the members irrespective of whether there are good investment opportunities in upstream or downstream markets. When a cooperative's Board of Directors delegates all decision rights to the Management, the professional leadership will not make strategic decisions that are in the long-term interest of the membership.

As seen below, these observations are in line with several previous studies, many of which present how cooperatives have switched from one board model to another one. The studies explain how the relationship functions between cooperatives' board structures and the strategies that are demanded by market conditions. This research consists mainly of case studies, conducted among agricultural cooperatives in Denmark, Sweden, the Netherlands, Ireland, New Zealand, USA, Canada, and other countries, and they have focused on cooperatives in a wide range of agricultural industries.

Some studies report that the traditional model has been retained and strengthened. The cooperatives have responded to intensified competition by focusing even more on production orientation and a low-cost strategy, which is to say that the traditional board model is successful (Nilsson and Petersen 2001; Nilsson and Ohlsson 2007; Nilsson and Rydberg 2015).

Other studies present cases where the traditional model has been substituted by a managerial board model. Intensified competition has induced cooperatives to develop value-added strategies to be orchestrated jointly by the Management and the Board (Nilsson and Gunnarsson 2000; Bijman and Hendrikse 2004; Nilsson et al. 2009; Ollila et al. 2014; Hakelius and Nilsson 2020).

In other cases, cooperatives have kept their traditional board model even though they have adopted value-added strategies. Due to poor monitoring and capital constraints, the result has been a corporation board model or a demutualization (Lamprinakis and Fulton 2011; Nilsson and Lind 2015).

Another situation is that cooperatives have kept to their traditional business form and traditional board model simultaneously, investing in downstream activities as a response to increasingly turbulent markets; nevertheless, the members have been

unable and unwilling to finance the expanding operations and govern the cooperative. The result of a poor alignment between market conditions and traditional board model may be failure and demutualization (Anderson and Henehan 2001; Fulton and Hueth 2009; Lamprinakis and Fulton 2011). After a cooperative has faced failure and been demutualized, the business operations may continue and become profitable under the new ownership as well as appreciated by the farmers (Nilsson et al. 2014).

Even though the conclusions of our analysis are in line with previous studies, there may, however, be a divergence between the market structures and the board model of a cooperative because markets change incrementally, whereby the members do not recognize them. Moreover, farmers might be so accustomed to the traditional cooperative model that they reject organizational changes (Nilsson et al. 2012). Hence, cooperatives may use another board model apart from the one that best fits their market conditions, although often with poorer than necessary results.

Thus, there is empirical evidence that supports the preceding section's hypotheses about links between cooperatives' board models and market conditions. This evidence does, however, suffer from the fact that the case studies concern many countries, industries, and market conditions, which is to say that the evidence is scattered, and there is often a lack of depth. It seems as if the authors have most often not had access to data from within the cooperatives' decision-making bodies. The decision-makers' contemplations in connection with the choice of board model is still a black box. Thus, to test the arguments, which are put forward in the present study, there is a need for more empirical studies, preferably about the behavioral and social processes in the context of cooperative decision-making.

Except for such behavioral and socio-psychological studies, there is a need for research using other approaches that allow for different board models, such as the contingency approach of Management (Kast and Rosenzweig 1979), population ecology (Hannan and Freeman 1977), and the system of attributes (Milgrom and Roberts 1990). Further research may want to determine the similarities and differences between these approaches in terms of population composition.

The correspondence between the three Board models that are analyzed in this paper, and the case studies referenced above is, however, incomplete. This observation calls for a more elaborated classification of cooperative internal governance models, to be developed in future research on the basis of existing classifications (Chaddad and Cook 2004; Grashuis and Cook 2017).

5 Conclusions

Two questions were deducted from the aim of the study that was stated in Sect. 1. The conclusions of the study are the answers to these questions: (1) Various board models co-exist among cooperatives, because cooperatives operate under different market conditions—some cooperatives have better opportunities in upstream markets and others in downstream markets. (2) A focus on upstream and downstream markets calls for a traditional board model or a management board model,

respectively, while a corporation board model may be problematic when it comes to satisfying member interests.

The traditional board model is well-suited when a cooperative works with collecting a large volume of high-quality agricultural products and processing these into a form where they can be sold on a large market. Such a strategy of low costs through economies of scale means that the need for financial capital is limited, so the members can afford the investments. This strategy also means that the members are able to control it, and there are good opportunities for involvement and cohesion in the membership.

Alternatively, a cooperative could choose a differentiation strategy, which means that members—perhaps together with some external capital—are able to invest in costly processing and marketing assets. Such a strategy requires a professional management, i.e., a *management board model* is appropriate.

The *corporation board model* implies that the Board of Directors has delegated the power to a professional management, which is thus not under strict control by the board. The rationale behind this model is that the cooperative must follow a differentiation strategy due to intense market competition. This board model is, however, doubtable, because the Management has the possibility to promote its own interests rather than the interests of the farmer-members. The members are likely to feel less involved and refrain from both investing in the cooperative and taking part in the governance.

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On the Evolution of Product Portfolio of Cooperatives versus IOFs: An Agent-Based Analysis of the Single Origin Constraint

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Abstract An agent-based model is developed to address the relationship between the ownership structure of an enterprise and the evolution of its product portfolio. The coherence and evolution of a product portfolio is operationalized by transition rules regarding the Moore environment. The distinguishing feature of a cooperative is the single origin constraint according to Cook (1997), which is modelled as a cooperative assigning an infinite lifetime to the first product in its product portfolio, while all other products have finite lifetime. All products of an investor-owned firm (IOF) are assumed to have finite lifetime. Our simulation results show that the single origin constraint pulls the activities of the cooperative in one cluster centered around the first activity, while the IOF's product portfolio develops in a centrifugal way. The cooperative and the IOF are more diversified in a mixed duopoly.

1 Introduction

One of the fascinating aspects of enterprises is the evolution and composition of their product portfolios. Product portfolios evolve due to enterprises expanding current product lines, adding new products, divesting products, conducting mergers and acquisitions, and so on. An important feature of the evolution and composition of product portfolios is coherence. "Firms are coherent to the extent that their constituent businesses are related to one another" and "firms over time add activities that are related to some aspect of existing activities" (Teece et al. 1994, pp. 2–3). In other

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words, firms seem to choose to enter industries that are close to their existing line of business. However, coherent product portfolios of different enterprises may develop in different directions and in different clusters of related products. Therefore, the mechanism driving the evolution and composition of the product portfolio is a central issue to understand any firm's strategy.

Teece et al. (1994) also poses that ownership structure of enterprises is important in the product portfolio composition of an enterprise. Empirical evidence indicates that there is a relationship between ownership structure and diversification behavior. For example, the Dutch sugar industry consisted of two enterprises: the cooperative SuikerUnie, nowadays cooperative Royal Cosun, and the investor-owned enterprise Centrale Suiker Maatschappij (CSM), nowadays Corbion. Both companies started with processing sugar beets, but their product portfolios evolved. Cosun is still processing sugar beets, but it processes also potatoes, produces ingredients and products for food in general, and produces increasingly ingredients for non-food products. The product portfolio of CSM evolved in a different way. CSM diversified in products adding value to sugar, was briefly active in baby food production, specialized in bakery products, and sold its bakery activities in order to have a focus on biological food ingredients and biochemicals. Hendrikse and Van Oijen (2001) show that these diversification differences between cooperatives and IOFs are not limited to the sugar industry. Cooperatives are significantly less diversified than IOFs in unrelated activities (two digit industries) as well as related activities (four digit industries) in a sample of 114 companies in many sectors in the Netherlands. In addition, van der Krogt et al. (2007) find that dairy cooperatives and IOFs have different expansion strategies. In general, "cooperatives prefer mergers, collaboration agreements, joint ventures, and licensing, while IOFs focus on take-over strategies—acquisitions and share holdings" (p. 453). Gomez-Mejia et al. (2010) shows that there are also product portfolio differences regarding other ownership structures. They show that family firms diversify less both domestically and internationally than non-family firms. However, Kamshad (1994) does not find a statistically significant difference between the diversification policies of IOFs and labor managed firms. Similarly, Lane and Lubatkin (1998) concludes that corporate ownership structure does not affect its diversification strategy.

Hansmann (1996) observes that ownership of enterprises is usually characterized by one group of stakeholders. Examples of such groups are the providers of input to the enterprise, the providers of capital, the buyers of the output of the enterprise, the government, a family, and so on. This article compares cooperatives and IOFs. A cooperative is an enterprise owned either by the providers of the input to this enterprise, or by the buyers of its output. Owners of a cooperative like to use the cooperative to add value to their portfolios of assets, which includes each owner's (upstream or downstream) enterprise. An IOF is owned by the providers of capital. The investors of the IOF like to use the enterprise in order to generate a maximum return on their invested capital. This difference between a cooperative and an IOF is expected to have an impact on many aspects of enterprise behavior, such as pricing and production decision (Sexton 1986), principal–agent relationships (Vitaliano 1983), and transactions (Bonus 1986). Cook (1997, p. 87) formulates the single

origin view regarding agricultural cooperatives in order to distinguish them from IOFs. He observes that "... cooperatives ... are "single origin" in that their objective is to optimize the utilization of their member owners output, not to originate products in another area or country. Most cooperatives have ties to producers/members within a particular region, and they do not have the same freedom as IOFs have." This article analyzes the impact of the single origin constraint of cooperatives on the evolution of its product portfolio, and compares it with the product portfolio evolution of an IOF.

Modelling product portfolio evolution is challenging because it has to incorporate the above features. We capture the ownership difference between a cooperative and an IOF by the single origin constraint and develop its implications for the evolution of product portfolio. To be more specific, agent-based methodology is adopted to address the impact of ownership of an enterprise on the evolution of its product portfolio. One reason for this choice of methodology is that formulating a closed form solution for models of "evolving systems of autonomous interacting agents" (Tesfatsion 2002, p. 263) is often not possible. Numerical approaches in terms of solutions are used in such circumstances to determine the implications of the model (Ericson and Pakes 1995). Another reason is that a simulation study enables us to study alternatives and possibilities which are not observed and evaluate them. This may serve theory development as well as formulating recommendations. Agent-based simulations allow us to model the single origin constraint, portfolio coherence, and its evolution, which has not been done before to the best of our knowledge. Additionally, we incorporate agents' decision-making process and product output decisions in order to study product portfolio evolution of an IOF and a cooperative in different competitive settings. As such, this agent-based model is able to address the following question: How does the evolution and composition of the product portfolio of an IOF and a cooperative differ? By comparing cooperatives with IOFs, this paper provides an explanation for the impact of governance structure on product portfolio.

This paper is organized as follows. In Sect. 2, we present the model. Section 3 presents the results. Section 4 concludes and formulates directions for future research.

2 An Agent-Based Model

An agent-based model consists of three elements: the agent, the state of the agent, and the transition rule that governs the evolution of the agent's state. The relationship between these three elements is that each agent is characterized by a state, while actions of the agent regarding the state are governed by transition rules. The agent in our model is either a cooperative or an IOF. The action of the agent consists of adding new products to its product portfolio, i.e., diversification, or removing existing products when the product reaches its lifetime, i.e., divestment.

The state of an agent is defined as its product portfolio. A product in the product portfolio is represented as a cell in a two-dimensional grid, while the set of all products is called the "Portfolio Matrix". Each product in the Portfolio Matrix is characterized by its output level and lifetime. A product's lifetime starts at the period when it is added to the portfolio. The first product of an agent is called the "Original Product." The single origin constraint of cooperatives is modelled by assuming that the lifetime of the original product is infinite, i.e., a cooperative will never divest its first product (which is to be interpreted as the product requiring the input of owners). By contrast, the original product of an IOF has a finite lifetime and will be divested when its lifetime is reached, i.e., the single origin constraint is absent in an IOF. All other products have the same finite lifetime in both enterprises.

A transition rule produces a new state for the agent as a function of the agent's current state. Our basic transition rule is the concentric diversification strategy. It entails that the agent will only diversify into new products related to its current product portfolio.[1] Specifically, agents diversify their product portfolio by picking one of the cells randomly from the set consisting of the existing products and their Moore neighborhoods (Hegselmann and Flache 1998), where the Moore neighborhood of a cell consists of the cell itself and the eight adjacent cells. In other words, the transition rule specifies that the agent randomly selects a new product in the local neighborhood of its current product portfolio in each period.[2] The probability of a cell being selected in the next period is calculated based on the content of the current product portfolio and is stored in the "Probability Matrix." The locality of an agent's transition rule regarding new products serves to capture the coherence feature of a product portfolio, while the transition rules will drive the evolution of the product portfolio.

Figure 1 provides an example of a portfolio matrix and a probability weight matrix of an agent at the start, period 1, and period 2 with a grid of $5 \times 5 = 25$ cells.[3] It will be convenient to label each cell with a number, starting with number 1 for the cell at the top left, the number 2 for the cell to the right of this cell, and so on. At the start, there is only one product (the Original Product) at the center of the portfolio matrix, i.e., cell 13, with an output level of 1 unit. The Moore neighborhood of this product consists of the eight cells adjacent to cell 13, i.e., the cells 7–9, 12, 14, and 17–19. This determines the weights in the probability distribution regarding the choice of a new product/unit/cell in the next period. The probability weight matrix reflects that the new unit/product is selected from the set of cells consisting of the cells 7–9, 12–14, and 17–19 with equal weight 1, and therefore probability 1/9.

The agent will start the evolution of its product portfolio from this original product in period 1. Each product cell in the set consisting of the Moore

[1] Modifications of the transition rule allow to incorporate additional aspects of cooperatives versus IOFs.

[2] Notice that the randomness entails that a divested product can be chosen again by the agent when it is in the neighborhood of the products in the Product Portfolio.

[3] This example is adapted from the example in Hendrikse et al. (2007, p. 427).

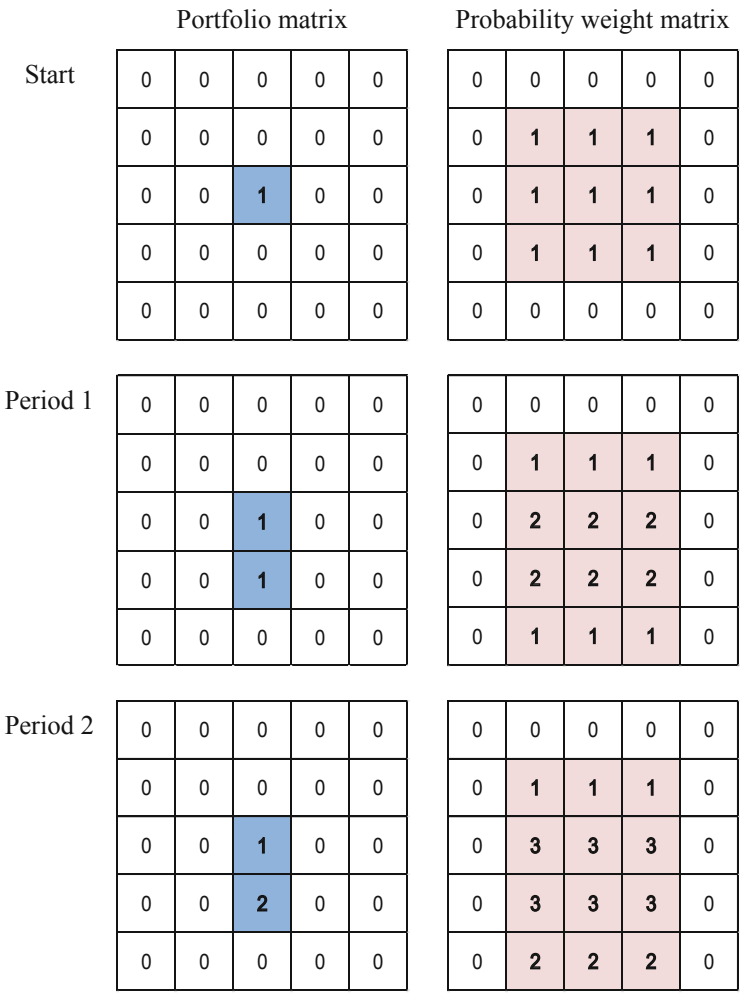


Fig. 1 An example of the evolution of the product portfolio during two periods

neighborhood and the original product has an equal probability of 1/9 of being chosen at the beginning of the next period because there are 9 cells/units/products covering the original product and its Moore neighborhood. Suppose that the product south of the original product, i.e., cell 18, is chosen at the beginning of period 1. It entails that the agent chooses a project which diversifies the portfolio of projects. The new product in cell 18 changes the portfolio of products, and therefore the probability weight matrix. There are nine cells related to the original product, i.e., cell 13 and the eight cells of its Moore neighborhood, and nine cells related to the new product in cell 18, i.e., cell 18 and the eight cells of its Moore neighborhood. Notice that six cells overlap, i.e., the cells 12–14 and 17–19. Each of these cells is therefore twice as likely to be selected in period 2 than one of the cells in the set of cells

consisting of the cells 7–9 and 22–24. This is reflected in the second probability weight matrix. For example, cell 7 will be selected with probability 1/18 in period 2 because it is only in the Moore neighborhood of cell 13, while cell 19 is selected with probability 2/18 because it is in the Moore neighborhood of cell 13 as well as cell 18.

Period 2 in Fig. 1 illustrates that an additional unit of an existing product can be chosen, i.e., cell 18 is chosen again. The impact of this choice on the probability distribution for the choice of cell in the third period is reflected in the probability weight matrix. Consider three examples. First, the original cell and the cells selected in the periods 1 and 2 have cell 17 in their Moore neighborhood. The probability that cell 17 is selected in the third period is therefore $3/(9 + 9 + 9) = 1/9$. Second, cell 9 is present only in the Moore neighborhood of the original product and has therefore probability $1/(9 + 9+ 9) = 1/27$ of being selected in the third period. Finally, cell 24 is part of the Moore neighborhood of cell 19. The probability that this cell is selected in the third period is $2/(9 + 9 + 9) = 2/27$ because product 19 has 2 units due to being selected in period 1 as well as period 2.

3 Results

This section will highlight the impact of the single origin constraint of cooperatives on the composition of the product portfolio. The product portfolio consists of the number of products and the output regarding each product. Consider the following simulation setting.[4] The initial output level of the original product is set to 1 for the cooperative as well as the IOF. The lifetime of the original product of the cooperative is set to infinite, whereas the lifetime of the original product of the IOF is set to 40. The same lifetime of 40 will be assigned to all other products. At the beginning of each period, the agent will choose randomly a product from the local Moore neighborhood of its current product(s) according to the probability matrix. If the chosen cell is a new product, the new product will be assigned an initial output level of 1 unit. If the chosen cell is an existing product already in the agent's portfolio, the agent will increase the output level of the product by 1 unit. The agent will keep a product in the portfolio until its lifetime is reached, and then the product and its output will be removed from the portfolio. We simulate the process of an agent's portfolio evolution over 500 periods.[5] The results of 100 simulation runs are averaged. This section presents the results regarding the evolution of product portfolio in a monopoly (Sect. 3.1) as well as a mixed duopoly (Sect. 3.2).

[4] The source code of the simulation models in this paper is available online at: http://hdl.handle.net/1765/77449

[5] The choice of 500 periods is sufficiently large compared to the lifetime 40 in order to have a clear pattern in the evolution of the product portfolio.

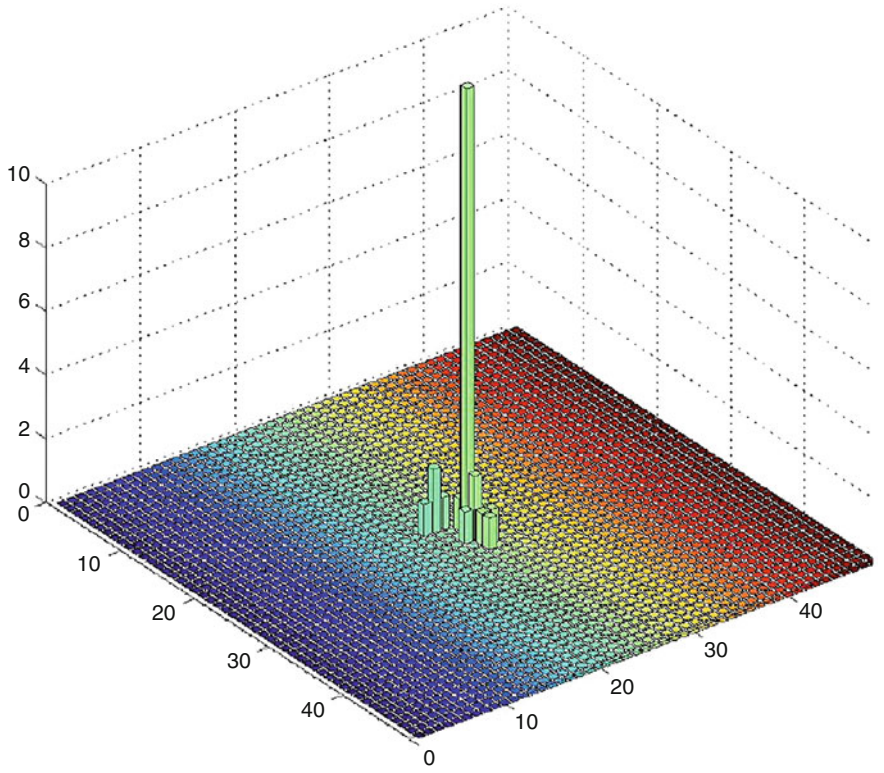


Fig. 2 Product portfolio evolution of a cooperative in a monopoly market

3.1 Monopoly

The evolution of the product portfolio of both enterprises is identical during the first 40 periods. The size of the enterprise grows due to adding new products or adding output to existing products to the product portfolio. The evolution of the product portfolio of a cooperative and an IOF start to diverge after period 40. Figure 2 depicts a typical product portfolio composition of a cooperative after 500 periods. The single origin constraint is responsible for the concentration of products around the original product and the output of this product being large.

Figure 3 depicts a typical product portfolio composition of an IOF after 500 periods. The original product will be eliminated once it has reached its lifetime of 40 periods. This decreases the probability that the original product will be chosen in period 41, but it will not decrease to zero due to products being present in the Moore neighborhood of the original product. The probability that other products are chosen increases, and therefore that products enter the product portfolio which are less close to the original product. The IOF's product portfolio evolves into (clusters of) products which are unrelated to the original product.

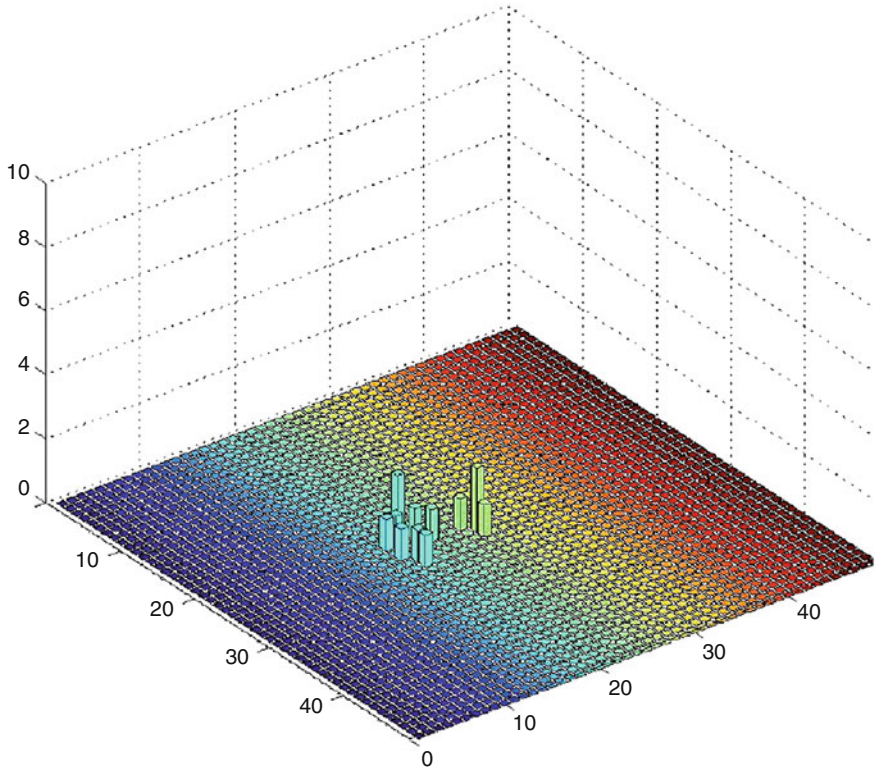


Fig. 3 Product portfolio evolution of an IOF in a monopoly market

Figure 4 presents more details regarding the differences between a cooperative and an IOF regarding product portfolio evolution. The evolution of the product portfolio of an agent is described by several measures, such as the number of products, total output, and average output per product. To capture the relatedness of products in the evolving portfolio, two measures are defined: the average product distance and the average weighted product distance. The average product distance assigns the same weight to all products, while the average weighted product distance weights according to the output of the product.

Figure 4a illustrates the number of products in the product portfolio over time. The cooperative as well as the IOF adds new products to its portfolio. During the first 40 periods, the number of products increases quickly. Subsequently, some products start to reach their lifetime, and will be divested. The number of products of both agents fluctuates and continues to increase, but the increase will be less. For the IOF, the number of products in its portfolio will level off gradually. Given the same lifetime for every product, the speed of divesting products is related to how many products are in the portfolio. Therefore, when the speed of divesting products is equivalent to the speed of adding products to the portfolio, the number of products of

the IOF will become stable. The change of the number of products of the cooperative shows a different pattern. In the course of time, the number of products of the cooperative continues to decrease. The reason is that the output associated with the original product will never be removed due to the single origin constraint, while all other products will be eliminated when they reach the lifetime. This will have an increasing effect on the probability of choosing the original product and the products close to it, and thus decreases the probability of choosing new products. This results in the decreasing number of products of the cooperative.

Figure 4b, c depict the total output and the average output per product. Their development is directly linked to the number of products. For the IOF, the total

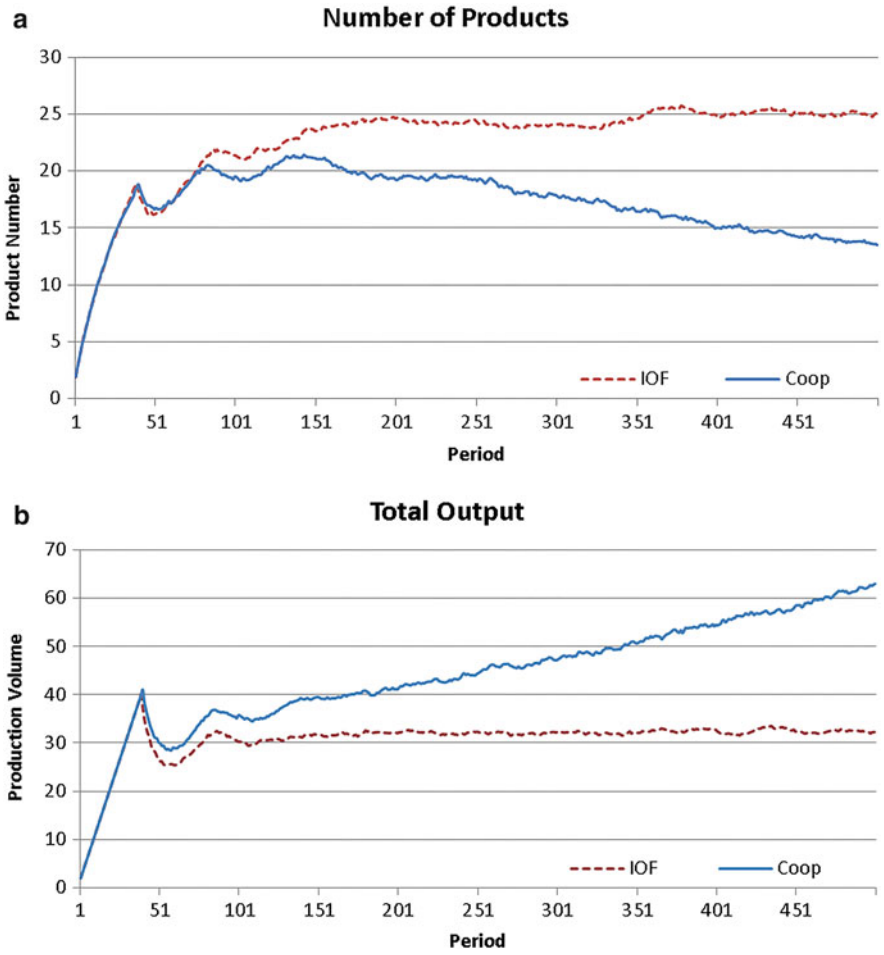


Fig. 4 Various indicators of the evolution of the product portfolio of the IOF (dotted line) and the cooperative (solid line). (**a**) Number of products (**b**) Total output (**c**) Average output per product (**d**) Average product distance (**e**) Average weighted product distance

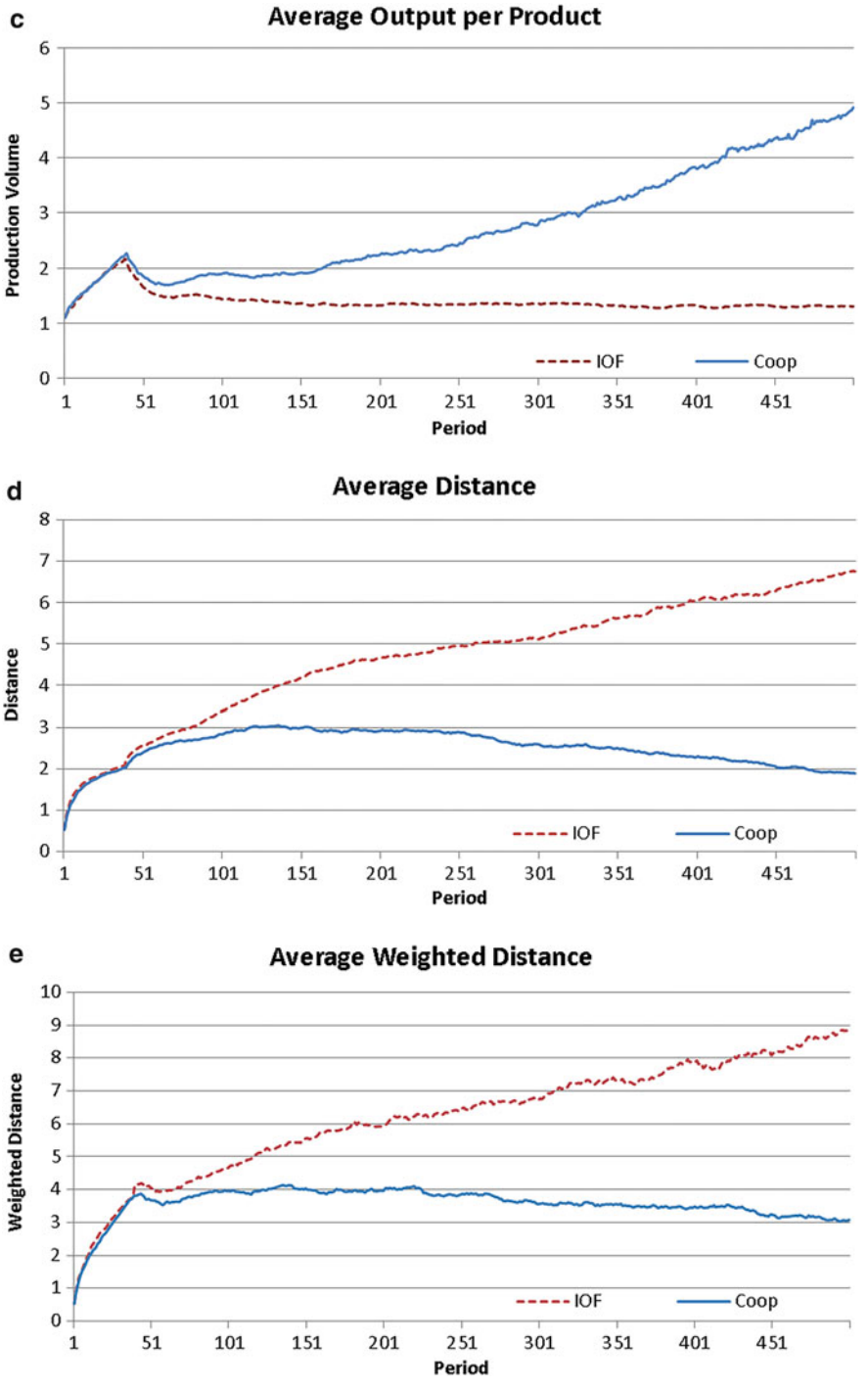


Fig. 4 (continued)

output and the average output per product will level off along the periods as well. This indicates that the IOF's product portfolio will reach a relative stable composition in the long term. The IOF will keep a certain number of products and maintain a constant output level. By contrast, because the probability of choosing new products is decreasing over time for the cooperative, it will focus on increasing the output of the original product. Since the original product and its associated output will never be removed, the output of the cooperative will continue to increase.

The increasing average (weighted) product distance of the IOF depicted in Fig. 4d, e indicate that the area covered by the IOF's product portfolio widens over time. It entails that after the original product of the IOF has reached the lifetime and has been divested, the IOF's portfolio gradually moves to those products with a large distance to the original product. The results of the analysis of the two enterprises in a monopoly setting are summarized in Proposition 1.

Proposition 1 The single origin constraint pulls the products of the cooperative in one cluster centered on the original product, limits the diversification level of the cooperative, and increases the output of the original product continuously. The IOF's product portfolio evolves into clusters of products.

The literature regarding cooperatives shows that there are substantial differences between cooperatives in terms of their output policy. Some cooperatives control the input delivered by their members. These centralized cooperatives maximize the members' total surplus, i.e., the total profit of both the cooperative processor and member farms (LeVay 1983). Other cooperatives accept all the inputs delivered by their members, and turn it into output. These decentralized cooperatives maximize the total output of products and serve the members at cost as long as no loss on its operation is incurred. Deng (2015) has analyzed the impact of these different output policies on the evolution of product portfolio in the above simulation model. The decentralized cooperative produces a higher output level per product than the centralized cooperative, but it has a lower total surplus. However, the comparison with the IOF is qualitatively the same in terms of product portfolio dispersion.

3.2 Mixed Duopoly Market

Consider now the competition between a cooperative and an IOF, i.e., a mixed duopoly market. Simulating a mixed duopoly market is more involved due to the interactions between the two enterprises. Recall that in the monopoly market, when an agent chooses a product from its local neighborhood, there are only two possibilities. If the product is already in the portfolio, the agent will simply increase its output level; if the product is a new product, the agent diversifies. In the duopoly market two more possibilities arise, and therefore additional transition rules are required. The first possibility is that an agent chooses a product that is not in its own portfolio but in the portfolio of the rival. If both agents are producing the same product, i.e., they are competing in this product market, then each enterprise has to

choose its optimal output level for this product. This output level is determined by the equilibrium output level in a Cournot quantity competition game. It is also assumed that the incumbent producer cannot prevent the entry of the other enterprise. The second possibility is that the chosen product is already in the portfolios of both agents. We assume that an enterprise will adjust its output based on the reaction function of the Cournot competition game until the output of that product reaches equilibrium. If a product's output level has reached its equilibrium, then the product will not be chosen again in the next period.

The results are presented in Fig. 5. Figure 5a shows that the number of products of the cooperative is still lower than that of an IOF, i.e., the cooperative (IOF) has around 8 (11) products in its portfolio. These products numbers of the enterprises are larger than when they are monopolists. Figure 5b, c illustrate that the cooperative has a higher level of total output and output per product than the IOF does. Figure 5d shows that the average product distance of the IOF is higher than that of the cooperative, and it levels off after some periods in the duopoly market. Notice that the average product distance of the IOF keeps increasing in the monopoly market (Fig. 5d). This means that, when an IOF is competing with a cooperative, the competition prevents the IOF's portfolio from deviating from the original product. This is because the products in competition are close to the original product as the portfolio of the cooperative concentrates around the original product due to the single origin constraint. This part of the IOF's portfolio continues to evolve as a products cluster, which is relatively close to the original product. Therefore, the average product distance of the IOF doesn't keep increasing, i.e., the dispersion of the portfolio of the IOF in the duopoly market is lower than that in the monopoly market, due to the interaction between the enterprises. However, Fig. 5e shows that the average weighted product distance of the cooperative is higher than that of the IOF.

Figure 5f compares the average market shares of the cooperative and the IOF. For those products in competition, the cooperative enjoys 60% of the market share and the IOF 40%. This is in line with the result of Tennbakk (1995) that the cooperative will produce more than the IOF in a mixed duopoly market. Figure 5g shows that the number of products in competition reaches 8 at the beginning of the simulation. It means that the competition between the enterprises concentrates on the products around the original product at the start. After 40 periods, some products reach their lifetime and are divested. It implies that the number of products in competition decreases and levels off. Approximately, the enterprises are competing in five products, and the output equilibrium is reached when there are three products. The results of the mixed duopoly market simulation are summarized in the following proposition.

Proposition 2 In the mixed duopoly market

- the cooperative is less diversified than the IOF.
- the cooperative and the IOF have a higher diversification level than in the monopoly market.
- the dispersion of the IOF's product portfolio is lower than in the monopoly market.

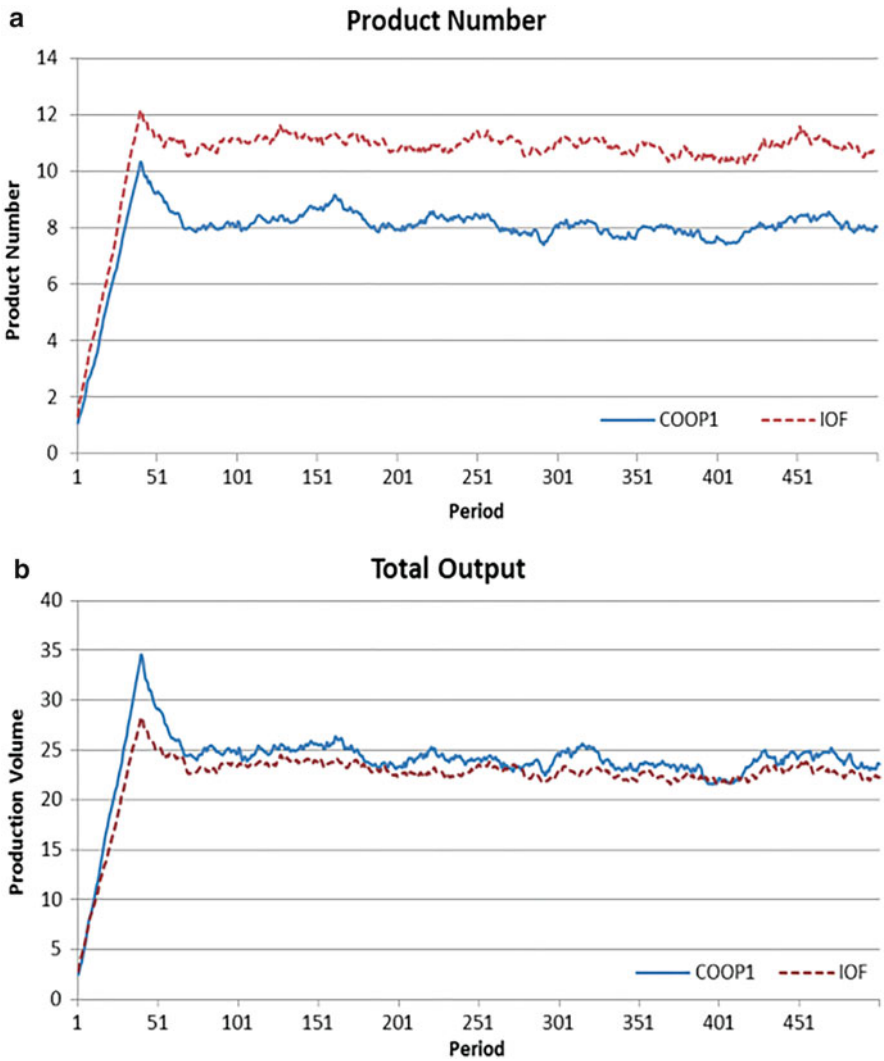
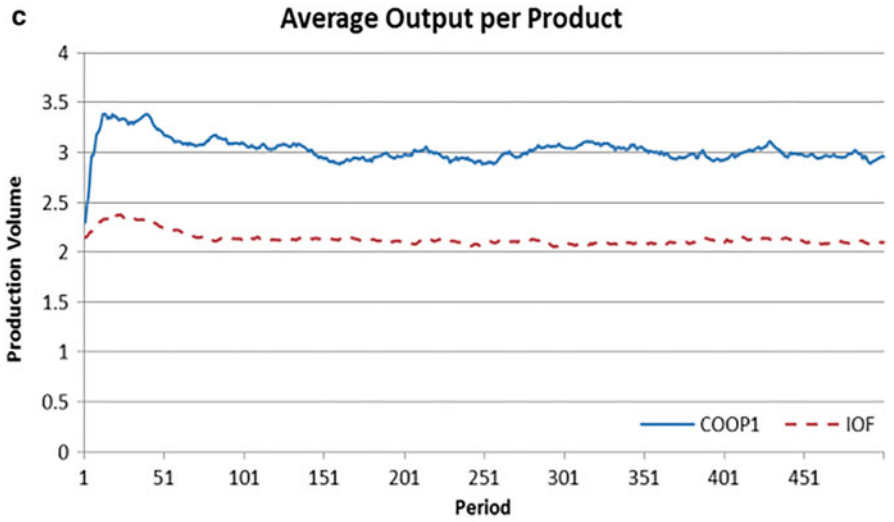


Fig. 5 Simulation results of the mixed duopoly market. (**a**) Number of products. (**b**) Total output. (**c**) Average output per product. (**d**) Average product distance. (**e**) Average weighted product. (**f**) Market share. (**g**) Products in competition and in equilibrium



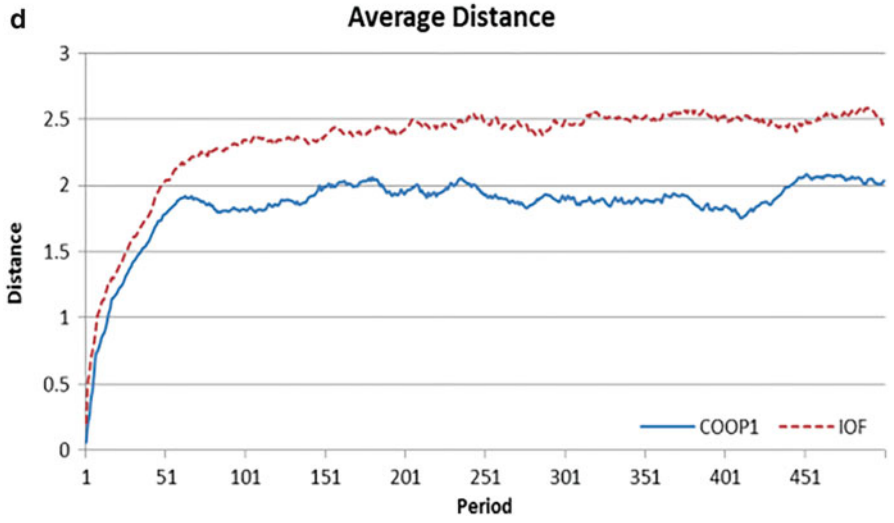
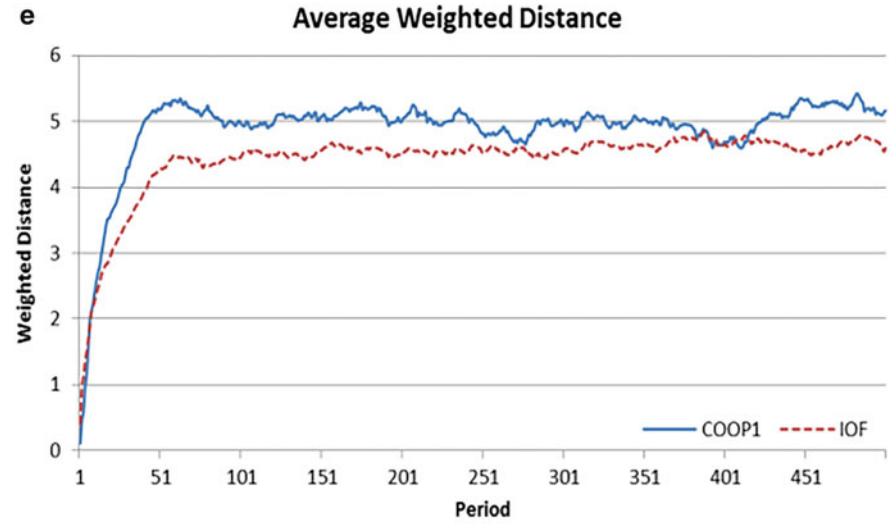
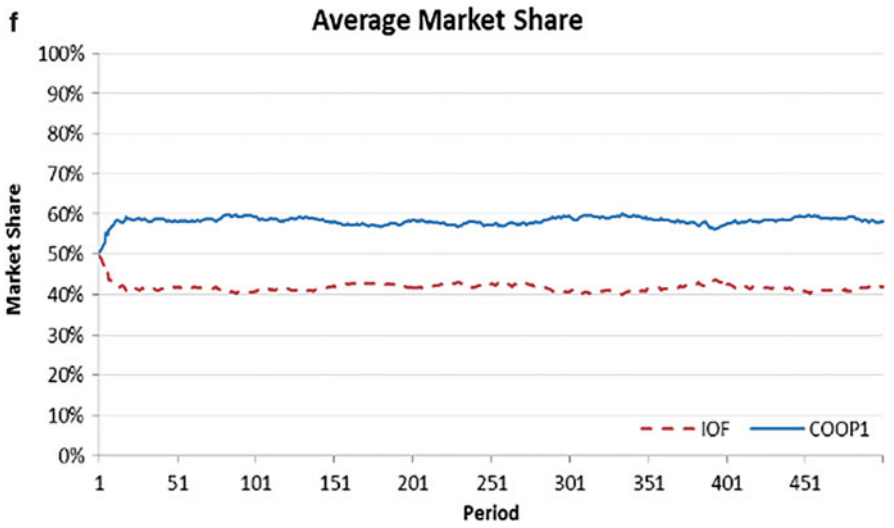


Fig. 5 (continued)





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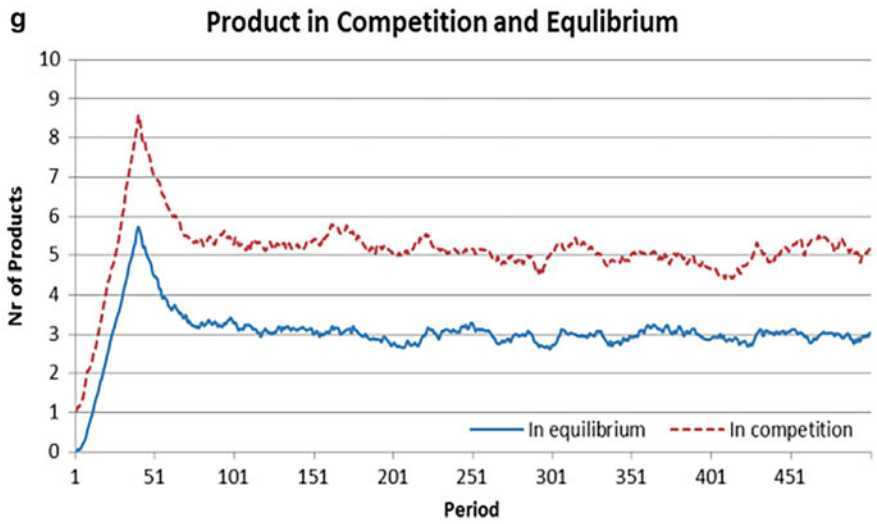

Fig. 5 (continued)

4 Conclusion

An agent-based model is developed to investigate the dynamics of the product portfolio of an enterprise. We focus on the impact of the single origin constraint of cooperatives when agents adopt a concentric diversification strategy. Concentric diversification and portfolio coherence are made operational by agent-based methodology. The agents diversify into new products in the Moore environment of the current product portfolio, while the single origin constraint is modelled by assigning an infinite lifetime only to the first product of the cooperative. The simulation results show that the single origin constraint pulls the products of the cooperative in one cluster centered on the original product. This centralisation effect decreases the probability of choosing new products and increases the output of the original product continuously. This accounts for the lower diversification level of cooperatives. Without single origin constraint, the product portfolio of the IOF evolves in clusters of related products that deviate from the original product. In the long term, the IOF will be more diversified than the cooperative and keeps a stable number of products in its portfolio. Competition between enterprises is addressed in a mixed duopoly market. The competition between the enterprises modifies the diversification and divestment process. In the mixed duopoly market, the cooperative still has fewer products in its portfolio, and has a larger total and per product output than the IOF. However, both the cooperative and IOF are more diversified in the duopoly market than in the monopoly market. Another result is that competition induces the IOF's portfolio to stay closer to the original product.

There are various possibilities for future research. First, the mixed duopoly setting investigated the impact of competition on the composition of the product portfolio of enterprises in a mixed duopoly. Subsequent research may address the stability of this industry structure when enterprises have the possibility to choose their ownership structure. This requires an analysis of a market consisting of two cooperatives and a market of consisting of two IOFs. Additionally, if enterprises have also the choice of leaving the market, then an enterprise may strategically choose its product portfolio composition to induce exit by the other enterprise. Second, our simulations show that the product portfolio of the Coop shows no dispersion, while the product portfolio of the IOF shows dispersion. Future research may address the robustness of this result. Are there parameter values, or variations in the setup of the model, such that the product portfolio of the Coop shows dispersion, or that the product portfolio of the IOF shows no dispersion? Possible variations of our model addressing these questions are differences in the lifetime between the products of an IOF and a cooperative, enterprise differences in terms of the periods in which new products are introduced, and varying the size of the Moore neighborhood.

Third, the evolution and composition of product portfolios have been addressed, but this does not determine the direction of the growth activities. Modelling the portfolio problem and the horizon problem of cooperatives (Vitaliano 1983) along the lines of this paper may generate some directionality in the product portfolio. For example, focus in the Moore neighborhood may account for the difference between related and unrelated diversification (Hendrikse et al. 2007), while the lifetime parameter is a natural ingredient of the model for capturing the difference between short and long run projects. Another source of directionality regarding diversification decisions may be the background of the CEO (Ang et al. 2014). In addition, member-dominated leaders have more focus on, and skills regarding, technical-operations than diversification (Cook 1994). Fourth, according to the resource-based view, resources of firms will shape their diversification pattern (Penrose 1959). Compared with IOFs, cooperatives are often viewed to be short of two types of resources. Cooperatives have less financial resources at their disposal for product diversification because their equity shares are not transferable and they are not able to raise capital from stock markets (Vitaliano 1983; van Oijen and Hendrikse 2001). As a consequence, cooperatives may have fewer means to diversify than IOFs. This may result in the hypothesis that the frequency of product portfolio changes is lower for a cooperative than an IOF. Agent-based methodology is a fruitful methodology to explore these ideas.

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Cognition and Incentives in Cooperatives

Anyan Wei and George WJ Hendrikse

Abstract We extend the results of Feng and Hendrikse (2012) by investigating the relationship between cognition and incentives in cooperatives versus investor-owned firms (IOFs) in a multi-tasking principal-agent model. The principal chooses the incentive intensity as well as the precision of monitoring, while the agent chooses the activities. We establish that a cooperative is uniquely efficient when either the synergy between the upstream and downstream activities or the knowledgeability of the members regarding the cooperative enterprise is sufficiently high.

> . . . most farmers cannot see any further than the farm gate and that directors of agricultural co-operatives . . . are production, rather than market oriented. (LeVay 1983, p. 20)

1 Introduction

The institutional structure of production differs between countries and sectors (Bijman and Iliopoulos 2014). For example, cooperatives have a market share of 40% in the European agricultural sector, varying from 65% in the Scandinavian countries to less than 20% in countries in South-Eastern Europe. Within the agricultural sector, the market share of cooperatives is 57% in dairy, 42% in fruits and vegetables, 36% in sugar, and 4% in sheep meats. Governance structures differ also in terms of resilience. For example, Co-operatives UK (2021) reports that the number of cooperatives operating across the UK grew by 1.2% between 2020 and 2021. The overall message of these numbers is that cooperatives have apparently features that make them survive, or even create superior value, in competition with other enterprises. This article formulates a model to determine the circumstances when a cooperative creates more value than other enterprises. To be more specific,

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we investigate how the provision of incentives and the allocation of cognitive units in a cooperative may create more value than enterprises owned by investors.

A cooperative enterprise is owned by a society of members, where members have an ownership relationship as well as a user relationship, either as a supplier or buyer, with their cooperative enterprise. Advantages and disadvantages of the cooperative governance structure reside either in the ties between the members and the cooperative enterprise, or in the ties between members in the society of members. Examples of advantages due to the member–enterprise relationship are the elimination of double marginalization, the assurance of access, countervailing power, and member services. Advantages due to the ties between the members are learning and coordination. Disadvantages of cooperatives are free riding between the members and the misalignment of the interests between the members and the management of the cooperative enterprise. This is in contrast to an IOF where the interests of the investors are most important, and may result in the behavior of the cooperative enterprise being different than the behavior of an IOF.

Running a farm is also a complicated activity. Knowledge is required regarding land, seeds, animals, machinery, accounting, information and communication technologies, robotics, and other enterprises adjacent to it in the supply chain. A farmer may acquire this knowledge by education, consulting colleagues, buying advice, or becoming a member of a cooperative in which the society of members may provide or organize the information. Co-operatives may be valuable in such an environment. LeVay (1983, p. 33) observes that "It may be that co-operatives are a good means for disseminating information and for feeding back to producers the relevant messages in order best to match supply with demand." However, LeVay (1983, p. 20) states also that "As for the directors of agricultural co-operatives . . . doubts persist as to their competence persists in the literature." In such cases, many of the strategies of the cooperative tend to be less effective, as farmers are asked to make decisions, or formulate directions, about projects without having sufficient expertise. Similar statements can of course be formulated regarding the management of an upstream or downstream enterprise and the competence of its owners/management regarding issues at another stage of production. This is reflected by Cook (1994, p. 56) when he writes regarding the focus in different enterprises that "Cooperative management . . . must concentrate more planning efforts on developing entrepreneurial and operating abilities rather than on portfolio-related objectives. This places a premium on the technical-operations, people-oriented resource allocation manager than on the financial-portfolio, diversification-oriented manager." These observations ask for a comparative institutional analysis of cooperatives and IOFs from a cognitive perspective in order to determine the circumstances when cooperatives create more value than other types of businesses.

Insights regarding organizations have been formulated mainly from a conflicting interests perspective during the last 50 years. This has generated a wealth of insights regarding the efficient resolution of incentive issues (Milgrom and Roberts 1992; Bolton and Dewatripont 2005; Gibbons and Roberts 2012). An important assumption in this literature is that individuals have unlimited cognitive capabilities to address the issues they are facing. However, the cognitive capacities of people are

often not sufficient to grasp all the complexities of a problem due to genetic endowments, education, and experiences. This has been recognized in the scientific literature a long time ago (Simon 1947; Simon and Newell 1971; Cyert and March 1963). Arrow (1974) argues even that bounded cognition is the reason for the existence of organizations because arranging people in a smart way allows the organization to do more than what they can achieve individually. Recently, Kumbure et al. (2020) argue that industrial performance resides in cognitive abilities. Cao et al. (2020) and Helfat and Peteraf (2015) suggest that cognitive ability may help to explain why some top managers have more effective abilities than others to anticipate, interpret, and respond to the demands of an evolving environment. Other recent studies show that cognitive ability is an important factor in the successful decision-making process and the effective organizational performance of entrepreneurs. This applies especially in dynamic environments (Bajwa et al. 2017).

The lack of an appropriate game theoretic equilibrium concept regarding limited cognition has hampered the development of insights regarding organizations from a cognitive perspective. However, recent advances in the formulation of alternative equilibrium concepts (Arad and Rubinstein 2019; Goeree and Louis 2021) are triggering a renewed interest in formulating insights from a limited cognition perspective. Examples are Dessein and Santos (2021) and Gibbons et al. (2021). This article is in line with Milgrom and Roberts (1992) and Dessein and Santos (2021). It investigates the impact of the cost of attention on the value creation of cooperatives versus investor-owned firms in a multi-tasking principal-agent model (Holmstrom and Milgrom 1991; Feng and Hendrikse 2012). The standard multi-tasking principal-agent model focuses on the incentive intensity. Our model chooses the incentive intensity as well as the precision of monitoring.[1] The choice of the allocation of cognitive units to the precision of monitoring determines in our model the uncertainty of the environment.

The difference between a cooperative and an IOF is driven in our model by the assumption that a party in a supply chain is more knowledgeable of the production activities at the own stage of production. It entails that the owners of a cooperative have a better understanding of the production activities at their stage of production than at the stage of the cooperative enterprise. The implications of this differential endowment of cognitive abilities for the activities of a cooperative versus an IOF are determined by addressing the following questions: How do cooperatives and IOFs react to external risks? How does the monitoring intensity affect the incentive intensity? In which circumstances is a cooperative the unique efficient governance structure?

[1] Other approaches regarding the analysis of the efficiency of cooperatives from a bounded cognition perspective are screening errors (Hendrikse 1998), bias (Deng and Hendrikse 2014), inaccurate recognition of the environment (Hendrikse 2021), partitioning (Hendrikse 2021), and local neighborhoods (Deng and Hendrikse 2022).

The article is organized as follows. Section 2 formulates the model. Section 3 determines the equilibrium incentive and monitoring intensity. Section 4 formulates the equilibrium analysis in terms of the comparative statics results (Sect. 4.1) and efficiency (Sect. 4.2). Section 5 concludes.

2 Model

Consider an upstream (u) and a downstream (d) party. Define a_{ij} as the activity level by party i at stage j, where $i, j \in \{u, d\}$. The output level by party i at stage j is $z_{ij} = a_{ij} + x_j$, where x_j reflects the random events regarding the output z_{ij} that cannot be controlled by party i. The compensation contract specifies the wage w paid as a linear function of performance measure p, i.e.,

$$w = \alpha + \beta p,$$

where α stands for the fixed salary and β for the bonus rate (incentive intensity). The technology of performance measurement takes the form:

$$p = g_u z_{iu} + g_d z_{id},$$

where g_u and g_d are the performance measurement parameters for upstream and downstream output, respectively. The principal's payoff (π) is the difference between the agent's total contribution to the value of the firm (y), the wage paid (w), and the monitoring cost ($M(V)$):

$$\pi = y - w - M(V).$$

The monitoring cost $M(V)$ is defined as the minimum amount that must be spent by the principal to achieve a variance level as low as V (Milgrom and Roberts 1992) and is specified as

$$M_i(V) = \frac{\omega_{iu}}{V_u} + \frac{\omega_{id}}{V_d},$$

in which $\omega_{ij} \geqslant 0$ stands for the cognition cost of party i at stage j. (Cognition cost is interpreted as the inverse of cognitive ability.) The payoff of agent i is the difference between the wage received, the cost of the actions taken, and the risk premium:

$$U = w - c(a_{iu}, a_{id}) - \frac{1}{2} r \mathrm{Var}(w),$$

where r is defined as the exogenous risk aversion rate. The cost function is based on Dixit (2002):

$$c = \frac{1}{2}{a_{iu}}^2 + ka_{iu}a_{id} + \frac{1}{2}{a_{id}}^2.$$

The parameter k captures interdependencies between the upstream and downstream activities in the production chain. There are no interdependencies when $k = 0$. When $0 < k < 1$, the two tasks are substitutes, i.e., an increase in a_{iu} increases the marginal cost of activity in a_{id}, therefore enhancing the marginal incentive payment for greater output of a_{iu} (but drawing activity away from a_{id}). When $-1 < k < 0$, the two tasks are complements, implying that the interaction between the two tasks strengthens incentives for both.

The total output of the firm generated by the agent's activities is denoted by y. Denote the marginal value added of activity a_{iu} and a_{id} by f_u and f_d. The production function is

$$y = f_u z_{iu} + f_d z_{id} + \varepsilon,$$

where ε is a stochastic variable with an expected value of zero, representing the noise in the production process that is beyond the agent's control.

Our analysis is focused on comparing the value created by a supply chain consisting of a cooperative with upstream ownership with a supply chain where each stage of production is owned by a separate investor. A distinguishing feature of the cooperative enterprise is that it has no public listing, which is reflected by taking $g_d = 0$ in the performance measurement technology (Feng and Hendrikse 2012). The other production function and performance measurement parameters of the cooperative are $f_u > 0$, $f_d > 0$, $g_u > 0$. The downstream IOF is characterized by the parameters $f_u = 0, f_d > 0$, $g_u = 0$, $g_d > 0$.

The sequence of decisions is as follows. The principal chooses simultaneously the incentive and monitoring intensity in the first stage of the game. The agent chooses whether to accept or reject the contract in the second stage of the game. In the third stage of the game, the agent chooses the level of each activity.

3 Equilibrium

The Nash equilibrium of the game is determined by using the method of backward induction. We start therefore at the third stage of the game. The agent chooses his level of activities to maximize his own expected utility, i.e., $\max_{a_{iu}, a_{id}} E(U)$, where:

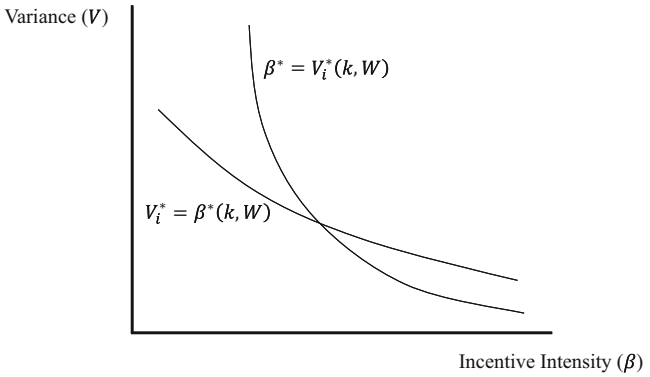


Fig. 1 Incentive intensity principle and monitoring intensity principle

$$E(U) = E\left[w - c(a_{iu},\ a_{id}) - \frac{1}{2}r\mathrm{Var}(w)\right] = \alpha + \beta(g_u a_{iu} + g_d a_{id}) - \left(\frac{1}{2}a_{iu}^2 + k a_{iu} a_{id} + \frac{1}{2}a_{id}^2\right) - \frac{1}{2}r\beta^2(V_u + V_d),$$

where V_u is $g_u^2\mathrm{Var}(x_u)$ and V_d is $g_d^2\mathrm{Var}(x_d)$, and V_u and V_d are assumed to be independent.[2]

Under the first-order condition with respect to a_{iu} and a_{id}, we have the agent's optimal activities $a_{iu}^*(\beta) = \frac{\beta}{1-k^2}(g_u - k g_d)$ and $a_{id}^*(\beta) = \frac{\beta}{1-k^2}(g_d - k g_u)$. Anticipating these choices by the agent in the final stage of the game, the principal chooses the optimal β^*, V_u^*, and V_d^* to maximize the total surplus, that is $\max_{\beta, V_u \text{ and } V_d} E(\pi + U)$. This results in the reaction functions regarding the incentive intensity and the monitoring intensities. The incentive intensity principle, i.e., the reaction function of β, is $\beta^*(V_u, V_d) = (f_u g_u - k f_d g_u)/((1 - k^2)r(V_u + V_d) + g_u{}^2)$. Notice that it is negatively related to the variance, i.e., the principal will tend to set a relatively large basic salary combined with a small bonus rate when the variance is high in order to limit the expose of the agent to risk. The monitoring intensity principles, i.e., the reaction functions of V_u and V_d, are $V_u^* = \frac{1}{\beta}\sqrt{\frac{2\omega_{uu}}{r}}$ and $V_d^* = \frac{1}{\beta}\sqrt{\frac{2\omega_{ud}}{r}}$. These reaction functions are depicted in Fig. 1, where $W = \sqrt{\omega_{uu}} + \sqrt{\omega_{ud}}$. The shape of the downward sloping line is due to the second-order derivative being positive.

The intersection of these reaction functions results in the equilibrium β^{**}, V_u^{**}, and V_d^{**} of a cooperative, and is formulated in proposition 1.

[2] We have analyzed a correlation parameter regarding the variances, but the results remain qualitatively the same. Additionally, this parameter would play the same role as the synergy parameter k, but with more complicated expressions. So we assume that the variances are independent.

Proposition 1 *The optimal bonus rate and desired levels of the variances are*

$$\beta^{**} = \frac{1}{g_u^2}\left[(f_u g_u - k f_d g_u) - \sqrt{2r}\left(1-k^2\right)W\right];$$

$$V_u^{**} = \frac{\sqrt{\frac{2\omega_{uu}}{r}}g_u^2}{\left[(f_u g_u - k f_d g_u) - \sqrt{2r}\left(1-k^2\right)W\right]};$$

$$V_d^{**} = \frac{\sqrt{\frac{2\omega_{ud}}{r}}g_u^2}{\left[(f_u g_u - k f_d g_u) - \sqrt{2r}\left(1-k^2\right)W\right]},$$

with $W < \frac{f_u g_u - k f_d g_u}{\sqrt{2r}\left(1-k^2\right)}$ *(due to* β^*, V_u^**,and* $V_d^* > 0$*).*

The total surplus for a cooperative is

$$E(\pi + U) = \left(\frac{f_u - k f_d}{\sqrt{2\left(1-k^2\right)}} - \frac{\sqrt{r\left(1-k^2\right)}}{g_u}W\right)^2 \tag{1}$$

The total surplus decreases when cognition cost rate ω_{uu} and ω_{ud} increase. The maximum value $E(\pi + U) = \frac{(f_u - k f_d)^2}{2\left(1-k^2\right)}$ is obtained when ω_{uu} and ω_{ud} are equal to 0, i.e., the introduction of the variance reduces the overall total surplus. Note that the total surplus function only makes sense when $W < \frac{f_u g_u - k f_d g_u}{\sqrt{2r}\left(1-k^2\right)}$. If the total variance is too large to handle, the agent will not take any activity, resulting in an overall output and cost of 0.

4 Equilibrium Analysis

4.1 Comparative Statics[3]

The impact of changes in ω_{iu}, ω_{id}, and k on the payoff maximizing bonus rate β^{**} and variance V^{**} will be determined. The appendix shows that an increase in ω_{iu}, ω_{id}, and k will decrease the payoff maximizing bonus rate β^{**}.

Proposition 2 *An increase in the cognition cost rate* ω_{iu}, ω_{id} *or the interdependency parameter k will generate a lower level of* β^{**}*, i.e.,*

[3] All proofs in this section can be found in the Appendix.

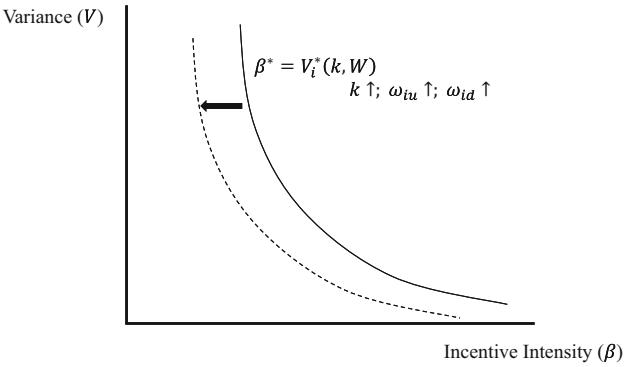


Fig. 2 Payoff maximizing incentive intensity

$$\frac{\partial \beta^{**}}{\partial k} < 0, \frac{\partial \beta^{**}}{\partial \omega_{iu}} < 0, \frac{\partial \beta^{**}}{\partial \omega_{id}} < 0.$$

It entails that markets with low supply chain synergies/interdependencies, i.e., a high level of k, and low knowledgeability of the members of the cooperative, i.e., the cognition cost parameters are high, are expected to have a relatively low incentive intensity. In the reaction functions above, we can see that a decrease in chain interdependency leads directly to a decrease in incentive intensity; the mechanism of the cognition cost parameter is a little more complex: a higher cognition cost parameter first generates a higher desired variance level, then leads the incentive intensity to decrease (Fig. 2).

Similarly, the comparative statics results regarding the monitoring intensity are formulated in Proposition 3.

Proposition 3 *An increase in the cognition cost rate ω_{iu}, ω_{id}, or the interdependency parameter k will generate a higher level of V^{**}, i.e.,*

$$\frac{\partial V^{**}}{\partial k} > 0, \frac{\partial V^{**}}{\partial \omega_{iu}} > 0, \frac{\partial V^{**}}{\partial \omega_{id}} > 0.$$

Figure 3 depicts proposition 3. The payoff maximizing variance level increases when the cognition cost parameters increase or the chain interdependencies decrease. Similarly, this causal mechanism can be obtained in the reaction functions: a reduction in chain interdependency first reduces the incentive intensity and therefore leads to an increase in the desired variance level; while the effect of the cognition cost parameter is intuitive, with lower knowledgeability, the desired variance level increases.

The impact of a change in ω_{iu}, ω_{id}, or k on the equilibrium incentive intensity and variance is depicted in Fig. 4. The two solid curves depict the incentive and monitoring intensity principles. The intersection of the dotted curves shows the

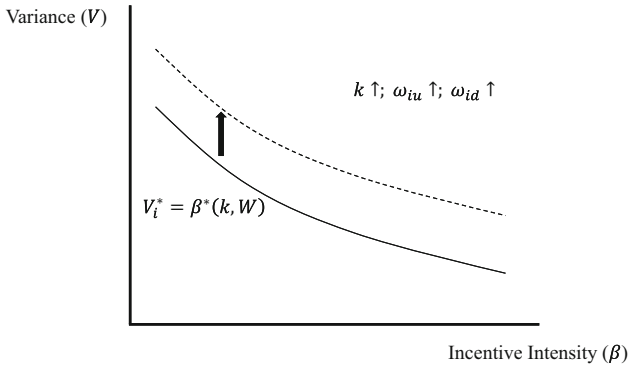


Fig. 3 Payoff maximizing monitoring intensity

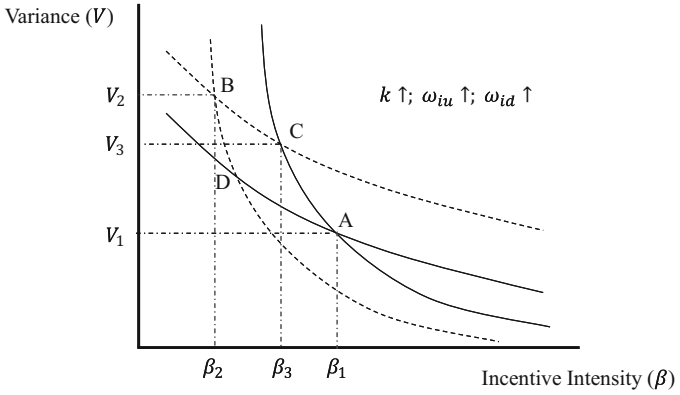


Fig. 4 Comparative statics

comparative statics effect of both principles. The overall equilibrium result due to the interaction between the incentive intensity and monitoring intensity principles shows that when the chain interdependency becomes lower (k increases) or the cognitive ability drops (ω_{iu}/ω_{id} increases), i.e., the incentive intensity decreases and the desired variance level increases, with these two effects reinforcing each other. The equilibrium shifts from point A to point C due to the incentive effect, and from C to B due to the monitoring effect (It can also follow the sequence from A to D to B). This is actually a combination of the two causal effects mentioned above. A low chain interdependency directly reduces the incentive intensity, leading to an increase in the desired variance level (which is negatively correlated with the incentive intensity), thus pushing the incentive intensity to decrease further. In other words, when principals observe a reduction in the chain synergy (meaning a reduction in the externality of upstream or downstream activities), they will reduce the incentives for agents to act by, for example, reducing the bonus rate. Notice also that a reduction in the bonus rate will lead to a reduction in the intensity of the principals' monitoring of

the agents' actions, resulting in an increase in the variance of the agents' actions. Finally, an increase in the variance of the agents' actions will make it more difficult for the principals to distinguish whether the agents are working diligently or negligently, thus further reducing the bonus rate.

The comparative statics results regarding the total surplus of the cooperative are formulated in proposition 4.

Proposition 4 *The impact of a change in ω_{iu}, ω_{id}, or k on the equilibrium surplus of the cooperative is*

$$\frac{\partial E(\pi+U)}{\partial k}<0, \frac{\partial E(\pi+U)}{\partial \omega_{iu}}<0, \frac{\partial E(\pi+U)}{\partial \omega_{id}}<0.$$

4.2 Efficiency

The efficient governance structure is determined by comparing the total surplus of the cooperative, which is formulated in expression (1), with the sum of the surplus of an upstream and downstream IOF. The surplus of each IOF is[4]

$$E(\pi+U)=\left(\frac{f_u}{\sqrt{2\left(1-k^2\right)}}-\frac{\sqrt{r\left(1-k^2\right)}}{g_u}\sqrt{\omega_{uu}}\right)^2 \tag{2}$$

$$\text{with } \sqrt{\omega_{uu}}<\frac{f_u g_u}{\sqrt{2r}\left(1-k^2\right)}, \text{and}$$

$$E(\pi+U)=\left(\frac{f_d}{\sqrt{2\left(1-k^2\right)}}-\frac{\sqrt{r\left(1-k^2\right)}}{g_d}\sqrt{\omega_{dd}}\right)^2 \tag{3}$$

$$\text{with } \sqrt{\omega_{dd}}<\frac{f_d g_d}{\sqrt{2r}\left(1-k^2\right)}.$$

We have calculated the closed-form result, but it is too lengthy to lead us to any meaningful and interesting conclusion in general.[5] We decided to look at two boundary cases. Consider first the case when the IOFs have the highest level of cognitive abilities to reduce the variance to 0 without any monitoring cost ($w_{uu}=w_{dd}=0$, $\omega_{ud}>0$). This simplifies the comparison to

[4]The figures regarding the surplus of each governance structure are presented in the Appendix.

[5]The closed form result is presented in the Appendix.

$$\left(\frac{f_u - kf_d}{\sqrt{2(1-k^2)}} - \frac{\sqrt{r(1-k^2)}}{g_u}\sqrt{\omega_{ud}}\right)^2 - \frac{f_u^2}{2(1-k^2)} - \frac{f_d^2}{2(1-k^2)} \quad (4)$$

A cooperative is efficient when the value of function (4) is larger than 0, i.e.,

$$E(\pi + U) = \frac{(f_u - kf_d)^2 - f_u^2 - f_d^2}{2(1-k^2)} - \frac{\sqrt{2r}(f_u - kf_d)}{g_u}\sqrt{\omega_{ud}} + \frac{r(1-k^2)}{g_u^2}\omega_{ud} > 0.$$

The only solution is

$$\sqrt{w_{ud}} < \frac{g_u}{\sqrt{2r}(1-k^2)}\left[(f_u - kf_d) - \sqrt{{f_u}^2 + {f_d}^2}\right] \text{ when } k < \frac{f_u - \sqrt{{f_u}^2 + {f_d}^2}}{f_d} \text{ (to ensure the non-negativity of } W).$$

Figure 5 below depicts the relationship between the cognitive ability of the cooperatives and the interdependency parameter.

The cooperative is efficient for the parameter values in the shaded area. The boundary $\sqrt{\omega_{ud}} = \frac{g_u}{\sqrt{2r}(1-k^2)}\left[(f_u - kf_d) - \sqrt{f_u^2 + f_d^2}\right]$ is negatively related to the

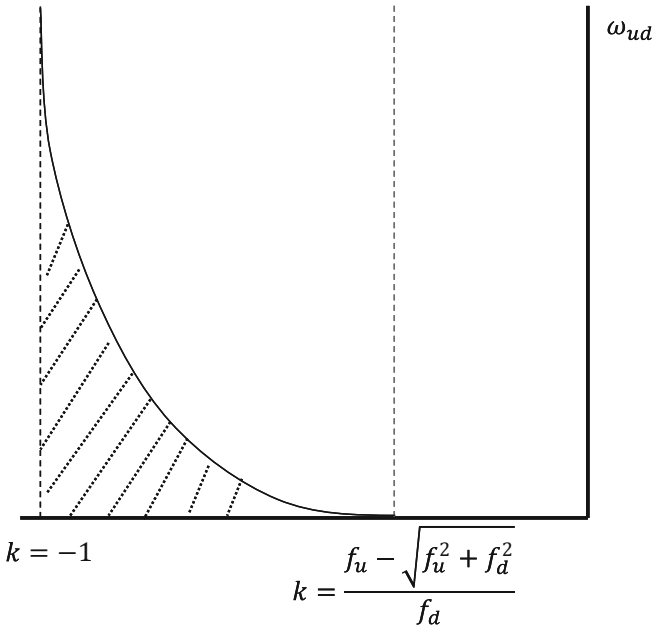


Fig. 5 Efficient governance structure when IOFs have the highest cognitive abilities

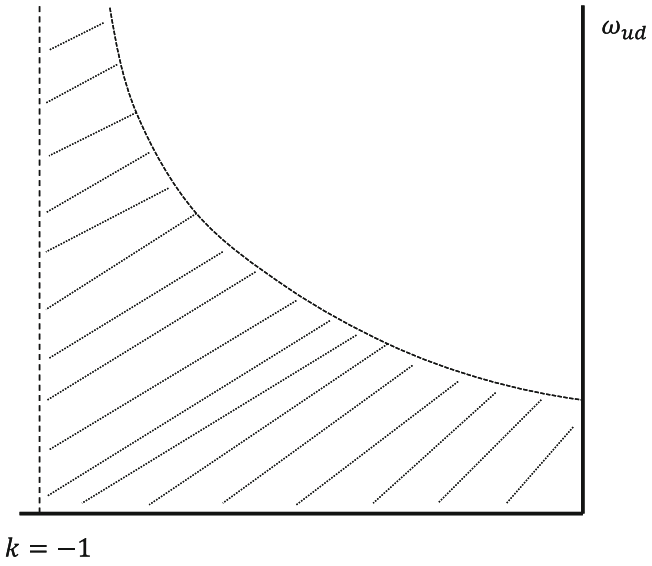


Fig. 6 Efficient governance structure when IOFs have the lowest cognitive abilities

risk aversion rate, but positively related to the upstream marginal performance. It entails that if the agent has a higher risk resistance (or a lower risk sensitivity) and the principal's evaluation for the agent's upstream performance increases, the cooperative can be efficient in a wider range. Notice that Feng and Hendrikse (2012) is a specific case of our model. If we set $\omega_{ud} = 0$, then the efficient zone becomes the horizontal line segment between $k = \frac{f_u - \sqrt{f_u^2 + f_d^2}}{f_d}$ and $k = -1$.

Consider next the case when the IOFs have very low cognitive abilities, i.e., they fail to deal with any external variance and the total surplus generated is 0. The comparison simplifies to $\left(\frac{f_u - k f_d}{\sqrt{2\left(1-k^2\right)}} - \frac{\sqrt{r\left(1-k^2\right)}}{g_u} W \right)^2 > 0$. It follows directly that the cooperative is efficient for any ω_{ud} which satisfies $0 < \sqrt{\omega_{ud}} < \frac{f_u g_u - k f_d g_u}{\sqrt{2r\left(1-k^2\right)}} - \sqrt{\omega_{uu}}$.

The shaded area in Fig. 6 illustrates this result. It shows that it is not necessary to have a negative value of k to make a cooperative efficient. This indicates that the two stages of production covered by the cooperative (the farmers and the processor) can deal with the external risk collaboratively and have a cognition benefit by channels such as information sharing, in such a way that the cooperative can perform better than the IOFs. In the Appendix, we provide various numerical examples to illustrate this possibility.

Proposition 5 *A cooperative is efficient when*

$$\sqrt{\omega_{uu}} + \sqrt{\omega_{ud}} < \frac{g_u}{\sqrt{2r}\left(1-k^2\right)}\left[\left(f_u - kf_d\right) - \sqrt{f_u^2 + f_d^2}\right] \text{ with } -1 < k < \frac{f_u - \sqrt{f_u^2 + f_d^2}}{f_d}.$$

This proposition establishes that the scope for cooperatives as an efficient organizational form is expanded when cognitive considerations are taken into account in addition to incentive considerations. The reason is that the unique features of cooperatives allow for the development of policies to create additional value. Our model expresses that the creation of value from a cognitive perspective resides on the one hand in the ties between the members in the society of members and on the other hand in the intense, often day to day, relationship between each member and the joint enterprise at an adjacent stage in the production chain. The former is reflected in the parameters ω_{uu} and ω_{ud}, while the latter is reflected in the parameter k.

5 Conclusion and Further Research

This article has developed a multi-tasking principal–agent model to determine the circumstances when a cooperative creates more value than IOFs. It is established that the interdependency between upstream and downstream activities as well as the cognitive abilities of the members are important sources to make the cooperative the unique efficient governance structure. By extending the efficient boundary of the cooperative business, this article contributes to the literature explaining why cooperatives exist and blossom in many industries.

There are various possibilities for further research. We formulate two possibilities. First, various empirical studies report the efficiency of cooperatives. For example, Abate et al. (2014) study the impact of agricultural cooperatives on smallholders' technical efficiency empirically and find cooperatives beneficial for the supply of support services that significantly contribute to the technical efficiency of the membership. D'Amato et al. (2021) and Silva and Morello (2021) document efficiency advantage of cooperatives in Italy and Brazil, respectively. Our model specifies two main parameters which are responsible for the efficiency of a cooperative. However, the sources of these parameters have to be studied, which will facilitate the formulation of managerial policies to realize the creation of value. Many sources of the synergy parameter have been identified in the literature, such as coordination, elimination of double marginalization, and assurance of access, but the sources of cognitive (dis)advantages of cooperatives seem to be underdeveloped.

Second, the cooperative is modelled as a relationship between one principal and one agent. The feature of one principal is a start to reflect the society of members, but

it is silent on the interactions, and their cognitive consequences, between all the members within the society of members. This depends on the specific supply chain as well as the specific stage in the supply chain which is considered. For example, Gong et al. (2019) investigate technical efficiency in crop production in China. They establish that core members of cooperatives show the highest technical efficiency, while the nonmembers have the lowest technical efficiency. They further infer that the cooperative membership may grant the members the accessibility to learn more advanced technology and take advantage of productivity-enhancing practices. Sources of learning may be the society of members (Manouchehrabadi et al. 2021), or the provision of extension services by the government. Additionally, the organization of the network ties (Beaman et al. 2021; García-Jimeno et al. 2022) between the members in the society of members may create value when the cooperative becomes involved in the organization of these extension services.

Appendix

A. Total Surplus Figures

The figures representing the total surplus of the upstream IOF, the downstream IOF, and the cooperative, respectively (Fig. 7):

B. Proofs of Comparative Statics Results

Denote $\left[(f_u g_u - k f_d g_u) - \sqrt{2r}\left(1-k^2\right)W\right]$ as $F > 0$.

$$\frac{\partial \beta^*}{\partial k} = \frac{1}{g_u^2}\left(2\sqrt{2r}kW - f_d g_u\right) < 0; \frac{\partial \beta^*}{\partial \omega_{ii}} = -\frac{1}{g_u^2}\sqrt{2r}\left(1-k^2\right) < 0;$$

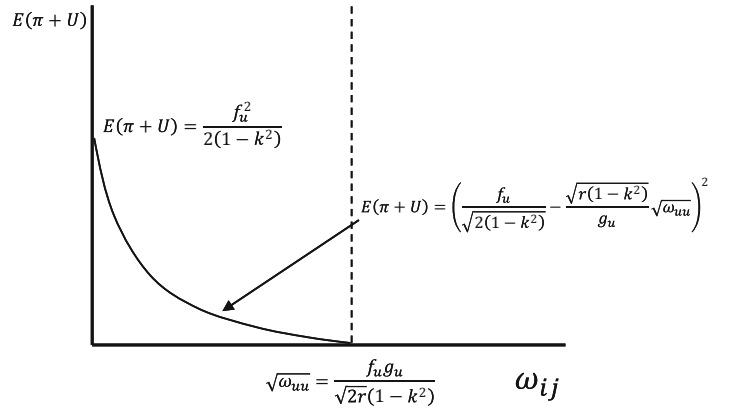
$$\frac{\partial V_u^*}{\partial k} = -\frac{\sqrt{\frac{2\omega_{uu}}{r}}g_u^2\left(2\sqrt{2r}kW - f_d g_u\right)}{F^2} > 0; \frac{\partial V_u^*}{\partial \omega_{iu}} = \frac{\left[F\sqrt{\frac{1}{2r\omega_{iu}}}g_u^2 + g_u^2\left(1-k^2\right)\right]}{F^2} > 0;$$

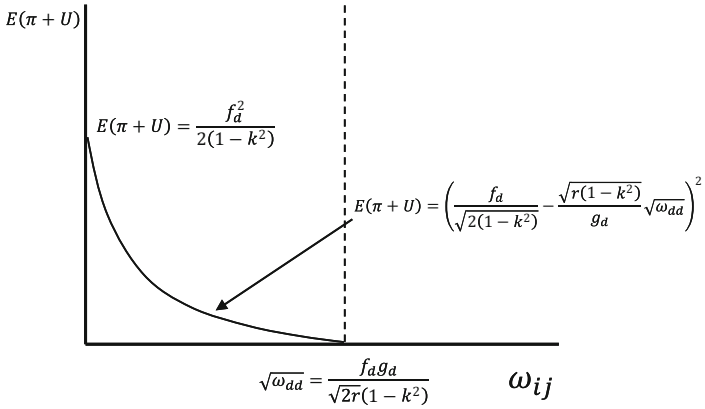
$$\frac{\partial V_u^*}{\partial \omega_{id}} = \sqrt{\frac{r}{2\omega_{id}}}\left(1-k^2\right)/F^2 > 0;$$

So as

$$\frac{\partial V_d^*}{\partial k} > 0, \frac{\partial V_d^*}{\partial \omega_{iu}} > 0, \frac{\partial V_d^*}{\partial \omega_{id}} > 0;$$

In terms of $\frac{\partial E(\pi+U)}{\partial k}$, for $-1 < k < 0$ and when k is increasing, $(f_u - kf_d)$ is decreasing, $\sqrt{2\left(1-k^2\right)}$ is increasing, $\sqrt{r\left(1-k^2\right)}$ is increasing, so the overall effect





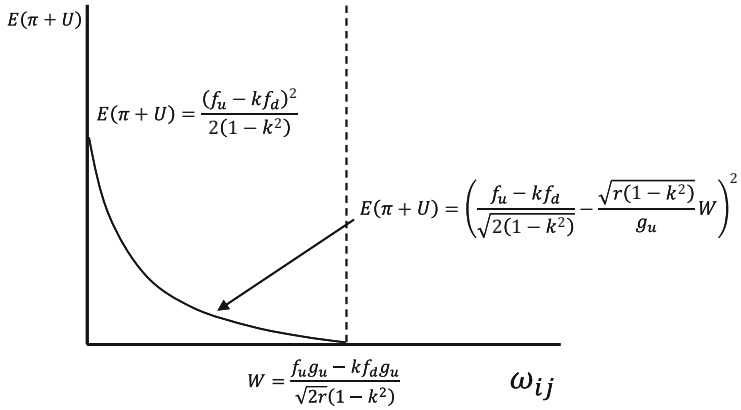


Fig. 7 The total surplus of the upstream IOF, the downstream IOF, and the cooperative

is decreasing, $\frac{\partial E(\pi+U)}{\partial k} < 0$; denote $\left(\frac{f_u - k f_d}{\sqrt{2\left(1-k^2\right)}} - \frac{\sqrt{r\left(1-k^2\right)}}{g_u} W \right)$ as T,

$$\frac{\partial E(\pi+U)}{\partial \omega_{iu}} = \frac{-\sqrt{\frac{r\left(1-k^2\right)}{\omega_{iu}}}}{g_u} T < 0, \frac{\partial E(\pi+U)}{\partial \omega_{id}} = \frac{-\sqrt{\frac{r\left(1-k^2\right)}{\omega_{id}}}}{g_u} T < 0.$$

C. Efficiency Numerical Illustrations

We would like to investigate under which condition the difference between the cooperative's total surplus to the sum of the two IOFs can be positive (indicating the cooperative is efficient). Here we denote H as the difference, and H has the form below

$$\begin{aligned} H = & \left(\frac{f_u - k f_d}{\sqrt{2\left(1-k^2\right)}} - \frac{\sqrt{r\left(1-k^2\right)}}{g_u} \left(\sqrt{\omega_{uu}} + \sqrt{\omega_{ud}} \right) \right)^2 \\ & - \left(\frac{f_u}{\sqrt{2\left(1-k^2\right)}} - \frac{\sqrt{r\left(1-k^2\right)}}{g_u} \sqrt{\omega_{uu}} \right)^2 \\ & - \left(\frac{f_d}{\sqrt{2\left(1-k^2\right)}} - \frac{\sqrt{r\left(1-k^2\right)}}{g_d} \sqrt{\omega_{dd}} \right)^2 \end{aligned}$$

To solve for $H > 0$, we will have a function describing the relations between ω_{ud} and k.

First, we directly calculate the above function and report the result from Matlab. $\omega_{ud}(k)$ should be in the following interval to make the cooperative efficient:

$$\left(- \frac{\sigma_2 - ab + \sqrt{2}ab + abk - \sigma_1}{\sigma 3}, - \frac{\sigma_2 - ab - \sqrt{2}ab + abk + \sigma_1}{\sigma 3} \right)$$

where $\sigma_1 = \sqrt{2} w \sqrt{2-2k^2}\, \sigma_4; \sigma_2 = w \sqrt{2-2k^2}\, \sigma_4; \sigma_3 = \sqrt{2-2k^2}\, \sigma_4$; $\sigma_4 = \sqrt{-r\left(k^2-1\right)}$; a and b are functions of the productivity and performance measurement parameters.

The explicit result is too lengthy to analyze. Two numerical examples are presented to illustrate various insights. The first example demonstrates that stronger cognition capacity of the upstream party offsets the negative effects of lower chain interdependency, allowing cooperatives to outperform the IOFs; the second example shows that when cognitive capacity is low, stronger interdependency within the industry still allows cooperatives to be more efficient (Fig. 8).

We set values for variables for both examples as follows: $f_u = f_d = 20; g_u = g_d = 1; \omega_{uu} = \omega_{dd} = 4; r = 0.5, \frac{f_u - \sqrt{f_u^2 + f_d^2}}{f_d} = 1 - \sqrt{2}$.

For point A, we set $\omega_{ud} = 0.16 < \omega_{uu} = \omega_{dd}$, and $k = -0.4 > \frac{f_u - \sqrt{f_u^2 + f_d^2}}{f_d}$. $H = 2.34 > 0$. Table 1 below shows the values of other variables.

The values in the second example, determining point B, are $\omega_{ud} = 9 > \omega_{uu} = \omega_{dd}$, and $k = -0.5 < \frac{f_u - \sqrt{f_u^2 + f_d^2}}{f_d}$. $H = 3.04 > 0$. ($\sqrt{\omega_{ud}} > \frac{g_u}{\sqrt{2r(1-k^2)}} \left[(f_u - k f_d) - \sqrt{f_u^2 + f_d^2} \right] - \sqrt{\omega_{uu}}$, so B is above the curve.). Table 2 below shows the values of other variables.

A is an efficient point for the cooperative, even though the chain interdependency is not so high. This is evidence of the cognition advantage of the cooperative.

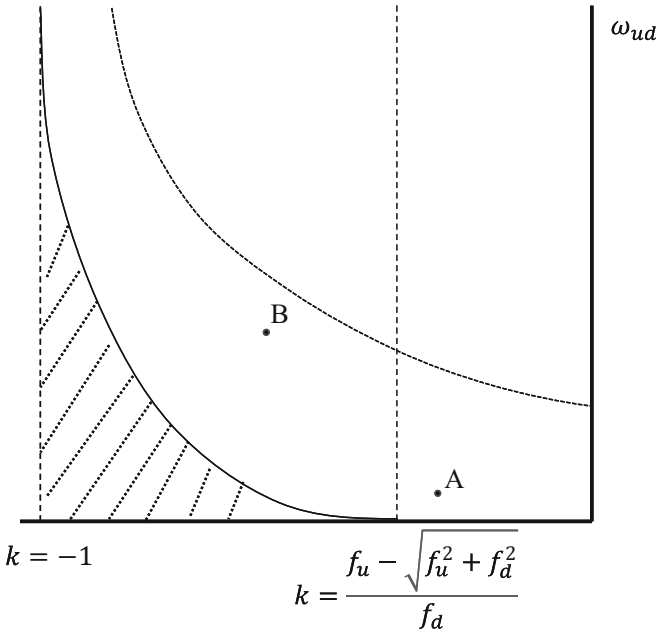


Fig. 8 Two examples of how cognition capacity and chain interdependency can complement each other and make the cooperative more effective

Table 1 The parameter values of point A showing that the cooperative can be efficient even when the chain synergies are low

	a_{iu}	a_{id}	V_{iu}	V_{id}	β
Co-op	30.93	12.37	0.15	0.03	25.98
Up-IOF	21.81	–	0.14	–	18.32
Down-IOF	–	21.81	–	0.14	18.32

Table 2 The parameter values of point B showing that the scope for the efficiency of the cooperative increases when the cognitive capacities of the downstream party decrease

	a_{iu}	a_{id}	V_{iu}	V_{id}	β
Co-op	35	17.5	0.15	0.23	26.25
Up-IOF	24.67	–	0.22	–	18.5
Down-IOF	–	24.67	–	0.22	18.5

Without introducing the monitoring intensity principle, efficient point A would never be accessible. But a low enough ω_{ud} (indicating a high enough cognitive ability, due to innovation and information sharing for instance) can compensate such a high k, leading the cooperative to be efficient in the end.

B is another efficient point for the cooperative, even with a much lower cognitive ability. It justifies the interdependency advantages of the cooperative. In an environment that the processor of the cooperative knows so little, but the chain interdependency is high enough to cover, then the IOFs can still be dominated.

Here we would like to highlight the mechanism behind. Recall that the expected value of the total surplus is the sum of the principal's payoff and CEO's payoff: $E(\pi + U) = y - c(a_{iu}, a_{id}) - \frac{1}{2} r\mathrm{Var}(w) - M(V)$. In the first example, a higher k directly increases the costs of the activities and indirectly drops the activities, causing the total output y to decrease, but a much lower ω_{ud} reduces the monitoring costs and thus the risk aversions more compared to the IOFs, leading to an efficient cooperative. In Table 1, the sum of the cooperative activities is slightly less than the IOFs' activities, but the sum of the variances is just the opposite, especially for the downstream variance. This justifies that the cognition effect matters more in this example, and by reducing the variances-related costs, the cooperative is performing better than the two IOFs.

The other example is just the other way around. When ω_{ud} increases, the monitoring costs and risk aversions rise, but a lower k will trigger higher activities and output to compensate more. In Table 2, the variances are kind of similar, but the sum of the cooperative activities is larger than the IOFs' activities. It verifies that the chain interdependency effect counts more in this case, and by motivating more activities, the cooperative can be efficient.

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Influence of Communication Openness, Information Exchange, and Intra-organisational Ties on Farmer–Buyer Relationship Continuity

Evidence from Indonesian Vegetables Supply Chains

Fanny Widadie, Jos Bijman, and Jacques Trienekens

Abstract This study investigates the direct and indirect effect of open communication, information exchange, and intra-organisational ties on the quality (trust, satisfaction) and continuity (commitment, dependence) of the vertical relationship between farmers and their buyers. Data were collected through interviews with two groups of vegetables producers—members of a producer organisation (PO) and independent producers—in Central Java and Yogyakarta provinces of Indonesia. The results demonstrate that open communication and information exchange improve relationship quality, while intra-organisational ties (only relevant for PO members) improve both relationship quality and relationship continuity. Moreover, open communication, information exchange, and intra-organisational ties indirectly influence relationship continuity through relationship quality. The paper adds to the literature by distinguishing between relationship quality and relationship continuity in the value chain and by investigating the impact of intra-organisational ties in a PO on the vertical buyer–farmer relationship.

1 Introduction

Supply chain management literature has shown that supply chains can become more efficient and effective if sellers and buyers maintain close relationships (Fawcett et al. 2012; Dania et al. 2018). High quality relationships among partners reduce

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communication barriers (Power 2005), provide frameworks for mutual learning (Krause et al. 2007), and lower transaction costs (Arana Coronado et al. 2010). High quality relationships also imply lower uncertainty and higher commitment of the partners to the relationship, allowing improvement of business exchange routines and stimulating consistent supply (Somogyi et al. 2010; Damme 2012). However, research also shows that relationships between farmers and buyers are often not sustainable, as parties abandon contract schemes and violate contract agreements (Andersson et al. 2015; Romero Granja and Wollni 2018; Minot and Sawyer 2016).

Vertical coordination is the alignment between the decisions and activities of sellers and buyers, more generally of the parties in a value chain (Peterson 2001). Such alignment may relate to prices, quality and quantity of produce, logistics, packaging and innovation activities. Vertical coordination in food chains refers to alignment between farmers and their buyers (such as traders and processors), between traders and retailers, or between all parties of the value chain. Effective vertical coordination requires communication and information exchange between actors in the chain (Gaudreault et al. 2009). Communication and information exchange has been found to be key to successful partnerships (Tuten and Urban 2001; Simatupang and Sridharan 2004). Our research examines how two mechanisms of vertical coordination, notably open communication and information exchange, between contracted farmers and buyers influence the quality and continuity of their relationship.

Next to vertical coordination mechanisms in the value chain also the horizontal coordination among farmers impacts the buyer–farmer relationship (Lazzarini et al. 2001). Jointly selling products, for instance through a producer organisation (PO), requires coordination among all members to produce the same products or follow the same production methods (Cechin et al. 2013). Producer organisation (PO) is the generic term for an economic organisation that is owned and democratically controlled by farmers (Bijman et al. 2016). A PO supports the economic well-being of its member-farmers through joint purchasing of inputs, providing services such as market information and technical training, and jointly selling farm products (Penrose-Buckley 2007). In many countries, a PO has the legal form of a cooperative, while in other countries a PO is an association or a limited liability company.

We assume that the intra-organisational ties among the members of a PO affect the scope of horizontal coordination which in turn influences the effectiveness of the vertical alignment in the value chain (Bijman et al. 2011). For instance, a contract arrangement between a farmer and a buyer is often implemented through a PO that acts as an intermediary connecting the buyer with multiple farmers (Fischer and Qaim 2012; Mugwagwa et al. 2018; Widadie et al. 2021). Our research examines whether the intra-organisational ties in a PO influence the business relationship between contracted farmers and their buyer.

For contract arrangements to be effective, parties need to refrain from opportunistic behaviour. In addition, there is an economic incentive to make contracts repetitive. Because setting up contracts involves high initial costs, making contracts durable will reduce the fixed contracting cost per unit of product. In addition, strengthening the continuity of the business relationship will lead to a more reliable

supply, higher potential for product adaptations and innovation, consistent product quality, and reduced uncertainties (Somogyi et al. 2010; Wilson and Nielson 2001).

In the literature there is little attention for the combined influence of vertical and horizontal coordination on value chain performance [Martins et al. (2019) being the exception]. Our study aims to examine the effect of vertical coordination (operationalised with open communication and information exchange) and intra-organisational ties (in the PO) on the business relationships between contracted farmers and buyers in Indonesian vegetable value chains. Buyers implement contracts through POs or with individual farmers. This study examines the relationships between contracted farmers and buyers in two samples: farmers contracted through POs and farmers contracted individually.

This study contributes to the literature on the determinants of a sustainable farmer–buyer relationship and provides new insights into supply chain management networks and business relationships. The outcomes offer managerial recommendations for buyers to better understand their suppliers' perception of the bilateral relationship and to use that understanding to build high quality supplier relationships.

The paper is organised as follows. Section 2 discusses the background of the Indonesian vegetable supply chain in current retail markets. Section 3 presents the literature review and hypotheses. Subsequently, Sect. 4 contains methodology, followed by the results and discussion in Sect. 5. Finally, Sect. 6 presents the conclusion, limitations, managerial recommendations, and suggestions for future research.

2 Overview of the Indonesian Vegetable Value Chain in Modern Retail Markets

The market share of modern retail rapidly increased after 1998, when the Indonesian government allowed foreign companies to operate supermarkets in Indonesia (Neven and Suleiman 2007; Suryadarma et al. 2010). In 2019 there were approximately 36,500 modern retailers in Indonesia with different outlet formats[1] consisting of 333 hypermarkets (an increase from 266 in 2013), 1428 supermarkets (from 1268 in 2013), and 34,780 convenience stores (from 21,942 in 2013) (USDA 2020). Between 2004 and 2019, the share of modern retail in grocery sales increased from 7 to 18% (USDA 2020). The expansion of modern retailers in Indonesia is driven by the growth of income, urbanisation, the number of middle-class citizens, the entrance of foreign investment, and a growing awareness of food safety (Reardon

[1] Modern grocery retail formats are categorised by physical size. Hypermarkets are chain retail outlets larger than 27,000 ft^2. Supermarkets are outlets between 4300 and 27,000 ft^2. Convenience stores are smaller outlets of less than 4300 ft^2. The modern grocery retailers sell food, beverages, and non-grocery items such as clothing and household goods.

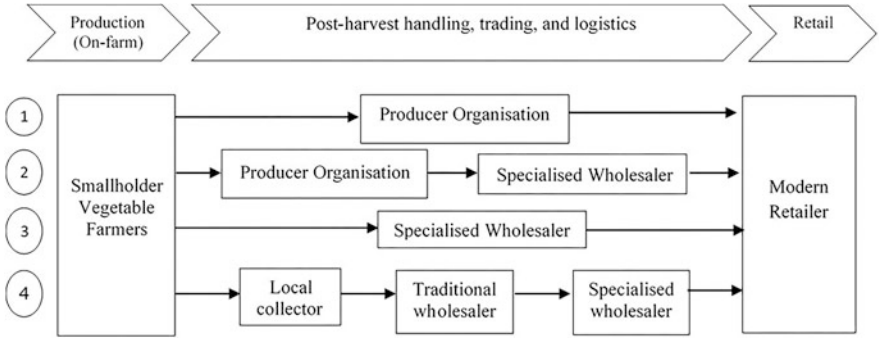

Fig. 1 Indonesian vegetable value chains in modern retail markets (reproduced from Widadie et al. 2021)

et al. 2016; Minot et al. 2015). Modern retailers in Indonesia are concerned about food quality and safety standards (Minot et al. 2015; David 2017). Fresh foods in modern retail are associated with high quality, safety, freshness, and convenience (Umberger et al. 2015).

In the procurement of vegetables, modern retailers often use contracts with specialised wholesalers and producer organisations (POs). Because traditional wholesalers are not able to deliver a consistent supply of uniform and high quality products, specialised wholesalers have seized this opportunity by setting quality standards, controlling suppliers and supplies, and organising customised packaging, to be able to supply modern retail with high quality vegetables.

In an exploration of modern retail markets in the Central Java and Yogyakarta Provinces, Widadie et al. (2021) have identified four vegetables value chains (Fig. 1). In chain 1 and 2, the smallholder farmers link with modern retail markets through a PO. In chain 3, the specialised wholesaler links the smallholders to the modern retailers. In chains 1, 2, and 3, the modern retailers and specialised wholesalers use contract schemes for procuring vegetables. Contracted farmers in these chains closely coordinate with the buyers to meet contract agreements on the quality of products, the quantity ordered, and the delivery process. In chain 4 the transactions between farmers and buyers are performed in spot markets which are characterised by low vertical coordination. Farmers and local collectors engage in farm-gate transactions, without any agreement on quality or quantity. The local collectors sell the produce to traditional wholesalers.

The farmers in chains 1 and 2 do not have a contract directly with the final buyer (modern retailer or specialised wholesaler) but they receive information about the contract arrangement through the PO. The PO communicates with its members about the agreed price, quantity ordered, quality standard, and other delivery requirements that the farmers must comply with. In chains 1 and 2, the PO plays a vital role by acting as an intermediary between the buyer and individual farmers. While most information exchange is organised through the PO, sometimes the buyer meets and communicates with farmers directly. The horizontal coordinates within the PO

include coordinating production, providing services to improve the quality of the vegetables, and arranging logistics. In contrast, the farmers in chain 3 have a direct contract with a specialised wholesaler, who communicates directly with the farmers.

The majority of vegetables farmers who supply to the modern retailers are smallholders with less than 0.5 ha of land (Kementan 2012). These farmers have several kinds of vegetables, grown in an intercropping system. Many of these farmers are member of a producer organisation (PO), organised on a village level, with the task to support the members' farming business. The PO provides services to its members, including market information and technical training, and sometimes organic certification. According to the Agricultural Extension Centre of the Indonesian Ministry of Agriculture,[2] the number of POs was 643,710 in 2020. POs on average have a membership of 30 farmers and they carry out three main functions: (1) to help farmers improve their knowledge and skills; (2) to build cooperation between farmers and other parties such as buyers, governments, and NGOs; and (3) to help farmers develop their farms.

3 Literature Review and Development of Hypotheses

3.1 Conceptual Model

Transaction cost economics (TCE) has been widely used to explain the governance of transactions in value chains. The basic unit of analysis in TCE is the transaction between two companies (Williamson 1999). Companies in the chain select the appropriate governance structure that will economise on the transaction costs that are related to the bounded rationality and potential opportunistic behaviour of transaction partners (Rindfleisch and Heide 1997). Governance structures are ordered on the continuum from spot market to hybrid to hierarchy (Williamson 1998). Contracting is a hybrid governance structure that has been often used in food chains to govern the transactions between farmers and buyers (Mugwagwa et al. 2020; Ton et al. 2018). Contracts act both to safeguard against the risk of opportunism and to minimise the coordination cost in food chains (Bijman and Wollni 2009). Information exchange and communication between value chain actors support the effectiveness of contracting arrangements in keeping transaction cost low and allowing strong coordination among the actors.

Previous studies found a positive relationship between information exchange and relationship quality (Nyaga et al. 2010). Other studies found communication to be a key determinant of successful partnerships (Tuten and Urban 2001). Open communication builds trust between parties (Batt et al. 2010; Smith 1998) and reduces conflict (Ayoko 2007). Previous investigations also revealed that intra-organisational ties among members of a PO or a farmer network improved the

[2] https://app2.pertanian.go.id/simluh2014/index.php

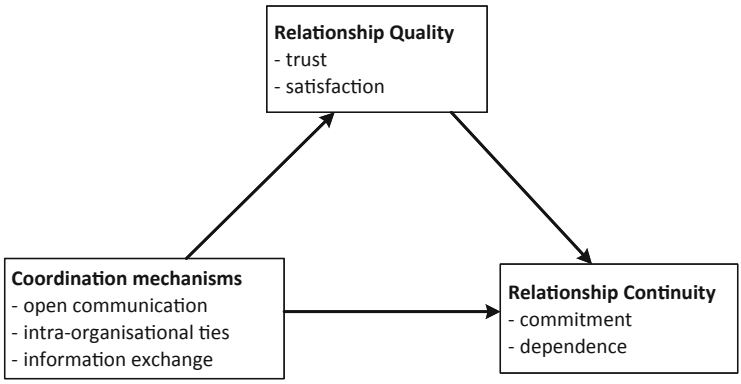

Fig. 2 Conceptual model

quality of the relationship with buyers (Lu et al. 2012). A recent study by Martins et al. (2019) investigated the vertical and intra-organisational ties using a single model to examine their impact on supply chain performance in the Brazilian pork chain.

Ng (2008) explained that business relationships go through several stages, including pre-relationship, early and development, before they become sustainable. In this paper we focus on relationship continuity as our main outcome variable (Fig. 2). Relationship continuity is operationalised by commitment and dependence in farmer–buyer relationships (Somogyi et al. 2010; Damme 2012). Literature suggests that relationship continuity is affected by the quality of the relationship (Somogyi et al. 2010), which can be operationalised by the variables trust and satisfaction (Nyaga and Whipple 2011).

We assume that open communication, intra-organisational ties (in the PO), and information exchange all function as coordination mechanisms that influence both relationship quality and relationship continuity. While these coordination mechanisms may affect relationship continuity directly, we also conjecture that they have an indirect effect, with relationship quality as the mediating variable. Below we will discuss each of the hypotheses individually.

3.2 Communication Openness

Open communication is a critical strategy for enhancing supply chain performance (Su et al. 2013). Studies on buyer–seller relationships found that open communication had a positive impact on relationship quality. For example, Smith (1998) found open communication to be the most crucial predictor of trust and satisfaction. Mohr et al. (1996) defined communication as the glue that holds a relationship together. They revealed that collaborative communication had a positive impact on relationships, as measured by satisfaction, commitment, and coordination.

Miscommunication leads to conflict and confusion among supply chain partners, resulting in partnership failure (Tuten and Urban 2001). Our study suggests that open communication increases relationship quality and increases relationship continuity between farmers and buyers:

- H1a: Open communication positively influences relationship quality.
- H1b: Open communication positively influenced relationship continuity.

3.3 Information Exchange

Information asymmetry can be reduced by information exchange such as sharing data on production, inventory, sales, and planning and forecasting (Patnayakuni et al. 2006). Martins et al. (2019) discovered that information exchange between pig farmers and buyers on technical assistance and production practices positively influenced relationship quality. Ghosh and Fedorowicz (2008), by exploring multiple case studies, found that information exchange influenced the building of trust between retailers and suppliers. Previous studies also found that greater information sharing reduced uncertainty and improved trust in relationships (Kwon and Suh 2005). Concerning the relationship between information exchange and commitment, Nyaga et al. (2010) revealed that collaborative activities, such as information sharing and mutual investments between supply chain partners, led to long-term commitment. The following hypotheses are therefore proposed:

- H2a: Information exchange positively influenced relationship quality.
- H2b: Information exchange positively influences relationship continuity.

3.4 Intra-organisational Ties

Supply chain network research has postulated that relationships are not only vertical but also horizontal, between actors at the same stage of the chain (Lazzarini et al. 2001). Intra-organisational ties refer to the collaboration and networking among actors of the same stage of the chain, such as farmers collaborating in a PO. Scholars have identified various forms of intra-organisational ties in terms of collective action (Fischer and Qaim 2012; Markelova et al. 2009). Intra-organisational ties between farmers may influence relationship quality. Lu et al. (2012) revealed that the strength of guanxi networks in China influenced farmers' satisfaction with their relationship with buyers. Moreover, Martins et al. (2019) found that intra-organisational ties among pig farmers in a farmers' association in Brazil influenced the quality of the relationship these farmers had with buyers. A strong network among members enables joint learning, frequent communication with partners, stable and long-term business relationships, and easy handling of conflicts and uncertainty (Uzzi 1997; Lu et al. 2012; Tefera and Bijman 2019). Based on this literature, we expect that

intra-organisational ties lead to higher relationship quality and relationship continuity, prompting the following hypotheses:

- H3a: Intra-organisational ties positively influence relationship quality.
- H3b: Intra-organisational ties positively influence relationship continuity.

3.5 Relationship Quality

Relationship quality is a term that has been commonly used to describe the health of an inter-firm partnership (Osobajo and Moore 2017). Improving relationship quality between transaction partners is important to enhance efficiency and reduce transaction cost (Arana Coronado et al. 2010). Relationship quality refers to the trust in the relationship, more specifically to the trust of one partner in the behaviour of the other partner. The trust of one partner is his/her perception that the other partner will fulfil the expectations, desires, and goals of the partnership (Gyau and Spiller 2007). Several studies have confirmed that trust has a pivotal role in the success of a relationship (Corsten and Kumar 2005; Chen et al. 2011; Whipple and Frankel 2000). Trust in partners reduces opportunistic behaviour and uncertainty and encourages openness and goal sharing (Nyaga and Whipple 2011). Several studies have shown that trust has a positive influence on commitment in a business relationship (Morgan and Hunt 1994; Kwon and Suh 2004; Wu et al. 2004).

Another element of relationship quality often mentioned in the literature is satisfaction (Eggert and Helm 2003). Satisfaction with the relationship reduces uncertainty and increases the likelihood of future transactions (Ulaga and Eggert 2006). Thus, satisfaction is also expected to support relationship continuity.

3.6 Relationship Continuity

To achieve a stable buyer–supplier relationship and to allow a contract farming arrangement to pay-off, the relationship between the partners should be sustainable, which means that it should not prematurely terminate (Somogyi et al. 2010; Wilson and Nielson 2001). Relationship continuity is based on partners' commitment, which is their attitude to make the relationship a success, their willingness to make short-term sacrifice for maintaining the relationship, and their belief in a sustainable relationship (Morgan and Hunt 1994). Continuity reflects the likelihood of continuing collaboration between parties (Kumar et al. 1995).

Previous studies have advocated that relationship quality also has a mediating effect on the impact of communication mechanisms and relationship continuity (Kwon and Suh 2005; Ulaga and Eggert 2006). On the interaction between coordination mechanisms, relationship quality, and relationship continuity, the following hypotheses were formulated:

- H4a: Relationship quality positively influences relationship continuity.
- H4b: The impact of open communication, intra-organisational ties, and information exchange on relationship continuity is mediated by relationship quality.

4 Methods

4.1 Data Gathering

To gather the data, face-to-face interviews with smallholder vegetable farmers were conducted across five sub-districts in the Central Java and Yogyakarta provinces in Indonesia. To supply vegetables to modern retail markets, buyers enter into contractual agreements with farmers individually (in chain 3) or with farmers collectively (in chains 1 and 2). Because of the different chains and relationships, this study distinguishes between two samples: farmers supplying through POs (sample A) and farmers selling directly to specialised wholesalers (sample B). Samples A ($n = 97$) and B ($n = 41$) were selected through snowball sampling based on information lists provided by the POs and the specialised wholesalers. The selection of the POs and specialised wholesalers was based on information provided by modern retailers, using convenience sampling. This study focused on the farmers' perceptions regarding their relationships with buyers in supplying vegetables to modern retail markets.

4.2 Measurement

To enhance the validity of the constructs in this study, variables were chosen based on the literature and cross-checked through interviews with POs and specialised wholesalers. Before distributing the questionnaire among the farmers, we piloted 30 farmers. We dropped some variables that did not meet validity. All the items used a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). The constructs and sources of the items are presented in Table 6 in the Appendix. We now discuss each of the variables and constructs of our conceptual model.

4.2.1 Open Communication

Open communication refers to the extent to which buyers and sellers communicate openly, sincerely, and substantively, either formally or informally (Smith 1998; Anderson and Weitz 1989). Open communication involves easy conversation between the parties (Ayoko 2007). The construct of open communication includes openness and honesty, the way buyers communicate with their suppliers (farmers), and transparency and frequency of communication. All measurement items were taken from Smith (1998).

4.2.2 Information Exchange

Information exchange refers to sharing strategic and tactical information with partners in the supply chain (Mentzer et al. 2001; Kembro and Näslund 2014). The instrument comprises information exchange about quality requirements, production planning, technical assistance, and buyers' feedback regarding product quality. The items concerning information exchange about quality requirements, production planning, and buyers' feedback were adapted from Martins et al. (2019) and Arana Coronado et al. (2010). The item on technical assistance was adapted from Schulze et al. (2006) to assess communication and services provided to suppliers and from Martins et al. (2019) regarding buyers providing production manuals to farmers.

4.2.3 Intra-organisational Ties

In this study intra-organisational ties refers to the collaboration and networking between farmers in a PO. Based on Martins et al. (2019) and Wardhana et al. (2020), we developed a four-item instrument to assess intra-organisational ties: the involvement of the farmer in PO meetings; the extent of communication with other farmers in the PO; the willingness to share knowledge with other farmers in the PO; and the trust in other farmers in the PO.

4.2.4 Relationship Quality

Many studies have measured relationship quality as a high-order dimension (Nyaga and Whipple 2011; Bennett and Barkensjo 2005), including both trust in the relationship and satisfaction with the relationship. We follow this custom, by measuring relationship quality with the variables trust and satisfaction. The construct for trust was developed from Nyaga et al. (2010), Smith (1998), and Kwon and Suh (2005). The construct for satisfaction is based on Eggert and Helm (2003), Smith (1998), and Ulaga and Eggert (2006).

4.2.5 Relationship Continuity

To measure relationship continuity, our study used the constructs of commitment and dependence. Both of these constructs have been used by Damme (2012) and Somogyi et al. (2010) to measure the durability of the relationships between farmers and buyers. Commitment refers to the desire to continue a relationship (Morgan and Hunt 1994). This study used items for commitment based on Kwon and Suh (2004) and Nyaga et al. (2010). The dependency in a supply chain relationship refers to the producer's need to maintain the relationship to achieve its goals. The items used to

measure dependency were developed by Damme (2012), who took into account farmers' perceptions of the importance of partnership continuity and the availability of other (trustworthy) buyers.

4.3 Data Analysis

Structural equation modelling with partial least squares (SEM-PLS) was employed to examine the hypotheses. This method allows researchers to deal with multiple independent and dependent variables simultaneously. PLS is a component-based modelling method that concurrently examines an outer (or measurement) model and an inner (or structural) model. The measurement model specifies the relationship between indicators or items and a latent or construct variable, while the structural model specifies the relationship between latent or construct variables (Sholihin et al. 2011).

PLS can handle small sample sizes and make less stringent assumptions for normal distribution and multicollinearity between independent variables than other types of SEM (Chin 1998; Chin and Newsted 1999; Henseler et al. 2009). The study employed SEM-PLS software (SmartPLS version 3.2, SmartPLS GmbH) to analyse the data.

5 Results and Discussion

5.1 Measurement Model Analysis

The measurement model assesses the reliability and validity of indicators or items in explaining a particular construct (Sholihin and Pike 2009). The reliability of a reflective construct[3] is determined by loadings of construct items and composite reliability (CR); the loading and CR coefficients should be at least 0.6 (Chin 1998; Hair et al. 2011). The analysis revealed that all loadings of items exceeded 0.6, except item OC2 in sample B (Table 1); therefore, this item was excluded from the analysis. Additionally, because the PO is not involved in the chains in sample B, the latent variable of intra-organisational ties was not included in the analysis of this sample. The construct validity of a reflective construct is governed by the average variance extracted (AVE), which specifies the total variance explained by the construct and the discriminant validity. The construct should have an AVE of at least 0.5 (Chin 2010). Table 1 presents the AVEs for all constructs of samples A and B exceeding 0.5, indicating adequate validity. Discriminant validity is treated as

[3]This study uses the model of reflective constructs which represent the indicators depicting the constructs (Wetzels et al. 2009).

Table 1 Reliability, convergent validity, and mean comparisons

	Sample A					Sample B					
Latent variable	CR	AVE	Mean	SD	Loading	CR	AVE	Mean	SD	Loading	*t*-test
Open communication	0.86	0.61				0.76	0.52				
OC1			4.34	0.74	0.81			4.02	0.71	0.87	2.31
OC2			3.49	1.34	0.63			n/a	n/a	n/a	n/a
OC3			4.29	0.66	0.83			3.73	0.82	0.60	2.25*
OC4			4.05	0.79	0.83			3.70	0.80	0.67	1.98*
Information exchange	0.85	0.60				0.91	0.73				
IE1			4.35	0.57	0.83			3.95	0.85	0.82	1.44
IE2			4.34	0.67	0.78			3.75	0.87	0.80	1.84
IE3			4.27	0.70	0.83			3.87	0.91	0.90	1.97
IE4			3.99	0.78	0.64			4.12	0.73	0.88	2.73**
Intra-organisational ties	0.80	0.50				n/a	n/a				
HR1			4.47	0.55	0.73			n/a	n/a	n/a	n/a
HR2			4.41	0.55	0.83			n/a	n/a	n/a	n/a
HR3			4.42	0.57	0.63			n/a	n/a	n/a	n/a
HR4			4.51	0.52	0.61			n/a	n/a	n/a	n/a
Trust	0.85	0.59				0.88	0.66				
TR1			4.49	0.52	0.73			4.24	0.61	0.85	2.26
TR2			4.30	0.58	0.71			4.14	0.68	0.73	1.32
TR3			4.53	0.53	0.79			4.19	0.63	0.83	2.98
TR4			4.45	0.55	0.81			4.12	0.70	0.83	2.65
Satisfaction	0.84	0.65				0.84	0.64				
S1			4.44	0.62	0.81			4.04	0.62	0.85	3.36**
S2			4.36	0.50	0.81			4.09	0.65	0.76	2.27
S3			4.43	0.65	0.79			4.14	0.52	0.78	2.70***
Commitment	0.79	0.56				0.78	0.55				
C1			4.53	0.49	0.75			4.22	0.60	0.62	2.92
C2			4.42	0.53	0.84			4.09	0.65	0.78	2.77
C3			4.21	0.69	0.63			3.97	0.74	0.80	1.74
Dependence	0.75	0.50				0.86	0.68				
D1			4.45	0.51	0.70			4.17	0.53	0.77	2.83**
D2			4.06	0.85	0.73			3.92	0.77	0.83	0.51
D3			4.15	0.67	0.67			3.70	0.89	0.87	2.42*

CR composite reliability, *AVE* average variance extracted, *SD* standard deviation
n/a = the item of OC2 and the construct of intra-organisational ties in sample B were excluded from the model because the loading was less than the rule of thumb of 0.50 for the OC2 items, and the chain in sample B is not involved in horizontal coordination in supplying vegetables
***Significant at $p \leq 1\%$; **Significant at $p \leq 5\%$; *Significant at $p \leq 10\%$

achieved when the square root of a construct's AVE (the italic number in Table 2) is higher than the correlations between constructs (Chin 2010). The results in Table 2 show that the square root of the AVE exceeded the correlations between constructs, representing adequate discriminant validity. Overall, the analysis revealed that the model used in this study was reliable and valid. In addition, a *t*-test comparing the mean scores showed that the sample means are significantly different for some items, while they are similar for other items.

This study uses second-order constructs to measure latent variables of relationship quality and relationship continuity. Based on the CR values, both constructs scored higher than 0.5 and all path coefficients from the second to the first order (reflective constructs) were significant (Table 3). Therefore, the second-order construct of relationship quality—constructed from satisfaction and trust—and the second-order construct of relationship continuity—constructed from commitment and dependence—could be applied in the analytical model.

5.2 Structural Model Analysis

The structural model was employed to test the hypotheses (direct and indirect effects) on relationships among the construct variables. Bootstrapping of 500 resamples was used to derive the path coefficient, standard error, and *t*-statistics of the PLS estimation (Chin 1998). The path coefficient (β) is the degree to which exogenous variables explain the endogenous variables. The validity of the structural model can be seen in the variance explained if $R^2 > 0.10$ (Falk and Miller 1992). The outcomes show that the three endogenous variables reached R^2 values higher than 0.1 in both samples, ranging from 0.44 to 0.63 (see the Appendix, Figs. 4 and 5). The goodness-of-fit (GoF) index was 0.56 in sample A and 0.57 in sample B, which exceeded the cut-off value of 0.36 and confirmed the model fit (Wetzels et al. 2009). The structural model estimation is presented in Table 4 for the direct effects and in Table 5 for the indirect effects.

5.2.1 Openness of Communication

The results for the direct effect of communication openness on relationship quality (Table 4) show a positive impact in both samples A ($\beta = 0.17$, $p \leq 0.01$) and B ($\beta = 0.39$, $p \leq 0.01$). This finding is consistent with Kwon and Suh (2005) and Smith (1998), who revealed that open communication positively influences trust and satisfaction. Communication transparency can improve the relationship quality between contracted farmers and buyers; however, the influence of open communication on relationship continuity was statistically insignificant for both samples. These findings imply that communication openness between farmers and buyers has a positive impact on the farmers' perception of relationship quality; however, it does not affect the level of perceived relationship continuity.

Table 2 Discriminant validity

	Sample A							Sample B						
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
1. Commitment	*0.74*							*0.74*						
2. Dependence	0.54	*0.70*						0.60	*0.83*					
3. Intra-organisational ties	0.60	0.52	*0.71*					n/a	n/a	*n/a*				
4. Information exchange	0.38	0.29	0.47	*0.77*				0.52	0.42	0.69	*0.85*			
5. Open communication	0.23	0.24	0.39	0.13	*0.78*			0.22	0.41	0.30	0.27	*0.72*		
6. Satisfaction	0.57	0.49	0.51	0.30	0.25	*0.80*		0.66	0.61	0.33	0.38	0.41	*0.80*	
7. Trust	0.62	0.51	0.62	0.44	0.45	0.60	*0.76*	0.60	0.71	0.42	0.59	0.52	0.69	*0.81*

Italic numbers represent the square root of the average variance extracted; numbers below the italic numbers show the construct correlations

Table 3 Second-order construct of relationship quality and relationship continuity

Second-order construct	First-order construct	Sample A			Sample B		
		Path coefficient	p	CR	Path coefficient	p	CR
Relationship quality	Satisfaction	0.86	0.00^{***}	0.87	0.88	0.00^{***}	0.89
	Trust	0.92	0.00^{***}		0.94	0.00^{***}	
Relationship continuity	Commitment	0.90	0.00^{***}	0.70	0.86	0.00^{***}	0.85
	Dependence	0.85	0.00^{***}		0.92	0.00^{***}	

CR composite reliability
***Significant at $p \leq 1\%$

5.2.2 Information Exchange

Information exchange influences relationship quality significantly and positively in sample A ($\beta = 0.13, p \leq 0.1$) as well as in sample B ($\beta = 0.44, p \leq 0.01$). The results support hypothesis H2a. This finding is in line with Kwon and Suh (2005) and Martins et al. (2019), who found that information exchange between buyers and sellers (farmers) improves relationship quality. However, the direct impact of information exchange on relationship continuity was statistically insignificant. Maybe information exchange is perceived by the farmers as a short-term activity that is mainly relevant for current transactions.

5.2.3 Intra-organisational Ties

Intra-organisational ties between vegetable farmers in the PO positively influence the quality of the relationship between farmers and buyers ($\beta = 0.56, p \leq 0.01$). Additionally, it has a positive effect on relationship continuity ($\beta = 0.30, p \leq 0.01$). These results are in line with Martins et al. (2019), who found that intra-organisational ties among pig farmers improved the farmer–buyer relationship. Lu et al. (2012) also found that guanxi networks (social capital) among Chinese farmers positively impact farmer–buyer relationship satisfaction. A strong guanxi network fosters stable and tighter business relationships, maintains frequent communication with partners, and sustains close contact among partners for an extended period (Lu et al. 2012; Standifird and Marshall 2000). Stronger intra-organisational ties among farmers in POs result in better information exchange about potential buyers and lead to stable relationship with buyers over time. This finding implies that the strong ties among the farmers in the PO are important in achieving the quality and continuity of the relationship with the buyers. The PO has an important role in the value chain as an intermediary between buyers and farmers. The buyers communicate with the farmers through the PO; the PO coordinates with its members for the supply of specific quality and quantity of vegetables. The strong intra-organisational ties in the PO reduce behavioural opportunism and asymmetric information among

farmers, which allows for better coordination in production and logistics (Groot Kormelinck et al. 2019).

5.2.4 Impact of Relationship Quality

Relationship quality positively influences the relationship continuity in sample A ($\beta = 0.51$, $p \leq 0.01$) and sample B ($\beta = 0.74$, $p \leq 0.01$). These findings corroborate previous studies' findings that relationship quality has a positive association with commitment (Kwon and Suh 2005; Chen et al. 2011). Our results also confirm Ganesan (1994) assertion that satisfaction with past outcomes is significantly related to a long-term orientation. Our results, therefore, support hypothesis H4a. The trust and the satisfaction in the relationship between buyers and farmers encourage farmers to continue the relationship.

5.2.5 Indirect Effects

A Sobel test was employed to determine whether the indirect effects of open communication, information exchange, and intra-organisational ties on relationship continuity via relationship quality were significant. The statistics for the Sobel tests of the structural paths in both samples were significant (Table 5), indicating that the mediator effect was significant. In other words, relationship quality mediates the relationships between the variables open communication, information exchange, and intra-organisational ties and relationship continuity. Although there was no significant direct effect of open communication and information exchange on relationship continuity (Table 4), a significant indirect effect via relationship quality was observed in both samples (Table 5). This implies that relationship quality fully mediates the relationship between open communication and relationship continuity [$\beta = 0.08$, $p \leq 0.01$ (sample A), $\beta = 0.29$, $p \leq 0.01$ (sample B)] as well as the relationship between information exchange and relationship continuity [$\beta = 0.06$, $p \leq 0.1$ (sample A), $\beta = 0.33$, $p \leq 0.01$ (sample B)]. The connection of intra-organisational ties to relationship continuity via relationship quality also shows statistical significance ($\beta = 0.29$, $p \leq 0.01$). Both the direct and indirect effect analyses are statistically significant, although the path coefficient in the indirect effect analysis is slightly lower than the path coefficient in the direct effect analysis, suggesting that relationship quality partly mediates the connection between intra-organisational ties and relationship continuity. Hypothesis H4b, that relationship quality is a mediator variable in the model, was thus supported. These findings imply that a durable relationship between farmers and buyers can be achieved through the quality of the relationship (i.e. trust and satisfaction). The openness of communication and the information exchange between farmers and buyers have an indirect effect on the continuity of their relationship through relationship quality.

Table 4 Hypothesis testing for direct effects

Hypothesis	Structural path	Sample A		Sample B	
		Path coefficient (SE)	*p*	Path coefficient (SE)	*p*
H1a	Open communication → relationship quality	0.17 (0.06)	0.00***	0.39 (0.12)	0.00***
H1b	Open communication → relationship continuity	−0.05 (0.09)	0.51	−0.04 (0.13)	0.73
H2a	Information exchange → relationship quality	0.13 (0.07)	0.07*	0.44 (0.14)	0.00***
H2b	Information exchange → relationship continuity	0.04 (0.07)	0.55	0.12 (0.13)	0.36
H3a	Intra-organisational ties → relationship quality	0.56 (0.09)	0.00***	n/a	n/a
H3b	Intra-organisational ties → relationship continuity	0.30 (0.10)	0.04**	n/a	n/a
H4a	Relationship quality → relationship continuity	0.51 (0.11)	0.00***	0.74 (0.14)	0.00***

SE standard error
***Significant at $p \leq 1\%$; **Significant at $p \leq 5\%$; *Significant at $p \leq 10\%$

Table 5 Hypothesis testing for the indirect effect

Hypothesis	Structural path	Sample A		Sample B	
		Indirect effect (SE)	Sobel test statistic	Indirect effect (SE)	Sobel test statistic
H4b	Open communication → relationship quality → relationship continuity	0.08 (0.04)	2.41***	0.29 (0.12)	2.76***
	Information exchange → relationship quality → relationship continuity	0.06 (0.04)	1.72*	0.33 (0.10)	2.70***
	Intra-organisational ties → relationship quality → relationship continuity	0.29 (0.07)	3.71***	n/a	n/a

SE standard error
***Significant at $p \leq 1\%$; *Significant at $p \leq 10\%$

The results, consistent with previous studies, show that open communication increases relationship quality (Kwon and Suh 2005; Smith 1998). Regarding the structural path of information exchange to relationship quality, this study is also in line with the findings of Martins et al. (2019) suggesting that information exchange increases the quality of relationships between farmers and buyers. Concerning the path of intra-organisational ties to relationship quality, this study confirms the reports of Lu et al. (2012) and Martins et al. (2019) that intra-organisational ties positively impact relationship quality. In addition, the intra-organisational ties in the PO also positively influence relationship continuity. Our results confirm what Uzzi (1997) and Lu et al. (2012) had hypothesised, namely that strong network ties enable long-term collaboration. This study also confirms previous findings that relationship quality positively influences relationship continuity (Kwon and Suh 2005; Ganesan 1994).

The indirect effect analysis showed statistical significance for the mediation of relationship quality between coordination mechanisms and relationship continuity. These findings corroborate the findings of Ng (2008) that relationship continuity can be achieved through a variety of approaches. Moreover, our results indicate that relationship continuity could be attained by reinforcing relationship quality.

Figure 3 summarises the statistically significant pathways for sample A (Fig. 5 in the Appendix shows the pathways for sample B). The dotted lines indicate pathways that turned out to be not significant.

6 Conclusion and Recommendations

This study examined the nature of the relationship between contracted farmers and buyers by analysing the impact of open communication, information exchange, and intra-organisational ties on the quality and continuity of the business relationship.

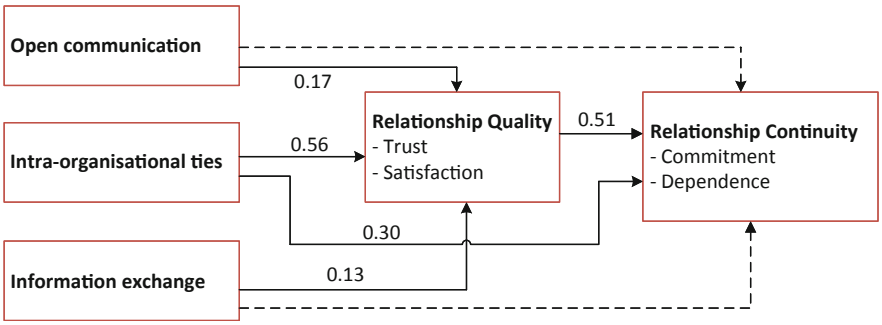

Fig. 3 Statistically significant pathways

The study provides managerial recommendations, particularly for buyers, to build strong relationships with their suppliers. First, open communication with partners increases (the perception of) the quality of the relationship; therefore, buyers should engage in transparent communication with their suppliers. Second, information exchange positively influences relationship quality. For farmers, information exchange is critical to meet the buyer's quality and quantity requirements. Similarly, buyers should improve information exchange with their suppliers about quality specifications and market information. Thirdly, strong intra-organisational ties among farmers in a PO can enhance the quality and the continuity of the relationship with the buyer. Therefore, the effort a PO in organising meetings, sharing information, and building trust among members should be bolstered. For buyers, exchanging information with a PO does not only relate to meeting quality and quantity of supplies, but also supports intra-organisational ties among farmers in the PO. For instance, the buyers may attend farmers' meetings and guide PO management. Lastly, to strengthen relationship quality, buyers should promote farmers' trust and satisfaction.

This study has several limitations. First, the analysis was based on data collected at one side of the seller–buyer relationship as only farmers' perceptions of the relationship were measured. In future studies, the buyers' perspective on the relationship with farmers could be addressed. Second, the study analysed the perceptions of farmers who were contracted by buyers either directly or through a PO. We did not consider spot market farmers (chain 4) in the Indonesian vegetable industry. Future studies should involve spot market farmers in order to gain an understanding of the quality of the relationship between farmers and rural traders in spot markets. Thirdly, the intra-organisational ties in this study focused on the relationship among farmers involved in a PO. In Indonesia, the majority of farmers participate in a PO that is more like a community organisation instead of a business organisation. Future research could look into how intra-organisational ties in community-type of PO and business-type of PO may differently affect the business relationship with buyers.

Appendix

Table 6 List of measurement items

Dimension	Constructs	Items	Questions	Adopted from
–	Open communication	OC1	Our communication with the buyer is open and honest	Smith (1998)
		OC2	Sometimes the buyer does not tell me everything I need to know (–)	
		OC3	We exchange relevant information with the buyer on a regular basis	
		OC4	We talk candidly with each other	
–	Information exchange	IE1	We are frequently informed about quality requirements	Martins et al. (2019), Arana Coronado et al. (2010), and Schulze et al. (2006)
		IE2	The buyer helps us to plan our production according to the buyer's needs	
		IE3	The buyer gives us feedback to improve the quality of the vegetables we deliver to him/her	
		IE4	The buyer provides knowledge and technical assistance	
–	Horizontal ties	HR1	I regularly participate in meetings with other farmers in the PO	Martins et al. (2019), Wardhana et al. (2020), and Lu et al. (2012)
		HR2	I regularly communicate with the other farmers in the PO	
		HR3	I am willing to share my knowledge with other farmers in the PO	
		HR4	I trust the other farmers in the PO	
Relationship quality	Trust	TR1	The buyer pays on time	Nyaga et al. (2010), Smith (1998), and Kwon and Suh (2005)
		TR2	The buyer and I trust each other	
		TR3	I am confident that the buyer is telling the truth	
		TR4	The buyer works in our joint interests	
	Satisfaction	S1	We are very satisfied with the buyer	Eggert and Helm (2003), Smith (1998),

(continued)

Table 6 (continued)

Dimension	Constructs	Items	Questions	Adopted from
		S2	It is a pleasure to have a good sales relationship with the buyer	and Ulaga and Eggert (2006)
		S3	This is the best sales relationship that I have experienced	
Relationship continuity	Commitment	C1	We want this relationship with the buyer to continue for a long time	Kwon and Suh (2005) and Nyaga et al. (2010)
		C2	Our positive feelings towards the buyer are a major reason for continuing to work with him/her	
		C3	I will not switch to another buyer, even if the other buyer offers a better price	
	Dependence	D1	This buyer is important for our future sales	Damme (2012)
		D2	It is difficult to find another buyer	
		D3	It is difficult to trust another buyer	

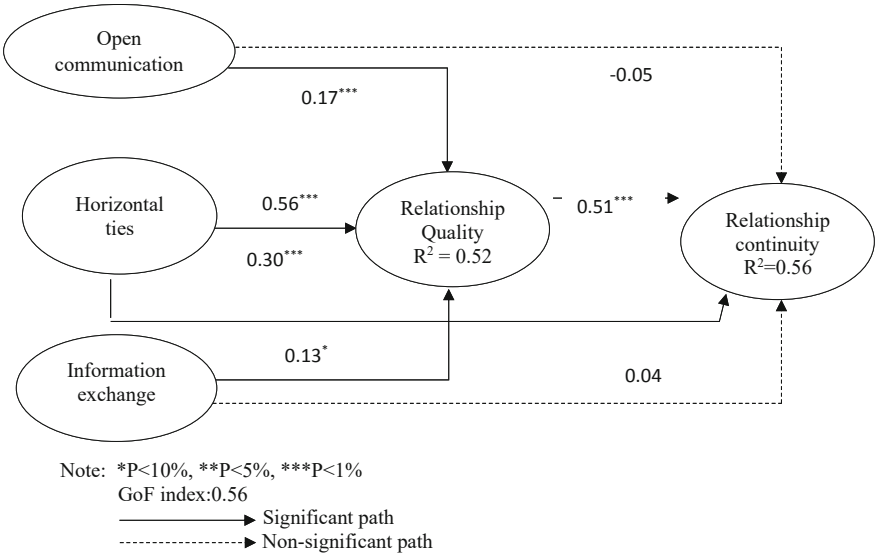

Fig. 4 Result of SEM-PLS in sample A

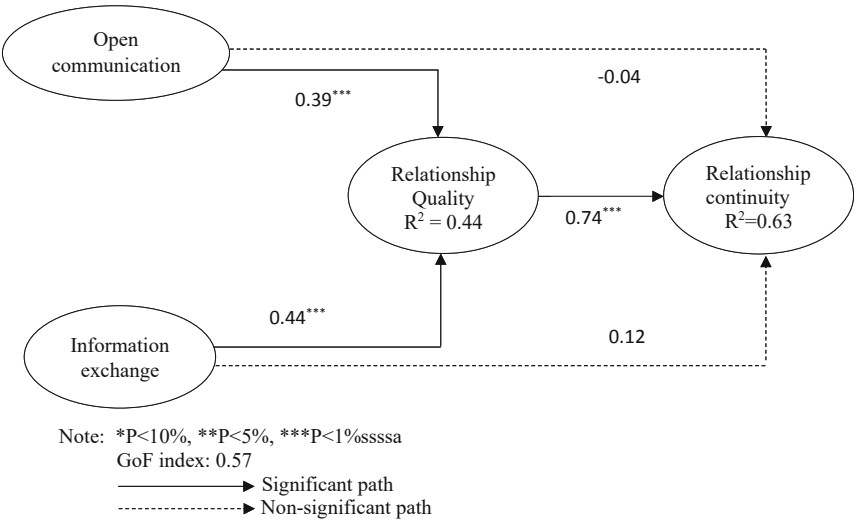

Fig. 5 Result of SEM-PLS in sample B

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Governance and Performance of Producer Organisations in India

A Case Study of NDDB's Milk Producers' Companies

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Abstract Many of the explanations of poor or superior performance of the cooperatives lie in their governance and management. In the search for a better legal form of organisation of small producers, the Producer Company (PC) was born as a legal provision in the early 2000s in India. This paper examines the governance issues and the role of governance in their performance with case studies of NDDB's Milk Producers' Companies (MPCs) in terms of governance innovations designed by the promoting entity—National Dairy Services (NDS) of National Dairy Development Board (NDDB). The major governance factors in the relatively superior performance of milk PCs included: membership rules, member commitment to patronage of the milk PCs and its linkage with member equity like in the new generation cooperatives elsewhere, role of Board of Directors (BoD) and its composition besides very transparent and democratic functioning of the Board.

1 Introduction

It is important to realise that, for farmer incomes to improve, they need to have a presence, not in primary production but in markets and value-added products that have higher margins. For this to happen, farmers need to own or control some of the downstream links in the value chain, which requires capital and capability. It is here that the role of Produce Companies (PCs) becomes relevant in as they are more like business entities with no interference from the state or any other external entity. Since PCs are more market-oriented cooperative companies, they can help farmers buy and sell more effectively. They have gained currency across India during the last two decades since the amendment to the Companies Act made this possible in 2003 (Singh 2017) and India now has thousands of such PCs, with many of them being supported by state agencies (Neti et al. 2020).

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India had close to 16,000 such PCs as on March 31, 2021, with many of them being supported by state agencies of which 53% were registered in the last 2 years (2019–2020 and 2020–2021) and 38% in just 1 year (2020–2021) (Neti and Govil 2022). This was largely due to many government schemes coming into effect from the middle of the decade. Ninety-two percent of registered PCs were engaged in agriculture and allied activities (Neti et al. 2020). The number of shareholders ranged from a minimum of mandatory 10 to as many as more than 0.1 million per PC. The average membership across altogether worked out to be 582 shareholders per PC and the total membership was 4.3 million farmers. The average paid-up capital per PC worked out to be Rs. 1.17 million for all registered PCs and Rs. 1.22 million for those with active status. This meant that the average share holding was Rs. 2000. Among the top 20 PCs with the paid-up capital, dairy was the biggest sector across the states followed by coconut and one each in fruits and vegetables, poultry and tea. Interestingly, two of them were all-women PCs. Of the 6926 active PCs, majority had very low paid-up capital even after 2–3 years of being in existence (Neti et al. 2019).

More recently, India's Union government has planned to promote 10,000 more such entities over the next 5 years with additional financing support besides existing policy incentives and schemes for such entities which include income tax exemption up to a Rs. 1000 million turnover for PCs and extension of Operation Greens scheme with an allocation of Rs. 5000 million to address price fluctuation in three vegetable crops (tomato, onion and potato) for the benefit of farmers and consumers to all perishable produce. It aims at promotion of agri-logistics, processing facilities and professional management through the PCs and many state governments like Odisha and Kerala have policies to promote and support PCs (Singh 2021a).

PCs came into existence as new legal entities with the amendment of Section 581 of the Companies Act, 1956, in 200 and operate under the regulatory framework that applies to (private/public) companies, which is distinctly different from the one which applies to the cooperatives, which was seen as arbitrary and corrupt. A PC can be registered under the provisions of part IX-A, chapter one of the Companies Act, 1956 (now 2013 as it was amended in 2013). The objectives of a PC can be production, harvesting, procurement, grading, pooling, handling, marketing, selling, export of primary produce of the members or import of goods or services for their benefit. Its membership can be 10 or more individual producers, or two or more producer institutions or a combination of the two. It is deemed to be a private limited company, but its membership is not limited, which is voluntary and open. It is a limited liability company by shares and not a public limited company under the Companies Act, 2013. It retains the one member–one vote principle irrespective of shares held or the amount of patronage, except during the first year when it can be based on shares. Like traditional cooperatives, it provides a limited return on capital but can give bonus or bonus shares based on patronage. It is named 'producer company limited'. The equity shares are not transferable but are tradable within the membership (Singh 2008). It is free to buy other producer companies' shares and to form subsidiary/joint venture/collaboration/new organisations. It can have 5–15 directors, one chairperson and one ex officio chief executive. The Multi-State

Cooperative Societies (MSCSs) can have more than 15 directors for 1 year. It can co-opt expert or additional directors without voting rights. It lays emphasis on member education, and cooperation among producer companies. If it fails to start business within a year, registration can be cancelled. The audit has to be conducted by a chartered accountant. Thus, a producer company is a New Generation Cooperative (NGC). It is a cooperative form of business enterprise democratically owned and controlled by active user members. It enjoys the same liberalised regulatory environment as available to other business enterprises, but it has unique characteristics of cooperatives (Singh 2016, 2021a).

Some of the salient features that provide the PC a competitive edge over a traditional cooperative are: First, the producer company format provides more legitimacy and credibility in the immediate business environment. It breaks the producer organisation free of the welfare-oriented, inefficient and corruption-ridden image of cooperatives. Second, it allows registered and non-registered groups, such as self-help groups or user groups to become equity holders in a producer company. This enabling provision is a distinct improvement over the existing legislation on cooperatives, which allows only individual producers to be members. Third, the Act permits only certain categories of persons to participate in the ownership of producer companies which requires the members necessarily to be 'primary producers'—persons engaged in an activity connected with or related to primary produce. This ensures that outsiders do not capture control of the company and allows for raising investments from other players in the supply chain who have stated producer interest. The PC Act tries to mitigate professional capability asymmetry between private and cooperative organisations by allowing the co-option of professionals in the governance structure. Thus, small and marginal producers can avail of professional management inputs while retaining qualitative governance control. Finally, unlike the cooperatives, companies have stronger regulation making statutory demands on the organisation for better disclosure and reporting. This empowers the members to demand operational and fiscal discipline (Singh 2021a).

It is important to examine what made milk PCs come up in a relatively successful way when many other PCs are still struggling to sustain in India (Singh and Singh 2014; Singh 2021b). This paper examines the innovations in NDS promoted milk PCs in terms of their governance which has led to them being relatively successful compared with many other PCs in India, despite higher competition from other milk buyers—multinational, national and local including cooperatives and in comparison with traditional cooperatives themselves.

The next section profiles the Indian dairy sector as a context of this innovation followed by review of literature of cooperative and PC performance and issues therein in Sect. 3. Section 4 describes the methodology and Sect. 5 discusses performance of milk PCs and factors therein, based on case studies of four milk PCs directly promoted by NDS and their farmer impact, in terms of governance and management factors behind such performance in terms of innovations. The last Sect. 6 concludes the paper.

2 Indian Dairy Sector

India today is the largest producer of milk globally accounting for 20% of the milk production as of 2017 which is as high as that of the EU (Kumar et al. 2022). However, India was milk deficient during the 1950s and 1960s and that was when the National Dairy Development Board (NDDB) was set up in 1965 to replicate the Amul or Anand pattern cooperatives in India as by then Amul (Anand Milk Union Limited) had been set up and had achieved fair amount of stability as farmer owned cooperative enterprise. Therefore, NDDB kept investing in setting up dairy processing plants and supporting state and district level cooperatives across major stats of India. But, the big push came when the food aid from the USA was monetised and used to promote dairying under the Operation Flood (OF) programme of the NDDB.

Since 1971, India's dairy production has grown at the rate of more than 4.7% per annum which has led to value of milk production in 1991 at Rs. 242 billion which was higher than that of wheat (Rs. 172 billion) and that of rice (Rs. 356 billion). It was stated that this growth in milk producer's income was similar to the outcomes of India's Green Revolution for crop farmers (World Bank 1998). In fact, the milk cooperatives promoted under OF covering six million producers of milk by the late 1990s were called 'private sector cooperatives' by the World Bank. There were 57,000 village level dairy cooperative societies federated into 172 milk producers' unions which in turn federated into 22 state level federations in 1998. These cooperatives were termed private as they followed Anand pattern cooperative principles which included three-tier farmer owned structure of the cooperative (at local village level primary cooperative milk society, regional or district level union and state or province level federated body known as cooperative milk federation), professional management with reporting to the farmer-controlled Board of Directors, right to hire and fire staff without any government interference, right to set producer and consumer prices and right to file for bankruptcy. However, the World Bank recognised that not all these principles were adhered to in all states and there were state governments which interfered in managerial appointments, staffing levels or through price controls for which they were sometimes compensated, and it was a continual battle for state federations and the NDDB to gain complete autonomy (World Bank 1998). By 2016–2017, the number of local milk cooperative societies increased from 63,415 in 1990–1991 to 177,314 and membership increased from 7.482 million in 1990–1991 to 16.282 million producers. The milk procurement increased from 9.7 million per day to 42.845 million litres per day over this period (Kaur and Singla 2018).

After 1991, there has been structural transformation of the dairy sector in terms of composition of milch animals with share of cross-bred cows increasing and that of indigenous cows and buffaloes going down as the average yield of cross-bred cows was 1.5 times that of buffalo yield and 2.5 times that of indigenous cow yield in 2016–2017. There was also an increase in the contribution of the livestock sector in agricultural GDP from 20% in 1990–1991 to 25% by 2015–2016. Further, the share

of milk in livestock production and total agricultural output also increased from 63% and 15% respectively in 1990–1991 to 66% and 18%, respectively (Kaur and Singla 2018). However, milk production in India is regionally concentrated wherein ten states accounted for more than 81% of its total milk production in 2018–2019 with Uttar Pradesh, Rajasthan, Madhya Pradesh and Andhra Pradesh accounting for 56% of the total. Of the total production, 48% is retained for self and local consumption and of the remaining 52%, 31% is handled by the organised sector and 21% by the informal sector players. Within the organised dairy sector, cooperatives and private players account for an equal share each. Within the cooperative sector, Amul alone accounted for 45% of the total procurement by cooperatives in 2018–2019. In fact, five states account for close to 80% of total milk procurement by cooperatives which include Gujarat, Karnataka, Maharashtra, Tamil Nadu and Rajasthan. For the small producers who can be landless or marginal (together accounting for 66% of total milk producers), milk income is a very significant source of household income including in agricultural households. One of the major factors in the poor cooperative performance in general has been that as a policy, they procure the entire quantity of milk supplied by their members which creates problems for them in both dry and flush season and have implications for supply chain management as well as marketing of large/small quantities of milk and milk products. In terms of producers' benefit, the cooperatives offer only about 5–6% higher share of consumer rupee (75.7%) compared with that by the private sector (70%). In 2019, there were 1944 private milk processing plants which were higher than the number of cooperative plants by 70% (Ramdas 2021). However, most of the multinational dairy companies are only or mostly into milk products business, not liquid milk. The private sector has largely grown in states of Uttar Pradesh, Maharashtra, Tamil Nadu and Gujarat with the first two accounting for 50% of the private dairy plants in India. One of the governance issues in milk cooperatives is that despite women playing a major role in milk production at the producer household level, and accounting for 80% of the milk cooperative membership, they are only 3% of the board members of these cooperatives (Kumar et al. 2022). Further, before the deregulation of the sector until the late 1990s, 90% of the milk production came from marginal and small producers who made up 84% of all milk producers which has now come down to 45% all dairy farmers contributing 60% of total milk production. In fact, now large farmers (10–15 animals) are growing due to the policy and the cooperative focus on large-scale commercial dairy farms (Ramdas 2021).

It was in this context that after plenty of thinking, NDDB finally decided to take the producer company route under the Companies Act, 2003 to organise milk producers as single tier entities with individual primary milk producer shareholders, on cooperative lines, wherein there is direct membership of each shareholder in the state (province level) milk producers company which can have national or country-wide operations like any other private company in India, instead of the Amul pattern three-tier cooperative structures after about 10 years of the coming into being of the Producer Companies Act. It also set up National Dairy Services (NDS) in 2009 as a not-for-profit company to serve as its delivery arm for field level promotion of such milk producer companies at the state level. It has also facilitated two all-women

member milk PCs in Rajasthan for the Tata Trusts and was also assisting National Rural Livelihood Mission (NRLM) of the Ministry of Rural Development of Government of India across 13 states (NDDB Annual Report, 2015–2016).

3 Review of Literature

The viability of the cooperatives and/or PCs has been found dependent on different factors in different contexts ranging from scale, nature of farmers, and crops/produce handled to professional management of the value chain besides women members' involvement (Singh and Singh 2014). In fact, scale and governance emerge as two major concerns of PCs from which arise from or rather give rise to many other problems like capital constraint or lack of member loyalty or external trust in the business for market linkages.

There are various theories and perspectives on governance of cooperatives and similar entities like new generation cooperatives (hybrid structures) and its role in performance of such entities. Corporate governance is defined as structures, process, cultures and systems that engender the successful operation of organisation. It is argued that governance structures arises endogenously because economic actors choose them in response to the governance issues faced. In this context, a separation of responsibilities between the board of directors (principal) and professional managers (agent) is important (Boland 2019).

Some others define cooperative governance as the 'act of steering cooperatively owned enterprises towards economic, social and cultural success' which involves 'answering key questions, defining roles and responsibilities and establishing processes for setting expectations and ensuring accountability' (Scholl and Sherwood 2014, p. 18). They also prescribe four pillars of cooperative governance for their successful operations and adherence to cooperative principles and values, which include: Teaming which is about working together successfully to achieve common purpose in terms of having common agreement about the work, clear expectations of individuals and groups and effective decision making and leadership of the cooperative; democracy involving practicing, protecting, promoting and perpetuating democratic values and system, more than just voting; strategic leadership, i.e. articulating the cooperative purpose and direction to achieve member needs, market differentiation and competitiveness; and accountable empowerment which means empowering people while holding them accountable. Each of the above four pillars is important and relevant to each constituency in a cooperative enterprise (Scholl and Sherwood 2014).

So far as the democracy pillar of governance is concerned, there have been serious concerns about the democratic legitimacy of cooperative boards due to the low level of member participation and their effectiveness to supervise managers to protect the interest of members and other stakeholders (Cornforth 2004). The failure of the cooperative model is generally explained in terms of its democratic governance structure which prevents effective control over managers and the profit

distribution system. Additionally, the horizon problem for the member investors and the member free riding problem may explain cooperative failure to perform. In general, the cooperative boards suffer from lack of representation for particular member groups and experts. Further, the low level of member participation leads to worsening the governance and management of the cooperative (Shaw 2006). This is also partly due to the fact that the governance of non-profit organisations, in general, and cooperatives, in particular, is relatively under-theorised in comparison with governance of business corporation (Cornforth 2004).

Cooperative governance which is more than just compliance with regulations, is also more difficult as there is no market which monitors the cooperative business and distributes information unlike in the case of private organisation. There are different corporate governance models in difference regions of the world and different approaches which include shareholder versus stakeholder value and owner versus stakeholder concerns.[1] Further, there are external and internal corporate governance mechanisms mediated by cooperative rules and articles of association and the board of directors. The emergence of new generation cooperatives (NGCs) or hybrid structures has further complicated cooperative governance. Cooperatives can also have limited opportunity for accumulating capital because this has to be collected from the members rather than the market. Further, a cooperative has a face unlike a private corporate entity because it has close connection to a membership which uses its services on the basis of which the members are rewarded and not just equity capital contribution. But it is important to remember that no organisational structure automatically guarantees good governance. Therefore, cooperatives many times have external non-executive directors in order to get professional and expert advice (Pellervo 2000). It is known that adoption of good governance practices has a positive effect on the financial and overall effectiveness of cooperative enterprises (Lacmanovic 2019).

Though the role of appropriate governance model, mechanisms and tools in order to implement such good governance, and the role of governance oriented educational activities in adapting good governance practice are known, major barriers to successful governance in a cooperative include: confusion about the role and mission of the cooperative, lack of clarity around the purpose of governances and board's role, risk of entrenched power groups, conflicts between principles of profitability and social objectives, oversight and control mechanism, lack of clear rules to adopt to changes in the market and lack of understanding that cooperatives are private sector

[1] There have been various theories for understanding the role of private organisation boards in their governance which include agency theory, stewardship theory, stakeholder theory, democratic theory and managerial hegemony theory. Whereas agency theory is more about compliance, stewardship theory is more of a partnership model and resource dependency theory is more of a co-optation model, the stakeholder theory assumes that organisation should be responsible to a range of stakeholders in society other than just the owners or shareholders of an organisation. The managerial hegemony theory is also known as a 'rubber stamp' model wherein the shareholders may legally own and control the organisation, but they no longer effectively control it as the control has been ceded to professional managers (Cornforth 2004).

enterprises. Further, democratic degeneration due to growth of the cooperative and rent seeking behaviour by the managers due to poor control mechanisms also figure as hindering factors (Lacmanovic 2019). This has led to certain governance mechanisms which include representativeness and participation of members, voting rights and procedures, members participation, strategic guidance at the board and executive management levels besides supervision and control and performance evaluation and accountability mechanisms. Therefore, many cooperative governance codes and guidelines recommend independence of board members from the executive, segregation of chief executive and board chairs, active participation of members, effective control mechanisms, experts on governing boards, transparency and disclosure, codes of conduct and ethics for members, directors and managers, dissemination of information for qualitative collective decision making, preventing non-substitutable board members, parameters for comparison with other cooperatives and education on cooperative governance besides training of managers in tune with cooperative principles and values. If a successful cooperative requires member proximity, branding and competitiveness, then governance structure, distribution channel, effective change management and communication, and significant technology investment are needed as essential determinants of cooperative success (Lacmanovic 2019). Some studies find member participation, accountability and transparency as important factors in cooperative performance in the context of India (Tripathy et al. 2021). Cooperative governance measured in terms of monitoring rights, innovation and ratification of management decisions was also found to impact social performance of cooperative in terms of social responsibility and quality of services in Uganda (Kyazze et al. 2017). I use some of these aspects of governance to identify their role in improving the performance of new generation cooperatives (Producer Companies) compared with traditional milk cooperatives in India.

4 Methodology

This article examines the governance and management of the four of the five PCs promoted by the NDS of the NDDB. Only four of the five are studied as the data were not available for one of them which was also all-women member PC and therefore different from others which were mostly mixed-member (both male and female) PCs. The physical and financial performance data from a larger study (Singh 2021b) are used in case of two PCs (Paayas and Saahaj) to assess their business performance and member impact compared with the non-member farmers in terms of price and other benefits besides secondary data as in the case of two other PCs. Besides this, the financial performance assessment of four PCs comes from a recent World Bank evaluation report (2020). This differential financial performance compared with traditional milk cooperatives and their member level impact are then explained with the help of innovative governance mechanisms adopted by these milk PCs as compared with traditional milk cooperatives.

5 Governance Innovation and Milk PC Performance

It is important to clearly delineate the governance aspects of the milk PCs compared with the traditional milk cooperatives. As Table 1 shows, the milk PCs differ from traditional cooperatives in their governance features such as conditional membership instead of open membership, limited member entry windows and significance of member equity participation to benefits from PC unlike cooperatives which have only nominal equity contribution by a member. Further, membership is also tied to patronage which is substantial and crucial for aspiring for board membership and non-members are not entertained in PCs unlike in traditional cooperatives. More importantly, there is provision for expert directors on the board without voting rights and side selling disqualifies a member from contesting for board membership

Table 1 A comparison of major governance features in traditional milk cooperatives and milk producer companies in India

Governance feature	Traditional milk cooperative	Milk producer companies
Membership	Open and voluntary	Open and voluntary but conditions apply
Membership entry	Anytime during the year	Only twice during the year in specific windows only
Equity holding	Nominal and just a token of admission	Significant and like buying a piece in the PC's accumulated net-worth
Membership	Not tied/linked to patronage	Tied/linked to patronage
Basis of member benefits	Only patronage	Returns to members tied to both patronage and equity shares.
Business only with members	Not necessarily	Yes
Member voting eligibility	None	Only members who supply at least 500 kg of milk and for at least 200 days during the year can vote
Milk supply condition on members	None	Has to maintain flush lean ratio of 3:1
Board Member political affiliation	Allowed	By-laws forbid board members from holding any political positions
Experts in board	No	Yes—up to 1/5th of total
Bases of representation in board	None	Based on membership in each category
Any patronage-based qualifying criterion for board membership	No	Yes, all marketed surplus should have been sold to PC only (in past or present)
Conflict of interest	Not stated	Clearly stated (no relation with any player in the milk chain of the PC)
Managerial compensation	Fixed	Performance-linked at market rates

Source: Created by the author

Table 2 Performance dimensions of milk cooperatives versus milk PCs in India

Performance dimension	Traditional milk cooperatives	Milk producer companies
Paid-up capital/equity	Low as nominal member share	High as delivery rights linked to equity
Scale of operation (membership and turnover)	Moderate/low as local lor just state level domain of operations legally	High due to country level domain of operation legally with single tier structure
Operating costs	High	Low/moderate
Net profit after tax	Nil/low	Positive/good
Reserves and surpluses	Nil/low	Positive/high
Member centrality (the significance of the cooperative/PC to member livelihoods)	Low	Moderate/high
Patronage centrality (significance of Co-op/PC in the sectoral economy)	Low/moderate	High
Domain centrality (significance of co-op/PC in the local economy as a whole)	Low	High

Source: Created by the author

(Table 1). Even conflict of interest is not permitted and managerial compensation is linked to performance of the professionals unlike in traditional milk cooperatives.

On the other hand, before discussing impact of innovative governance practices it is important to identify dimensions of performance on which the differential impact could be seen. These dimensions include paid-up capital mobilised, scale of operation in terms of revenues or turnover, operating costs, profits, reserves and surpluses maintained for new investment in the PC or the cooperative (Table 2). Further, it is member centrality, member patronage and domain centrality which ultimately determine member engagement and loyalty to the cooperative or the producer company. On these various parameters, cooperatives have generally performed poorly with a few exceptions and particularly on reserves and surplus which was due to the fact that in India, income of the cooperative entity is subject to income tax and, therefore, the cooperatives have been passing on the surpluses earned to members as price benefits or bonuses to avoid paying any tax which leads to cooperative not having any resources for long-term investment. That in turn leads to member free riding and not investing in the cooperative due to horizon problem.

In the following sections (Sects. 5.1–5.4), we will examine the performance of the milk PCs on many of these aspects. Section 5.5 explains the performance differences of the milk PCs in terms of their governance features.

5.1 Baani Milk PC, Punjab

Baani Milk Producer Company Limited (BMPCL) was incorporated on 11 August, 2014 with its head office in Patiala, Punjab. The main objective of the PC (BMPCL) was to increase the milk production of its member producers, decreasing the cost of milk production and providing them better services and a competitive price of milk. It procures milk from eight districts of Punjab. At the time of establishment, the PC had 5000 member producers and in early 2018, they numbered 20,000 with a coverage area of about 1181 villages. There are 13 milk chilling centres of the PC. BMPCL also provides two types of cattle feed and one type of mineral mixture to the farmers.

Baani involved a third party, namely, Kansal Feed Industries Pvt. Ltd., Khanna for the manufacturing of all types of feeds. However, it is not compulsory for the member producers to purchase these inputs from the PC. The payment for these inputs is deducted from the payment made to the members for the milk supplied. The PC did not provide any kind of veterinary and credit facilities (Kaur 2019). Eight-one percent of its turnover came from wholesale trading and 19% from retail trading in 2020–2021. Further, only 0.09% shares were held by promoter and non-promoter directors (total 13) all of whom except one were non-executive directors. The shares of directors ranged from a low of 23 to as many as 308 with five of them (out of total of 11 producer directors) having more than 100 shares each (annual return form from Baani website, accessed on March 25, 2022). The physical and financial performance of Baani shows that it has been able to triple its turnover within 4 years and has doubled its membership and paid-up capital and even profit, but it has not grown much in its milk procurement and inclusion of women members. Financially too, it has doubled its profits and increased its reserves and surpluses substantially (Table 3). However, the paid-up capital performance remains modest.

5.2 Saahaj Milk PC, Uttar Pradesh

Headquartered at Agra, and registered on 17/10/2014, Saahaj sells five types of milk, ghee (clarified butter) and butter milk besides supplying cattle feed to its members. Mother Dairy already had its presence in the districts since 2007 there, and all of those milk producers supplying milk to Mother Dairy became members of Saahaj. It (Saahaj) was present in eight districts in 2019, wherein it overlapped with Amul (traditional and well-known cooperative milk brand from Gujarat with operations across many states now) in three districts. Out of the 369 villages, 41 had Bulk Milk Chillers (BMCs) established by Saahaj and run and managed by the consigners. Producers from only those villages became members where there was a Milk Pooling Point (MPP) which were 2661 or a BMC which numbered 366. In 2015–2016, it had 80,871 supplying members of whom 60,606 had become members (24% of them being women member and 72% being small producers). There

Table 3 Profile and performance of Baani milk PC

Year > parameters (all in Rs. million)	2014–2015	2015–2016	2016–2017	2017–2018	2018–2019
Revenue from operations and total revenue in ( )	870 (870.14)	2010 (2010.69)	2580 (2600.05)	3560 (3570.63)	3630 (3650.15)
Total shareholders and % of women in ( )	22,972 (11.7)	33,218 (11.7)	43,023 (21.1)	43,073 (24)	50,603 (25)
Number of Directors and % of women in total in ( )	14 (21)	15 (20)	15 (20)	15 (13)	14 (14)
Authorised capital	200	200	200	200	200
Paid-up capital and %age of authorised capital	13.8(7)	43.2(21)	76.1(38)	86.9(43)	97.8(49)
Net Profit after tax	21.6	10.5	16.7	51.5	53.5
Total Dividend and (EPS)	1.7 (416.97)	−0.05 (58.14)	−0.4 (33.54)	−0.66 (66.5)	−0.93 (57.2)
Total milk pooling points (MPPs)	484	917	1386	764	1321
Milk procurement (million litres/day)	0.17	0.159	0.18	0.253	0.275
Reserves and surpluses	19.9	25.2	41.9	86.0	131.1

Source: Annual reports of Baani

were 1034 Local Resource Persons (LRPs) in 2015–2016 across 1856 villages and 100,862 milch animals and 85,141 producers. The dairy *sahayak* (a procurement assistant chosen by members) at local level was paid Rs. 1.2/l commission for running a MPP and a consigner managed the BMC @ commission of Rs. 1.05/l. Members were paid directly in their bank accounts, and they received acknowledgement for the same through Short Messaging Service (SMS).

The dealing with non-members was negligible at 1% and exclusive members that dealt only with PC were at about 55% of the total. It had profits of the order of Rs. 130 million and had mobilised most of its authorised capital which was of the order of Rs. 300 million and earlier Rs. 200 million. Fifty percent members supply milk exclusively to Saahaj but it had modest spread of operations and membership and even share of women members in total. Saahaj had scale in terms of membership, equity base and level of business turnover (Table 4).

Cattle feed was bought by 70% members from PC with 10% non-members also buying it from the PC. But, 30% members and 40% non-members did not report use of cattle feed. Sixty percent members knew that PC was owned by member farmers and 20% and 10% thought it was owned by PC employees or promoting agency (NDS/NDDB). Ten percent had no idea about its ownership. Among non-members, awareness was even poorer expectedly as only 20% thought it belongs to farmers, 40% reporting it to be PC employee owned and 40% not knowing about it at all (Singh 2021b).

Seven farmers out of ten member farmers reported selling milk to PC in case of buffalo milk and four farmers selling to PC cow milk where the quantity of milk supplied had increased over the last 3 years. The members reported a price increase of 16–20% over the previous channel price. As against this, in case of non-members, only four farmers out of eight buffalo milk farmers reported selling to other milk FPOs in case of buffalo milk and other three out of four cow milk producers continuing with local dairy. There was significant increase (29%) in the number of buffaloes owned by farmer members and also increase in milk yield by 25–50% and therefore, marketed surplus increased by 50–60% in case of cow and buffalo milk, respectively (Singh 2021b).

5.3 Paayas Milk PC, Rajasthan

The Paayas Milk PC has its origins in the Mother Dairy (NDDB) project which began in 2009 in Rajasthan. However, Mother Dairy didn't have a formal structure of cooperative membership of milk producers. The Paayas was set up in 2012. The mission of Paayas included: increasing the income of shareholders by reducing the cost of milk production and enhancing their milk business. By 2016, it had 2571 MPPs and employed 1228 LRPs. By 2019, PC had presence in 3300 villages which covered 38% of milch animal owning households in these villages. Forty percent of the milk in case of Paayas came from non-members. Its sales were 85% institutional and 15% in retail. The institutional sales were mainly to Mother Dairy and a small

Table 4 Profile and performance of Saahaj milk PC

Year > parameters (all money values in Rs. million)	2014–2015	2015–2016	2016–2017	2017–2018	2018–2019
Revenue from operations	1580.24	4890.44	4970.99	7730.19	8410.85
Authorised capital	200	200	200	200	300
Paid-up capital and percentage of authorised in brackets	2.21 (11)	8.97 (45)	15.33 (76)	18.56 (93)	23.03 (77)
Total member shareholders and women as % of all	44,999 (21)	60,606 (24)	80,952 (27)	60,901 (31)	76,540 (32)
Number of BoD and %age of women in BoD	12(17)	15(17)	15(17)	13(15)	14(0)
Net profit after tax	46.3	99.6	17.9	(121.5)	134.9
Dividend and (EPS)	2.220 (375/-)	10.8 (Rs. 10 per share) 329/-	14.8 Rs.8/share 17.5	17.9 76.3	22.2 Rs. 8/share/71.5
Total MPPs	1855	2661	3455	3455	3455
Milk procurement (million litres/day)	–	0.368	0.345	0.504	0.594
Reserves and surpluses	4.36	13.24	15.03	25.71	37.41

Source: Annual reports

Table 5 Profile and performance of Paayas milk PC

Year > parameter (all values in million Rs)	2015–2016	2016–2017	2017–2018	2018–2019
Turnover	8450	10,620	12,820	14,290.5
Authorised capital	300	350	350	500
Paid-up capital and %age of authorised in ( )	220.8 (76)	307.2 (88)	338.9 (97)	374 (75)
Number of shareholders (in million) and (% of women in total)	–	0.112	0.97816 (39)	0.104 (38)
Profit	128.9	111.5	168.4	130.3
Reserves and Surplus	0.180	292.3	475.41	611.90
Assets	442.6	45,116	34,792	25,875
Milk Procurement (million litres per day)	0.491	0.65	0.645	86

Source: Singh (2021b)

quantity also went to Rajasthan Co-operative Dairy Federation (RCDF). It had outsourced facility for processing and packing up to 0.15 million litres a day and cold storage capacity of 0.1 million litres and ghee making capacity of 4.5 metric tonnes per day. The PC had 125 distributors and 4000 retailers. Over the years, it had been gaining market share while RCDF was losing its market share (Singh 2021b).

Paayas, like its sister milk PCs, was a single tier structure with 0.12 million members. At the local level, there were villages contact groups (VCG) and member relation groups (MRG) which were informal structures between the PC and the members which acted as a bridge between the members and the PC as the procurement at the village level was undertaken by a private individual. The VCG had 3–5 members at the MPP level, whereas MRG had 10–12 members at the milk route level. Whereas VCG encouraged farmers to become members and made the members adhere to the rules of the PC, the MRG was more about supporting PC in organising various campaigns, meetings and workshops (Singh 2021b).

The PC supplied cattle feed and various other inputs and services like mineral mixture, fodder seeds, group medical insurance and artificial insemination facility. It was also supplying milking machine for large dairy animal holders. It also supplied fodder seed and rations like Urea Molasses Blocks (UMB). Many of its services were provided to both members and non-members because non-members were potential members who could help expand procurement and turnover of the PC. The PC also provided bunkers for biomass and fodder storage at the household level which are provided free or at 50% cost to women dairy farmers. The PC also set up 14 model dairy farms in three districts and more than 800 farmers were trained in model dairy farming (Singh 2021b).

Paayas milk PC had turnover of more than Rs. 10,000 million per year and profits of the order of more than Rs. 100 million per year and surplus of Rs. 290–610 million per year. It had also mobilised most of its authorised equity from members (Table 5). In 2014–2015 itself, it paid Rs. 30 million as loyalty incentive to members

and Rs. 15 million as dividend on equity on a total share capital of Rs. 160 million which was over 25% annual return on investment (Shah 2016).

Before the PC intervention, all farmers sold milk either to other POs or did not sell at all. There was 60% increase in buffalo milk sale because of the PC intervention though the price came down more recently compared with the alternative channels of sale. Whereas only 60% sold to the PC a few years ago, 100% started selling to it after a few years of it coming in. The member farmers reported a price increase of 13% over the previous channel prices. The number of member farmers selling milk to PC doubled and volume sold increased by 50% within 3 years as many members have moved away from other channels like traditional cooperative or other channels. Cattle feed was bought from PC by 90% of the member farmers as it was door delivered and had better quality, lower price, available in time, and no other reliable source. On the other hand, only 17% non-members reported buying from PC/DCS and others (33%) buying from dealers and 25% not using it at all. Most of the members of the PCs had received share certificates (90%). All the farmers reported receiving dividends on their share capital and 80% didn't have any complaint against the functioning of the PC. Eighty percent knew that the PCs belonged to the farmers. Eighty percent attended the meetings every month and all of them wanted to continue as members of the PC because of its responsiveness, transparency and profitable interface besides quick payment and good service delivery. Only 33% non-members showed interest in becoming a member of the milk PC (Singh 2021b).

5.4 Maahi Milk PC, Gujarat

Maahi Milk Producer Company Limited was incorporated on June 7, 2012 and commenced its commercial operations from 18th March 2013. It is the oldest PC among all milk PC promoted by NDS. Initially, milk procurement of the PC came from districts of Saurashtra and Kutch region of Gujarat covering 1912 villages and 2142 MPPs. At that time, 85,194 milk producers were members. In 2016–2017, membership of 7865 members was cancelled due to nonfulfillment of membership criteria and 262 members fully surrendered their shares while four members partially surrendered. As on 31st March, 2017, only 50,199 members are entitled for voting right and 49,714 members who did not pour milk for at least 200 days totalling to 500 l in a previous financial year (2016–2017) lost their voting rights and were not entitled to vote at the ensuing Annual General Meeting. There was enrolment of 13,730 new members in 2017–2018.

Maahi has taken over the cattle feed factory situated at Khandheri from NDDB on long lease with effect from the 1st of April, 2018 and renamed the Unit as Animal Feed & Nutrition Unit (AFNU). The unit has the capacity of producing 200 MT of cattle feed per day. It has a mineral mixture plant having 10 MT production capacity per day. The unit was equipped with Bypass 'Protein Feed' plant and Maahi was manufacturing all its cattle feed variants, i.e. Maahi Dan Power (BIS Type II), Maahi Dan Sampoorna (BIS Type I—22% protein and 7% FAT), Maahi Dan Junior (23%

protein and 4% FAT), using formaldehyde treated protein source and Mineral Mixture under the Brand name of 'Maahi Min'. It was also manufacturing Mineral Mixture for other PCs like Saahaj, Sreeja Mahila, Balinee, Bapudham and Indujaa Mahila Milk PC.

PC's sales and distribution network was spread apart from Saurashtra and Kutch region in the cities of Ahmedabad, Vadodara, Surat and Vapi in Gujarat. Though Maahi PC was located in a milk rich state, its physical performance has been more modest, whereas financial performance more mixed (Table 6). This could be due to the fact that it has strong competition from Amul in Gujarat besides many private dairy brands based in Ahmedabad (Singh 2017).

A study of its relative performance and impact compared with traditional milk cooperative in 2015 based on survey of 60 Maahi milk PC members and 60 traditional milk cooperative members revealed that despite being registered only in 2012 it was able to have higher turnover (4 times) that of the cooperative dairy and have 16 times higher procurement of milk annually and was able to make a profit of 47 million rupees (in 2013–2014) which was equal to the previous year (2012–2013) profits of the cooperative dairy and 40% of its 2013–2014 profits. Further it was able to offer higher price of milk (Rs. 580 per kg. fat) than that offered by the cooperative (Rs. 510 per kg. fat) (Singh and Pundir 2016).

5.5 Innovations in PC Governance

As the analysis of above cases of milk PCs shows they have been able to perform better on many parameters despite being new types of entities. All of the PCs were set up under the National Dairy Support Project, financed by the World Bank for 5 years. The relatively better physical and financial performance of the four PCs, though varying across them on various parameters, was also corroborated by another assessment of their performance. They had achieved the targets of farmer membership, including women members and smallholder producers, but fell short on the number of villages covered at the end of the project period. The membership ranged from a low of 51,590 in Baani to as high as 104,603 in case of Paayas with the other two being at 95,000 (Maahi) and 91,000 (Saahaj) members each. The women membership out of the total stood at between 25% and 26% (Baani and Maahi, respectively) and 35% and 38% (Saahaj and Paayas, respectively). Likewise, smallholder percentage in total membership was the lowest at 34% and 35% for Paayas and Baani respectively and the highest for Saahaj at 64% with Maahi at 52%. Overtime, the share of smallholders in Paayas and Saahaj was declining due to the existing members expanding their herd size on average. However, Paayas and Maahi stood apart from others in milk procurement at more than 0.8 million litres per day while Baani and Saahaj were only at less than 0.3 and 0.6 million litres each respectively. This was reflected in turnover figure as well. Finally, the share capital mobilisation by Baani was the poorest and that of Paayas and Maahi the best. Saahaj fell in between these two extremes (World Bank 2020).

Table 6 Profile and performance of Maahi milk PC

Year > parameter (all values in million Rs.)	2014–2015	2015–2016	2016–2017	2017–2018	2018–2019
Revenue from operations and total revenue in ( )	9792.5 (9858.0)	10,077.3 (10,145.9)	11,782.6 (11,901.7)	14,368.7 (14,447.3)	14,492.6 (14,597.6)
Authorised capital	350	350	350	350	500
Paid-up capital and % of authorised ( )	262.2 (75)	269.1 (77)	306.1 (87)	324.6 (93)	347.2 (69)
Total shareholders and % of women ( )	86,938 (NA)[a]	88,253 (NA)	99,913 (NA)	116,511 (NA)	109,608 (25)
No. of Directors (% of women in total)	15 (13)	14 (14)	15 (13)	14 (14)	15(20)
Net profit after tax	127.8	147.6	177.5	182.5	195.5
Total dividend and EPS	−2.86 (52.98)	−2.96 (52.21)	−3.2 (66.67)	−3.3 (60.52)	−3.51 (62.86)
Total milk pooling points (MPPs)	2144	2296	2792	2881	–
Milk procurement (million litres/day)	0535	0.572	0.636	0.769	0.812
Reserves and surpluses	103.2	218.5	411.3	597.3	797.0

[a]*NA* Not available
Source: Maahi website

The financial ratio analysis (liquidity, solvency, efficiency and profitability) also showed average or modest performance especially profitability, but that was more for the fact that like cooperatives, PCs have also been passing on the surplus to members as patronage-based price incentive besides divined on share capital benefit. Further, they face competition in terms of meeting producer expectations and also exploring new markets in the presence of large cooperative and private dairy entities. The earnings per share analysis however showed better performance but still there was a need for better capital management. Only Maahi and Paayas had good solvency position (World Bank 2020).

One of the probable reasons for milk PCs' relatively better performance could be the governance as shown by many studies in other contexts in the review section of the paper. Shah (2016) also points towards the role of governance in superior performance of milk PCs. Others find that milk as a commodity has a different dynamic than that of other crop produces and, therefore, can't be compared in terms of performance and as well as explanation of that in terms of only governance (Ganesh 2017). Ganesh argues that the role of capital and expertise in the success of milk PCs is also ignored. Milk PCs perform better as dairy activity is more stable and resilient unlike crop and farm produce-based agribusiness. Further, the frequency of the transactions in the case of milk is much higher than that in case of farm produce handling. Additionally, milk is a homogeneous commodity, easy to aggregate and store, and provides immediate returns but all these characteristics are missing in case of farm produce. Furthermore, most of the milk PCs have mixed membership unlike other produce PCs. Ganesh is of the view that even though PCs may not make large profits from activities like farm input supply, they provide significant savings for the shareholders because of the assured supply of quality inputs. Finally, the nature and type of promoter also makes a difference (Ganesh 2017).

However, here I am only comparing the performance of milk PCs with that of the traditional milk cooperatives which is valid and free from above criticism, Also, though I have not carried out any statistical analysis to prove the relationship between governance and performance due to lack of readily available indices of governance across study PCs as well as milk cooperatives, it is only reasonable to hypothesise that other factors remaining constant, governance could be the explanatory factor. The governance of the NDS milk PCs was very tight and fool-proof. They strictly enforced member discipline besides the professional input it had from the NDDB team which is known for their expertise in promoting milk producer cooperatives. Further, the NDDB-promoted PCs have no dairy cooperative society at the village level (unlike in the case of the traditional milk cooperatives) but a *sahayak* to manage procurement.

Further, NDDB's model of promoting milk PCs was based on rules of governance which enhanced patronise cohesiveness and governance and operating effectiveness which were: they will do business with only members, new members can join only during specific windows in each year and only those with minimum supplies of milk can vote and the BoD are chosen from three categories of members (Table 7) in proportion to the milk supplied by each category of members. Compare

Table 7 Categories of membership in NDS promoted milk PCs

Parameter>	No. of days of milk supply needed in a year				Quantity of milk supplied needed in a year (litres)				Min. No. of shares needed, and value of shares held in Rs. (One share of Rs. 100)			
PC > member category	Baani	Maahi	Saahaj	Paayas	Baani	Maahi	Saahaj	Paayas	Baani	Maahi	Saahaj	Paayas
A	>=300	>=330	>=330	>=330	>=7000	>=10,000	>=12,000	>=10,000	100	70	120	100
B	269–299	>=270	>=300	>=270	2500–6999	>=4000	>=6000	>=4000	40	25	60	40
C	200–268	>=200	>=200	>=200	500–2499	>=500	500–6000	>=500	5	5	5	5

Source: Kaur (2019), Singh (2021b), and Maahi website

this with a traditional milk cooperative like Milkfed Punjab which categorises farmers in only two types: commercial dairy farmers (selling 50 kg or more milk/day) and small milk producers (selling <50 kg milk/day) (Kaur 2019).

Further, the Baani milk PC Board membership nomination form asks for details of number and type of milch animals owned by the member and declaration that she/he is member of the PC for certain number of years and the class of membership and that she/he is eligible to be appointed as member of the Board. This information has to be certified by 25 PC members from 10 MPPs from that membership category and eligible for voting. Further, the candidate has to declare, among other things, that she/he has supplied all the marketable surplus, out of the total milk produced, to the PC and not to any other company/competitor in the past or presently. She/he also has to declare the quantity of milk supplied during the previous year and state that she/he has bought shares of the milk PC. She/he even has to declare absence of any conflict of interest which includes not having any relations with any person who has any commercial transactions with the PC such as a Procurement Assistant, transporter, franchisee, contractor, employee, etc. (Baani website).

The members have to maintain a ratio of 3:1 flush to lean milk supply and have to increase their shareholding after 1 year; two, there are classes of membership and face value of the share is revalued periodically and existing members can leave the PC and retire their equity capital at present valuation, besides 20% of the directors being co-opted experts. The elected board members were forbidden from holding any political office and have staggered terms where one third retired every year/2 years (Singh 2021b). This has led to a sense of seriousness among the members who can't think of free riding without serious consequences for their participation and benefits from PC. This enhances the understanding of business orientation of the PC among membership and helps appreciate their role in 'organising' to create an agency for their empowerment. For more details regarding the governance rules, see Appendix.

In case of Saahaj milk PC, a milk producer needed to buy at least five shares of Rs 100 each to become a member besides the application fee of Rs. 100 (Rs. 50 for women), and shareholding had to be increased at the rate of one Indian Rupee per litre of milk once 500 litres is crossed. In 2016–2017, A grade members supplied 57% of total procurement, B grade 18% and C grade 25% and accordingly there were three types of Directors chosen from three categories of members in proportion to the milk supplied by each category of member (Singh 2021b). Terms/condition for filling the Nomination form for category-wise vacant seats included among others: An applicant shall be the member of his applied category for at least the previous 2 years, and the candidature of applicant should be nominated by at least 25 members of the same category (who are eligible for voting in the AGM of Company) from 10 MPPs (source: Baani website).

The large member base and involvement is crucial for achieving business viability as well as better governance as suggested by NDDB experience across states to achieve economies of scale and scope and obtain member centrality and patronage which create agency and empowerment.

6 Conclusions

As the above analysis of the performance and governance of four PCs of NDS shows they have been able to scale up and become viable in a highly competitive market. A significant part of their performance can be explained with the help of analysis of innovations undertaken by NDS which range from innovations in membership profile and role, governance, member interface and relations. To be more specific, the bringing in of elements of contract farming among PC members ensures commitment of some supply of milk so that business plans could be executed successfully for trustworthy presence in the market. Additionally, the free riding and the horizon problem, typical in a traditional cooperative, could be avoided to a large extent. This was achieved on the one hand by linking milk delivery rights to equity and on the other hand, by patronage-based eligibility for participation in the governance of the PCs through the board membership.

Although PCs generally focus on small producers to achieve inclusiveness, there is some merit in mixed-member PCs in terms of farmer base as that helps achieve scale and mobilise more equity. It is also argued that, if they are composed of only small and marginal producers, they find it difficult to break even. Bringing in larger farmers at a later stage creates problems of governance as PCs were originally designed with patronage cohesiveness. But, scale is only one factor and others such as differentiation and meeting buyer preferences or serving niches are also important parts of the strategy (Penrose-Buckley 2007). That a large member base and involvement are crucial is also suggested by these milk PCs' experience across states to achieve economies of scale and scope and obtain member centrality, domain centrality and patronage centrality because these PCs promote patronage cohesiveness, governance effectiveness and operating effectiveness, not just because a legal provision was made for such entities. A good farmer organisation should be based on new ways of doing business (innovation), involving new technology, product development and marketing (Shah 2016). Therefore, PCs need to choose their activity portfolio carefully, keeping in mind the member centrality. They should also do adequate value chain mapping of the relevant commodity/sector/service before undertaking any intervention. It is possible to identify new activities in local areas that are valuable for small farmers (e.g. custom hiring of farm machinery and equipment that they can't afford to buy but can rent in).

Further, like the NGCs, PCs can also discourage, if not restrict, membership by by-laws to remain viable and not become unwieldy in terms of membership size as has been done to some extent by milk PCs promoted by NDS where membership is open, but conditions apply. For example, in 2014, Maahi retired some 12,000 members who did not meet all membership criteria including maintaining the ratio of lean and flush season milk supply (Shah 2016). The PCs need to identify other businesses that can bring in a larger number of members to reach scale and cater to the diverse interests of members to create member centrality and member patronage which matter in governance and therefore in performance of the producer entity.

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Appendix: Maahi Milk PC Governance

Other conditions for membership include:

1. An individual producer, who is engaged in production of milk from milch animals owned by him/her and responsible for the care and management of cow(s) and buffalo(es).
2. A person cannot become a member of the Company, (a) if he has any business interest which is in conflict with business of the Company. and (b) He/she was in employment of PC directly on its rolls or through a contractor or employed on a contractual basis with the PC for not less than consecutive 6 months in any of the 2 financial years, immediately preceding the financial year or during the current financial year in which he/she is proposed to be enrolled.
3. Membership is limited to only one milk producer from each household who is of the age exceeding 18 years.
4. A milk producer desirous of becoming a member of the PC shall have to apply in prescribed application form to the PC (when the membership drive is open) and undertake in writing to abide by the provisions of the Memorandum and the Articles of Association of the PC. Further, a non-refundable admission fee of Rs.100/- for male members and Rs. 50/- admission fee for a woman is required to be paid. He/she has to subscribe for at least five equity shares of Rs.150/- each (including Rs.50 per share towards share premium).
5. To undertake to supply good quality milk according to the quality standards laid down by the PC from time to time.
6. To undertake not to engage in trading of milk other than own produce.
7. The effective date of membership shall be from the date on which membership is approved by the Board.
8. Such other conditions as may be prescribed by the Board from time to time.

In addition, the conditions for continuation of membership were:

1. Membership shall continue as long as a member does not fail to meet the following criteria:

   (a) The member is engaged in production of milk from milch animals owned by him and responsible for the care and management of cow(s) and buffalo(es). Member is not indulging in an act which is detrimental to the functioning of the PC and also which is against the interest of the PC; (b) member has supplied milk for at least 200 days during the previous financial year and poured a minimum of 500 litres of milk annually; (c) member has subscribed for shares matching the annual quantity of milk supplied; (d) total milk supplied to the PC during the

winter months namely November to February shall not exceed three times the milk supplied during the summer months, namely April to July during the previous financial year; (e) the milk supplied by the member has met all the quality standards as stipulated by the PC from time to time and (f) such other conditions as may be prescribed by the Board from time to time.

Source: Mahi website (www.maahimilk.com) accessed on May 21, 2021.

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Part II
Franchises and Retail Chains

Franchise Systems in the Information Age Challenges and Opportunities

Kabir C. Sen

Abstract The popularity of franchising in dual distribution systems has been attributed to a bundle of skills provided by the franchisee. Franchise systems are examples of hybrid organizational formats containing both "firm" and "market" qualities. The choice of organizational format has its roots in the information asymmetry manifest in specific locations. However, the advent of ongoing advances in information technology (IT), such as blockchain and smart contracts, warrants a re-evaluation of the changing role of the franchisor–franchisee relationship. This paper attests that while modern IT systems provide insights based on sophisticated analysis of micro-level consumer data, the specific knowledge of an individual within the channel cannot be overlooked. This specific knowledge is likely to be idiosyncratic and related to circumstances of time and place. In these cases, allocation of decision-making to the individual with specific knowledge could be the preferred option. The combination of modern blockchain technology with the idiosyncratic knowledge of the franchisee has the potential to provide an informed as well as a humanistic response to consumer needs. Here, the hybrid nature of franchising can also be utilized to reward franchisees for their incremental contributions in making the chain more competitive.

1 Introduction

Franchise systems are a popular format to distribute goods and services in the global economy (Rogers 2018). These systems are based on a contract between the owner of the brand name, i.e., the franchisor, and an independent operator of downstream operations, i.e., the franchisee. This contractual relationship has its roots in the information asymmetry between company-owned outlets and the company's headquarters (Rubin 1978). Thus, the existence of franchise systems is inextricably

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linked to the role that information (or the lack thereof) plays in managing the distribution of goods and services. Franchise scholars (Brickley and Dark 1987; Norton 1988) have provided evidence of the influence of information asymmetry on the choice of organizational formats within chains. However, ongoing improvements in information technology (IT) have radically increased the importance of information in the process of creating and distributing goods and services. As Evans and Wurster (1997) note "information is the glue that holds together the structure of all businesses".

The increased role of information calls for a paradigm shift in the evaluation of its impact on franchise systems. While previous researchers (Bergen et al. 1992; Sen 2001) have discussed the potential impact of advances in IT within distribution channels, they have primarily focused on the choice of franchising as an organizational format within chains. However, advances in IT have relaxed the barriers of entry in many industries (Varian et al. 2004). This could lead to disruptive innovation (Christensen 1997), with the demise of existing mega retail brands (e.g., Toys "R" Us), retail formats (e.g., video rental stores) as well as the advent of new entrants in diverse fields (e.g., Amazon, Hulu, and Netflix, as content creators in the entertainment industry). Moreover, the recent advent of blockchain technology and smart contracts has radically altered the relationship between channel members in different fields (Ante 2020a; Catalini and Boslego 2021). Given this new competitive scenario, the goal of this paper is to evaluate the potential of franchise systems to take advantage of IT in this age of information. Here, the paper notes that the information revolution is an ongoing phenomenon as there are likely to be future improvements in its use in the creation of goods and services during the coming decades. Further expansion in the role of information in the economy and the resultant increase in knowledge might see changes in the franchisor–franchise relationship (Lee et al. 2016), as well as open new and diverse paths to make vertically integrated chains more competitive.

The following section, Sect. 2, reviews the two types of franchise systems that are used in the distribution of goods and services. The hybrid quality of the franchisor–franchisee relationship is described. The rationale for the use of franchise systems as a response to the information asymmetry which is likely to exist within traditional company-operated distribution chains is also reviewed. Section 3 summarizes the various components of IT which gives the present era the moniker of the "Information Age". These include the collection, aggregation, and digitizing of information, its bi-directional flow, and the use of sophisticated algorithms. Section 4 discusses the radical changes in the relationships between channel members brought about by recent developments in blockchain technology and smart contracts (Catalini and Boslego 2021). Section 5 discusses the possibility of future developments in IT that have the potential to further improve not only the accuracy of its observability but also its predictive ability about future consumer behavior. Here, the paper notes the observation of Hayek (1945) in his seminal paper on "The Use of Knowledge in Society". Hayek emphasizes the importance of the "man on the spot" who has specialized knowledge that is linked to the circumstances of time and place. He postulates that an organization must allocate decision-making powers to the person

(s) who has the requisite knowledge to make correct decisions. The next section, Sect. 6, discusses the design of franchise systems in response to the nature of assets within the channel as well as the type of knowledge entailed in managing the chain. The challenge imposed by ever-changing improvements in the availability and use of knowledge, brought about by information technology (IT) is reviewed. The critical element in the design of franchise systems is the recognition of the key personnel with the requisite knowledge involved in the governance of the chain as well as its design in response to competitive pressures. Chains which are unsuccessful in allocating decision-making powers to the appropriate personnel with the requisite knowledge are likely to be displaced by ones that make the correct allocation. Section 7 ends the paper by summarizing its salient points and emphasizing the increased emphasis on franchise systems to evolve to take advantage of the opportunities provided by innovations in IT that are likely to continue to grow in the Information Age.

2 The Use of Franchise Systems as Distribution Channels

Franchise systems are based on a contractual relationship between two separate entities—the franchisor and the franchisee. The former is the owner of the brand name (or the franchise) and is responsible for providing either the main product or specific instructions on how to produce the product or service. The franchisee runs downstream operations, according to the franchisor's instructions, which must be stringently followed. The two main types of franchise systems are product trade name and business format franchising. The main industries that use product trade name franchising are soft drink bottling and automobile dealerships. Here, the primary product (i.e., soft drinks or automobiles) is manufactured by the franchisor. The franchisee is responsible for its sales to the final consumer plus ancillary services. In product trade name franchising, the tangible portion is the major component of the product. However, in many instances, the intangible elements are often provided by the franchisee. These are critical elements in the buying and consumption process.

Unlike, the contractual arrangements in product trade name franchising, in business format franchising, the main product or service is produced downstream under the supervision of the franchisee, according to franchisor stipulated guidelines. These are usually specified in the contract. Other salient aspects of the contract include its length, the initial fee paid by the franchisee to the franchisor, and a royalty rate (usually stipulated as a percentage of the outlet's monthly sales revenue).

The power of the franchisor to terminate the contract, if the franchisor's guidelines are not met, contributes to the hybrid qualities of the franchise contract in a Coasian context (Coase 1937; Rubin 1978). While the separate legal entities of the franchisor and franchisee have the qualities of inter-firm transactions typical of markets, the disproportionate power of the franchisor to terminate the contract falls within the class of intra-firm transactions that are prevalent in firms (Rubin 1978).

An interesting facet of franchise systems is that they are often used as part of dual distribution systems, in conjunction with company-owned outlets. One of the first researchers to examine the role of franchised units co-existing with company-owned outlets is Hunt (1973). Hunt (1973) notes the various advantages that both types of organizational formats bring to the chain. Among the benefits of franchising mentioned by him is the incentive to operate isolated units, the franchisee's work ethic deriving from his/her pool of human resources as well as the chain's ability to achieve rapid outlet expansion through franchising. The choice of a particular organizational format might be rooted in the information asymmetry relevant to that specific location (Rubin 1978). To assure chain-wide consistency, employees at company-operated outlets must be monitored for their downstream managerial performance. Monitoring costs are expected to rise if the outlets are widely dispersed or located at greater distances from the company's monitoring headquarters. A better alternative in these cases is to have an independent operator (i.e., the franchisee) operate the outlet. The franchisee has an incentive to follow the franchisor's guidelines, as he (she) receives the outlet's revenues less royalties.

Franchise scholars have provided evidence about the choice of organizational format based on outlets per state (Lafontaine 1992; Scott 1995), outlet dispersion (Lafontaine and Slade 1997), and distance between outlets and monitoring centers (Brickley and Dark 1987; Minkler 1990). However, previous researchers (Bergen et al. 1992; Coughlan et al. 2006) discuss the potential of IT to make geographic distance less relevant because of the ease of observing events at spatially dispersed locations. Given this scenario, the incentive to franchise specific individual outlets should decline. However, Jensen and Meckling (1992) distinguish between two types of knowledge—specific and general. General knowledge, unlike specific knowledge, is inexpensive to transfer. Specific knowledge includes idiosyncratic information about the skills of specific individuals, peculiarities of certain machines, characteristics of suppliers, etc. (Jensen and Meckling 1992). This demarcation between specific and general knowledge is in the tradition of Hayek's (1945) note about the "man on the spot," who has limited but detailed knowledge related to his (her) surroundings. In franchise systems, the "man on the spot" is likely to be the franchisee. His (her) importance in the efficient running of downstream operations is enhanced by the factors of *actionability* and *alienability*. *Actionability* (Sen 2001) refers to the ability to take timely action based on the information received. As the franchisee is close to downstream operations, he (she) is likely to possess this trait. *Alienability* (Jensen and Meckling 1992) refers to the legal right to sell or transfer the ownership to a third party and collect the proceeds of the transfer. This impels the franchisee to follow policies that enhance the outlet's future stream of revenues. The stream of literature emanating from Hayek (1945) suggests that the influence of modern IT systems on marketing channels is limited by the possible existence of specific knowledge available to the "man on the spot". In franchise systems, if the franchisee is the "man on the spot" there is an opportunity to combine the knowledge from modern IT systems along with the franchisee's specific knowledge. This could open new avenues to make chains more innovative and competitive in the new information-based economy.

Shane (1996) suggests that the hybrid nature of franchising allows chains to expand faster by overcoming managerial constraints to growth. Sen (1998) shows that there is a close relationship between the use of franchising and the growth of outlets within the restaurant industry. However, in this context, one of the factors that need to be re-assessed is the nature of the franchisee's human capital. The traditional assumption behind the discussion of the franchisor–franchisee relationship is that the latter strictly follows operational guidelines. There is evidence to show that franchisees adhere to these guidelines diligently. Krueger (1991) in his survey of fast-food workers finds that employees in company-owned outlets feel less supervised than their counterparts in franchised stores. Beheler et al. (2008) find that health inspection scores are significantly higher in franchised outlets compared to company-owned stores within the same US county. However, Sorenson and Sørensen (2001) show a more qualitative difference between the managers of company-owned stores and franchisees in the restaurant industry. While managers of corporate-owned stores are inclined to follow existing routines, franchisees take part in more exploratory behavior, which could be appropriate in heterogeneous environments. Thus, in addition to being more diligent in following operational guidelines, franchisees also have a more entrepreneurial nature, compared to managers of company-owned stores. Norton (1988) suggests that the franchise contract is a unique bundle of financial capital and managerial talent. The challenge for franchise systems is to exploit franchising's hybrid qualities not merely to tap the franchisee's supervisory skills but also to exploit his (her) entrepreneurial streak and take advantage of the fresh information provided by modern IT systems. Idiosyncratic information about local markets is often available to the man on the spot, who can quickly analyze and exploit the information emanating from IT systems. In their analysis of German franchisors, Mumdžiev and Windsperger (2011) show that intangible assets linked to knowledge of local market conditions shift decision-making rights within the chain to the franchisee.

3 Key Components of the Information Age

Since the earliest days of mankind, groups of buyers and sellers have tried to acquire information about the market to participate in successful transactions. For example, the Phoenicians of circa 900–700 BC had detailed knowledge about the demand and supply of different commodities around the vicinity of the Mediterranean Sea (Sommer 2007). During this pre-Industrial era, information about the market was primarily based on word-of-mouth. The industrial age since the mid-1800s introduced modern appliances like the telegraph, telephone, radio, and television. This enabled post-industrial societies to store information and transmit it over greater geographical distances.

Previous researchers (Takeuchi and Nonaka 1995) have distinguished between knowledge and information by attributing an action component to knowledge. Thus, knowledge is applied information that is used to help in solving problems (Liebowitz

and Beckman 2000). The rise of a knowledge-based society owes its impetus to the advent of the computer and the internet in the late twentieth century.

3.1 The Drivers of the Information Age

While the internet and computer have a strong influence on the rise of the information age, a more complete understanding of the impact of the information age can be achieved if its important components are separately identified. These are:

(i) Multi-directional Flows

While radio and television transmit information from one source to large populations, the telegraph and telephone provide quick bi-directional flows of information between two parties. Later, the internet, with an influx of new investments in infrastructure on top of what already existed for cable television and telephones (Liebowitz 2002), provided the ability to network among many parties. These parties include consumers as well as various members of marketing channels, e.g., manufacturers, wholesalers, and retailers. While different terms exist for networks between diverse groups (e.g., extranet, intranet, and internet), the use of compatible technical standards has improved the ease of communications (Evans and Wurster 1997). In this context, the rise of social media cannot be ignored because of its role in giving consumers an independent platform for voicing their opinions.

(ii) The Digitizing of Information

The analysis of the vast amount of information has been facilitated by the transformation of text, voice, and sound into binary code (Press 2015). This digitizing of information has enabled information to be easily stored in a form that enables sophisticated analysis. This type of stored data is an example of Type 1 information (Lafontaine and Slade 1997), which encapsulates results from past transactions. This is to be distinguished from Type 2 information (Lafontaine and Slade 1997), which is based on measures of observations of actual transactions. Sen (2001) makes a similar distinction between ex-post observability (based on the analysis of past data) and ex-ante observability (based on observing actual transactions). Sen (2001) discusses the limitations of both types of observabilities on preventing malfeasance by downstream employees in company-owned stores. However, a qualitative shift in the nature of the collected digital data opens the possibility of gaining insights that can radically improve the future operations of marketing channels.

(iii) Micro-Level Aggregation

States have a long history of keeping records of their citizens (Anderson 1988). Compared to these earliest records, more detailed information is now available to governments as well as firms. Consumers can also acquire a greater degree of information about firms based on not only reviews from commercial sources, but also through comments from private individuals. From the

commercial firm's point of view, in addition to the width of coverage, a greater degree of detail is often available at the individual level. This increased amount of micro-level aggregation occurs because of a shift away from cashless transactions as well as a greater perusal of internet consumer activity. Thus, there is an opportunity to observe consumer behavior at an individual level and predict future actions based on an analysis of past patterns.

(iv) Data Analytics and Algorithms

Along with the collection of digital data, there has been a parallel rise in the development of software that uses sophisticated predictive models based on data analytics and algorithms. While these software programs are rooted in statistical and mathematical theory (Capterra.Com 2018), their value also lies in an interface that is user-friendly and in its answers that are more visual and intuitive (Stringfellow 2017). These features facilitate quick action by the user. For example, an analysis of micro-level data can suggest what specific combination of promotional offers to send to different consumers.

Modern IT systems have the potential to drastically change the components of the knowledge that is intended to be transferred within the chain. Evans and Wurster (1999) describe the increasing importance of information and its potential to change existing business practices. The two ideas that are central to their main theme are:

(i) The "Reach"/"Richness" Trade-Off

"Reach" indicates the number of people who can access information. "Richness" refers to the quality and depth of the available information. For example, in the past, a salesperson would have to spend many hours with a customer to describe the details of a product he (she) was trying to sell. Alternatively, he (she) could spend a few minutes each with a large group of customers but be unable to provide the necessary level of detailed information. Modern IT systems can now provide comprehensive product information to a wide array of potential consumers on the internet. Thus, the trade-off between reach and richness has disappeared.

(ii) The Deconstruction of the Value Chain

The traditional value chain is bundled together with the economics of information and the economics of things. For example, in the past, on a used car lot, the only way for a consumer to access information about a car was from its window sticker. However, there are now various websites that provide detailed information about a car based on its VIN (Vehicle Identification Number). Thus, the ability to achieve both "richness" and "reach" has unbundled the economics of things and the economics of information. It has therefore deconstructed the traditional value chain by giving opportunities to newer players to step in and provide the missing critical elements in the buying process. In many cases, the missing bits could be rooted in the economics of information. These bits could be less capital intensive to provide but might have gone unnoticed by the original owners of traditional value chains.

Evans and Wurster's (1999) focus is on how the economics of information can change the nature of all types of businesses. However, their principal

arguments are particularly valid for vertically integrated chains, many of which use franchising as a distribution system. In this context, the advent of innovations such as blockchain technology and smart contracts provides novel avenues for improving the functioning of franchise systems (Mazero 2019).

4 The Promise of Blockchain Technology and Smart Contracts

Blockchain technology (Church 2017) involves a series of ledgers that are digitally updated and kept secure through innovative use of cryptography and game theory and can be accessed by accredited parties. These ledgers can contain diverse types of data, such as records of transactions, company credentials, etc. No intermediary is needed to be the custodian of these records (Catalini and Boslego 2021). The decentralized system's foundations are based on the trust of all parties in a secure system. The concept of blockchain technology is attributed to Nakamoto (2008), who proposed it as a solution to the double-spending problem. This problem is caused by dishonest brokers who sell the same digital packet to multiple buyers and avoid detection by erasing records of original transactions (Chohan 2021). While the original applications of blockchain were mostly in the world of finance, other industries such as health care, supply chains, government voting systems, etc. also use it now (Ante 2020b). In addition to having a secure record of transactions, blockchain technology can encourage modern decision-making systems such as fuzzy logic, etc. (Lee et al. 2016). They also provide an opportunity to apply artificial intelligence (AI) in marketing channels (Davenport et al. 2020). One of the ways a more scientific model-based approach can be applied in blockchain technology is through the adoption of smart contracts (Catalini and Boslego 2021). A smart contract, notwithstanding the term, is intrinsically a predefined computer code that kicks in if a condition based on predetermined logic occurs in real life (Ante 2020b). While blockchain technology and smart contracts are still in the nascent stages of development, some of their key characteristics are:

(i) A permissionless system that does not require the governance of a central authority (Catalini and Boslego 2021). Accurate digital record keeping, as well as security provided by cryptography, is designed to elicit trust from all parties. For example, records of transactions based on Universal Product Codes (UPCs) can be always verified to ensure that the proper raw materials are used in the creation of products and services.
(ii) The ability to make model-based decisions, free of individual bias, can be translated into smart contracts which strive to meet market-based conditions, which are anticipated beforehand.
(iii) The potential to gather quantitative data and provide insights from data analysis based on sophisticated predictive models. These findings can be accessed by all channel members, including franchisees.

The success of blockchains and smart contracts within franchised channels will be predicated on whether the conditions exist for creating mutual trust among all parties. First, it should be noted that the contractual responsibilities of both the franchisor and franchisee must be mapped to appropriate technical standards. Here, a reservoir of knowledge about the new technology is necessary for all involved parties within the franchised chain. Mutual trust in the system can only arise if all parties understand the technology involved and the basis of how smart contracts are created. Otherwise, one of the channel members will be dependent on blindly accepting the status quo, set by another partner. Second, all parties within the chain must have the desire and the skills to constantly peruse the findings of the analytics provided by blockchain technology. If this does not occur, the data analytics will be wasted and not help improve the chain's competitive qualities. These conditions are particularly apt for franchising, because of its inherent contractual relationship. Here, the distribution channel cannot be dependent on a sole channel captain setting the standards and the other members following suit. A build-up of trust is essential for the proper functioning of franchised systems. In Sect. 6, the paper discusses the importance of the intuitive knowledge of Hayek's "man on the spot" and the pitfalls of not paying attention to the Oracle paradox (Albizri and Appelbaum 2021) in the context of blockchain technology and smart contracts.

5 Limitations of Data Collection and Analysis

Notwithstanding the advent of modern IT systems, various factors can still inhibit a comprehensive collection of accurate information. These are:

(i) Contamination

Inaccurate information (e.g., a factually incorrect customer restaurant review) can shift the median response away from a true representation of popular opinion. Sometimes, this contamination of data is caused by bad actors with ulterior motives (Orman 1984). These inaccuracies will not contaminate the data significantly if these are isolated pockets of information in large datasets. However, when this is not the case, the resulting datasets will be based on inaccurate information and lead to flawed predictions. Within efficient blockchain systems, this problem should be alleviated, as incorrect information is likely to be weeded out immediately by one of the affected channel members.

(ii) Privacy Concerns

Although consumers might understand that private information about themselves could lead to the creation of better products and services in the future, they might still resist the gathering of micro-level data. This resistance could be rooted in the lack of consumer control over which entities have access to individual information. There is evidence that data collected by Facebook has been shared with other companies such as Amazon and Netflix, without the original Facebook holder's consent (Dance et al. 2018). Another source of

consumer resistance is because private information, related to personal habits and social circles, could also be collected as part of the micro-level information gathering process. Consumers might view this as an invasion of privacy and balk at any collection of individual data, putting pressure on lawmakers to curtail this collection. These factors might limit the future expansion of micro-level data gathering.

(iii) Limitations of Current Information Technology

While current IT can collect information in digital form, this information is primarily based on the senses of sight and sound. Although information based on the other three senses (i.e., touch, taste, and smell) can also be collected through communications with relevant parties, this data might not be as accurate or timely as that based on actual observation. While this distinction might be trivial, one should note the example of a chef in a restaurant kitchen. He (she) can take the next action based on his (her) sense of smell (e.g., noting the aroma from a boiling pot of soup), sense of touch (e.g., judging the tenderness of a cooked piece of steak), and sense of taste (e.g., reacting to the saltiness of a dish). However, this type of immediate action is not possible for a chef with the same level of expertise if he (she) is far away from the restaurant kitchen. There might be future developments in both the conversion of information from the other three senses into digital data (Tsukayama 2012), as well as the improved ability of data analytics and algorithms to overcome the limitations of missing information from non-visual or non-aural senses. However, the quick action of an expert chef in a restaurant kitchen taking advantage of his (her) other three senses, illustrates the property of "actionability" (Sen 2001) and emphasizes the continued importance of the "man on the spot" (Hayek 1945) in the management of channels.

6 Information Qualities and Their Impact on the Design of Franchise Systems

This section first reviews the various kinds of objectives that a distribution channel must strive to achieve. It then discusses the various nuances of knowledge and information and its applicability to franchise systems. It concludes with the changing role of the franchisee as members of chains equipped with modern IT systems.

6.1 The Different Types of Objectives for the Distribution Channel

The primary goal for a chain is to achieve consistency in its product offerings at all outlets. At this basic level, a chain aims to provide the same offering to all its consumers with only a minuscule variation in its product portfolio. Catering to a

single consumer segment with only a minimum level of product variation should be an easy goal to achieve. However, the proportion of non-service and service components within the product offering could be an important influence on the level of difficulty. Here, the inseparability characteristic (McPhee 2012) of services exacerbates the difficulty in achieving consistency. Inseparability indicates that the production and consumption of services cannot be separated. Thus, any shortfall in product delivery will be immediately perceived by the consumer. Even if the service component is a small proportion of the total product, it might still influence consumer perceptions because of its importance in the total buying experience. For example, this could occur in the case of an incompetent car salesman selling an otherwise ideal car to a potential customer. In contrast to the service component, the non-service component can be subjected to stringent quality control at various stages to ensure adherence to the desired standards. Thus, the inseparability characteristic of services calls for close monitoring of downstream activity, as any mistakes here cannot be rectified. Moreover, these mistakes can be magnified as news of isolated negative incidents involving the consumer can be immediately broadcast through social media.

A chain's next objective level is when it tries to meet the different demands of a diverse consumer base. Here, the product portfolio will be more varied. More importantly, individual consumers might expect the product offering to be tailor-made to their preferences, based on their past buying patterns. This exponential growth in product offerings calls for quick access to data about individual customers as well as suggestions for appropriate downstream action. The existence of a service component will further add to the difficulty of achieving customer satisfaction. Access to the data analytics provided by blockchain technology should provide possible solutions to this problem.

The third and final objective level is to anticipate future product offerings based on consumer characteristics and past buying patterns. Here, the chain should have a customer-centric perceptive, suggesting offerings that provide long-term customer value. These suggestions can only be made if sophisticated data analysis is conducted on a detailed consumer database. If chains do not cater to the future needs of existing customers, they will be at risk of losing them to competitors who anticipate their future needs better and faster.

All three objective levels call for the creation of a knowledge-based chain, with access to an information-rich database and a process of allocating decision-making to the most appropriate level within the channel.

6.2 The Creation of a Knowledge Base and the Allocation of Decision-Making

Jensen and Meckling (1992) note that specific knowledge could exist at any level of an organization. They provide a downstream example of a machine operator

knowing the idiosyncrasies of a machine and an upstream example of a chief financial officer knowing the intricate details of a firm's capital structure. The danger for a chain is to overlook these instances of specific knowledge. Thus, in addition to the ongoing process of creating a database that includes micro-level information about consumer purchase patterns, the franchisor should make a concerted attempt to explore the areas where the franchisee has specific knowledge about all areas of downstream activities. These include details of equipment, the intricacies of local regulations as well as the peculiarities of individual consumers.

The next step is to aggregate the knowledge from the data analytics and combine it with specific knowledge acquired from different levels of the chain. Specific knowledge acquired from higher levels need not be transferred to the franchisee if it does not apply to downstream activities. However, the challenge is to convert the specific knowledge of the franchisee to general knowledge that can be transmitted throughout the chain. If this is difficult to achieve, the franchisee will have key decision-making powers.

Here, it is important to distinguish between tacit and explicit knowledge. The concept of tacit knowledge originates with Polanyi (1966), who distinguishes it from explicit knowledge. In contrast to explicit knowledge, tacit knowledge is information that is difficult to articulate and communicate to others (Takeuchi and Nonaka 1995). Windsperger and Gorovaia (2011) find that complex, tacit knowledge depends on transfer mechanisms that require hands-on training, visiting outlets, conference meetings, etc. In contrast, knowledge that is not tacit, but explicit, can use transfer mechanisms that avail of faxes and e-mail communications, using internet or intranet links. Thus, when the specific knowledge is complex and has tacit elements, the franchisor has a greater challenge in not only capturing it but also transferring it throughout the chain. In their study of Austrian franchise systems, Windsperger and Gorovaia (2011) find that the "tacitness" of knowledge influences the choice of the knowledge transfer mechanism.

If knowledge has more tacit components, an alternative route is to allocate more decision-making authority to the downstream level which has the specific knowledge, (i.e., the franchisee), and expand his (her) regional responsibility through master franchise systems (Kaufmann and Kim 1995). This might be the preferred alternative if specific knowledge is difficult to capture and transfer because of its tacit nature.

Jensen and Meckling (1992) suggest that if it is easier to transfer specific knowledge from lower to higher levels, the organization will shift towards a more centralized structure. Future advances in monitoring technology could give franchisors more control of downstream activities. For example, it might soon be possible to stringently supervise automobile maintenance services from afar, to ensure that the franchisee's downstream operations rigorously follow operational guidelines. Alternatively, the organization will become more decentralized if it is easier to transfer specific knowledge from higher to lower levels. Within franchise systems, the ability to recognize instances of specific knowledge as well as its characteristics (i.e., whether it is tacit or explicit) and combine it with insights from data analytics must be complemented by the proper allocation of decision-making rights.

6.3 Ever Shifting Knowledge Transfer Possibilities

The use of the combination of information acquired from modern IT systems with the specific knowledge of individuals also opens the possibility of ideas for new product offerings. If these insights arise from a central aggregation of information, controlled by the franchisor, the chain will offer a more diverse product portfolio. In this context, researchers in the entrepreneurial field recognize the role of the dispersion of knowledge in influencing the discovery of entrepreneurial ideas (Dew et al. 2004). Shane's (2000) research suggests that, rather than differences in special attributes or traits, the uneven distribution of idiosyncratic knowledge among individuals (Venkataraman 1997) makes certain individuals recognize entrepreneurial opportunities before others do.

The individual within the channel who has specific knowledge as well as access to the appropriate database to further analyze and validate his (her) intuitions is likely to have innovative ideas for new products. If the key elements of specific knowledge are related to downstream activity, the franchisee might be the engineers of innovation within the chain. If this is the case, the terms of the contract must be adjusted to reflect the franchisee's incremental inputs. At the same time, the characteristics of an "ideal" franchisee (Baker 2020) should expand to not only have the ability to follow the franchisor's operational guidelines diligently, but also include the talent to analyze data from IT systems and combine these insights with observations of real-time downstream operations. Here, the hybrid nature of the franchise relationship must be utilized to reward the franchisee's entrepreneurial contribution. If a franchisee's innovative contributions are not reflected in the contractual relationship, there is a possibility that he (she) will opt to become a future competitor who has better insights into consumer behavior.

The advent of blockchain technology and smart contracts offers the promise of combining model-based predictions with the intuitive knowledge of the "man on the spot" that the franchisee might have. In some instances, this intuitive knowledge could derive from the unique perspective of the franchisee. In this context, the rise of the Grameen Bank in Bangladesh provides an interesting insight (Osmani 1998). While various governmental agencies and state-supported banks in South Asia offered schemes to help the rural poor, the Grameen Bank's founder, Dr. Mohammad Yunus, recognized the untapped potential of rural women to efficiently utilize micro-credit schemes. Existing data on bank lending did not highlight this potential of rural women. This "blinders on" approach could also exist within blockchain systems as recognizing marketing opportunities requires idiosyncratic knowledge of particular individuals (Venkataraman 1997), based on "out of the box" thinking. However, the insights of individuals could also suffer from biases and prejudices. For example, a franchisee could recognize the potential of specific demographic groups in a region, to the exclusion of other parties with similar attributes. Thus, the idiosyncratic knowledge should be system-based and holistic and not be prone to biases, errors, etc. As Albizri and Appelbaum (2021) note, individuals are likely to be the weak link in applications of IT. The inability to

verify inputs external to the blockchain is known as the "Oracle paradox". One of the solutions to this problem is to link the internet of things (IOT) to the verification of smart contracts (Albizri and Appelbaum 2021). Thus, all physical goods involved in transactions could be embedded with sensors, electronic devices, etc. to track their activities. Thus, insights provided by the "man on the spot" can be substantiated by the blockchain technology itself. Corroboration from multiple sources of IOT will strengthen the confidence in the validation (Curran 2019; Scott 2017). Here, the successful integration of blockchain technology and smart contracts with the intuition of the "man on the spot" has the potential to enhance "information" into "knowledge" and ideally transform it into "wisdom".

7 Summary

The advances in data collection and analytics have allowed chains to achieve both "richness" and "reach" as well as provide opportunities to deconstruct existing business practices (Evans and Wurster 1999). The availability of this knowledge combined with the specific knowledge (Jensen and Meckling 1992) of the "man on the spot" (Hayek 1945) will offer opportunities to improve existing channel operations as well as provide innovative ideas for new products. An important first step is to identify the location of the key elements of specific knowledge and combine it with the output from data analytics. However, the next step in the process is also critical. Here, the combined knowledge must be transmitted to the relevant levels within the channel. In cases, when the knowledge is tacit, this type of information will be more difficult to transmit. An alternative option is to allocate decision-making to the appropriate level which has the specific knowledge.

Blockchain technology and smart contracts have the potential to transform franchise systems into a permissionless format that goes beyond mere decentralization (Catalini and Boslego 2021). This is inextricably linked to both the franchisor and franchisee having adequate reservoirs of technical knowledge within their respective organizations. The mapping of the franchisor/franchisee responsibilities into appropriate technical norms together with the implementation of model-based decision-making based on AI and fuzzy logic in smart contracts provide the promise of chains that are responsive to customer needs. At the same time, the use of IOT in blockchain technology can serve to validate the intuition of franchisees who are close to downstream operations. Thus, in addition to being data-based, the modern franchise chain can also have a "humanistic" insight into customer needs. This will address the concern expressed by T. S. Eliot (1934) in the lines from the chorus of his play "The Rock":

> Where is the wisdom we have lost in knowledge?
> Where is the knowledge we have lost in information?

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Empowerment and Customer Decision Rules in Franchise Networks

Steven C. Michael

Abstract Empowerment, defined as giving front-line, customer contact employees wide latitude to address customers' needs, is frequently heralded as the solution to service quality. Franchise networks, by contrast, emphasize standardization to insure a common consumption experience over time and space. If customers engage with multiple units of a network, is standardization or empowerment preferred? This paper theoretically examines the contingency of customer decision rules, how customers aggregate service experiences across distinct points of service. A model is proposed that demonstrates that profitability is enhanced by empowerment when customers reward good service more than they penalize bad service, otherwise, standardization is appropriate. Implications for theory and practice are discussed, including a method for eliciting customer decision rules.

1 Introduction

Researchers in service, quality, and human resource management have extolled the benefits of empowering workers. In the 1970s, management and marketing guru Ted Levitt (1972, 1976) urged services managers to design service procedures with a level of detail suited to manufacturing. Other management gurus have talked about the need for empowerment, and freeing people from the detail that prevents their best offerings (Zemke and Schaaf 1989; Bain and Company 1995). Berry (1995: 217) states, "Significant empowerment provides a necessary platform for sustained service excellence regardless of the nature of the business." Empirical research has been supportive of this claim. For example, Chebat and Kollias (2000) found that empowerment leads to a host of positive effects for employees, which in turn generate both superior performance and creative performance "above and beyond" customer expectations. Frye et al. 2020 found that empowerment increased job satisfaction and reduced employee turnover in restaurants. Not surprisingly,

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management theorists have suggested a contingency theory: it depends. Bowen and Lawler (1992, 1995) have suggested that empowerment is appropriate depending upon five key contingencies, including business strategy, the business environment, technology, employees, and the firm's tie to the customer.[1] A recent review also highlights contingencies of employee experience, training, teamwork, and competence (Wirtz and Jerger 2016). But the principle of empowerment of employees at all levels is a common practice and now a textbook recommendation in the service industries (e.g., Zeithaml et al. 2018; Lovelock and Wirtz 2022).

By contrast to research on empowerment, franchising is often and rightly noted for delivering a consistent consumption experience to customers across a decentralized network of outlets. For example, "[c]onsumers everywhere love the consistency that comes from shopping in a franchised business. From the cleanliness of the rooms at a Courtyard by Marriott to the fun children will have at a Pump It Up, people know what they will get when they purchase under a franchisor's brand" (Seid and Thomas 2006: 13). Thus standardization is presumed to be a hallmark of the franchise network, and the management of standardization is a critical concern. However, Kaufmann and Eroglu 1998 identifies the tradeoff of standardization and empowerment. As Kaufmann and Eroglu note, standardization creates image consistency but ignores local tastes and market differences, especially as the system matures. Thus empowerment may be preferred.[2]

Franchising presents a unique opportunity to contrast empowerment and standardization. Franchise networks create a relationship among customer experiences, over time and space. Franchise networks and other businesses operate under a common trademark, such as hotels (Hilton), restaurants (Denny's), copy shops (Kinko's), or residential cleaning (Merry Maids). From the customer's perspective, the common trademark unites the consumption experience at many locations into a single association (Caves and Murphy 1976; Michael and Bercovitz 2009). Any particular purchase decision is based on all experiences under that trademark across time and space. But the product requires local delivery and production, and the consumption experience of customers is sensitive to that local operation. Prior research has operationalized the construct of relationship or spillover by considering the unit's need for "repeat customers" (Brickley and Dark 1987). For example, some customers frequent only one unit of the network and have a high probability of repeat sale at that unit; others frequent multiple units of the same network and have a low probability of repeat sale at any one unit. Thus the "tie to customers" central to the franchising system and identified by Bowen and Lawler (1992) presents an undeveloped contingency worthy of examination.

[1] Bowen (1996) has amplified these prescriptions, including an emphasis on market segmentation; Schuler (1996) examines HRM more generally and business unit strategy.

[2] Kaufmann and Eroglu discuss adaptation of the product or service, not empowerment directly. Their adaptation clearly requires changes to the product generated by empowered employees or franchisees.

Thus an examination of empowerment versus standardization merits examination in the context of a franchise network with repeated customer transactions over time and space. The paper is organized as follows. A brief literature review is offered regarding standardization and empowerment. Next, analytical preliminaries are presented. The fourth section presents the model in the context of a two-unit network. The fifth section discusses extensions to the model, both mathematical and managerial. The sixth discusses the role of incentives in this model. The final section discusses opportunities for further research and managerial applications.

2 Prior Literature

Franchise networks sell the same products or services across multiple locations and geographies. Indeed, consistency is much of the franchise network's appeal. Whether those products should be adapted to meet local demand is a question of considerable research. What is essential to the brand image consistency that the network is selling? What makes McDonald's "Mickey D's"? What is nonessential, or accidental? In the seminal work, Kaufmann and Eroglu (1998) distinguish between a franchise's core and peripheral offerings, noting that the core sufficiently identifies the brand while suggesting that the peripheral offerings can be modified to meet local conditions. Kaufmann and Eroglu (1998) stated, "At the very least, there will be location differences between [two franchised locations]. It is our contention that as long as the core elements are sharply defined and uniform across franchisees, peripheral differences will be discarded along with location, and a consistent and enduring image of the franchisor's concept, invariant of time and space will be retained." Further, Kaufmann and Eroglu note that core versus peripheral distinction applies not only to the product/service, but also to "system identifiers" such as signage, "benefit communicators" such as cleanliness of uniforms, and operational support tools such as point of sale systems. The core elements reinforce the brand image and allow the customer to generalize across experiences at different units to influence his buying decision. Peripheral elements modify nonessential elements of the brand image to meet local variation in demand, caused by regional or international differences in tastes, or to adjust the offering to changes in technology, law, or custom.

Further work has analyzed the question of standardization in different directions. Identifying the core offering and its signifiers has been the subject of research. In a study of UK franchisees, Cox and Mason (2007) identified "core" as systems identifiers and some elements of product mix and "peripheral" as pricing, marketing, and recruiting policies. As another example, Pardo-del-Val et al. (2014) found that, in a computer retailer, the core included signage and trade dress, information systems, and basic computers, while flexibility was granted for ancillary products such as peripherals and services. Diallo and Cliquet (2016) compared retail stores in an international network in Brazil and in Vietnam and identified "store layout" as an important difference in how those customers formed brand image, although services

and merchandise were similar. Lopez-Bayon and Lopez-Fernandez (2016) found that delegating decisions about assortment and store decoration reduced conflict within the network, suggesting that those elements are peripheral. In Kellner (2017), an important distinction is made: do the franchisees and the franchisor agree on what is the core? The author found disagreement in the case of coffee shop franchises about human resource practices.

A second stream has found that standardization, or, in their terms, "replication" of franchise routines and products, increases the likelihood of success of the franchise unit and the franchise network, especially when transplanted across geographies (Winter and Szulanski 2001; Knott 2001; Szulanski and Jensen 2008). Popular press and practitioner books also emphasize the value of "following the system," and avoiding adaptation (e.g., Bisio 2017; Seid and Thomas 2006).

Adaptation, or flexibility, must be performed by the site manager using his empowerment, or autonomy. A comprehensive review of entrepreneurial autonomy in franchising, its antecedents and outcomes, is offered by Dada (2018). Broadly speaking, one direction taken has been to examine the traits and characteristics of the site manager to determine whether autonomy is given, and then to examine effects on performance. This is an indirect test because it does not examine what choices the manager made using flexibility or adaptation, only whether results improved. A few examples follow. Gill and Kim 2021 found that more local experience of the franchisee and allowing for more autonomy improved customer satisfaction ratings. Semrau and Biemann (2022) identified a strong link among franchisees' human capital, the entrepreneurial orientation of the network, and franchisee performance.

A second direction has examined organizational characteristics or choices to determine under what circumstances empowerment will work. Maalouf et al. (2020) found that competitive strategy of the network determines the degree of autonomy granted; more turnkey franchises desire to give more autonomy. In my interpretation, the smaller the core, the more autonomy granted. In a related vein, an emphasis on limiting liability rather than strengthening the brand caused the franchisor to limit franchisees' autonomy (Kellner et al. 2014). Finally, international franchisees of US-based franchisors had more autonomy than their domestic counterparts. Franchisees outside the USA typically had more autonomy than those within the USA regarding marketing and location decisions (Paik and Choi 2007).

Amidst this fine research, at the center remains the question of the brand image: how is that image formed across time and space as the customer experiences multiple meals/oil changes/services at different units at different times? How can that image be affected by decision processes of the customer? And how can franchisors (and franchisees) understand those processes and act on them to produce customer satisfaction and profit? Prior research has not addressed this question. The following is a first step in this direction.

3 The Nature of Information

At its heart, empowerment requires an information asymmetry and bounded rationality between the manager of a local unit of a network and headquarters of that network.[3] If headquarters knows the same information as the manager, and can monitor employees' behavior costlessly, synchronously, and simultaneously, empowerment is not necessary. The HQ can simply observe whether the manager is performing properly and discipline misbehaviors. Such omniscience is not available to headquarters of most firms.

The nature of information affects the managerial problem. It is useful to make the analytical distinction of specific versus general knowledge (Hayek 1945) in this context. The manager of a unit in a network is likely to gain specific knowledge, knowledge of the circumstances of time and place that is prohibitively costly to communicate to a central decision-maker, that can be utilized to add value for the customer (Hayek 1945). This includes knowledge of local trading conditions such as labor markets and customers' wants. Information regarding the nature of customer demand is specific to a location and a clientele. For example, the site manager might recognize some customers by name, or remember a small detail about preferences of individual customers that makes the service more valuable to those customers. Information technology could replace some pieces in this process (e.g., geofencing recognizes the customer's cell phone and triggers a promotional offer, or employees gather data via a tablet), but other types of knowledge such as mood and appearance would not easily codify. Much of this knowledge is difficult to synthesize and communicate to a central decision-maker. Therefore a tradeoff is created between the gains from allowing managers to use specific knowledge and the risk of doing so. The costs and benefits of this tradeoff are summarized in Bowen and Lawler (1992).

4 The Nature of Customer Choice and whether to Empower

Assume that customers do aggregate different consumption experiences under a trademark into an overall willingness to pay for the services of that network. In particular, what is the effect of extraordinary quality, both positive and negative, on customers' purchase decisions? Does a high quality experience win a customer for life? Does one bad experience with low quality lose a customer for life? Does a customer simply average his or her experiences with the network to develop a particular level of quality to associate with the trademark? Or are "outliers" weighted more? The managerial decision is whether headquarters of the network should use empowerment or standardization by the site managers (franchisees).

[3] This problem of information impactedness is exacerbated by bounded rationality. As Simon (1979) has analyzed, humans are rational but only boundedly so.

The aggregation of past experience gives guidance to the choice of whether to empower or not. Managerial intuition suggests that empowerment should be granted when the gains on the upside are large and the losses on the downside are low. Standardization should be employed in the opposite circumstances. A simple model can make that intuition more precise. Empowerment or standardization will lead to particular realizations of a variable called quality, interpreted broadly, and quality directly affects the willingness to pay for the product by the customer. The analysis extends easily to the general service encounter, including managers and employees as well as franchisees.

Assume that a customer's purchase decision will depend upon his consumption experience at all units of the network that he patronizes, over time and over space. Consistent with general utility maximization, assume he makes a simple average of the utility he gains from different units. Assume his utility can be measured in dollars as a "willingness to pay" function. Mathematically, let qi be the quality level at the ith unit along some dimension of quality, and let W(qi) be the price in dollars the customer is willing to pay for such quality. It is reasonable to assume that network profits rise with customers' willingness to pay W(·).

The headquarters can choose an average quality level and enforce it throughout the network as standardization. Uniform quality, averaged across all units, will generate a uniform willingness to pay. Alternatively, the headquarters can empower local managers or franchisees. Local managers may induce variance in quality but this variance may represent positive local adaptation and information use. Therefore, the willingness to pay will be an average of the willingness to pay at the quality levels chosen by each manager across the network. This distinction between an average level of quality chosen by the headquarters and an average of the willingness to pay at each quality level will yield different overall willingness to pay to the network (and therefore the price received) based on the convexity or concavity of the willingness to pay function. A convex function is one where the average of the function's values at two points is higher than the function's value at the average of the same two points. Assuming only two units, convexity can be expressed:

$$.5^{*}\mathrm{W}(\mathrm{q1}) + .5^{*}\mathrm{W}(\mathrm{q2}) > \mathrm{W}(.5^{*}\mathrm{q1} + .5^{*}\mathrm{q2})$$

Concavity reverses the inequality. An alternative way to view the distinction is that a convex function is one that rises at an increasing rate, while a concave function rises at a decreasing rate.

Choosing standardization will systematically yield lower prices and profits if the customer's willingness to pay is a convex function of quality, and higher profits if the customer's willingness to pay is concave. Consider first the appropriateness of standardization when the function is convex, as illustrated in Fig. 1.

By stating that the function is convex, I observe that the mean willingness to pay across two distinct values of quality, at point (a) in Fig. 1, is higher than the willingness to pay at the mean value of those two quality levels, at point (b) in Fig. 1. Therefore, empowering managers, with the discretion that implies, yields higher willingness to pay on average. Concavity is the opposite: the mean

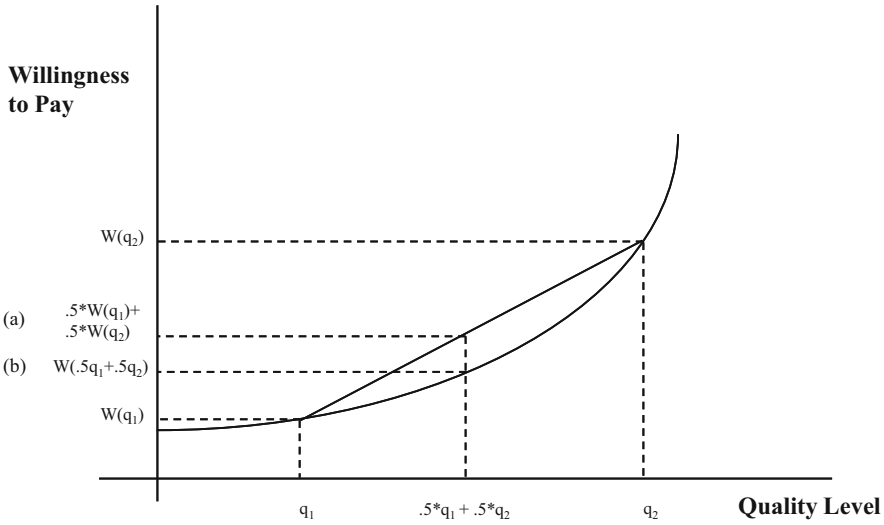

Fig. 1 Effect of customer decision rules

willingness to pay across two distinct values of quality is lower than the willingness to pay at the mean value of those two quality levels. Therefore, standardization is a better choice. Intuitively, a convex function, because it rises at an increasing rate, yields a very high willingness to pay for superior quality, which more than offsets the risk of a lower quality at another unit. A concave function, because it rises at a decreasing rate, has a very steep penalty associated with poor quality, which does not offset the possible gains from superior service. If the willingness to pay function is a linear function of quality, then the choice does not matter.

One objection to this analysis needs to be addressed. If headquarters knows the willingness to pay function, and can in a costless and timely way observe quality at all locations, it can engage in an optimization to choose quality, trading off costs and benefits, and then enforce that level. But the character of specific knowledge is such that it cannot be observed and transmitted at an economically feasible cost. The choice for the headquarters is not to observe network-wide demand for quality and then choose how to adapt. Instead, the headquarters must choose to permit empowerment of managers or to set a network-wide quality level enforced by standardization based upon information gained from direct experience, which may or may not be representative of the network as a whole. This model suggests that empowerment can lead to higher profits with a convex function and lower profits with a concave function.

The model above used only two units and averaged the quality. How general is the model? I consider a few extensions below: none affect the basic conclusion.

5 Allowing Alternative Customer Decision Rules

Existing marketing theory has grappled with the question of how customers rate product attributes in order to make a choice among competing products. The prevailing research suggests that customers rate each product on its attributes, aggregate scores on each attribute into an expected utility for each product, and then choose the one with the highest utility. Specifically, existing research offers four basic models of aggregation across attributes, termed compensatory, lexicographic, conjunctive, and disjunctive (Babin and Harris 2018; Wilkie 1994: 510–514; Silk 2006). The compensatory rule identifies important attributes, rates products on each attribute, assigns weights to each attribute, and derives an expected utility as the sum of the products of weights and attribute scores. The lexicographic model assigns one pre-eminent attribute, and chooses the product with the highest score on that one attribute. If products are tied on the most important attribute, those that tie are compared on the second-most-important attribute, and so forth. The conjunctive model discards products whose attributes are below a threshold, while the disjunctive model accepts products whose attributes are above a threshold, and then applies either the compensatory or the lexicographic rule.

It seems reasonable to extend these models of customer choice into the situation of how the customer forms his or her expected utility for choosing a network. The customer has associated a quality level with each previous visit to a unit in the network, and those levels are aggregated in some way.[4] I propose that the compensatory, conjunctive, disjunctive, and lexicographic decision rules are appropriate in this setting as well. With these models, it becomes possible to extend the theoretical analysis above.

A compensatory model presumes that the customer employs some weighted average of past experiences to generate expected utility. The model in Sect. 2 clearly employs a compensatory model for the special case of two experiences and equal weights. The conclusion is a result of the properties of concave and convex functions, not the number of experiences; the results hold regardless of the number of experiences that the customer aggregates or the weights he or she applies to the experiences. The model applies to any number of consumption experiences, not just two, and any weighting, not just equal weights.

Second, a lexicographic rule applies in some settings; the customer only considers either the best or the worst service experience. A variant of the same decision rule applies in this case. When customers make their choice based on the best experience, empowerment is the better choice; when customers make their choice based on the worst experience, standardization is the better choice. Mathematically:

[4] Note that we are aggregating across customer experiences within a network, not across product attributes of different networks.

$$W(\min(q_1, q_2)) < W(.5^*q_1 + .5^*q_2) < W(\max(q_1, q_2))$$

This does not depend on concavity of the function but instead a simple property of the average, which states that the average is always between the minimum and the maximum values used to generate the average.

Third, lexicographic aggregation is a special case of conjunctive or disjunctive aggregation, with only one experience. Conjunctive models and disjunctive models suggest that certain experiences will be eliminated before aggregation occurs, i.e., that customers either forget the best or the worst experiences. The model still holds if some subset of experiences are excluded before either a lexicographic rule or a compensatory rule is applied. The properties of convexity and concavity apply to the reduced set. Therefore the general prescriptions of the model are robust to variants of customer decision rules and aggregation methods.[5]

The analysis above, although couched in a specific situation of a manager of one of a network of units, is equally applicable to any situation where two conditions are satisfied: (1) service is provided by the network in different transactions with the customer, either different over time or in space; (2) customers link those transactions together into an overall willingness to pay for the product of that firm. Both of these conditions are likely to be satisfied for most consumer services. The first condition simply implies that the owner cannot serve every customer completely, and that employees are required who cannot be monitored perfectly. The second is more interesting. More and more, customers and firms are seeking to encourage repeat business, which effectively links previous transactions with new ones. Many service scholars are urging that repeat business is more important for firm profitability than new business (Heskett et al. 1990; Webster 1994, Chap. 5).

This analysis has proceeded assuming we are examining a franchise network. Does it have wider application? For empowerment to work, unit managers must have information and incentives. First, the dispersed service network must give rise to local variations in demand conditions—city versus country, east versus west, youthful versus elderly customer base, as examples. Such variation seems likely in any large network. The site manager must be able to observe such information and act on it. Second, the site manager must have an incentive, presumably increased sales and profits that accrue to him, to take the risk that empowerment represents. A unit managed by a franchisee has the ultimate incentive—ownership—to adapt to local variations, because he gains virtually all of the increased profits (less a royalty on sales to the franchisor). Ownership aligns incentives by giving residual claims (profits) to those with decision rights to make the decision. Networks that use employment (rather than franchise ownership) for site managers would not find

[5] Customers may form their expectations using affect-based evaluation as well as attribute-based evaluation (Babin and Harris 2018). In other words, rather than a formal evaluation of quality, the customer judges based on emotion, impression, and mood. Regardless of how the underlying evaluation is formed (affective or attribute), the challenge of combining experiences across units remains. In particular, a more affect-based evaluation is likely to be one where customers remember the extremes, yielding effectively the brand image based on a best or worst case.

empowerment useful. Managers compensated purely by corporate salaried employment would not have the incentive to act on local information. Indeed, they might find deviation from the corporate norm to be risky. But intermediate situations might be crafted where corporate managers receive some percentage of local profits. As one historical example, the American restaurant network of Sambo's famously gave site managers "a fraction of the action," specifically 20% of restaurant profits (Jakle and Sculle 1999). A Sambo's manager would have more incentive to act on information than a salaried manager, but less than a franchisee (who keeps all of the profit after royalties). Indirect rewards may also offer inducement to the corporate managers. Prizes based upon unit competition (increases in sales), whether pecuniary or status-based, might provide incentive for corporate managers. And promotion from the unit level to other corporate opportunities may also give incentive for action (e.g., Bradach 1998). Nonetheless, because it is nearest to pure ownership, franchise ownership will provide the strongest incentive for site managers to act on information. Further research would ideally examine the human resource and compensation policies used in networks to approximate ownership and compare outcomes.

6 Incentives

As Bowen and Lawler (1995) note, empowerment is only useful when it is combined with rewards. Managers will not use empowerment to benefit customers unless they are rewarded in some way. The task of organizational design is to move the incentives to those who have the information (Hayek 1945; Sowell 1980; Jensen and Meckling 1992; Wruck and Jensen 1994). Network managers must have both the *incentive* and the *information* to put forth effort to produce quality.

It is a basic principle of management that those who make the decision should reap its benefits or suffer its consequences.[6] Such is also a principle of empowerment (Berry 1995; Bowen and Lawler 1995). It would seem a natural extension of such logic to suggest that compensation of the unit manager under empowerment should include an incentive based upon individual unit performance, while compensation of the unit manager under standardization should not have an incentive, but the manager should instead receive only a salary. Such a prescription does not include the possibility of operating under a shared trademark, so further analysis is required.

Consider first the manager in a network implementing a standardization. Customers still aggregate transactions across units of the network; failure to uphold the standardization will disappoint customers' expectations. Existing research has suggested that managers in such situations should be given rents, amounts higher than they could receive in alternative employment. Headquarters can then engage in

[6]This resolves the well-known agency problem (Jensen and Meckling 1976; Fama and Jensen 1983a, b; Holmstrom and Tirole 1989).

inspection of managerial quality, and managers found wanting are discharged. Rents make, for the manager, the current job worth considerably more than alternatives, and this can induce full managerial effort to enforce and execute standardization (Klein and Saft 1985; Klein and Murphy 1988; Michael and Moore 1995).

Consider now the empowered manager of a network. Compensation based upon individual unit performance is unlikely to be as effective as desired, because the shared trademark creates a measurement problem. The goodwill earned by an act of empowerment by management at one site is then carried by the customer to multiple network sites. The manager does not gain the continued goodwill of that customer. When empowerment is employed in the absence of repeat customers, compensation must be based on overall system performance. The quality of the consumption experience supervised by the empowered manager may redound to the benefit of other managers and other units, not his own. Therefore compensation should be based on overall network performance. In the presence of repeat customers, some but not all of the benefit of empowerment will flow to the manager's unit, so a weighting of unit and network performance may be appropriate. One possible weighting scheme is to weight unit performance with the proportion of repeat customers, and weight network performance with one minus the proportion of repeat customers. Such a compensation scheme will lead to different weights for different managers, which may or may not violate norms of equity (Baker et al. 1993). If so, then incentive compensation should be grounded in network-wide performance exclusively, not unit performance.

7 Applications and Conclusion

In this paper I have demonstrated that one key contingency for empowerment, the tie with the customer, is itself contingent. In formal terms, the important factor to consider is the curvature of the customer's willingness to pay function; informally, the important factor is upside gain versus downside risk and the customer's decision rule aggregating transactions across the network. In the presence of high upside potential (a convex function), empowerment is appropriate; in the presence of high downside risk (a concave function), standardization is the appropriate choice. I also discussed the appropriate compensation standardization under each choice. In the following two subsections, I discuss managerial applications and applications for further research.

7.1 Managerial Applications

The basic distinction of convexity versus concavity, or upside versus downside risk, can be useful for many other choices within the design of the network's product or service. On which decisions should the headquarters encourage local adaptation and

on which should the headquarters set network-wide standards? For example, a hotel headquarters uses managers to operate units in both business centers and tourist destinations. The headquarters faces the task of designing an operating system that determines how the hotel should be run in order to create the common consumption experience. Should the headquarters set a network-wide standard regarding dress of employees or check-in procedure? Or should the headquarters empower the local managers, who might encourage business dress and ruthless efficiency in the business centers, but festive dress and cheerful chatter in the tourist destinations? Again, the model can be used for the problem of empowerment. Within the network, the headquarters has the choice of which decisions to empower and which to set standardization for as part of the network concept and operating system design. The model suggests that empowerment should be granted when the gains on the upside are large and the losses on the downside are low. Standardization should be employed in the opposite circumstances. In the situation of the hotel network above, informal analysis suggests that the customer willingness to pay would appear to be convex: customers are likely to remember a good experience more than a poor one. Therefore empowerment would seem appropriate.

For this model to be managerially useful, the ability to distinguish whether willingness to pay is a convex or a concave function of quality is necessary. But it is probably not obvious to the thoughtful practitioner reading this article how he or she would discover the curvature of the willingness to pay function, or to operationalize it in such a way as to have meaning for thousands of service employees.

Basic marketing research methods can be helpful here, using three simple questions. At present levels of quality, how much would you pay for this product? If quality rose x percent, how much more would you be willing to pay? If quality fell x percent, how much less would you insist on paying? A variant on this might ask the questions: given your present level of quality, how much does the customer pay for the product? How much better is the best competitor on quality? What price premium does he or she receive? How much worse is the worse competitor on quality? What price penalty does he or she suffer?

Management can ask these questions of customers or of their own unit managers, adapted suitably for their own situation. Customers are of course the preferred source of information; however, if such information is costly to gather, managers may be asked to calibrate the model, in the spirit of Little (1970). In either case, plotting the three points will determine the curvature of the function. The headquarters can then choose between empowerment and standardization.

A second managerial application can be envisioned. Firms can and do seek to influence which transactions are aggregated into the customer's willingness to pay for their product, but the customer makes the final decision. Firms would be well advised to understand which transactions enter into the customer's choice and willingness to pay valuation. In some cases, firms operating under a shared trademark do try to separate themselves from the others with an independent brand name. Firms that outsource certain activities sometimes make disclaimers stating that the activity is provided by another firm in an attempt to influence what activities enter

into the choice set. The effectiveness of such tactics needs to be established, possibly through market research, in order to know which activities enter into the aggregation process and how it affects customer choice.

Similarly, understanding the dimensions of quality and brand image within the network would be helpful for managers and researchers. We have presumed one dimension, quality (broadly defined), but research suggests multiple elements may be relevant to consumers. Conjoint analysis or other decompositional market research tools might be used to unpack the elements. Each could be analyzed independently in an effort to appreciate whether standardization or empowerment is appropriate. To illustrate, Diallo and Cliquet (2016) found that store offerings were an important element of the brand image but customers desired different offerings in different places. Managers should be empowered regarding the element of store offerings in each unit or region.

7.2 Research Implications

Empowerment has been recommended enthusiastically by most current authors on management, and rightly so. Its gains as documented by case studies are impressive. But, for scientific research to proceed, rigorous testing must follow. This paper has suggested that an important construct influencing the effectiveness of empowerment is the nature of the customer decision rule. Empirical work becomes necessary in two directions. First, what rules actually operate and what the possible parameters are for customer aggregation of transactions under a shared trademark needs to be examined. I am unaware of any such research, even though it would appear to be important to a whole host of firms in retailing, hotels, restaurants, and elsewhere. Second, work on the effectiveness of empowerment needs to include the construct of customer aggregation method. Failure to control for this may yield blanket prescriptions that work in one setting and don't in another. Such research provides a useful opportunity for scholars at the intersection of marketing, franchising, strategy, and human resources management.

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When Key Elements of Franchising Become Sources of Conflicts

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Abstract Franchise networks are often faced with conflicts. In this paper, we aim to examine specific sources of franchisor/franchisee conflicts related to the key elements of franchising, i.e., know-how, assistance, and brand. To do so, our empirical study relies on a qualitative approach with 27 in-depth interviews with franchisors and their representatives operating their networks in various industries in the French market. Our study contributes to the literature on conflicts in franchising by focusing on the main elements of franchising as potential sources of conflicts, as well as on the practice by giving advice to franchisors that may minimize such conflicts.

1 Introduction

Franchising appeared in the first half of the twentieth century, both in the United States and in France. Just as with many distribution contracts, the franchise contract was initiated by practitioners who felt the need to deal with economic and/or legal constraints. In the United States, the General Motors company had to face the Antitrust Law (Sherman Act July 2, 1890) which forbade a manufacturer from owning its own network of stores. To overcome this obstacle, the company decided to create a network of independent merchants to whom it granted, through a contract, exclusive sales of its products in a defined territory. The foundations of an inter-organizational form that was established later gave birth to the concept of

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franchising, which would develop rapidly and pervasively in the United States, from the late 1940s. At the same time, during the 1930s, in France, Jean Prouvost, the owner of *La Lainière de Roubaix*, which operated the *Pingouin* brand, manufactured wool that he no longer wanted to sell in hanks but in balls. He planned to create his own distribution network by recruiting independent retailers and having them sign contracts that granted them exclusive sales of the company's products within a specific geographical area. *La Lainière de Roubaix* then undertook to train the selected retailers and to help them in the development and management of their stores in order to guarantee them sufficient sales. Very quickly, a few hundred stores began to sell *Pingouin* wool, but it was not until the early 1970s that this type of distribution network expanded and was better defined on both economical and legal levels (Vigny 1994).

Created in 1972, the European Franchise Federation immediately drew up the European Code of Ethics for Franchising, which was intended to bring together the best practices followed by franchisors in Europe, in order to deal with the lack of regulations concerning this type of contract. At the end of the following decade, a decision by the Court of Justice of the European Union, the *Pronuptia* ruling of January 26, 1986[1], and a European regulation of November 30, 1988[2], concerning franchise contracts, specified the main characteristics of franchise contracts, i.e.,

- The two companies signing the contract, the franchisor and the franchisee, must be legally and financially independent of each other.
- The franchisor must make available to the franchisee the signs that rally the customer (e.g., brand name, trademark, trade name, corporate, business or commercial name, signs, symbols, logos), know-how, and technical and commercial assistance.
- In return, the franchisee must pay franchisor royalties.

The subsequent regulations of 1999[3] and 2010[4] did not subsume this definition, which was included in the accompanying guidelines on vertical restraints.[5] These guidelines do not qualify as regulations, since they are part of the universe of soft

[1] Judgment of the Court of 28 January 1986 Pronuptia de Paris GmbH, Case 161/84, *European Court Reports*, 1986-00353.

[2] Commission Regulation (EEC) n°4087/88 of 30 November 1988 on the application of article 85(3) of the Treaty to categories of franchise agreements, *Official Journal of the European Communities*, 28.12.88, L 359/46–52.

[3] Commission Regulation (EC) n°2790/1999 of 22 December 1999 on the application of article 81(3) of the Treaty to categories of vertical agreements and concerted practices, *Official Journal of the European Communities*, 29.12.1999, L 336/21–25.

[4] Commission Regulation (EU) n°330/2010 of 20 April 2010 on the application of article 101(3) of the Treaty on the functioning of the European Union to categories of vertical agreements and concerned practices, *Official Journal of the European Union*, 23.4.2010, L 102/1–7.

[5] Guidelines on vertical restraints, 2000/ C 291/ 01, *Official Journal of the European Communities*, 13.10.2000, C 291/ 1–44 and Guidelines on vertical restraints, 2010/ C 130/01, *Official Journal of the European Union*, 19.5.2010, C 130/1–46.

laws without official legal recognition.[6] They are, however, mentioned in the decisions of the European bodies and are increasingly influential in the rulings of the national courts of the member states (Stefan 2012).

The three key elements of the franchise contract correspond to the main obligations of the franchisor, namely the provision of a brand, of know-how, and of assistance. While the use of the network's own brand name is a common feature of many distribution contracts (e.g., trademark license, concession), the know-how is specific to the franchise contract. Regarding the assistance provided by the network headquarters, it is the mandatory corollary of the know-how for its proper application. Franchisors outsource a complete business model (Parmigiani and Holloway 2011) to independent franchisees and "successful franchisors [. . .] perfect a business system and then sell the know-how and benefits of the business system to prospective franchisees and, subsequently, to customers" for a period of time and under certain conditions (Paswan and Wittmann 2009, p. 173). Know-how and assistance help franchisees to replicate the model and ensure a uniform brand image (Kaufman and Eroglu 1999). Additionally, a well-known brand facilitates franchisees' success. In other words, "reputable brands with high equity in franchise business systems can translate into a stream of benefits to the franchisee" (Nyadzayo et al. 2011, p. 1105).

However, franchisors and franchisees are independent business owners and their respective interests are not always identical. In fact, in franchise networks, conflicts are common, sometimes with external stakeholders (e.g., suppliers, customers, competitors, neighbors, administrations), or among members of the network (e.g., among franchisees, between franchisees and managers of company-owned stores), and many times between the franchisor and the franchisees. Conflicts are generally understood in distribution channels, including franchising, as "the perception [. . .] that [. . .] goal attainment is being impeded by another [member], with stress or tension" (Gaski 1984, p. 11). In fact, conflicts are inherent to human relationships and businesses are no exception to this rule. What makes franchising different in dealing with conflict is that it is a long-term business-to-business relationship where partners usually make substantial specific investments where value may be eroded (held-up) by unhealthy levels of conflict. Tensions may arise because, on the one hand, franchisors cannot impose their criteria and, on the other hand, franchisees are prone to lose part of their investments if they do not find other solutions except to terminate the relationship to put an end to conflicts. Sources of conflicts that have been examined in the literature on franchising mostly concern chain characteristics, e.g., chain size (Frazer and Winzar 2005), chain age (Frazer 2001), organizational form (Antia et al. 2013; Michael 2000); the franchise contract, e.g., territory allocation (Nair et al. 2009); human aspects, e.g., lack of internal communication (Frazer and Winzar 2005); the franchisor strategy, e.g., resale pricing (Perrigot et al. 2016); e-commerce (Basset et al. 2018); and performance (Perrigot et al. 2020).

[6]Treaty on the Functioning of the European Union, article 288, *Official Journal of the European Union*, 26.10.2012, C 326/1.

In this paper, we aim to examine other sources of franchisor/franchisee conflicts, those related to the key elements of franchising, i.e., know-how, assistance, and brand. To do so, our empirical study relies on a qualitative approach with 27 in-depth interviews with franchisors and their representatives operating their networks in various industries in the French market. Our study contributes to the literature on conflicts in franchising by focusing on the main elements of franchising as potential sources of conflicts, as well as on the practice, by giving advice to franchisors in order to minimize such conflicts.

This study is structured as follows. The second section explains the elements of franchising. The third section presents the methodology. The fourth and fifth sections, successively, present and discuss the findings of our research.

2 Literature Review

Serious conflicts can be avoided or at least reduced in terms of frequency and extent. Recent literature shows that communication may help (Kang and Jindal 2018) to overcome conflict escalation, whereas formal or coercive messages can be counterproductive in terms of high levels of conflict (Tikoo 2005). Hence, poor communication in reference to know-how transfer or assistance may be likely to result in conflict. Moreover, conflicts, being interactive processes, vary over the lifetime of the franchise relationship, as Blut et al. (2011) showed. Franchisors develop routines over time and learn how to handle these situations to avoid dysfunctional behaviors, thus developing capabilities that mostly remain at headquarters (Perrigot et al. 2021) as do most of the know-how, assistance, and brand equity capability.

2.1 Know-how

Know-how is considered to be the keystone of franchising (Knott 2003; Baschet 2005), the most important pillar of the franchise contract. Although there is no legal definition of know-how content, Regulation 330/2010 on vertical agreements, nevertheless, requires that know-how be tested, identified, substantial, and secret (Article 1, g).

First, the know-how must be tested to prove its effectiveness. Regulation 330/2010 (Article 1, g) specifies that know-how is a set of practical information "resulting from experience and testing by the supplier [the franchisor in our case]." The European Code of Ethics for Franchising specifies that the franchisor "shall have operated a business concept with success in the relevant market, for at least one year and in at least one pilot unit before starting its franchise network in that market." It is, of course, essential that the franchisor's pilot stores record unquestionable success that can be repeated by the franchisees (Perrigot et al. 2018; Winter and Szulanski 2001).

Second, the know-how must be identified, i.e., it must have been formalized on one or more different media providing proof of its existence and facilitating its transfer to franchisees. Regulation 330/2010 (Article 1, g) underlines that the identified character "means that the know-how is described in a sufficiently comprehensive manner." The know-how may be transferred in writing (e.g., operations manual, emails, and Internet) and/or orally (e.g., regional meetings, on-field consultants) (Perrigot et al. 2017). The detailed description of the know-how can be included in the franchise contract, but it is preferable to include it in an appendix, called the operations manual, often available on the franchisor's Intranet system. If the know-how can be, at least partially, transferred orally, it will be necessary, in the event of a conflict, to prove this, which may turn out to be challenging.

Third, the know-how must be substantial, which, according to regulation 220/2010, means that "the know-how is significant and useful to the buyer." The European Code of Ethics for Franchising underlines that the know-how is substantial when it is likely to "enhance [the franchisee's] competitive position and in particular, to improve his results and/or help him enter a new market." Encompassed with training, know-how helps franchisees to cope with liabilities of newness (Panda et al. 2019).

Fourth, the know-how must be secret. Regulation 330/210 states that secret "means that the know-how is not generally known or easily accessible." The European Code of Ethics for Franchising specifies that "this meaning is not limited to the strict or literal sense that each individual component of the know-how needs to be totally unknown or impossible to access outside of the relation with the franchisor." The secret nature of know-how is relative. Certain elements of the know-how may be individually known or easily accessible (e.g., composition of product lines, presentation of products offered for sales) (Leloup 2004). Knott (2003) highlighted that even if the know-how is explicit and then imitable, it can still be valuable because imitators do not capture the precise applications. The franchisor know-how must not leave the network. It can only be communicated to the franchisees who have the obligation, in accordance with the 2010 guidelines (article 45, c), not to disclose it to third parties. The franchisor can protect the secrecy of its know-how through various contractual clauses (e.g., confidentiality clause, clause on re-affiliation to a competing distribution network). However, the best way to preserve the secrecy of the know-how is to make certain it evolves over time and to continuously improve it.

2.2 Assistance

Technical and commercial assistance is an extension of the know-how transfer. The franchisor must help the franchisee implement the transferred know-how, which is the purpose of technical and commercial assistance, which must be a reality "during the life of the agreement" and include "procurement services, training, advice on real estate, financial planning, etc." (2010 Guidelines, point 43). Technical and

commercial assistance does not have any legal definition either. Its content will necessarily vary according to the contracts signed. The franchisor's obligation to provide assistance is an obligation of means and not of result. Franchisors must use all the means at their disposal so that the franchisees may reproduce the commercial and financial success they experienced in their own pilot stores (Bradach 1998; Szulanski and Jensen 2008). The franchisor cannot be held liable simply because the assistance provided for in the contract and given to the franchisee did not enable the latter to achieve the expected success. Nevertheless, the franchisor's obligation to provide assistance must not lead to interference in the management of the franchisee's store, under penalty of being considered as a de facto manager, with all the consequences that this involves (e.g., reclassification of the franchising contract, Perrigot et al. 2014).

In practice, a distinction is made between so-called "initial assistance" covering the period before the opening of the franchisee's store and ends a few days after the opening, as indicated in the franchise contract and "ongoing assistance" continuing as long as the franchise contract is in place (Simon 2009). The initial assistance concerns the choice of location (e.g., type of city, type of location within the city: city center or outskirts), premises (e.g., sales area, shop window, rented or purchased premises), furnishings (e.g., type of furniture and decoration), legal framework (e.g., sole proprietorship or company, marriage contract with or without basic separation of property), financing (e.g., business plan, forecast accounts, loans), computer access (Intranet, hotline, terminals), training (e.g., initial training of the franchisee, selection and training of employees), and the launch advertising campaign (e.g., budget, messages, media, specific campaigns). Ongoing assistance includes communication within the franchise network, i.e., regularly transferred information (on the market, products, sales, results, etc.), responding to the various requests from franchisees, regularly visiting the stores (e.g., scheduled visits with a report, mystery shopper visits), scheduling regional meetings, planning ongoing training courses, etc. Finally, the franchisor's ongoing assistance includes support to management of the franchised business, i.e., advice and guidance in legal and accounting matters, assistance in recruiting and managing staff, supply optimization, product development, recommendations for local advertising campaigns, support for the distribution of mailings to customers, support for franchisees in difficulty, etc.

2.3 Brand

After the know-how and the technical and commercial assistance, the brand or more specifically the signs that rally the customer (e.g., brand name, trademark, trade name, corporate, business or commercial name, signs, symbols, logos) constitute the third main pillar of franchising and franchisors try to ensure a uniform brand image

(Kaufman and Eroglu 1999). They essentially include verbal and figurative signs.[7] First, verbal signs are those that can be written and pronounced (e.g., letters, words, numbers, slogans). The trade name or corporate name designates the company. The brand indicates the store. The trademark identifies the product or service. The domain name applies to the website. A single name usually covers these four aspects, but different names can sometimes be used, as well. The commercial name and the corporate name have, above all, an administrative function. They are only used as signs that rally the customer if they merge with the brand name (e.g., Yves Rocher in cosmetics). The use, in the domain name, of a verbal sign belonging to the franchisor (e.g., the franchisor's brand name plus the name of the franchisee city) is generally regulated by the franchise contract or the operations manual (Basset et al. 2018). The most commonly used customer rallying signs are trade names and brand names, which must be filed and registered as trademarks, according to the European and/or national regulations in force. The network headquarters must be the owner or exclusive licensee of the customer rallying signs, ensure their protection against abusive or illegal use and make sure that the registration is renewed every ten years. Second, there are figurative signs, i.e., those that are susceptible to graphic representation. These include logos, drawings, original product shapes, color combinations, and decorative elements. These figurative signs can be filed and registered as trademarks[8] or designs[9] at the European or national level. There is a final, marginal, category of customer rallying signs. These are sound signs, in particular those that accompany an advertising message and are called jingles. They can be registered as trademarks as long as they can be represented graphically, i.e., normally by using a musical stave.

In order to be able to benefit from the best legal protection against possible usurpers through infringement proceedings, it is strongly recommended to register any customer rallying sign as a trademark or design.

3 Methodology

3.1 Data Collection

A qualitative approach was employed based on 27 in-depth interviews with purposively chosen franchisors and their representatives operating their chains in different

[7] Regulation (EU) 2017/1001 of the European Parliament and of the Council of 14 June 2017 on the European Union trademark, *Official Journal of the European Union*, 16.6.2017, L 154/1–99, article 4.

[8] Regulation (EU) 2017/1001 of the European Parliament and of the Council of 14 June 2017 on the European Union trademark, *Official Journal of the European Union*, 16.6.2017, L 154/1–99, article 4.

[9] Council Regulation (EC) n°6/2002 of 12 December 2001 on Community designs, *Official Journal of the European Communities*, 5.1.2002, L3/1–24.

industries in the French market. France is one of the most dynamic markets worldwide in terms of franchising, with 1965 franchisors, 79,134 franchised stores, 68.80 billion euros of total sales, and 795,441 direct and indirect jobs (French Franchise Federation 2022). Qualitative approaches have been commonly employed in research on conflicts in franchising, mainly from a perspective involving franchising experts, such as lawyers, mediators, brokers (e.g., Weaven et al. 2010) or a dual perspective involving both franchisors and franchisees (e.g., Frazer et al. 2012; Perrigot et al. 2020, 2021).

The 27 participants we interviewed were franchisors, franchise chain CEOs, franchise directors, chain directors, directors of chain development, directors of marketing, and on-field consultants. All of them worked in franchise chains in different retail industries (such as cosmetics, fashion, supermarkets) and service industries (such as homecare services, fast food, hotels), all in the French market. The franchise chains were of different sizes, had opened at different times, and represented a varying percentage of company-owned stores. Each of the participants had different backgrounds and held different levels of seniority.

Regarding the interview guide we used, the topic dealing with key elements of franchising, i.e., know-how, assistance, and brand as potential sources of conflicts, included the three following main questions: (1) "Could you share some examples of conflicts related to know-how you have experienced with your franchisees or that you have heard about from franchisors, franchisees, experts, or lawyers?"; (2) "Could you share some examples of conflicts related to assistance you have experienced with your franchisees or that you have heard about from other franchisors, franchisees, experts, or lawyers?"; and (3) "Could you share some examples of conflicts related to the brand you have had with your franchisees or that you heard about from other franchisors, franchisees, experts, or lawyers?" We used follow-up questions to get more details and examples of concrete cases.

The 27 interviews, conducted in French, were audio-recorded, transcribed and analyzed and the relevant quotes translated into English. The interviews ran a total of 26 h 1 min, for an average of 58 min. Table 1 displays information on the franchisors and franchisor representatives interviewed.

3.2 Data Analysis

We employed the two-step process, suggested by Saldaña (2015) who states that coding can be divided into first cycle coding (gathering various approaches) and second cycle coding. In the first cycle, descriptive coding (i.e., words or short phrases), symbolic meaning is assigned to the information provided by the interviewees. The objective is to condense segments of data (Miles et al. 2014, p. 74). During the second cycle, also referred to as pattern coding, the data segments are categorized into themes in order to get "more meaningful and parsimonious units of analysis" (Miles et al. 2014, p. 86). Table 2 gives an example of the data coding process. We reached a point of saturation where there was little new information and

Table 1 Information on the Franchisors and Franchisor Representatives Interviewed

	Industry	Interviewee job title	Interview duration (in mns)	Interview type
Interviewee 1	Automotive service center	Director of chain development	65	Phone
Interviewee 2	Automotive service center	On-field consultant also in charge of chain development	81	Phone
Interviewee 3	Real estate	Chain development manager	14	Phone
Interviewee 4	Real estate	On-field consultant also in charge of chain development	56	Phone
Interviewee 5	Building/ construction	Founder of a franchise chain	40	Phone
Interviewee 6	Real estate	Chain development manager	27	Phone
Interviewee 7	House equipment	Head of administration	80	Face to face
Interviewee 8	House equipment	Chain development manager	61	Phone
Interviewee 9	House equipment	Sales chain director	20	Phone
Interviewee 10	Homecare services	Head of chain development	85	Face to face
Interviewee 11	Homecare services	On-field consultant	58	Phone
Interviewee 12	Restaurants	Head of franchise chain	77	Phone
Interviewee 13	Restaurants	Head of chain development	98	Phone
Interviewee 14	Optic industry	On-field consultant	100	Phone
Interviewee 15	Fashion retailing	Chain development manager	73	Face to face
Interviewee 16	Fashion retailing	On-field consultant	74	Face to face
Interviewee 17	Cosmetics	Sales chain director	40	Face to face
Interviewee 18	Business services	On-field consultant	80	Phone
Interviewee 19	Fast food	On-field consultant	57	Face to face
Interviewee 20	Fast food	Head of on-field consultants	40	Phone
Interviewee 21	Fast food	President	40	Face to face
Interviewee 22	Fast food	Marketing, communication, development manager	40	Face to face

(continued)

Table 1 (continued)

	Industry	Interviewee job title	Interview duration (in mns)	Interview type
Interviewee 23	Fast food	Master franchisee	35	Face to face
Interviewee 24	Beverage retailing	On-field consultant	48	Face to face
Interviewee 25	Specialized food	Director of franchise chain	42	Phone
Interviewee 26	Specialized food	On-field consultant	82	Face to face
Interviewee 27	Fitness centers	Franchisor	48	Phone

patterns were repeated (Yin 2003). We focused on the standards of quality of our findings as recommended by Miles et al. (2014). First, with regard to objectivity, we described our methods and procedures. Second, concerning reliability, the three researchers contributed to the data analysis to ensure agreement between categorization and structure of the data. Third, in terms of credibility, the interviewees' responses were rich and contextualized. Fourth, with respect to transferability, a meeting was held with other franchisors, headquarter staff, and franchisees to discuss our findings and to obtain their feedback. They corroborated that our findings reflected their experiences in their chains. Fifth, in relation to application, our findings were included in a training module designed for part-time employees at franchise chain headquarters to manage conflicts.

4 Findings

4.1 Conflicts Related to Know-How

Franchisees are independent entrepreneurs, yet, at the same time, they have to follow franchisor guidelines, i.e., franchisor know-how that covers "every aspect of the franchise business and, in particular, technical, commercial, promotional, publicity, administrative and financial matters, staff training and general administration" (87/14/EEC: Commission Decision of 17 December 1986). This duality can lead to conflictual situations, as explained by a franchisor representative in the restaurant industry:

> Franchisors impose operation modes on their franchisees but, at times, conflicts happen since franchisees may take a specific position [. . .] Franchisees remain independent, yet still they belong to a group that has rules to be respected (Interviewee 13).

Some franchisees do not follow the franchisor know-how, which can lead to conflictual situations. A franchisor representative in the fitness industry commented:

Table 2 Examples of the data coding process

Verbatims	First-cycle coding	Second-cycle coding
"Franchisors impose operation modes on their franchisees but, at times, conflicts happen since franchisees may take a specific position [. . .] Franchisees remain independent, yet still they belong to a group that has rules to be respected" (Interviewee 13).	Independence of entrepreneurs and franchisor guideline requirements	Know-how related conflicts
"At present, we're in conflict with some franchisees who do not always apply all our standards. For some of them, we always have to hold them back" (Interviewee 27).	Non-compliance with the franchisor know-how	Know-how related conflicts
"A source of conflict, for some [franchisees], is the fact that they feel that we don't go to visit them often enough. It's not our aim to keep visiting them all the time and that's a source of conflict" (Interviewee 27).	Visits of on-field consultants not frequent enough	Assistance-related conflicts
"Conflicts can be about not enough support. Even when we provide [the franchisees] with support, they can still say 'this is not enough'" (Interviewee 15).	Perceptions about lack of support	Assistance-related conflicts
"An isolated guy tells me: 'I consider that the advertising you designed doesn't work, that I don't want the email campaigns you send to my customers. I'm not happy!' We know that his life span within the chain is limited and we're looking at his contract termination and asking him if he wants to exit" (Interviewee 1).	Complaints about advertising	Brand-related conflicts
"Conflicts may arise, but it really has to be about some essential stuff, for example [brand name], its colors are [color 1] and [color 2]. If someone puts up a sign in red [not the brand color], he'll be given half an hour—no more—to change it. Same thing regarding customer service. These are the basics" (Interviewee 1).	Lack of respect for brand identifiers	Brand-related conflicts

> At present, we're in conflict with some franchisees who do not always apply all our standards. For some of them, we always have to hold them back (Interviewee 27).

These franchisees who do not follow the franchisor know-how can be junior franchisees within the chain or, alternately, franchisees with more experience within the franchise chain. Some newcomers, having just finished the initial training, are sometimes reluctant to follow the franchisor know-how. A franchisor representative in the homecare services explained:

> One way or another, new franchisees don't follow the processes we've transferred to them during the initial training. This can be due to the fact that they carry old habits from their former professional experiences, so they are resistant [to the new processes] and then they won't apply the know-how we provided them with at the beginning (Interviewee 11).

On the other end of the spectrum, some senior franchisees challenge the relevance of their franchisor know-how. They believe they have a better understanding than their franchisor of what works best, based on their interaction with customers and employees. The same franchisor representative in the homecare services continued:

> The senior franchisees reach a time in their life cycle when they feel they've totally mastered the know-how, that to some extent they're the kings of the chain given their seniority in the chain. They think they have all the know-how and start to challenge the ideas of the staff working at the chain headquarters. That's where a kind of know-how-based conflict may arise (Interviewee 11).

4.2 Conflicts Related to Assistance

Franchisees are independent entrepreneurs; they often want to feel autonomous. Yet, at the same time, they also often expect even more assistance from their franchisors and on-field consultants. Some franchisees expect more frequent visits. A franchisor representative in the fitness industry asserted that

> A source of conflict, for some [franchisees], is the fact that they feel that we don't go to visit them often enough. It's not our aim to keep visiting them all the time and that's a source of conflict (Interviewee 27).

The perception of assistance received is also dependent on each franchisee. A franchisor representative in the fashion retailing specified,

> Conflicts can be about not enough support. Even when we provide [the franchisees] with support, they can still say 'this is not enough' (Interviewee 15).

In the same vein, another franchisor representative in business services explained,

> In our own chain, some franchisees are more likely to complain about a lack of support, a lack of on-field support. It can happen! In the case of on-field consulting, we'll comply with a certain framework respecting visit frequencies, with everyone in the same boat. Some will complain that this is not enough, while others will say that this is fine. 'We see you enough, that's OK!'. It really depends. But many times, some franchisees mention a lack of support (Interviewee 18).

Franchisees complaining about the lack of assistance are, ironically, those who do not follow the franchisor know-how. A franchisor in the fast food industry explained

> If the franchisee expects to be spoon-fed, then there will be tensions. [. . .] My job, as a franchisor, [. . .] involves designing the concept and, especially, ensuring that the concept is successful. When we ask franchisees to implement things, we've already tried them out in our restaurants. [. . .] A franchisee will say, 'You're not helping me', but I'll reply 'You're not following what we said, so you can't expect to have the same success as we have (Interviewee 21).

Complaining franchisees are also those who are sometimes facing hard times and they use lack of assistance as an excuse for their difficulties. A franchisor representative in the homecare services commented,

> When franchisees are experiencing hard times [. . .], their tendency is naturally to blame the chain headquarters and so often this is 'I'm not getting enough support' or 'the chain headquarters don't bring me anything' (Interviewee 10).

4.3 Conflicts Related to the Brand

Some franchisees complain about the advertising designed by the marketing and communication team at franchise chain headquarters causing conflicts. A franchisor representative for a brand of automotive service centers described such a case:

> An isolated guy tells me: 'I consider that the advertising you designed doesn't work, that I don't want the email campaigns you send to my customers. I'm not happy!' We know that his life span within the chain is limited and we're looking at his contract termination and asking him if he wants to exit (Interviewee 1).

Some conflicts can happen when franchisees do not respect the brand identifiers, the logo, the colors, or the style guide. The franchisor representative for the automotive service center explained that

> Conflicts may arise, but it really has to be about some essential stuff, for example [brand name], its colors are [color 1] and [color 2]. If someone puts up a sign in red [not the brand color], he'll be given half an hour—no more—to change it. Same thing regarding customer service. These are the basics (Interviewee 1).

Non-compliance with the guidelines also refers to local advertising campaigns. Such deviation from the advertising standards can lead to conflictual situations. A franchisor representative in homecare services described a conflict they had in their chain:

> Last year, we had a huge conflict [. . .]. Basically, there was a franchisee who ran a local commercial, but it was nonsense! She used the style guide from ten years ago [. . .] with the same character fonts, the same colors, the same images. Even the message on the commercial [. . .] was rubbish! The advertising was in a local newspaper. [. . .] Sometimes they take some liberties on social media or with their local communication. Constantly, we have to monitor, to check that this is correct, and sometimes to enter into a conflict with some franchisees when they've deviated too much [from our standards]. Every day there are some franchisees who are doing whatever they want with the brand (Interviewee 11).

Many conflictual situations are particularly related to online advertising. A franchisor representative in the optic industry explained,

> We have some conflicts regarding advertising because [franchisees] want to handle their own advertising. Things that were not validated by chain headquarters. So, they say to us, 'Don't we have the right to do what we want?', 'You stop us from doing anything!' (Interviewee 14).

Another franchisor representative in homecare services added,

> In the case of social media, they have complete access. They're the ones managing their pages. They have total control over their pages. And us, as on-field consultants, what we're trying to do several times a day is to check social media. To find out what's been published in

> the last few hours and when there are some posts that don't follow the style guide or where the message is not one that we're trying to promote at the brand level. In that case, we'll send them an email or give them a call to tell them. [. . .] We make a big effort to persuade them to remove their post or modify part of it or change the visual inserted so that it will be more consistent with the style guide (Interviewee 11).

Some conflicts can be due to increases in advertising royalties used for national advertising campaigns, which thus contribute to the brand image. A franchisor representative in the homecare services described a concrete case regarding increase of royalties:

> We raised our advertising royalties last year and we had conflicts with some franchisees because it was necessary to make them understand that raising the advertising royalties was in their best interest and, in general, in the best interests of the entire chain. In that case, there can be some conflicts that can emerge (Interviewee 11).

In the same vein, another franchisor representative in the beverage retailing industry said,

> Recently, we had an issue regarding the increase of royalties, even if it wasn't a real conflict because I didn't want to get confrontational with some franchisees. Things like that are difficult to make them understand and to defend (Interviewee 24).

A franchisor representative in business services commented as well on the fact that franchisees try to negotiate royalties, potentially leading to conflictual situations:

> Regarding royalties, we've had discussions and tensions. It's a subject that often comes up. [. . .] In fact, royalties are not negotiable, but some franchisees will try to negotiate or seek postponements or pay them in installments (Interviewee 18).

5 Discussion

5.1 Summary of Findings

The first source of conflicts between franchisor and franchisees is the application of the know-how. Franchisees are independent business owners who, though they value their freedom of action, hope that they will emulate the commercial and financial success of their franchisors and follow franchisor's template. However, in some cases, some franchisees do not comply with the franchisor guidelines set out in the transferred know-how. This reluctance to strictly apply the guidelines, transmitted by means of the operations manual, training courses, and the on-field consultant, is of particular concern when it comes to newcomers, i.e., new franchisees in the network that are still strongly influenced by their previous experiences and senior franchisees, i.e., franchisees who have been part of the network for a long time and who consider that they have nothing else to learn from the network or who even think that they know more than their franchisor.

While claiming their status of independent business owner some franchisees may paradoxically demand, at certain times, reinforced assistance through more frequent

visits or more coaching. These demands most often come from franchisees who do not apply the transferred know-how or apply it poorly. And when they encounter difficulties, particularly financial ones, these franchisees tend to turn against their franchisors, reproaching them for their insufficient assistance.

Conflicts about the brand are mainly manifested through the communication elaborated on, disseminated or supervised by headquarters. Many conflicts between franchisor and franchisees concerning the brand originate from the failure to respect the franchisor's graphic charter in local communication. Conflicts also multiply around online advertising and the use of social networks as a means of communication. Finally, a last source of conflict concerns advertising fees, their amount and sometimes their increase are sometimes contested or subject to negotiation.

5.2 Contributions to the Theory

This paper contributes to the literature identifying some elements that are crucial to franchising but that have been mostly overseen as sources of conflict. These elements are know-how, assistance, and the brand. Therefore, we built on two streams of franchising literature dealing with the pillars of franchising and conflicts, explicitly connecting both.

Although there is literature on the role of know-how in franchising (e.g., Knott 2003; Szulanski and Jensen 2008; Winter and Szulanski 2001), it has not been empirically tested as a source of conflict. Lack of assistance has been identified as a complaint of failed franchisees (Frazer 2001) but not explored at other levels of severity of conflict. This relationship encompasses the literature regarding entrepreneurship in franchising where the desirability of an entrepreneurial personality of franchisees is discussed (e.g., Watson et al. 2020) and is consistent with previous findings, such as those of Michael (2000), who showed that training could reduce litigations stemming from serious conflict, or of Blut et al. (2011), who found that level of conflict perceived by franchisees follows a U-shaped curve over the lifecycle with the franchisor, although it was not tested as a source of conflict.

Finally, the brand is widely recognized as a franchise network most valuable asset but, probably because of the difficulties in measuring this intangible asset, brands have not been directly tested as sources of conflicts. Only possible proxies, such as chain size or chain age, have been considered in empirical studies (Frazer 2001; Frazer and Winzar 2005). As shown in the findings, advertising affects brand name and is a frequent source of conflict. This is consistent with previous research, such as that of López-Fernández and López-Bayón (2018) who found that delegation of local advertising rights to some extent reduced franchisor initiated terminations, probably because franchisees could provide valuable local knowledge to launch local advertising campaigns. Similarly, e-commerce has been pointed out as a potential source of conflicts in franchise chains (Basset et al. 2018).

5.3 Managerial Implications

In order to avoid, or at least minimize, conflicts stemming from the key elements of franchising, i.e., know-how, assistance, and brand, franchisors can first work on the content of their operations manual. It must be written in a simple, clear, and rigorous manner. It must make franchisees want to refer to all the processes included in it. The operations manual must anticipate the possible questions of the franchisees and answer all the questions they may have. The more developed the operations manual is, the less franchisees will be able to choose personal solutions likely to undermine the consistency of the network, thus leading to potential conflicts. The more detailed the operations manual, the more consistent the know-how will be, a priori, and the more serious it will be perceived to be, thus contributing to a better acceptance of franchise fees and royalties which might otherwise be considered too high. This can help avoid or mitigate a number of franchisor/franchisee conflicts. The operations manual must also evolve along with the know-how and therefore be updated regularly.

Second, franchisors can also improve the content and format of their initial and continuous training sessions. The initial training must include a technical component, concerning the management of a franchised unit, which is usually carried out at the network's headquarters, as well as a practical component taking place in a pilot unit of the franchisor and/or in a franchised unit. Moreover, regarding continuous training, its basic objectives should be to train the franchisees in the evolution of the concept, to improve their skills and their commercial and financial results. By focusing on the quality of the initial and continuous training sessions, in terms of content and format, franchisors will ensure a better transfer of the know-how and thus a stricter application in the franchised units. Indirectly, it will reduce the occurrence of franchisor/franchisee conflicts.

Third, in order to minimize conflicts related to know-how, assistance, and brand, the role of the on-field consultants is essential. They are indispensable intermediaries who promote exchanges between the headquarters and the franchisees. They are responsible for ensuring that the franchisor's action plans are understood and applied, for monitoring that the concept is being applied correctly and that the unit is functioning optimally, for reporting issues in the units, etc. They regularly visit the franchisees in their territory, they act as coaches and can reduce the potential for conflicts related to know-how, assistance, and brand by effectively doing their job and maintaining good relationships with the franchisees they coach.

Fourth, to reduce conflicts specifically related to the brand, franchisors can recruit trained staff in communication, advertising, and social media. They can work in building and/or improving the brand image of the network, involving in some cases the franchisees through advertising committees or tests in some units.

Fifth, the selection of franchise candidates represents an additional opportunity to limit the risks of potential conflicts. Candidates who have prior experience in the industry will be operational more quickly. However, they will show too much independence and will find it difficult to bend to the constraints of the network, to

change their habits and to accept new working routines. The risks of conflicts then become numerous, which is why many franchisors prefer applicants without any prior experience in the given industry who will apply the know-how transmitted without asking too many questions.

5.4 Limitations and Tracks for Future Research

This paper has some limitations that offer opportunities for future research. In terms of our qualitative approach, we focused only on interviewing franchisors and their representatives. We could have also interviewed franchisees and/or experts in franchising, such as lawyers and mediators, which would have broadened our understanding of the key elements of franchising, i.e., know-how, assistance, and brand as potential sources of conflicts. For future research, an analysis of how elements and/or practices associated with these three key components lead to conflictual situations could be relevant. The conflict resolution modes of such specific conflicts could be of interest, as well.

Another limitation deals with the focus on the French market where the know-how is particularly important vis-à-vis French regulations. Multi-country research could bring additional insights into the occurrence and frequency of occurrence of conflicts related to know-how, assistance, and brand, as well as specific elements and/or practices leading to specific conflicts depending on the country.

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Franchise vs. Independent Retail and Service Stores: Customer Perceptions

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Abstract Franchising is growing in most countries and most industries worldwide. Some people fear that chain-based businesses, including franchised businesses, will soon eliminate totally independent businesses. However, whatever the industry and the location, a coexistence of both franchised businesses and totally independent businesses is often noted. Our aim is thus to understand how consumers react to retail offers of both types of businesses (i.e., franchised or independent), mainly in terms of the profiles of the entrepreneurs, their retailing mix, and their customer relationship management. Our empirical study is based on a qualitative approach with a series of twenty interviews with customers. Our findings show that consumers have a very different store image of franchised and independent stores.

1 Introduction

Franchising is growing in most countries and most industries worldwide (Hoy et al. 2017). Some people fear that chain-based businesses, including franchised businesses, will soon eliminate totally independent businesses. However, whatever the industry and the location, a coexistence of both, franchised businesses (later referred to as franchised units) and totally independent businesses (later referred to as independent units), is often noted. This is, in particular, the case with the restaurant and hotel industry, apparel industry, and hair salon industry.

Research on the comparison between franchised units and independent units remains limited (e.g., Bates 1995a, 1998; Legendre et al. 2021; Patel and Pearce II 2020; Pilling et al. 1995) and mostly focuses on comparing their survival. As far as we know, there is no research on how the two types of business models are perceived by customers.

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The aim of our paper is thus to understand how consumers react to retail offers of both types of businesses (i.e., franchised or independent). Three dimensions are specifically studied: the profiles of the entrepreneurs, their retailing mix, and their customer relationship management. Like any new research topic, it is important to first develop a qualitative research design, such as the one Zimmer and Golden (1988) employed in their study on store image through content analysis. Other researchers suggest using unstructured questions instead of structured ones (Chowdhury et al. 1998). As part of our design, we conducted a series of twenty interviews with customers living in France where franchised units and independent units coexist in most industries.

Our findings show that consumers have a very different store image of franchised and independent stores. In fact, they see franchising as a way of easily doing business with very limited risks and hence see franchisees as less skilled than independent retailers. They also assume that franchisors play a significant—and often exaggerated—role in the franchised stores' retailing mix, while franchisees are either seen as salaried employees of franchisors or investors who are not physically present in their units and who do not develop relationships with their customers. As a result, consumers usually have a preference for independent units, although they often frequent franchised stores out of convenience and because they anticipate a lower risk of dissatisfaction in these stores. Finally, most consumers have a distorted vision of franchising, which negatively and sometimes unduly impacts their perceptions of franchised stores.

Our paper contributes to the literature on franchising, and, more specifically, the stream dealing with the comparison between franchised and independent units (e.g., Bates 1995a; Legendre et al. 2021; Patel and Pearce II 2020) by examining customer perceptions. Moreover, our study contributes to the practice and may help franchisors and franchisees, as well as independent businesses, better understand areas in which they could improve their practices in order to be better perceived by their customers.

The rest of the paper is organized as follows. Section 2 is a brief literature review on franchised units as a form of independent units and a comparison between franchised and independent units. Section 3 describes the methodology. Findings are then presented and discussed in Sections 4 and 5.

2 Literature Review

Part of the franchising literature has dealt with comparisons between franchise networks, company-owned networks, and plural form networks (e.g., Botti et al. 2009; Bradach 1997; Perrigot et al. 2009). But few papers set out to compare franchised stores and independent stores (exceptions are, for instance, Bates 1995a; Legendre et al. 2021; Patel and Pearce II 2020). There are probably some reasons to explain such neglect. It's posited that small business owners with low inner control and low tolerance for ambiguity—which means that they cannot

shoulder unpredictable situations—tend to become franchisees, whereas others with high tolerance for ambiguity and inner control, achievement and a propensity to risk are more inclined to develop independent businesses (Méndez et al. 2014). In all, the comparison between independent small business owners and franchisees, in terms of personality traits, shows rather inconclusive results (Weaven et al. 2009). Distinguishing franchisees from independent small business owners is not that easy.

2.1 Franchised Units as a Form of Independent Business

The first explanation for the lack of research comparing franchised and independent units obviously is the status of both types of stores. Indeed, networks of stores offer more potential for research than independent stores, for instance, by investigating the impact of chain brand image on consumer intentions (Lin et al. 2014), franchisor–franchisee relationships (Strutton et al. 1995), or the development of multi-unit franchising (Grünhagen et al. 2022). A second reason is related to the legal status of a franchised unit: it is technically also an independent unit; however, one is totally independent, whereas the other is linked to a firm, a franchisor, through a franchising contract.

Statistically, according to legal information on both types of companies, there is nothing to help distinguish a franchised unit from an independent unit. Although France is ranked first in Europe and fourth in the world behind the USA, China, and Brazil in franchising activities, it was decades before the national statistical institute (INSEE) became aware of the importance of franchising to the French economy.[1] In fact, a franchised unit is considered an independent unit, officially registered under its own name, and has nothing to do with the brand of the franchisor. Hence, a franchised unit cannot be differentiated statistically from an independent unit owned by a totally independent small business owner.

While a totally independent small business owner is free to make all decisions, even though franchised units are legally independent, this independence is managerially contested by the franchise contract which requires franchisees to respect the franchisor's guidelines. A franchisee should pay the franchisor an upfront fee when joining the franchise network and continue to pay royalties during the entire franchise contract. A franchisee should also respect the conditions of use of the franchisor's brand name, the location criteria for establishing the franchised unit, the store hours, the choice of suppliers imposed by the franchisor, etc. This dependence can sometimes be a source of conflict between a franchisor and the franchisees (e.g., Dada 2018), along with two other sources of conflict (Blair and Lafontaine 2005), i.e., when the franchisee insists on more autonomy and when the franchisor's interest veers from the franchisee's interest because the two are intent on maximizing their

[1] https://www.economie.gouv.fr/cedef/definition-petites-etmoyennes-entreprises

own profit (Strutton et al. 1993, 1995). For obvious reasons, these problems do not appear in an independent unit.

2.2 *Franchised Businesses vs. Independent Businesses*

Many comparisons have been made between franchised businesses, including networks and units, and independent units. But most of them deal with networks and managerial aspects related mostly to performance, rather than comparisons between franchised and independent units.

A large area of the literature is concerned with comparisons between franchise networks, company-owned networks, and plural form networks (e.g., Bradach 1998). Shane and Foo (1999, p. 156) insist that "there is no evidence that franchisor survival is enhanced by increasing company-owned outlets at the margin." However, Madanoglu and Castrogiovanni (2018) look at the U-shape of the relationship between the franchising proportion of a network and firm failure and highlight the necessity for maintaining a stable mix of the PCO (proportion of company outlets) in a franchise network. Perrigot (2008) examines these three categories of networks in France and finds that plural form networks are more likely to survive than strictly franchise networks, which in turn are more likely to survive than company-owned networks.

Franchisee survival has also been a subject of interest for franchising scholars, although few empirical studies have attempted to compare it to independent business owners' survival. Litz and Stewart (1998) state that the trade-name franchise (i.e., franchisor's brand) is valuable to franchisees and contributes to enhancing their performance by sending a market signal to consumers. This observation thus advocates for better prospects of survival for franchisees than independent owners who do not benefit from any brand name when launching their business, in particular at the start-up stage of the business. This can even be one of the franchisees' main motives to join a chain, as argued by Bates (1995a, b). However, most of the studies conducted have come to an opposite conclusion. Bates (1995a, b, 1998) finds that franchised units have lower survival prospects and profitability than independent units. In fact, a study by Welsh et al. (2011) exposes that at the start-up stage, in other words, the first year, franchisees' survival can be more difficult, despite the usual assumptions about franchising, when compared to independent businesses.

Furthermore, examining loan default rates between franchised and independent business owners, Patel and Pearce II (2020) and Legendre et al. (2021) find that franchisees have higher risks of default, in accordance with previous studies. As such, the chain brand does not seem to be sufficient to guarantee franchisees' success. These authors also observe that franchisees are still more likely to default in times of financial crisis than independent business owners, which calls into question the expected impact of franchisor support in case of difficulties from their franchisees.

In fact, studies on franchisee survival have evidenced a number of moderators of failure. The fact that franchisees must contract higher debts (Legendre et al. 2021) to support the high investment required by their franchisor may explain their fragility, above all in the first year of business as noted by Welsh et al. (2011). The industry selected by a franchisee may also be of importance; for instance, retail firms have higher chances of failure (Bates 1995b; Legendre et al. 2021). In addition, new franchisees launching their businesses have been found to have lower chances of success compared to multi-unit franchisees (Bates 1998; Legendre et al. 2021). Finally, Bates (1998) concludes that buying an established franchised unit is even riskier than launching a franchised unit, which implies that the chances of success are dependent upon the franchisee's profile and entrepreneurial skills.

It should nonetheless be noted that, in contrast to those conclusions, Lafontaine et al. (2019) find a higher rate of survival for franchised units than independent ones, though it is smaller than expected. The authors explain this result by referencing the screening mechanism used by franchisors on franchisee candidates, which ultimately restricts some candidates (e.g., with limited resources) from joining the chain. By contrast, independent business owners launching their businesses do not benefit from a similar screening, unless they seek external financing from banks and institutional financers, for instance. As for management practices, these have rarely been investigated in the literature. However, there is a study that compares employee management in franchised units and in independent units (Cappelli and Hamori 2008). Though franchise jobs are often considered undesirable jobs, these authors show that franchised units offer better jobs through a more sophisticated system in a franchise network than independent units in any network.

Many stakeholders (e.g., bankers, investors, lawyers, employees, consumers) are interested in knowing more about managerial aspects, in particular those related to performance and survival, and their perception of differences between franchising and independent small business is of great relevance, in particular, consumers' perceptions of these differences. This is the question we aim to explore in this paper. Consumers are in touch with the units (e.g., store, hotel, restaurant, agency), their owners and the employees. Therefore, consumers' perception at the unit level is a source of critical information to franchisees, franchisors, and independent small business owners and their partners (e.g., suppliers, bankers).

2.3 Consumer Perceptions of Stores

In the context of assessing the differences between franchised and independent units, it is of particular interest how researchers have developed methods to assess retail stores through consumers' perception. There is a large amount of literature about consumer perception of units (e.g., stores, hotels, bank branches) with specific attention focused on store image (Zimmer and Golden 1988). Store image has an impact on consumer loyalty (Bloemer and de Ruyter 1998; Sirgy and Samli 1985) and on retail performance (Hildebrandt 1988). More recently, Theodoridis and

Chatzipanagiotou (2009) have shown a link between store image and customer satisfaction. Comparing retailers and consumers' perception can be useful to improve the image of a store (Samli et al. 1998), which is important to reassure consumers, in particular when buying private label products (Liljander et al. 2009).

Mitchell (2001) recommends adding perceived risk in a study on store image, which is even more relevant in a study comparing independent and franchised stores. In fact, through a study on the hotel industry in China, Sun (2014) shows that company reputation and price perception can influence perceived risks for consumers. This is an asset for franchised stores, which not only benefit from a strong brand reputation but also from the franchisor's capabilities, including in terms of pricing. Indeed, franchisors can rely on company-owned stores to experiment with consumers' psychological price and then recommend optimal prices to their franchisees (Perrigot et al. 2020) which usually follow franchisors' price policies (Bradach 1998). Using Customer Experience Quality (EXQ) scale (Klaus and Maklan 2012) through two questionnaire-based surveys on Brazilian consumers, Mainardes et al. (2019) find that customer experience has a negative impact on perceived risks in non-franchised (i.e., independent) stores, while a positive experience in a franchised store does not influence the perception of risk for customers. Consumers therefore consider purchasing in a franchised store to be less risky. The authors also observed that customer experience has a higher influence on perceived quality, brand trustworthiness, and purchase intention in franchised stores than in non-franchised stores. They thus conclude that franchised stores have a competitive advantage over fully independent stores.

Furthermore, consumer behaviors and perception of risks may increase when they travel and are confronted with a selection of stores they have never visited. Based on a survey on tourists in Taiwan, Lin et al. (2014) emphasize the positive relationship between the intention to purchase an item in a franchise convenience store and the perceived risk of buying the same item in an unfamiliar store. However, the authors also find that destination familiarity moderates this relationship and increases consumer intention to shop in independent stores.

In fact, store image is an important part of store personality (Martineau 1958). This concept has been studied for a very long time (Fisk 1961) and was the subject of an impressive number of articles in the 1970s (Berry 1969; Doyle and Fenwick 1974–75; Hawkins et al. 1975–76; Jain and Etgar 1976–77; Menezes and Elbert 1979). It became a strong trend to consider spatial aspects through the use of the Huff (1964) model (Nevin and Houston 1980; Stanley and Sewall 1976) and the MCI (Multiplicative Competitive Interaction) model (Nakanishi and Cooper 1974) by Jain and Mahajan (1979). Store image hence appears paramount to limiting high risk situations for consumers and is considered, along with store attitude, an antecedent of shopping frequency (Pan and Zinkhan 2006). Most of the existing research deals with the store image of totally independent stores, more frequently company-owned stores within a chain, or shopping centers. But these works are based on objective store characteristics.

A consumer-based methodology is favored to measure store image (Steenkamp and Wedel 1988). Using a MCI model and a conjoint analysis to take into account

the attraction of promotional offers, Cliquet (1995) introduces consumers' perceptions as a measurement of store attraction and finally store image. Among spatial aspects, travel distance seems to be positively related to satisfaction, which highlights the possibility for retailers to overcome the distance disadvantage (Hsu et al. 2010). This result is confirmed in the apparel market where distance is an insignificant variable in store choice (Yu et al. 1996).

However, these studies are typically applied to specific retail sectors: apparel (Roy and Ghosh 2013); supermarkets (Graciola et al. 2020); fast-food restaurants (Lee and Ulgado 1997); furniture stores (Cliquet 1995); shopping centers (Nevin and Houston 1980); grocery chains (Doyle and Fenwick 1974–75); or specific retail variables: price (Graciola et al. 2018), service quality (Helgesen et al. 2010; O'Cass and Grace 2008), organic store brands (Ngobo and Jean 2012); retail store environments (Baker et al. 1994); or specific countries such as Brazil (Graciola et al. 2020), France (Cliquet 1995), Greece (Theodoridis and Chatzipanagiotou 2009), India (Roy and Ghosh 2013), along with many studies carried out in the US context.

In fact, there are few publications related to the image of franchised stores vs. independent stores. Dant et al. (2016) have explored consumer brand perceptions of US fast-food restaurants in BRICS (Brazil, Russia, India, China, and South Africa) and highlighted the role of cultural distance: the closest is the best. As financial aspects seem to be sometimes unfavorable to franchisees, it would be interesting to know more about marketing characteristics like store image. Concerning these marketing aspects, Young et al. (2007) have highlighted two advantages of these two stores: consumers seem to prefer their experience in a franchise restaurant because of the quality of food, whereas service responsiveness is more satisfying in independent restaurants.

Consumer perception of stores and its outcome, store image, are very critical concepts in retailing, as store image is the competitive advantage and the monopoly power of the retailer (Sirgy and Samli 1985). Hence, our objective in this paper is to understand how customers perceive franchised and independent small businesses along three dimensions: the profiles of the entrepreneurs, their retailing mix and their customer relationship management.

3 Methodology

Our empirical study deals with the French market. France is well known for its dynamism in terms of small businesses and franchising. France had nearly four million small businesses (i.e., companies employing less than 250 employees, with an annual turnover of less than 50 million euros or a balance sheet below 43 million euros[2]) employing 6.3 million people and representing 43% of the added value created within its territory in 2018[3]. Regarding franchising in particular, the French

[2] https://www.economie.gouv.fr/cedef/definition-petites-etmoyennes-entreprises.

[3] https://www.insee.fr/fr/statistiques/4986683?sommaire=4987235.

market is comprised of 1965 franchisors and 79,134 franchisees generating 68.8 billion euros of sales in 2021 (French Franchise Federation 2022). Due to the exploratory nature of our research, we used a qualitative approach based on a series of in-depth interviews with customers. Qualitative approaches have been regularly used in franchising (e.g., Bretas and Alon 2021; Kacker and Perrigot 2016; Panda et al. 2019; Perrigot et al. 2012; Zachary et al. 2011; Zimmer and Golden 1988). We conducted these interviews with 20 customers having various profiles in terms of age category (7 students, 7 working people under 40 and 6 consumers over 40) and gender (11 women and 9 men). We reached a point of saturation (Yin 2003), which led us to stop at 20 interviews.

All interviews were conducted face-to-face. In addition to the introduction and conclusion, the interview guide included the following topics: customer experience, franchisees/independent small business owners, retailing mix, impact of franchising, roles of franchisor and franchisee. All interviews were conducted in French, audio-recorded and fully transcribed. The transcribed interviews were analyzed in French and then the relevant verbatims were translated into English. The total length of the interviews was 21 h, 52 min and the average length was 1 h, 06 min, with a minimum of 49 min and a maximum of 1 h, 27 min. We relied on a two-step process to analyze our data, as recommended by Saldaña (2015) and Miles et al. (2014). In the first cycle coding, we assigned descriptive codes (i.e., words or short phrases) to symbolic meaning to the information provided in the interviews. In the second cycle coding, the data segments were grouped into themes in order to streamline the units of analysis.

4 Findings

4.1 Franchised and Independent Retailers: Their Profiles as Perceived by Customers

Consumers have differing images of small business owners that depends on whether they are franchisees or independent. They assess their profiles based on a number of criteria including their creativity, risk-taking, autonomy, involvement in the business operations, and propensity to be supported or isolated.

Although consumers give some credit to franchisees, they consider that independent small business owners better match the definition of a retailer and that they have superior qualities. This can be primarily observed through their degree of creativity, since independent retailers are required to find an original idea before starting their businesses, whereas franchisees rely on the franchisor concept. However, franchisees can also demonstrate some creativity in the management of their unit (e.g., merchandising, customer service, local communication) and this creativity can be all the more essential to stimulate their chain's innovation.

Another point of comparison lies in the level of risk-taking. In this regard, our interviewees consider franchisees as taking only a limited risk, since they benefit from their chain's brand reputation, a successful concept, as well as the support of

their franchisor. By contrast, independent retailers face greater uncertainty when launching their businesses and they do not benefit from similar advantages. However, consumers seem to underestimate franchisees' risk-taking orientation, since the latter can also make critical decisions that may lead to failure, for instance, if they partner with a "wrong" franchisor, choose an unsuitable location for their unit (even though franchisors can advise them in this regard) or if they do not possess the necessary skills to manage their business efficiently. In fact, recent empirical studies have concluded that franchisees may have higher risks of loan default compared to independent retailers (Legendre et al. 2021; Patel and Pearce II 2020), which gives credit to their risk-taking. Franchisees have to pay their franchisor for the services provided, and these additional expanses can jeopardize the business profitability if they are not offset.

As for retailers' level of autonomy, consumers believe that franchisees have to respect a set of guidelines emanating from their franchisor (e.g., in relation to the choice of products and services, local communication). Hence, they view franchisees as being in a dependent, hierarchical, and even almost subordinate relationship to their franchisor, who can control whether franchisees respect the concept and standard procedures in order to maintain chain uniformity. Nevertheless, consumers also perceive benefits to this relationship, since it allows franchisees to benefit from the support of their franchisor. In comparison, independent retailers have complete flexibility in running their units and can hence implement changes more easily. As a consequence of this autonomy, independent retailers are perceived as isolated business owners who struggle to survive against the growing competition of highly structured retailers, among which are franchise chains.

Furthermore, according to our interviewees, franchisees are less involved than independent retailers in the day-to-day operation of their units. In fact, franchisees merely have to deploy the franchisor's concept and worry about the sales figures of their business. In contrast, consumers believe that independent retailers are passionate and much more attached to their stores (Table 1).

4.2 Franchised and Independent Retailers: Their Retailing Mix as Perceived by Customers

Consumers perceive significant differences between the retailing mix of franchised and independent retailers, i.e., with respect to their products, prices, places, promotions, people, and process policies.

1. *Product policies*. According to our interviewees, the products/services sold by franchisees and independent retailers differ in several aspects. For example, products sold in independent stores are overall considered better quality than those in franchised stores. However, consumers note that franchisees have standard quality products and they are reassured by the fact that these products have previously been sold by a franchisor. Being affiliated with a franchisor also allows franchisees to access a wider range of products, thanks to the existence

Table 1 Illustrative quotes on franchisees' and independent small business owners' profiles as perceived by customers

Profile characteristics	Franchisees as perceived by customers	Independent business owners as perceived by customers
Innovativeness/ creativity	[Franchisees] can be creative in how they sell, [...] how they showcase their products in their stores. [...] They have that flexibility but it's still focused on their stores and not on the products they sell. (#13) I think it's better if [the franchisee] has a bit of a creative spirit, because the franchise network can only remain dynamic if among its franchisees, there are dynamic people who are rather avant-garde, innovative, creative [...]. If everyone rests on their laurels, I don't think there will be much future. (#9)	Someone who is going to open their [independent] business, maybe it's because they had a more original idea [than the franchisees] or tried to... create something that is different [from the competitors]. (#7)
Risk-taking	[The franchisee] is someone who starts something... because opening something is a great adventure, but it's with... limited risks. When you open a [Brand], you know you're going to attract people through [...] your brand that is already known. [...] If you open your own independent small burger store, it's going to be more complicated to get people to come in. (#15)	[The independent business owner] is a very brave person because he is going into the total unknown. They don't have a defined framework when they open or start their businesses. So you have to do it. (#15) [The independent merchant] takes a lot more risk, I guess, than a franchisee because he doesn't have any advice [...]. His model, it hasn't been tested and approved before. (#1)
Autonomy	I think that franchisees are not given much leeway. [...] It's still hierarchical [...] There are fairly regular controls on the quality of the products, compliance with the brand's style guide, etc., so the franchisee is not an employee, but almost. (#10) The franchisee, in my opinion, has guidelines to respect. So, he applies procedures [...] that are suggested to him or dictated to him (#11)	His profile is someone who is already free in his work. He doesn't have to answer to a superior, he's the boss, he's the leader, he does what he wants. He sells what he wants, the products he wants, [he chooses] the opening hours, he hires the profiles he wants. [...] He has total freedom. (#15) An independent retailer, if he suddenly has a new idea, he can directly change things. He doesn't have to ask if it is possible or not. (#2)
Involvement in the business	A franchisee [...] will be, in my opinion, [...] a little less invested in his business, because there is still a	As a consumer, I would say that in independent stores, we can see that often [...], the person we have

(continued)

Table 1 (continued)

Profile characteristics	Franchisees as perceived by customers	Independent business owners as perceived by customers
	part that is managed by the company and so he doesn't necessarily have a hand in it. [...] There is a more proactive approach when you create your own business rather than when you create a franchised business. (#10) I have the impression that [franchising] is about managing numbers and not being so attached to the products you sell. [...] Moreover, when I go to these franchises, I never have the opportunity to meet the franchisee, whereas in small businesses, [the owner] is in her store. And the franchisees, physically anyway, I don't see what they look like. Their presence [in the store] doesn't seem as strong to me. Maybe they're there, but you don't necessarily notice them. (#14)	in front of us is more involved, can talk to us more about his products and often also talks to us about his store. [...] They've been there longer too. They've invested in their business. And it's true that it's nice. (#1) Independent merchants really want to create their own small stores. So, I think they defend their babies a lot more. (#18)
Isolated business owners vs. supported business owners	[There is] an advantage maybe of not being alone, because I think they have to send people to help franchisees set up their store and send people also regularly to make improvements within their store, and so I think the business owner, of course, is not alone but will have the help of the brand. (#7) [In franchising, there is] legal support, as well, because at the administrative level and at the legal level, it's not always easy to start up. So, I think that there is legal support that can be significant. And then, at the managerial level, at the training level, I imagine that we are a little more supported. [...] Technical, legal... everything. (#14)	I think that it must often be more complicated to be alone, as an independent trader. As a result, you have less visibility with consumers, because it's less known. (#7) I think that franchising, [...] chains, are the future and that, unfortunately, there will be less and less room for the independent trader, because we are in a world and a trade that is becoming more structured and that, all alone in his corner, he will always have more difficulty than when faced with a group, even if we regret it. (#9)

of a central purchasing organization. Some interviewees also highlight franchisors' role in renewing the chain's products and meeting consumers' changing needs. By comparison, independent retailers are seen as specialists with fewer categories of products but greater choice for a specific product. In fact, our interviewees argue that this specialist positioning is also a consequence of the

limited size of their sales area. Another major difference lies in the additional services which franchisees can provide their customers, especially in relation to loyalty programs or after sales services. In this regard, our interviewees stress the importance of being able to exchange a product in any store of the brand, which is a major stake in chain uniformity.

2. *Price policies*. When it comes to price, a majority of interviewees believe that independent retailers have higher prices, since they buy and sell in smaller quantities and therefore have limited bargaining power with their suppliers. By contrast, franchise chains can achieve economies of scale by purchasing large quantities, which ultimately allows franchisees to offer attractive prices. As a consequence, consumers generally feel they are getting value for money in franchised stores, whereas purchasing in independent stores can be risky (i.e., by being charged disproportionately for the quality of a product/service).
3. *Place policies*. Consumers are also sensitive to retailers' place policies, in particular to aspects related to store location. Our interviewees believe that franchised stores are always located in strategic areas, i.e., in places which are sufficiently attractive, visible, and accessible to do business. As such, franchisees are sometimes located in the most attractive streets in city-centers but more commonly in commercial areas or shopping centers. The choice of a franchisor is paramount in this regard, since its brand reputation will attract customers to the store. Moreover, franchisors can advise their franchisees regarding store location, which is part of the concept's success. By contrast, independent retailers need to locate their stores in high-traffic areas to be successful, because they do not benefit from a brand's reputation. However, they do not necessarily have the financial means to choose the best locations and their stores are frequently located in remote streets in the city center. Our interviewees also note that franchised stores and independent stores are often grouped near other stores of the same category (e.g., several franchised stores in the same area). In addition to their location specificities, franchised and independent stores can vary in terms of merchandising. For instance, consumers observe that franchisees' stores are very well arranged and similar to one another in this respect. As for independent retailers, their store layout can be excellent or mediocre and eventually depends heavily on the personality of the retailer.
4. *Promotion policies*. Customers perceive a strong gap between franchisees and independent retailers' communication, whether regarding the type, intensity, or efficiency of this communication. As such, our interviewees point out that franchised stores are ahead in this respect. First, they benefit from their franchisor's national communication, which enhances the brand reputation. Then, franchisees communicate via local media to promote their stores and commercial operations. In comparison, independent retailers spend very limited resources to promote their stores and usually rely on word of mouth to develop their local reputation. On top of that, their few attempts to communicate are usually failures because they lack the professionalism involved in marketing campaigns. Franchisees, however, benefit from their franchisor's capabilities in this regard and they sometimes simply have to adapt the communication materials provided to

them. This communication is considered invasive but effective, since interviewees were able to provide examples, which was not the case for independent small business owners' communication.

5. *People policies*. Consumers assess retailers' people policies based on two main aspects: customer service and HR practices. Our interviewees stress that customer service can vary significantly depending on the person delivering the service (i.e., retailers or their employees). As such, they consider themselves better served and advised in independent stores where retailers are more involved in the operations of their store and put a strong emphasis on customer service. Even though most franchised stores welcome their customers politely, some consumers do not appreciate the standardized reception provided, which they feel is too mechanical and not sufficiently customized. Our interviewees also deplore the poor quality of advice in franchised stores, which is essentially linked to a hierarchical management of employees, according to them. In fact, franchised stores are also rather badly perceived with regard to HR practices. As a result, there is often a high staff turnover in these stores, which limits the quality of customer service. Nevertheless, consumers believe—sometimes unduly—that employees working in franchised stores benefit from greater opportunities due to their link with the chain. For instance, they expect franchised store employees to be able to leave a franchised store to work in another or to benefit from social advantages related to the size of the whole chain. By comparison, they consider that opportunities are very limited in independent stores where working conditions can vary significantly dependent on the retailer.
6. *Process policies*. Customers essentially compare franchisees and independent retailers' process policies by the stores operating hours. They observe that franchised stores have a wider range of hours, because they have a higher number of employees who can manage the stores in their absence. In contrast, they believe that independent retailers cannot rely on employees to run their stores in their absence and must therefore have limited opening hours (Table 2).

4.3 Franchised and Independent Retailers: Customer Relationship Management as Perceived by Customers

Our interviewees patronize both franchised and fully independent stores, while having different expectations of these two types of stores, especially with regard to customer relationship management (CRM). For instance, their loyalty to a franchised store can be related to a particular store but also to the franchise chain's brand, whereas such considerations do not exist for the stores of independent retailers. In fact, consumers consider that their loyalty to franchisees stems from convenience and habit, while their loyalty to independent retailers is rather a consequence of their desire to support these retailers. As for trust in the retailers, the interviewees are divided. Some of them have greater trust in independent retailers, considering that

Table 2 Illustrative quotes on franchisees' and independent small business owners' retailing mix as perceived by customers

Retailing mix characteristics	Franchisees as perceived by customers	Independent business owners as perceived by customers
Product	*Quality:* As we know, what we are going to find, we can't be surprised, either positively or negatively. Afterwards, it may be the person who serves us who will make the difference, on the plus or minus side, but afterwards, in terms of product quality [...], we really expect something, we know what we're going to find, so we can't be surprised. (#19) *Range of products:* With a franchise, you have more choice. I think that the surface area plays a big role. (#1) Franchisees are connected to the franchisor, so they use all his products, all the brands, so it's easier for [them] to have more products to offer. (#5) *Originality:* [It's] maybe less original when it's a franchise. I mean, they're more adaptable to everyone's taste. They want to have a wider range of people [...]. (#2) Franchises appeal to a wide range of people. I think that's the goal, but it's pretty sanitized in the end when you're looking for something a little bit original. (#14) *Renewal:* I imagine that there are dedicated people at the headquarters of the franchise networks precisely to make the concepts evolve, and as a result, it evolves quite quickly I think. You get the impression that they don't want you to get bored either, so there is movement. (#14) *Additional services:* If a customer comes in [to a franchise store] and she's not happy with her purchase or the size doesn't fit, she can exchange it anywhere in France. So that's a positive point. (#3) I know that, in terms of loyalty,	*Quality:* [The independent retailer], they're going to have to really work on their product because their brand isn't worth much and they're going to have to really attract the customer with a very, very good product. (#15) *Range of products:* Independent retailers have sometimes very different products, but they don't have as much space as franchises. [...] Their range of products is reduced, even if it is [...] perhaps selected with more care. In a franchise, you have more choice. (#1) I think the independent retailer [has the widest range of products], because the only way he can differentiate is by being able to go into a lot of niches. If he does the same thing as the franchisee, he doesn't differentiate, and he's bound to have a much harder time because he doesn't have the [same] purchasing power. (#20) *Originality:* When I go to the independent retailer, it's to find something that I won't find elsewhere, I'm ready to pay more. [...] I also go there to get away from the norm, to find things that you can't find elsewhere, to please myself. (#9) I guess some [independent retailers] try to stand out a little bit because [...] otherwise there would just be franchises. So, they're trying to do something a little bit different, whether it's the quality of what they're doing or whether it's things [...] that are different from the ordinary. (#2) *Renewal:* It is the independents who will have the most product renewal [...] to continue to attract [...] their

(continued)

Table 2 (continued)

Retailing mix characteristics	Franchisees as perceived by customers	Independent business owners as perceived by customers
	when I go to certain [franchised] stores, I'll get a lot of points, gift certificates, that will force me to come back. [...] When it's our birthday, we'll get gifts. (#5)	customers, precisely by showing that they work on products, that they make efforts to renew themselves, to constantly attract customers. (#15) *Additional services:* A franchise store [has additional services], which I don't think is the same with an independent merchant. [...] It takes time. It takes money... It requires the organization of particular structures, networks. An independent trader can't do that. (#11)
Price	*Price image:* I tend to think it's cheaper in franchising because they're buying in quantity. [...] It's one person supplying, they have fewer intermediaries. (#1) Franchisees are often stores [...] a little more affordable financially. [...] They have huge orders, national or international, so they have discounted quantities at the beginning and therefore at sale as well. [...] They have more means on all levels because, above them, there is the franchisor. [...] For the purchasing centers, it is grouped together. That may give them better prices than the independents have. (#6) *Price-quality relationship:* In a franchise, there are fewer surprises. As a result, the price-quality relationship is perhaps more assured in a franchise. (#2) It depends on the products, but if you take the same product, [from a franchisee] or from an independent, [...] the quality will be exactly the same for possibly a little less in a franchise. (#4) I don't think you get a good deal in franchises. [...] Take the example of textiles. [...] If they are so often on sale, it's because there's already a large margin on the price −70%. So, in fact, I think that	*Price image:* [The independent retailer] has to buy in smaller quantities [...] from his suppliers. [...] He′s only going to order for his store. So, I think just on that alone, at the supplier level, he has to pay maybe more for the product in the first place. (#7) The independent has better quality products, so [...] it makes sense that his prices are a little higher. [...] I'm willing to pay more in an independent than in a franchise. (#15) *Price-quality relationship:* You take more risk when you go to an independent merchant of paying an exorbitant price for something you would have thought to pay much less for. (#2) With independent retailers, [the price] is still going to be very random. You have to find the right merchant. (#8)

(continued)

Table 2 (continued)

Retailing mix characteristics	Franchisees as perceived by customers	Independent business owners as perceived by customers
	when you pay full price for a product, you are really ripped off and that the quality-price ratio is not at all good. That's something an independent can't afford to do. (#14)	
Place	*Location:* [Franchises] put themselves in strategic locations to be seen. [...] I've never seen a franchise ... on a side street. They are often on the main streets to be visible, to attract attention. (#2) Often [franchises have] good locations, #1 locations. There's visibility, easy access, often parking. I think it's part of their development strategy. (#9) The franchisor has location requirements [for their franchisees]. They choose where their franchisees are located [...]. These are very strategic locations. For the franchisor, this is a guarantee of success. (#15) I think that shopping centers are more and more with franchises and national brands. [...] Maybe that ensures more development, more sales, more customer flow, more consumer flow. (#9) *Merchandising/store layout:* In a franchise, it's always the same, the layout is good, [...] there's nothing sticking out, [it's] pretty smooth. (#2) [In the franchise], it's updated a lot in terms of the presentation of the products. You can feel that there's a real ongoing effort on the layout of the stores, the POS displays, the product presentations. [...] And moreover, it is often reworked, so it doesn't get boring. (#14)	*Location:* Independent merchants, in general, are going to position themselves downtown to have more visibility, to have foot traffic around the store, because if it's an independent merchant, it means no reputation, it means no brand, so necessarily, we're forced to play on visibility. (#10) In [the city], in any case, [the independent merchants are] rather in small streets that are remote, but I find that these are streets that have much more charm. It's often going to be smaller premises [...], a little bit further out, but it has more charm. (#14) The independent who sets up in the suburbs is in trouble because he doesn't have the proximity. He will be faced with brands that already have a brand image. People [...] are not going to go to the independent retailer. The real asset of the independent retailer is proximity, in my opinion. (#8) Independent retailers try to be in the downtown area. It's easier for them than in an area where there are franchises [...] You don't see many independents in the big [commercial] areas, they are more franchises. (#6) *Merchandising/store layout:* In a small business, they do more according to their taste, so it may be less structured, but it may be nicer too; more user friendly. (#2)
Promotion	*Type of communication:* In franchising [...], there is going to be some form of advertising at the national level and then they also ask the franchisees to be	*Type of communication:* The independent business owner may not be able to afford a page in [the local newspaper]. (#8) I think [the independent retailer]

(continued)

Table 2 (continued)

Retailing mix characteristics	Franchisees as perceived by customers	Independent business owners as perceived by customers
	dynamic locally and have an advertising budget. (#9) If you take [Brand], [...] they have promotion [...] aimed at increasing brand awareness and they have promotion concerning local operations. So, they have both. And today, I'll go even further, they have a web, digital communication that is also very strong. [...] You can afford this kind of thing ... when you're part of a franchise, because it's the franchisor who takes care of it. (#20) [Franchises] are represented on posters, billboards, you almost only see franchises on this type of communication. The catalogs you get at home, too. The independents can't afford to do that. It's only franchises that can do it. [...] I think it would be too expensive for them [the independents]. (#14) *Intensity of communication:* [Franchisees] have very, very developed means of communication, whether it's television, flyers in the mailboxes, [...] Internet. The independent retailer doesn't have all that. (#11) *Effectiveness of communication:* The franchisee's visual is much more elaborate, [...] much more attractive. It should be remembered that there are armies of marketers to take care of it. (#18) When you communicate digitally, you need skills, which means you need expertise. [At the] franchisor [headquarters], most of the time, we have in-house expertise. (#20) You can have discounts but only for [Brand] in [City], so they won't work elsewhere. [...] In this case, it's a shame that it's not standardized at the national level. That you can't benefit from it everywhere. [...] Except that, of course, it won't be a problem for the franchisee because it won't impact	also communicates through his customers, [...] through word of mouth too. People who are happy with the products talk about it. The independent retailer can count on that. He can also do a little bit of local advertising. But it's true that he doesn't have a national network, which I think a franchise store has. (#11) *Intensity of communication:* The majority of independent merchants don't advertise too much. [...] There might be a flyer on their store front, for example, but there's not going to be a very extensive advertising campaign. A franchise can be seen on television, at bus stops, on billboards, just about everywhere. (#4) A small independent store doesn't necessarily have the financial means to launch an advertising campaign to boost its store from the start. (#11) *Effectiveness of communication:* The independent, he will go and do his communication either by himself or by a friend he knows well. [...] In general, it's a little less qualitative anyway. (#13)

(continued)

Table 2 (continued)

Retailing mix characteristics	Franchisees as perceived by customers	Independent business owners as perceived by customers
	him. So, for the consumer, it's a shame. (#16)	
People	*Client reception:* The customer service greetings are firmly established. It is something that is already established in all the franchised stores [...]. The reception is identical from one store to another [...]. The staff are trained to greet people in the same way, regardless of the store. (#11) The welcome in franchised stores is formalized [...] in the way customers are greeted, in the sentences they are told. We feel that if we go to [Chain store], it's always exactly the same sentence that is repeated to us. [...] You get the impression that [the reception] is a little less personal and that it is a little more industrialized. You immediately feel that you are in a franchise. (#10) I've never had any complaints about [the reception in franchised stores]. I've always found it pleasant, so I think that the franchisees that I frequent are people who pay attention to the training of their staff and to the quality of the welcome. (#20) *Customer advice:* I feel like when I go to, for example, [Brand], they know absolutely nothing and they give me advice that is completely off the mark every time. Whereas if I go to an [independent] store, they'll give me the advice right away, [they know]. I feel like in a franchise, it's going to be sales people more than professionals in the business. (#10) The employees [in franchises] do what they are asked to do they actually execute, they are executors. [...] They can try to stand out and provide quality service, but within a framework that is still very well defined. [...] And then each franchise has its own values,	*Client reception:* [At] independent retailers, you have a more personalized welcome. For people who are more human, who will need the emotional side [...], it's better. And they will prefer to go to these small stores. (#11) I think [customer service greeting is less important and less well done [by the franchisee] than with the independent. [...] Because they don't have to give a friendly greeting to get the customer to come. The customer will come. But the independent has to make a good impression all the time, quickly, immediately, because that's part of his business [...] to be nice, to have a good reception and to have a good relationship with his customers. The franchisee doesn't care. (#15) *Customer advice:* Customer service is maybe a little more important in an independent business. They may have fewer customers, so you may be a little more 'exceptional' than in a franchise. [...] Maybe they take care of [customers] a little better. (#4) The independents [...] are there to sell, but I don't know, I'm going to [listen to them] with a little bit more attentively. And then, they have a way of doing things that is different too. [...] You see the same person in the independent [store], whereas in the franchises, there is a turnover of employees that is mind-boggling. [...]. It's very rare to have the same person in a franchise who will take care of us, whereas in an independent, yes. So, there is a loyalty that is established, a knowledge of the customer, of the problems he may have. As a result, we don't need

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Table 2 (continued)

Retailing mix characteristics	Franchisees as perceived by customers	Independent business owners as perceived by customers
	so I imagine that they have a guide of know-how to respect and that they are obliged to stick to it. (#14) *Job quality/conditions:* [Job security] is perhaps more important with franchisees [...] because there is less fluctuation in the company's sales, whereas an independent business, if there is a drop in sales and they had five employees, [they] will have to lay off someone more quickly than in a franchise where if one of the stores is doing less well in one sector, the person can be told to go to another location and, as a result, it is easier to distribute the employees if there are stores that are doing less well than others. So maybe there is more security. (#7) In a franchise, [...] it's much more hierarchical, in my opinion. It's a pyramidal, old-fashioned management, whereas in a somewhat independent business [...], in general, there is a closeness that takes place, there is a cohesion. We have a real team. (#10) I think that there may be advantages that we won't necessarily find in independents at the level of the Works Council. I guess because [franchises] are bigger, employees have more benefits. In terms of salary, I think that on the variable part [of their compensation], they can also have a more dynamic, more interesting salary. (#14) Everything is going to be more uniform in a franchise. In terms of hours, in terms of salary, everything is indexed to things that are already done, whereas there might be more flexibility with an independent. (#19) It's true that we have the image, especially in the clothing or restaurant industries, of franchises with a very high turnover. [...] The	to explain [our needs] as much. [...] It's more consistent to deal with the same person. (#14) *Job quality/conditions:* I think that a good working atmosphere does not depend on a franchise or an independent trader. Among independent retailers, there are good employers, not so good employers and I think in franchises too. (#9) Among the independents, the few I know, there are the worst and the best. There are some that are extremely respectful of their employees, where there's a great team atmosphere and then there are others where it's difficult. (#20) *Uniform:* We'll take the example of the outfit, it's always impeccable in general in a franchise network. An independent may have an outfit, but it's going to be too small, too big, or it's going to be untidy. (#9) *Job opportunities:* With the independent trader, the opportunities, they are not going to be huge, whereas, eventually, [...] with a franchisee, you can become a franchisee in turn. (#8)

(continued)

Table 2 (continued)

Retailing mix characteristics	Franchisees as perceived by customers	Independent business owners as perceived by customers
	salesman is not invested either because he has not been there for long and he will not stay long. (#1) *Uniform:* If you take [Brand], for example, everybody has a uniform. In an independent business, there may not be any uniform. (#3) *Job opportunities:* Because [franchises] have more resources and they have more staff, I think they can put in place training at the time of hiring and ongoing training. [...] There's also more opportunity to grow in a franchise. (#7) Maybe there is also mobility [...]. If for some personal reason you want to leave the area, you can find another position, I guess, in another franchise store with an equivalent function [...]. You can maybe move, if you want to move, from one region of France to another. (#11) The bargaining power of an employee in a franchise is much less than in an independent business. They are much more easily replaced. [...] I think it's probably easier in a franchise to move up, but I think there's probably a threshold where they can't move up anymore, you know, they're going to be limited upwards, whereas for someone in an independent business, they can always become the manager of the business. They might not be so limited upwards. (#4)	
Process	Franchisees [have] a strong point [...], the more interesting hours for us consumers. [For example, in the food trade, [Brand] closes at 10: 30 p.m. There are not many independents who are able to [...] pay employees to work those hours. (#14) They have to be accountable, I mean, if the franchisor says: [...]	Of course, an independent businessman, if he's on his own, might be able to work a little more than 7 hours a day, but of course, if he's on his own, he can't work 15–20 hours a day every day either. (#4) When you [consider] the weekly hours, the franchise store will be better off than the independent

(continued)

Table 2 (continued)

Retailing mix characteristics	Franchisees as perceived by customers	Independent business owners as perceived by customers
	'you open all the holidays", that's it afterwards, do they have the possibility to say no or not, I don't know as a franchisee. The independents can do whatever they want with their store, I guess. (#6)	business that has a life on the side. Generally, he is all alone, so if he wants to have a family life on the side, a normal life, he is obliged to close at certain times, [...] which is not the case with franchised stores. [...] They have a range of hours that is close to the limits of the legislation in order to accommodate the greatest number of customers. (#11)

these retailers have complete freedom in their purchasing policies and can thereby select higher quality products. However, other interviewees trust franchisees to a greater extent because of the chain's brand name and experience which they believe offer superior guarantees.

In terms of customer proximity, the interviewees unanimously agree that franchisees are not visible or even physically present in their stores, which makes it impossible for them to develop relationships with their customers. Conversely, our interviewees argue that independent retailers are easily available to advise customers as best as possible. As such, these retailers are perceived as more passionate and committed to their business than franchisees.

Consumers' preferences can also depend on whether they are looking for a specific product or experience or for originality. In the first case, they will favor franchised stores because these offer more security and consistency to their customers. Indeed, franchisees have to respect the chain's concept and standard procedures, which contributes to chain uniformity and thus allows consumers to have a similar experience from one store to another within the same brand. By contrast, our interviewees expect independent retailers to deliver an original shopping experience that will differ from what franchisees can offer. This observation emphasizes that franchised and fully independent stores address different needs for consumers and are thus complementary (Table 3).

5 Discussion

5.1 Summary of Findings

Our findings show that consumers have very different perceptions of franchisees and independent retailers. They perceive a significant difference between the profile of these retailers. According to consumers, becoming a franchisee is less risky and requires fewer entrepreneurial skills than starting a business as an independent

Table 3 Illustrative quotes on franchisees' and independent small business owners' customer relationships as perceived by customers

Customer relations characteristics	Franchisees as perceived by customers	Independent business owners as perceived by customers
Loyalty	I consider myself loyal to the brand. [...] Typically [Brand], I go there because I love the new cookies they made so I know I'm going to find them everywhere and even if I go ... somewhere else, they'll be the same cookies. (#10) [I'm loyal] to the brand because when you go to other cities and you find a [Brand], you know what you're going to eat so you're pretty confident and since you like it, you're going to go there. And also at the restaurant, because we usually go to [Brand] on Sunday evening and we have one less than five minutes from home, so, in fact, it's the store that allows us to be faithful. [...] So it's both, depending on the context. (#14) [I am] loyal but not necessarily looking for loyalty. There are so many franchisees [. . .], all the stores are pretty much franchisees now. [...] So there is loyalty, but not necessarily looking for it. [...] [Brand], we go there once a week. [...] When we go to hotels, they are often franchises too. But it's not from [the perspective of] a search for loyalty. (#15)	[I'm more loyal] to the independent dealer [than the franchisee]. Because he will tell me about his product. Because he will be able to tell me where he comes from, [He will be] perhaps more attentive because he has to pay much more attention to his customers. Because precisely, this visibility that he does not have, he must maintain good relationships [with his customers]. It's a loyalty criterion, communication with the customer. (#18) [Loyalty with franchised retailers] is not the same as when you go to your little bakery [...] where you create a relationship with the person. (#15) We try to be loyal to small businesses. For example, I have a friend who runs an independent perfume store [...]. She's the one who created her store [...] and she's in competition with [Brand A], with [Brand B] who are also franchises. And so, if I can go and see her, I will go and see her. [...] I know that not being a franchisee is also a daily struggle [like] David against Goliath. And that it's good to support small businesses too. (#14)
Trust in retailers	I would have more confidence in a franchised store because there is the image, all that, because there can be the experience of other franchisees, because the independent trader can be anyone. So, in a completely random way, you can find someone who runs his store very well or someone who has a dirty shop or a badly managed stock or something like that. [...] The brand image brings security. (#8)	For food [...], I would probably have more confidence in the independent [...] because I think that he does not go through the same networks [...]. And, as a result, his products are probably of better quality. [...] The franchisee has a wide range imposed on him, but the independent can have a wide range that he has chosen. Finally, he can be much more attentive to the customer to satisfy his needs. (#18)

(continued)

Table 3 (continued)

Customer relations characteristics	Franchisees as perceived by customers	Independent business owners as perceived by customers
	We are perhaps more inclined to trust the franchisees, because they have to maintain a certain standing, because the brand is very well known, and they can't afford to sell just anything either. So it's true that there are brands like that where you know you can trust them more. So maybe we're less wary of franchised brands. (#7) I would be more inclined to trust [the] franchisee, for the fact that several people have seen his product, it has been tested, well there has been a battery of tests that have been carried out on it, so I can have confidence in that product. But on the other hand, it's not an original product. (#13)	Since they [are affiliated to] big networks, I have the impression that the franchisees are mostly there to make money and that the independent merchants, they like their products more. They want to have a relationship with their customers. (#5) I prefer independent [merchants] because I feel like they're not going to sell me a service as much. I feel like we're going to be more on the personalized side, listening. (#14)
Proximity with retailers	You can't [...] have a privileged relationship with [...] a [Branded store] manager. You don't see him, you arrive, you're just one person among many in there, I don't really like this principle of a big chain where it's really a factory. I really like to have a relationship with the merchant I'm going to be a customer with. (#19)	We might tend to favor the independent store, since there is often a more important human relationship with the small corner store than with the big brand where customers are anonymous [...]. We are really a little bit unnoticed in these franchised stores. There is less of a human element than in a small independent store. And as such, we can play the trust card more, the relationship with the individual, the relationships of trust with a small store than with a large store. (#11) I think it's better to go to an independent store when you can. [...] With independent retailers, I tell myself that the person [...], it's his idea, so it's still something more personal. So, it already makes you want to help them more, [...] to buy from them. [...] You feel that he's really doing his best, whereas in a franchise, he chose that franchise, but he could have chosen another one. (#2)

(continued)

Table 3 (continued)

Customer relations characteristics	Franchisees as perceived by customers	Independent business owners as perceived by customers
		The added value [...] for me, it is much higher with the independent trader [...], who wants to run his business. He′s going to want to satisfy his customer. With the franchise, the guy, for me, it is less there. (#8)
Uniformity vs. originality	These are brands that [...] have longevity, that have been around for a while, for the most part, and that have legitimacy in fact. I think you feel safe when you go to a franchisee. [...] It's pretty much the same everywhere, so there's a security. Whether you're in [City A] or [City B], it's the same framework, the same way of operating, you're not lost. You know where you're going. [There's] a security [...], you don't go into the unknown, you have some control over things. (#15) I know that I won't have any bad surprises. So, I won't necessarily have any great ones either because it will be something I know ... But I won't have any bad ones, that's for sure. Whereas [for an independent business], maybe we'll discover something very, very good, so we'll have an excellent surprise. At the same time, you can come across something really bad too. (#15) When you go to franchised restaurants, it can be very nice, because you know you're going to get a dish you like, an atmosphere you like [...] It's a guarantee of quality if you already know the brand and know you like it. (#7) The fact of always finding the same quality of service, of not being surprised, it's very pleasant. [...] It is reassuring. [...] It's true that I don't like to be	If you go to the same franchises all the time, in the end, it will always be the same style. So going to independent retailers is also about having something new and different from what we usually see. (#7) If I have time, I prefer to go [...] to stores that are not franchised, that are smaller, [...] where you don't necessarily find the same things. Because the problem with franchised stores is that sometimes [...] everyone ends up with the same thing, so it's not necessarily pleasant. (#7) The independent store will be able to offer the little thing that the franchised store cannot. That is, perhaps the local product, the product that is out of the ordinary, that is not distributed everywhere, [...] the rare product, in fact. (#11) People who want to discover products that they haven't seen anywhere else, [...] they'll go to an independent [retailer]. (#15) It's good to support small [independent] merchants [...] because they have extra products that you can't necessarily find elsewhere. (#14)

(continued)

Table 3 (continued)

Customer relations characteristics	Franchisees as perceived by customers	Independent business owners as perceived by customers
	disappointed. (#19) For hotels, when you don't know the city at all, when you want to book a room quickly, when you know that you've already been to a [Brand] in another location, for example, you say to yourself that it's okay, so rather than taking the risk of having something less good, you take fewer risks if you go to a city that you don't know and you go to a franchise. (#2)	

retailer. Our interviewees also argue that franchisees are strongly supported by their franchisor in terms of retailing mix, but that they have little flexibility in return because of the need for chain uniformity. Moreover, even though consumers patronize both franchised and independent stores, they do not have the same expectations for these two types of stores in terms of customer relationship management. Overall, they feel closer to independent retailers in whom they place greater trust. By contrast, consumers have little to no relationship with franchisees and are usually distrustful of franchise chains, which are seen as very big corporations generating huge profits. In fact, their perception of franchising is partially incorrect as they have a very hierarchical vision of the franchise relationship, which may stem from their difficulty in differentiating between franchised stores and company-owned stores.

5.2 Contributions to Research

Our paper contributes to the literature on franchising, and more specifically the stream dealing with the comparison between franchised businesses and independent businesses (e.g., Bates 1995a, 1998; Legendre et al. 2021; Patel and Pearce II 2020; Pilling et al. 1995), by examining customer perceptions. Past studies comparing franchised and independent stores have mostly focused on survival, highlighting higher risks of failure for franchised stores (Bates 1995a, b, 1998; Legendre et al. 2021; Patel and Pearce II 2020; Welsh et al. 2011). Our paper shows that consumers share the common belief that launching a business as a franchisee is significantly less difficult and risky in light of a number of assets related to the franchise chain selected (e.g., the chain brand, a well-proven concept, support from the franchisor). This assumption may stem from associating franchise chains with large and dominant corporations where unit closures can easily go unnoticed.

In fact, consumers not only minimize the risk assumed by franchisees and their involvement in their business but also develop an affective preference for fully

independent retailers for this reason. As a consequence, they favor purchasing from independent stores and mostly opt for franchised stores for convenience. In fact, while consumers bemoan chain uniformity, this is usually the reason they shop at a franchised store.

In addition, our paper shows that consumers portray franchisees as very dependent upon their franchisor, which is consistent with past research on independent retailers' perception of franchising (Perrigot et al. 2015). However, consumers partly misinterpret the franchise relationship, which is seen as very hierarchical and unfavorable for the franchisee. This may be explained by the fact that franchisees are less involved in the operations of their store than independent retailers, in particular when they operate several stores as multi-unit franchisees. Consumer perception is thus based on their experience with franchisees' employees, who are often less committed than independent retailers. Consumer misunderstanding may also be related to their confusion between franchised and company-owned businesses. Making the distinction is indeed challenging and this leads some of them to believe that franchisees or their employees can benefit from advantages that company-owned stores have.

5.3 Contributions to the Practice

Our study contributes to the practice. Our findings may help franchisors and franchisees, as well as independent businesses, better understand the areas in which they could improve their practices in order to be better perceived by their customers. Customers have a poor image of franchise chains and the chains could therefore try to address this situation. As such, franchisors could promote the independent status of their franchisees by emphasizing their role and involvement within the chain. One way to do this could be to disclose testimonials from their franchisees on their corporate websites or social medias. In addition, franchisees could be more actively involved in their stores so as to build relationships with their customers and avoid being perceived as mere investors. They would also be well advised to develop local CSR actions to gain recognition in their geographical area, for example by sponsoring local charitable organizations or sport and cultural associations. Moreover, special attention should also be paid to chain uniformity so as to improve consumer perception. For example, customers should be able to return or exchange a product purchased online to a franchised store to avoid any dissatisfaction. As for independent retailers, they have a positive image, but consumers perceive that there is a higher risk of dissatisfaction when purchasing in their stores. They should therefore focus on customer satisfaction to generate positive word of mouth, since they do not benefit from a strong brand reputation. Finally, independent stores are seen as a complement to franchised stores and their retailers should thus seek to differentiate from what franchisees offer. However, this observation may be nuanced since prior research has evidenced that independent retailers do not position themselves more on niche markets (Litz and Stewart 1998).

5.4 Limitations and Tracks for Future Research

Our paper has limitations that offer tracks for future research. First, the exploratory nature of our research, with its qualitative approach, makes it impossible to generalize the findings of our empirical study. A quantitative study would be of great interest and should take into account at least four elements: spatial aspects, retail sector, specific variables and countries. The objective would be twofold: developing a specific methodology to compare the two statuses, independent vs. franchised, and knowing which status leads to a better store image—independent or franchised, as many consumers regret that most cities are more and more alike because they are filled with standardized stores affiliated to chains (Cox and Mason 2007). Second, our empirical study was conducted in France. Due to cultural differences, findings could be different in other countries, and thus a multi-country study could be conducted to get a broader understanding of these perceptions. Third, the data were collected before the COVID-19 crisis. Customers' perceptions regarding independent retailers have been impacted by this crisis and gathering additional data could allow authors to see if consumer perceptions have remained the same.

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Are There Gender Differences in Entrepreneurial Orientation and Performance? Evidence from French Franchisees

María-Eugenia Ruiz-Molina and Enrico Colla

Abstract The literature in management has pointed out male and female entrepreneurs show different levels of risk aversion as well as self-confidence or self-efficacy. This study aims to contribute to the extant literature on this issue through the identification of the most discriminating characteristics of entrepreneurial orientation across gender, as well as the association between performance, entrepreneurial orientation style and gender. From a survey among 226 French franchisees, we conclude that proactiveness, competitive aggressiveness and commercial autonomy are the most differentiating entrepreneurial orientation dimensions between male and female franchisees. Relevant associations between gender, entrepreneurial style and individual and network perceived performance are observed.

1 Introduction

The success of franchising has been explained by the fact that franchise allows "combining the economies of scale enjoyed by the franchisor with the entrepreneurial drive and spirit of the franchisee" (Stanworth 1991, p. 175). In this sense, franchisees' performance has been positively related with their entrepreneurial orientation (Dada and Watson 2013). However, concerning franchise ownership, women are still nowadays under-represented (Thaichon et al. 2018), and research on gender differences in franchising channels of distribution is very scarce (McDermott and Butler 2018; Thaichon et al. 2018). Previous research reveals the existence of complex relationships between gender diversity in management and firm performance (Richard et al. 2004), whereas in business internationalization, cultural

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distance has been pointed out as an important challenge (Alharbi 2014; Baena 2012; Kastner et al. 2019), so that the social identity of women in different countries widely influence on how women entrepreneurs sustain and succeed in international markets (Hewapathirana 2011).

Moreover, former studies on female entrepreneurship and performance raise several conceptual and methodological concerns. Firstly, several studies compare male and female entrepreneurs, whereas gender has been conceptualized as a social construct by the social feminism theory (Bird and Brush 2002), assuming that gender cannot be distinguished by sex. Secondly, most of gender studies on entrepreneurship lack a conceptual framework to build an explanatory theory, disregarding the main theoretical developments in this field, for example, liberal and social feminism theories (Marlow and Patton 2005). Thirdly, from a methodological standpoint, several papers on gender differences in entrepreneurship do not control for structural barriers or differences in preconditions for female entrepreneurs, such as less business experience (Verheul and Thurik 2001; Soost and Moog 2015), problems to get access to financial resources (Marlow and Patton 2005), sectoral distribution (Wilson and Tagg 2010), or lower business size (Carter and Marlow 2007), in line with liberal feminism theory. This involves confusing the lower organizational performance of female-headed organizations and underperformance of female entrepreneurs in comparison to male-headed firms (Marlow and McAdam 2011).

The present study aims at assessing the ability of sex to discriminate franchisees in their entrepreneurial orientation characteristics, as well as the association of entrepreneurial orientation style and gender with franchisees' individual and network performance. Following the liberal feminism theory, to control for structural differences across entrepreneurs due to their sectoral distribution, we conduct our research in the franchising industry. In this way, we respond to the call for research on entrepreneurial orientation in the scarcely explored context of franchising, where entrepreneurs' autonomy may be strongly limited since business systems and procedures are usually dictated to franchisees by franchisors (Asgharian et al. 2021), and thus the ability of male and female franchisees to pursue entrepreneurial orientation remains unclear. In particular, we propose the following research questions:

RQ1: Are there entrepreneurial orientation differences associated with gender in franchising?

RQ2: How are entrepreneurial orientation styles of gender associated with performance?

RQ3: How are entrepreneurial orientation styles and gender associated with the franchise business model in terms of product tangibility?

In this way, we aim to contribute to the extant debate in the literature on sex and gender differences in entrepreneurship in the context of franchising, with a special focus on entrepreneurial orientation (Watson et al. 2017; Thaichon et al. 2018).

The chapter is structured as follows: next section proposes the conceptual elements to be used (i.e. entrepreneurial orientation, performance and gender). In sect. 3, the methods used for addressing the quantitative research are presented. Results

are described in sect. 4 and discussed in sect. 5. Section 6 presents some final reflections.

2 Theoretical Background

2.1 Entrepreneurial Orientation and Performance

Entrepreneurial Orientation (EO) "refers to the processes, practices, and decision-making activities that lead to new entry...in a process...aimed at new venture creation" (Lumpkin and Dess 1996). There is a long tradition of research on EO considering the firm—not the individual—as the focal unit of analysis, arguing the difficulty of translating some of the elements of EO as a firm-level construct to the individual level (Covin and Wales 2019). The firm EO has been conceptualized as a composite (Miller 1983, 2011) formed by risk-taking, innovativeness, proactiveness or as a multidimensional construct formed by the three original dimensions as well as by competitive aggressiveness and autonomy (Watson et al. 2017).

Concerning the first dimension of EO, risk-taking refers to a company's proneness to take actions under uncertainty (Walter et al. 2006).

Secondly, innovativeness has been described as "a willingness to support creativity and experimentation in introducing new products/services, and novelty, technological leadership and R&D in developing new processes" (Lumpkin and Dess 2001, p. 431). In the context of retailing, innovativeness has been associated to the tendency of retailers to adopt new merchandising or service ideas in the local market (Homburg et al. 2002). Notwithstanding, several retail stores innovate not only in product and processes, but also in their value propositions in their relations with their partners in the value chain (Reynolds 2014; Hristov and Reynolds 2015). Thus, we understand innovativeness as the capacity of being innovative, and introducing new practices, mainly adopting ideas suggested by franchisees.

Thirdly, proactiveness is related to pursuing opportunities earlier or ahead of the firm's competitors (Knight 1997).

Fourthly, competitive aggressiveness has been defined as "the intensity of a firm's efforts to outperform industry rivals, characterized by a combative posture and a forceful response to competitor's actions" (Lumpkin and Dess 2001, p. 431).

Last, in the context of EO, autonomy "refers to the independent action of an individual or a team in bringing forth an idea or a vision and carrying it through to completion" (Lumpkin and Dess 1996). Following Miller (2011), autonomy relates to "entrepreneurial independence in developing and bringing into effect an idea" (Watson et al. 2017, p. 4), being applicable at individual level, at group level and/or by an organization as a whole.

In spite of the EO-performance positive relation reported in the literature on entrepreneurship, little evidence has been provided in the context of franchising (Dada and Watson 2013). Moreover, the findings of works examining the association between these two constructs are not comparable due to differences in EO

dimensions or performance measures. In this sense, it has been argued that if franchisees enjoy considerable operational autonomy, they may generate new ideas and innovative solutions (Cox and Mason 2007). Similarly, Ireland et al. (2009) highlight the ability of franchisees to create new value through their entrepreneurial behaviour in terms of firm growth, suitability of their initiatives and innovative solutions to other outlets in the network, new insights to operational issues and market leadership. More recently, Dada and Watson (2013) point out the existence of a positive relation between EO in the franchise system (innovativeness, risk-taking and proactiveness) and the results of the network. The authors claim the need for further research that continue examining this relationship and include also other components of EO suggested in previous research, e.g. competitive aggressiveness and autonomy (Lumpkin and Dess 1996; Covin and Lumpkin 2011).

2.2 *Influence of Gender in Entrepreneurial Orientation and Performance*

Given the intricacies in finding adequate franchisee candidates (Frazer et al. 2010), and the comparatively low participation of females as franchisees (Thaichon et al. 2018), the study of the relation between EO, performance and gender may provide a useful insight with both theoretical and managerial implications.

In entrepreneurship literature, there are two main theories providing conceptual support to gender studies, that is, Social Feminism Theory and Liberal Feminism Theory. Firstly, Social Feminism Theory argues that gender is a social construct, so that socialization determines that men and women differ in their perceptions, understanding and behaviour, but none of their approaches is superior. Moreover, a person's gender depends to a great extent on experiences during his lifespan through his interactions with caregivers and other persons, so that it is not completely determined by their sex (McHugh et al. 1986; Fischer et al. 1993). Traits and characteristics of men and women can be masculine or feminine, so that a gender comparison by sex seems questionable. This theory also points out that the way men think and behave is considered as the right one in our society (Crannie-Francis et al. 2003; Bradley 2007), and thus male characteristics are assimilated to those desirable for a successful entrepreneur (Ahl 2007). These male rules may involve an inaccurate assessment of the female entrepreneur performance (Bird and Brush 2002).

Studies consistent with the social feminism theory have analysed several psychological characteristics such as self-actualization, tendency to conform, risk-taking propensity, autonomy and self-confidence, and could only find little differences between men and women (Birley 1989; Kalleberg and Leicht 1991; Sexton and Bowman-Upton 1990). These marginal gender differences in psychological characteristics allow to conclude the importance of structural barriers and different preferences in explaining the differences between male and female entrepreneurs.

Notwithstanding, there are also numerous studies that report that women in general have a tendency to underestimate their intelligence and task-related cognitive abilities, whereas men tend to overestimate their performance or cognitive abilities, even from an early age (Hogan 1978; Furnham and Rawles 1999). In this sense, the extant literature in entrepreneurship argue that female entrepreneurs show lower levels of self-confidence or self-efficacy (Sherer et al. 1990; Kobeissi 2010), and thus higher uncertainty about their future performance. Moreover, it has been pointed out that women are more risk-averse (Wilson et al. 2007) and less innovative (Hisrich and Brush 1987) than men. However, recent studies found that some women possess a high risk-taking propensity, who seem motivated by economic drivers, freedom, personal and professional development and typical traits associated to male entrepreneurs (Thaichon et al. 2018).

Secondly, Liberal Feminism Theory assumes similar rational capacity among men and women, and explains gender differences regarding organizational performance based on sex discrimination and unequal opportunities for women. In the case of business, where rationality is assumed, women and men should have equal capabilities to manage firms if the preconditions are the same for both. In entrepreneurship literature, empirical research allows to support differences between men and women in organizational performance, that have been explained by structural factors. Firstly, one of the main problems for female entrepreneurs to set up a high-growth business is getting access to the needed funding (Marlow and Patton 2005; Carter et al. 2007; Kelan 2009; Wynarczyk and Marlow 2010; Thaichon et al. 2018), thus resulting in undercapitalization and less employees in companies owned by women (Carter and Marlow 2007). Moreover, it has been pointed out that female entrepreneurs have less business experience (Verheul and Thurik 2001; Munoz-Bullon and Cueto 2010; Thaichon et al. 2018), poorer access to and use of networking tools (Sorenson et al. 2008), and work less hours per week than men due to their preference for flexible working patterns to accommodate work–family life balance (Rouse and Kitching 2006; Jayawarna et al. 2013). Indeed, according to a study of Frazer et al. (2010), 43% of female franchisees work part-time.

Last, women are traditionally attracted to service and trade industries (for example, clothing, jewellery, health and beauty products) that show generally lower growth rates and less success (Marlow et al. 2009; Wilson and Tagg 2010) than companies in sectors dominated by male entrepreneurs, such as the technological industry (Allen et al. 2007). Notwithstanding, female entrepreneurs are also starting to operate in industries not traditionally associated to women, e.g. recreation, personal services (Miller and Hayward 2006).

All these gender differences in entrepreneurship literature are aligned with liberal feminism theory that argues the existence of structural barriers and different preferences for women as major reason for inequality between male and female entrepreneurs (Du Rietz and Henrekson 2000). In this sense, some studies controlling for business size or sectoral distribution do not find gender differences (Kalleberg and Leicht 1991; Watson 2003; Watson and Newby 2005). In the same vein, concerning the discussion about the phenomenon of the "under-performing female entrepreneur" in the literature in business management, Marlow and McAdam (2011)

emphasize that lower organizational performance of firms managed by women in comparison to those managed by men should not be confused with underperformance.

In the context of franchising, Meek et al. (2014) conclude the existence of differences between male and female franchisees in entrepreneurial relationship variables with their franchisor, arguing the existence of feminine gender roles. According to these authors, women are more relationship-oriented throughout the entrepreneurial process than men. This finding is corroborated by Watson et al. (2017), since they relate the EO dimensions of innovativeness, risk-taking, autonomy and competitive aggressiveness to franchisee masculinity.

Given the scarce and mixed empirical evidence in research analysing gender differences in franchisee entrepreneurial orientation and performance, the present chapter aims at contributing to the understanding of the relation between such variables. Considering this context, the objectives of the present study are, first, to analyse if there are gender differences in entrepreneurial orientation in franchising and, second, to assess and compare the correlations between entrepreneurial orientation style and performance across gender. Therefore, as already anticipated in the Introduction, we intend to respond to the following research questions:

RQ1: Are there entrepreneurial orientation differences associated with gender in franchising?

RQ2: How are entrepreneurial orientation styles of gender associated with performance?

Last, previous research highlights that service-dominated franchise business models are predominately preferred by male franchisees (Grace and Weaven 2011), and franchisees with higher performance seem to be more frequent in franchises delivering services in comparison to franchises commercializing tangible products (Colla et al. 2020). Moreover, Grace and Weaven (2011) argue that females place more importance on financial remuneration than males since the former often find difficulty in sourcing finance and place high value on the security of their family. Thus, females may have substantially different perceptions of the franchise's risk, and therefore may be more risk-averse than male franchisees. In order to control for the eventual associations between product tangibility, entrepreneurial orientation and gender, we posit the following research question:

RQ3: How are entrepreneurial orientation styles and gender associated with the franchise business model in terms of product tangibility?

3 Data and Procedures

The methodology used for data collection was an online survey. We developed a questionnaire based on the literature on entrepreneurial orientation, including the five EO dimensions identified by Covin and Lumpkin (2011), that is, risk-taking,

innovativeness, proactiveness, competitive aggressiveness and autonomy. The scale to assess franchisee's perceptions of autonomy in commercial policies and team management were adapted from López-Bayón and López-Fernández (2016, 2018), based on the assumption that managerial autonomy is a different construct from commercial (or marketing) autonomy, being the latter referred to the marketing mix commercial policies (that is, product, price, off- and online communication and point of purchase). The items for assessing Risk-taking ("I really like high-risk projects, with prospects for high profitability"), Innovativeness ("As a franchisee, I take initiatives in... product selection, setting prices, local advertising, Internet website, outlet layout"), Proactiveness ("In the past five years, I have made significant changes to my products and services, on my own initiative") and Competitive aggressiveness ("In my relations with local competitors, I quite frequently take initiatives") are written ad-hoc for the present study, following the results of previous qualitative research through in-depth interviews in the framework of the same research project, that enabled to identify some treats of relevance regarding entrepreneurial orientation in the context of franchising. Since the items were included in a questionnaire of a broader scope, including many more constructs apart from those analysed in the present chapter, these one-item measures were used to avoid an excessive length of the questionnaire. This decision is also supported by the practical advantages of the use of single-item scales empirically tested and highlighted in the literature (Diamantopoulos et al. 2012). All items were measured using a 5-point Likert scale.

The items for assessing performance (as perceived by franchisees) compared with the other franchisees in the network and in the geographical area are adapted from Meiseberg and Perrigot (2015). In particular, franchisees are asked to rate between 1 (poor) and 5 (exceptional) the following items: "Overall, how would you rate your performance compared with the other franchisees in the network?" and "Overall, how would you rate your performance compared with other stores in the same geographical area?"

The survey instrument also includes classification variables regarding the franchisee and the franchise. The indicators adapted from the literature were translated into French and back-translated into English by a native copy editor to assure that the sense remains. After a preliminary version of the questionnaire had been pretested with six franchisees, some items of the questionnaire were rewritten. The final version of the questionnaire was disseminated online through the franchisors with the support of the French Franchise Federation (Fédération Française de la Franchise or FFF). A final sample of 226 valid questionnaires was collected. The main characteristics of the franchisees' and the franchisor's sample are shown in Table 1.

To test the existence of significant differences between male and female franchisees regarding their EO and perceived performance, first, mean values were calculated for each dimension of entrepreneurial orientation and t-tests for means comparison for independent samples were performed.

Second, to discriminate and predict the type of entrepreneurial orientation (that is, masculine or feminine), a discriminant analysis was performed. This multivariate technique allows to discriminate between two or more groups with respect to two or

Table 1 Sample profile

Franchisee's classification variables	N	%	Franchisor's classification variables	N	%
Gender			**Type of product**		
Male	145	64.2	Tangible product	157	69.5
Female	81	35.8	Service	69	30.5
Age			**Time since network**		
20–30	8	3.5	**creation**	15	6.6
30–40	44	19.5	<10 years	211	93.4
40–50	89	39.3	>10 years		
50–60	79	35.0			
+60	6	2.7			
Educational level[a]			**Total number of outlets** < 10		
2. Basic factual knowl-	5	2.2	10–50	29	12.9
edge	31	13.7	51–100	24	10.7
3.Primary studies	35	15.5	101–150	11	4.9
4. Secondary studies/	85	37.6	151–300	42	18.8
vocational training	24	10.6	301–500	25	11.1
5. Post-secondary quali-	44	19.5	>500	85	38.0
fication	2	0.9	NA	6	2.7
6. Bachelor/Degree				4	0.9
7. Master/Postgraduate					
8. Doctorate					
Time in the network			**Diversified network (mix of own stores and franchised stores)**		
0–3 years	66	29.2	Yes	178	78.8
3–5 years	35	15.5	No	48	21.2
4–10 years	60	26.5			
10–20 years	44	19.5			
+20 years	21	9.3			

[a]Educational level according to the European Qualification Framework (Mathou 2016)

more independent variables simultaneously (Johnson and Wichern 1998). The number of collected valid questionnaires (i.e. 226) is adequate for using this technique, since 20 subjects per variable are required for a discriminant analysis (Stevens 1992).

4 Results

As a preliminary step, a principal component analysis was performed to check the factor structure of the EO dimensions. Whereas risk-taking, innovativeness, proactiveness and competitive aggressiveness are considered as unidimensional constructs, autonomy emerges as a multidimensional construct, composed by managerial autonomy (that is, autonomy in human resource management) and five types of autonomy in marketing decisions (that is, autonomy in product, price, local advertising, website decisions and store layout).

Table 2 Descriptive statistics of the independent variables for male and female franchisees and t-test for differences between independent samples

	Male franchisees		Female franchisees		
Variable	Mean	St. deviation	Mean	St. deviation	t
Entrepreneurial orientation					
Risk-taking	3.19	1.002	2.99	0.915	1.524
Innovativeness	3.15	0.829	3.04	0.723	1.020
Proactiveness	3.43	1.177	2.62	1.113	5.059***
Competitive aggressiveness	3.73	0.907	3.31	0.846	3.437***
Managerial autonomy	4.41	0.694	4.41	0.618	0.044
Commercial autonomy					
– Assortment	2.93	1.046	3.26	1.130	2.149**
– Price setting	3.06	1.117	2.51	1.042	3.589***
– Local advertising	3.97	0.827	3.96	0.643	0.095
– Website	2.62	1.071	2.87	0.856	1.916*
– Store layout	2.87	1.051	3.04	0.723	1.527
Performance					
– Compared with the other franchisees in the network	3.28	0.821	3.05	0.757	2.045**
– Compared with other stores in the same geographical area	3.45	0.781	3.23	0.746	2.004**

*Statistically significant at $p < 0.1$; **$p < 0.05$; ***$p < 0.01$

To analyse the differences between male and female franchisees in their entrepreneurial orientation and perceived performance, means and t-tests for comparing independent samples were calculated (Table 2).

As shown in Table 2, in general, male franchisees show higher values than female franchisees in most of the entrepreneurial orientation dimensions. Differences between men and women are statistically significant for proactiveness, competitive aggressiveness and commercial autonomy in price setting, being higher the scores for male franchisees in comparison to female managers. In contrast, female franchisees show significantly higher values for commercial autonomy in product assortment and website contents. No significant differences are observed in risk-taking propensity or innovativeness in our study, in the line of previous evidence under the social feminism theory (Birley 1989; Kalleberg and Leicht 1991; Sexton and Bowman-Upton 1990). Mixed evidence is obtained for autonomy, since significant differences are only observed for some commercial autonomy dimensions; in particular, male franchisees show higher levels for autonomy in price setting ($p < 0.01$), whereas female franchisees show higher levels for autonomy in product assortment ($p < 0.05$) and website contents ($p < 0.10$).

In terms of performance, franchisees perceptions are significantly higher for male franchisees in comparison to female franchisees, consistently with the lower scores

in self-confidence or self-efficacy of women reported in previous studies (Sherer et al. 1990; Kobeissi 2010).

Next, we aim at assessing the ability of sex to discriminate franchisees regarding their entrepreneurial orientation characteristics. Before performing the discriminant analysis, we verified the compliance of the assumption regarding the absence of multicollinearity. According to Gupta and Ogden (2009), correlation coefficients among the independent variables should be below 0.75. In this case, the correlation coefficients between the variables representing the entrepreneurial orientation dimensions ranged from 0.002 (that is, correlation between Risk-taking and Managerial autonomy) to 0.681 (that is, correlation between Innovativeness and Commercial autonomy in store layout), thus allowing to infer that multicollinearity is not a serious concern in the data.

Moreover, the assumptions of independence and multivariate normality are confirmed for the variables included in this research. To check for violation of the assumption of equal variance-covariance, Box's M-test statistic was applied. Although Box's M = 85.981; F (55, 91898.40) = 1.481; $p = 0.012$ suggest a violation of the equal variance-covariance assumption, it has been pointed out that this test might be sensitive to factors different from covariance differences, such as sample size (Hair Jr et al. 2010). In this sense, with a large sample, even small differences in covariance matrices may be found significant by Box's M, when in fact no substantial problem of violation of assumptions exists. In addition to this, F-test shows a value of 1.481, not far from null (Noble and Schewe 2003). Furthermore, our data do not include outliers, and according to Meyers et al. (2005), discriminant analysis is robust to the violation of homogeneity of variance assumption provided that the data are free of extreme outliers.

Once the assumptions of the discriminant analysis were checked, a discriminant analysis was performed to test the ability of entrepreneurial orientation dimensions to classify franchisees according to their gender determined by sex. In this case, entrepreneurial orientation dimensions were considered as independent variables to explain gender determined by sex (dependent variable). This analysis showed that the overall multivariate relationship was statistically significant (Wilks' $\Lambda = 0.744$; chi square (10, $n = 226$) = 64.726; $p < 0.001$), allowing to conclude that male franchisees differed significantly from female franchisees regarding the mean values of the independent variables. Moreover, the group centroids (−0.781 versus 0.436) suggest that the two groups are different from each other, thus allowing to support the predictive ability of the independent variables in discrimination. The resulting canonical correlation of the model was 0.506, so that it accounted for 25.6% of the variance in the dependent variable.

Consistently with previous results for the t-tests comparing scores of male and female franchisees in the entrepreneurial orientation characteristics, the univariate F-tests of the discriminant analysis (see Table 3) also support the existence of significant differences between the mean values of the male and female franchisees in proactiveness ($p < 0.01$), competitive aggressiveness ($p < 0.01$) and commercial autonomy in product assortment ($p < 0.05$), price setting ($p < 0.01$) and website contents ($p < 0.10$), therefore allowing us to conclude that these entrepreneurial

Table 3 Univariate F-tests for the independent variables

Variable	Wilks' Λ	F	Significance
Risk-taking	0.990	2.32	0.129
Innovativeness	0.995	1.04	0.309
Proactiveness	0.897	25.60	0.000
Competitive aggressiveness	0.950	11.82	0.001
Managerial autonomy	1.000	0.00	0.965
Commercial autonomy			
– Assortment	0.979	4.82	0.029
– Price setting	0.946	12.88	0.000
– Local advertising	1.000	0.01	0.929
– Website	0.986	3.24	0.073
– Store layout	0.990	2.33	0.128

Table 4 Correlations and standardized coefficients of predictor variables of the discriminant function

Variable	Correlation coeff.	Standard. coeff.
Risk-taking	0.174	0.128
Innovativeness	0.116	0.035
Proactiveness	0.576	0.614
Competitive aggressiveness	0.392	0.219
Managerial autonomy	0.005	0.038
Commercial autonomy		
– Assortment	−0.250	−0.683
– Price setting	0.409	0.501
– Local advertising	0.010	−0.070
– Website	−0.250	−0.446
– Store layout	0.174	0.388

orientation dimensions significantly differentiate and predict membership in the two groups, that is, male and female franchisees.

Additional support for the relevance of the above-mentioned dimension of entrepreneurial orientation to discriminate between male and female franchisees is observed in the within-group correlations between the predictors and the discriminant function as well as the standardized weights (see Table 4).

Based on these coefficients, commercial autonomy in product assortment and price setting, and proactiveness demonstrated the strongest relationships, being standardized coefficients higher than 0.5 in absolute value. Competitive aggressiveness and commercial autonomy in website contents and store layout showed moderate relationships.

Next, we analyse the hit rate, i.e. the performance of the classification procedure (Table 5). The percentage of cases correctly classified were 69.9% and 66.8% for the analysis and the validation sample using the leave-one-out technique, respectively, thus evidencing substantive predictive validity. Moreover, regarding the

Table 5 Classification accuracy: percentage of correctly classified cases

% Correctly classified	Overall	Female franchisees	Male franchisees
Analysis sample	158 69.9%	52 57.1%	106 78.5%
Validation sample	151 66.8%	48 52.7%	103 76.3%

classification accuracy rates for male and female franchisees, for both the analysis and validation samples, classification accuracy was higher for male franchisees (78.5% and 76.3%, respectively) as opposed to female franchisees (57.1% and 52.7%, respectively). Therefore, entrepreneurial orientation can be considered an adequate variable to discriminate across gender determined by sex.

Since the group sizes were not equal, we used the proportional chance criterion to assess the chance classification. According to Hair Jr et al. (2010), the classification should be at least 25% greater than chance for the discriminant function to be relevant for interpretation. In our case, the proportional chance criterion was $[(52/226)^2 + (106/226)^2] = 27.19\%$. Moreover, we calculated the maximum chance criterion, that determines if the results exceed the per cent of respondents that would be correctly classified if all observations were assigned to the segment with the greatest probability of occurrence (Noble and Schewe 2003). Since male franchisees occurred 64.16% of the time (145/226), and the classification accuracy of 69.9% is higher than the proportional chance criterion (27.19%) and the maximum chance criterion (64.16%), it may be assumed that the model of the present study is suitable.

Finally, to answer the second research question related to the association between gender determined by sex and entrepreneurial orientation style, and performance, point biserial correlations are calculated (Table 6).

As shown in Table 6, men and respondents in the "masculine group" resulting from the discriminant analysis show significantly higher scores than women and respondents with feminine entrepreneurial orientation style for the perceived assessment of their performance, both compared with the other members in the franchisees' network and with other stores in the same geographical area. This lower subjective perception of the own performance for women and respondents in the feminine group is consistent with the lower levels of self-confidence and self-efficacy of women argued by some researchers (Sherer et al. 1990; Kobeissi 2010).

Women and respondents in the so-called "feminine group" resulting from the discriminant analysis show significantly higher scores than men and respondents in the "masculine group", respectively, for the perceived overall performance of their networks in comparison with competitors' networks. This finding may be aligned with higher scores in collectivism traditionally associated to women (Workman 2001), as well as the evidence reported in the literature supporting the notion that women are more prone to start business ventures that enable collaborative network growth (Bird and Brush 2002; Buttner 2001; Sorenson et al. 2008) and tend to work with more cooperative intent within business relationships in comparison to men (Weaven et al. 2014).

Table 6 Point biserial correlations between franchisee's gender, entrepreneurial orientation style and performance

Performance measure	Gender (0 = female; 1 = male)	Entrepreneurial orientation style (0 = feminine; 1 = masculine)
Individual performance		
Overall, how would you rate your performance compared with		
– The other franchisees in the network?	0.135**	0.121*
– With other stores in the same geographical area?	0.133**	0.185***
Network performance		
Overall, how would you rate the performance of your network compared with competitors' networks?		
Regarding the performance of your network, how important is ...	−0.155**	−0.135**
– Rise in turnover	0.070	0.089
– Rise in number of outlets	0.174***	0.107
– Hiring new franchisees	0.106	0.079
– Renewing contracts	0.051	0.054
– Ability to innovate (investment in R&D, offer renewal...)	−0.31	0.082
– Increasing brand notoriety	−0.087	−0.089

*Statistically significant at $p < 0.1$; **$p < 0.05$; ***$p < 0.01$

When asked about the importance of several performance indicators for their networks, male respondents show significantly higher scores for the importance of rise in the number of outlets, whereas no significant associations are observed in the rest of cases.

Similarly, franchisees are asked to identify the most relevant indicator of the performance of their outlets. To test the existence of an association between the relevant performance indicators and gender (measured as sex as well as entrepreneurial orientation style), contingency tables and values for the Chi-square test are calculated (Table 7).

Given the results depicted in Table 7 we conclude that, in all cases, turnover is the most relevant performance measure for the outlet, followed by customer satisfaction. No significant associations are found for gender or entrepreneurial orientation style. Therefore, we can conclude that the same standards of performance are assumed regardless of gender.

In addition to this, following the liberal feminism theory, we test the existence of differences due to franchisee characteristics, in terms of franchisee business experience and participation networking activities, as well as business size (Table 8).

As a result of these analyses, we find significant differences in participation in committees, being higher for male franchisees and for masculine entrepreneurial orientation style in comparison to female franchisees and respondents with feminine entrepreneurial orientation style, respectively ($p < 0.01$). Business size, in terms of

Table 7 Contingency tables for between franchisee's gender, entrepreneurial orientation style and most relevant performance indicator

Most relevant performance measure	Gender Chi2 = 4.432 ($p = 0.729$)		Entrepreneurial orientation style Chi2 = 6.017 ($p = 0.538$)	
	Female	Male	Feminine	Masculine
Turnover	21	49	33	37
Net profit margin	10	17	12	15
Profitability	13	24	10	27
Royalties	1	1	1	1
Customer satisfaction	21	32	23	30
Number of customers	3	8	4	7
Average spend	1	0	0	1
Service quality	11	14	8	17

Table 8 Point biserial correlations between franchisee's gender, entrepreneurial orientation style and franchisee characteristics

	Gender (0 = female; 1 = male)	Entrepreneurial orientation style (0 = feminine; 1 = masculine)
Franchisee expertise		
Age	0.001	−0.046
Education	−0.060	−0.057
Years after outlet creation	−0.035	−0.113*
Amount of time in the network	−0.028	−0.099
Amount of time in the sector	0.103	0.038
Amount of time in the catchment area	0.049	−0.011
Average number of days spent participating in committees per year	0.264***	0.145**
Average number of days spent participating in associations per year	0.053	0.112*
Number of training days before opening of outlet	0.020	0.065
Number of national conventions (regional or otherwise)	0.028	−0.106
Business size		
Number of outlets owned by the franchisee	0.043	0.071
Number of employees in the outlet (excluding the franchisee)	0.275***	0.086
Average number of employees per outlet (in case of multiple franchises)	0.249***	0.119*

*Statistically significant at $p < 0.1$; **$p < 0.05$; ***$p < 0.01$

Table 9 Contingency tables for between franchisee's gender, entrepreneurial orientation style and type of business

Type of product	Gender Chi2 = 14.702 ($p = 0.000$)		Entrepreneurial orientation style Chi2 = 10.085 ($p = 0.001$)	
	Female	Male	Feminine	Masculine
Goods	69	88	74	83
Services	12	57	17	52

number of employees, is also higher for male-headed franchises in comparison to female-headed outlets ($p < 0.01$), consistently with the liberal feminism theory.

Last, we examine the association between franchisee's gender, entrepreneurial orientation style and type of franchise in terms of tangibility of the product commercialized (that is, goods or services). Results are shown in Table 9.

As shown in Table 9, there are strong associations between type of business (that is, franchise commercializing goods or services), and gender determined by sex, on one hand, and EO style, on the other hand. This finding confirms, first, the preference of women for franchises selling goods and, second, the need to be cautious with conclusions referred to associations between entrepreneurial orientation style, performance and gender, since the fact of commercializing tangible products or services may be also influencing the results obtained.

5 Discussion

From the findings obtained in this research, following the social feminism theory, we obtain support to the notion that sex does not fully correspond to gender, given the complexity of this social construct. Moreover, in line with the liberal feminism theory, studies on gender differences in entrepreneurship should control for the main sources of inequality between male- and female-headed organizations, namely firm size and sector, entrepreneur business experience, working hours and participation in formal and informal business networks.

As far as managerial implications are concerned, given the limitations to franchising growth associated with the difficulties in recruiting adequate franchisees (Frazer et al. 2010) and the findings of previous research suggesting that female franchisees are less prone to get involved in conflicts (Weaven et al. 2014), women may facilitate franchising expansion (Weaven et al. 2014; Thaichon et al. 2018). To increase the comparatively low participation of females as franchisees, franchisors should make a special effort to cope with the lower self-confidence or self-efficacy observed in women and communicate the opportunities that franchising offers franchisees to self-employment, running a successful business formula with a certain degree of autonomy and manage the balance between work and family, in line of Thaichon et al. (2018). Notwithstanding, these conclusions may not be transferable

to other cultural settings, so that further research in the area of international franchising is required.

The present research is not free from limitations. Firstly, a potential limitation of the present research may be the so-called "self-selection effect", that assumes that female entrepreneurs are relatively above the "average" women and men in education and performance, and thus involves that the findings of empirical studies on gender equality could be biased towards women.

Moreover, we identify the need to consider actual performance indicators, in order to analyse how realistic the subjective measure of perceived individual performance of male and female franchisees is. Furthermore, single-item measures have been suggested for several dimensions of EO, such as risk-taking, proactiveness and competitive aggressiveness; in spite of the practical advantages reported for single-item scales (Diamantopoulos et al. 2012), future studies should consider multi-item scales to measure some of these treats in the measurement of EO as a multidimensional construct.

In addition to this, even if we control for business characteristics (that is, franchising), there is a high heterogeneity of businesses in this type of distribution channel and a bigger sample should also control for product/service type and other business attributes, franchisee age, education, work experience, etc. so that a clearer view on gender differences on franchisee EO and performance would be provided. Last, further research should be performed on international franchising to validate these results in other cultural settings.

6 Conclusions

In the current highly competitive business environment, it becomes essential for franchisors to select suitable franchisee candidates, that contribute to the franchise network growth. In reply to the call for further research regarding gender differences in performance, the preceding analyses have allowed us to confirm a high correspondence between gender determined by sex and entrepreneurial orientation. In this way, we obtain partial support to the social feminism theory, since differences in proactiveness, competitive aggressiveness and some types of commercial autonomy allow to differentiate between male and female franchisees, as well as between franchisees showing masculine and feminine entrepreneurial orientation.

Notwithstanding, women show higher preference for franchises selling products in comparison to male franchisees, where franchises delivering services show a relatively higher representation. Moreover, business size, in terms of number of employees, and participation in committees are also higher for male respondents. These inequalities may explain some gender differences in EO and performance, thus obtaining partial support for liberal feminism theory. In this sense, gender differences in perceived individual performance are not fully justified by structural barriers but may be due to psychological differences.

In contrast, there is a consensus between male and female franchisees regarding the most relevant performance indicators for the outlet, that is, turnover and customer satisfaction. Therefore, it may be concluded the tendency of women to underestimate their performance (based on masculine standards) due to inequalities in resources and involvement in networks.

All in all, this study is a first attempt to analyse the relations between entrepreneurial orientation, performance and gender. Further research should be conducted with bigger samples enabling to analyse franchises commercializing goods and services separately, as well as to control for potential biases due to franchisee expertise or access to financing, in reply to calls to further analyse gender issues in franchising (Weaven et al. 2014; Thaichon et al. 2018).

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Is Retailer's Locational Choice in Line with Chain Positioning Strategy?

Abir Toumi and Gérard Cliquet

Abstract This paper seeks to fill a gap in the literature about the links between marketing strategy at the corporate level and store location strategy of individual units. The objective of this research is to better predict site choices according to the chain marketing policy by examining the impact of store chain positioning defined at corporate level on retailers' locational preferences. Adaptive conjoint analysis (ACA) is used to generate the importance values of locational attributes within each price segment for retail network development managers. The empirical analysis stems from a survey among managers in the clothing and accessories retail sector in France which provides a better understanding of locational decisions within this sector on the one hand, and a set of locational attributes that may ensure the coherence of retail marketing mix on the other hand. One of the main results concerns a specific attribute: store size. A complementary discussion with development managers shows that this attribute is so crucial in the clothing and accessories retail sector that no other attribute can compensate for a deficit in store size, which should not be too small or too large. This result makes the choice of conjoint analysis questionable.

1 Introduction

Despite a broader use of sophisticated methods (Reynolds and Wood 2010), retailers seem to face increasing difficulties in choosing good store locations. Even though transactional websites bring great support to retail expansion strategies, locating physical stores is still considered an important challenge for retail and service networks: even pure players decided recently to open or to buy physical chains like Amazon (Turner et al. 2017) which acquired Whole Foods and Alibaba which bought a department store chain (Blomberg 2018). Today the very large retail chain number and the saturation of markets have made these good locations harder to find.

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In contradiction with Cairncross's assertion (1997), distance is not dead and consumers are still willing to walk or drive a certain distance to reach a store.

More careful consideration is needed for location choice not only because it has significant effects on sales volumes, but also because it must be consistent with the other retailing mix elements (Berman and Evans 2017). The difference in the positioning strategy may lead even retail chains selling similar types of merchandise to have different locational requirements (Ghosh 1994). Although researchers recognize that the marketing strategy dictates the location policy, very little is known about how a store chain's positioning influences store location criteria. Admittedly, most of references cited in this paper are dated. However, the subject of locating physical stores seems to have been abandoned by retailing researchers who probably believe that the Internet has solved most location issues which could not be further from the truth!

Most recent store location research work focuses rather on the role of demographics in retail location (González-Benito and González-Benito 2005), on retail chain growth and its consequences on transportation and traffic saturation problems (Karamychev and van Reeven 2009), on specific questions surrounding anchor store location (Eckert et al. 2015), on the decision to locate in proximity to contenders or not (Nilsson and Smirnov 2017), on the effect of multipurpose shopping trips on retail location strategies (Marianov et al. 2018), or on the effect of retail location on environmental issues (Dilek et al. 2018).

To aid retailers in making suitable locational decisions, researchers have proposed a number of site evaluation methods (Applebaum 1966; Lewison and Delozier 1997; Nelson 1958), store location models (Achabal et al. 1982; Converse 1949; Durvasula et al. 1992; Ghosh and Craig 1991; Huff 1964; Reilly 1931), geographic information systems or GIS (Chen 2007; González-Benito 2002; Hernandez 2007) and spatial development strategies (Davidson et al. 1988; Ghosh and McLafferty 1987; Laulajainen 1988; Laulajainen and Gadde 1986).

However, most of these tools focus on explanation and prediction of location choice through attributes describing the store and its surroundings (trade area). Retail location research typically does not investigate the coherence between the store chain marketing strategy at the global level and individual unit locations at the local level. Knee and Walters (1985) introduced the location component into the retail "policy decision tree" and Jones and Simmons (1990) considered locational dimensions regarding the corporate environment.

In a conceptual model, Davies and Clarke (1994) show a link between store positioning and locational characteristics based on a shopping trip classification. This classification is based on two dimensions relating to the destination purpose, which is driven either by convenience or by the need to compare goods, and the bulkiness or portability of purchases. The research works linking the two levels of the locational decision-making process—strategic at the chain level and tactic at the store level—are very limited especially those based on managerial judgments (Laparra 1995). Unlike consumers, retailers may have more knowledge about the different marketing variables influencing the retail performance (Timmermans

1985). Ghosh and Craig et al. (1984) recommend surveying "the current shopping pattern of customers", but with no relationship to the retailer's strategy.

The objective of this research is to better predict site choices according to the chain marketing policy by examining the impact of store chain positioning defined at corporate level on the retailers' locational preferences. This paper aims to examine the link between retailers' positioning strategies (pricing in particular) and the choice of their store locations. More specifically, we account for a more specific retailers' positioning strategy, i.e. pricing as a very important location choice criterion in retail strategy (Levy et al. 2005) and for consumers (Monroe 1971), because this provides information about the quality of the product (Adam 1958) and the social status (Balabanis and Stathopoulou 2021).

This paper strives to link the location strategy to the retailer's strategy within chains in order to select the location corresponding to the type of products sold and the level of price in a specific market. In this case, the retailer's strategy focuses on pricing strategy as price is a very important choice criterion.

To achieve this objective, this paper proposes a method based on adaptive conjoint analysis to aid decision-makers in improving their location choices. This contribution is mainly managerial; however, this research also brings a more conceptual contribution by relating store location characteristics to a positioning strategy.

The paper is organized as follows. We start with a background of retail strategy and retail store location characteristics. Next, we provide a description of the method for preference structure measurement (ACA: adaptive conjoint analysis) that guides our empirical analysis. Then we discuss results and show the advantages of the proposed method before concluding with managerial implications and recommendations.

2 Retail Strategy and Chain Positioning

Defining a marketing strategy is a very difficult question. Generally, the aim consists in differentiating products sold by the company and establishing differentiation criteria. These criteria are: important in terms of market size, distinctive and superior with respect to competitors, communicable but also pre-emptive to avoid imitation from competitors, affordable for buyers and profitable for the company (Kotler et al. 2021). These authors recommend this thought process in order to develop a positioning strategy defined as "the act of designing the company's offer so that it occupies a distinct and valued place in the target customers' minds". This offer is generally composed of the famous four Ps (4 Ps): product, price, place and promotion (McCarthy 1960).

As we shift to a retail market, the problem becomes increasingly complex. The products of a retail chain are its stores (Cliquet 1992; Dicke 1992) as retailers strive to offer the most convenient product regardless of its support: a store or a website (Rittinger and Zentes 2012). This product is continuously evolving as dictated by the

wheel of retailing (McNair 1958) with some critics (Hollander 1960), the notion of retail accordion (Hollander 1966) and the concept of "big middle" (Levy et al. 2005) show this. There are many attempts to transfer the 4 Ps to retailing in the literature in order to define a specific retailing mix. Levy et al. (2013: 21) have proposed up to six elements instead of four: store display and design, merchandise assortment, customer service, pricing, location and communication mix. As the first three elements define the store, we can simplify the retailing mix by defining four elements concerning: store, price, place and promotion.

Every element can be theoretically defined at the chain level except the place which deals with store location among other things. And the situation becomes increasingly complex when we shift from the case of a wholly owned chain to a franchised network as franchisees are independent retailers and can define their own policy to a certain extent.

Here we take into account store location strategy and we seek to determine whether the strategy is in line with the global positioning strategy of the chain. The difficulty in defining the appropriate strategy for all stores in the chain lies in the varying environments from one location to another. Environment can refer to either the economic situation or the social values and lifestyles of the place (Mason et al. 1993). Chain managers can define a global strategy; however, is it relevant for all store locations? Moreover is these locations in line with the global positioning strategy? In other words, do the location characteristics satisfy this strategy?

3 Retail Store Location Characteristics

Although there are no standard criteria to assess alternative locations, eight broad categories of factors have been frequently considered in the selection of market area and retail site (Ghosh 1994; Lewison and Delozier 1997; Mahajan et al. 1985; Mazze 1972; Rudd Jr et al. 1983; Simkin et al. 1985). These include: demographic and socioeconomic characteristics of market area, type of location, interception, cumulative attraction, compatibility, accessibility, cost of occupancy and physical site characteristics. Accordingly, a number of salient attributes were identified. In order to better understand the conceptual framework from which the location attributes have been identified, below we will discuss the eight factor categories that evaluate trade area attractiveness and site desirability.

3.1 Market Area Characteristics

The thorough analysis of market area characteristics is essential in any location selection process (Craig et al. 1984). Several researchers (Bell and Lattin 1998; Boatwright et al. 2004; Ingene and Brown 1987; Johnson 1997; Zeithaml 1985) have shown the impact of trading area specifications on retail store performance. The

attractiveness of trading areas widely depends on the demographic and socioeconomic profile of geographic areas (González-Benito and González-Benito 2005; Ingene 1984; Mahajan et al. 1985). According to the retail sector, several factors can be combined to estimate the retail potential in the area: population size, average household income, age profiles, sex, household composition, percentage of homeowners versus renters, unemployment levels. . .

3.2 Type of Location

The retail landscape can be split in five main types of sites: downtown districts, shopping centres in downtown business districts or in suburban areas, retail parks, commercial activity areas and transportation hubs (airports, train stations and subways, etc.) (for more details, see Levy et al. 2013). According to the advantages and drawbacks of each site type, retailers must screen locations in terms of their suitability for selected retail operations.

3.3 Interception

The principle of interception defines the site capability to "catch" consumers during their travel from one place to another (Lewison and Delozier 1997). Any point along a line of movement between a point of departure and a destination (e.g. residential areas, office complexes, business districts and shopping centres) can constitute a point of interception. Newsstands in train station, motorway service area, apparel shop in airport and many other outlets located in the cities and suburbs survive by intercepting passengers' flows. In addition to vehicular and pedestrian traffic volumes, assessing a site's interceptor requires a qualitative analysis of traffic around the site (Lewison and Delozier 1997). The quality—or more specially—the composition of pedestrian traffic (for example, children, teenagers and adults) can determine whether the site in question aligns with the store's target market. Regarding the quality of vehicular traffic, this refers to the traffic fluidity surrounding the site. Traffic signals, speed limitations, difficulties in manoeuvring and turning restrictions can increase the driving time distance, and hence discouraging shoppers from patronizing the site. Stores can thus lose a percentage of their existing customer traffic due to congestion or overall lack of traffic fluidity (Brunner and Mason 1968).

3.4 Cumulative Attraction

The concept of cumulative attraction was first developed by Hotelling (1929) who explains that in a duopoly, the total sales of uniform facilities are related to their

location choice. In fact, the clustered location of two similar salesmen (e.g. ice cream vendors along a beach strip) at the centre of a linear market guarantees one-half of market share and assured equilibrium in price to everyone. Thus, the retailer has a strong incentive to locate his outlet close to his competitor's outlets in an attempt to capture more consumers and maximize profits. This principle of minimum differentiation that supports the agglomeration of retailers selling similar merchandise has been widely discussed and developed (Anderson and Neven 1990; D'Aspremont et al. 1979; De Palma et al. 1985; Friedman and Thisse 1993; Jehiel 1992; Liang and Mai 2006; Mai and Peng 1999; Zhang 1995). It is widely accepted that the clustering of competing and complementary retail stores generally has greater drawing power than dispersed and isolated stores engaging in the same retailing activities, as is the case in the retail furniture market (Cliquet 1995). The agglomeration of retail stores that sell complementary merchandise enables consumers to engage in multipurpose shopping on a single trip (Cohen and Lewis 1967; Parr and Denike 1970; Popkowski Leszczyc et al. 2004). Retail clustering effectively reduces the overall travel time and shopping cost associated with acquiring a set of goods or services and comparing stores before making a purchase (Ghosh 1986).

3.5 Compatibility

Most locations are part of shopping clusters. Regardless of potential site types (shopping centres, retail parks, commercial areas or transportation hubs), the retailer must study the compatibility of the potential site with businesses located in the immediate vicinity. The retail compatibility refers to the degree of interchanged customers between two or more adjacent stores (Lewison and Delozier 1997; Nelson 1958). For example, specialty apparel stores have a strong affinity with department stores (Levy et al. 2013). Small apparel stores benefit from the superior drawing power of department stores when they are located in close proximity to the latter. Reduced advertising costs effectively counterbalance higher rents. On the other hand, the compatibility benefits all stores located in the same cluster because it creates synergy and increases traffic in the area, and hence stores sales volume (Nelson 1958). Before purchasing some types of goods, consumers need to visit various stores: high compatibility is more likely to occur when retailers' offers are complementary in terms of goods, price or services (Arentze et al. 2005).

3.6 Accessibility

Accessibility defines consumers' ease in approaching, entering and exiting a site (Nelson 1958). There are a great number of accessibility dimensions which often vary according to location types and retail activities. Mason et al. (1993) underscore site entering and exiting quality, traffic volumes and flows and public transport

availability. According to Levy et al. (2013), the accessibility assessment should combine macro and micro site analysis. At the macro level, when concentrating on market areas, the retailer examines road patterns, road conditions and natural (rivers or mountains) and artificial (railroad tracks, major highways) barriers. The micro analysis addresses accessibility in the immediate vicinity of the site, such as the store's visibility, traffic flows, amount and quality of parking facilities, congestion and ease of site parking entering and exiting. To assess site accessibility, Goworek and McGoldrick (2002) suggests the following factors: pedestrian flows, public transport (types, cost and ease of use), road networks (driving speeds, congestion, restrictions and plans), parking (capacity, convenience and cost), visibility of store, and quality of access for personnel, transport and deliveries. In this research, we use the distance of store to public transport, parking size and visibility of the potential store as salient criteria for evaluating site accessibility according to what retailers working in clothing and accessories retail chains consider the most influential. Transport flows have not been retained here because they have been examined in the interception factor.

3.7 Cost of Occupancy

The cost of occupancy must be compared to the factors discussed previously in order to determine where to locate. Indeed, the combined assessment of market area characteristics, type of location, interception, cumulative attraction, compatibility and accessibility produces a forecast of turnover that could be derived from a site, but it cannot provide information about the financial viability of the site. Furthermore, the estimation of potential profit requires a detailed study of all location costs likely to occur (Goworek and McGoldrick 2002). These include lease payment and rental charges, among others.

3.8 Physical Site Characteristics

Physical site characteristics refer to the store size and frontage. Despite the presence of factors which have a positive effect on the profitability of the proposed store, the location decision may be compromised by insufficient square-metres required for the implementation of the store concept. That is why we have chosen to consider store size in a thorough site analysis to determine the feasibility of a new location. Store size was widely cited in semi-structured interviews carried out with managers despite its absence from the literature as a criterion of site assessment. The frontage configuration (straight or corner), number, size and depth of window displays can play critical roles in the location decision-making process. These elements, and more specifically window displays, have the ability to capture passengers' attention and arouse their curiosity enough to enter the store. Considered as a communication

component in the retailing mix (Lazer and Kelley 1961), window displays can provide information about the store and its goods sold and creates a relationship between the storefront (passengers) and the interior (retailer).

4 Methodology: An ACA (Adaptive Conjoint Analysis) Approach

We will first examine conjoint analysis before developing the ACA methodology.

4.1 Conjoint Analysis

To our knowledge no research has examined the relationship between locational choice and retail chain positioning strategy thus far. The research question can be defined as the following assumption: do store locational characteristics within a chain respect the global positioning strategy of the chain? To do this, we have chosen to interview chain managers. The true difficulty of this kind of work lies in finding a way to put these same managers in a decision-making situation? A direct interview may lead to very complicated questions that the interviewees may have trouble answering. We selected a conjoint analysis methodology which enables interviewees to make their decisions based on location attributes and with respect to their positioning strategy. To simplify this last strategy, we have focused on pricing strategy, which is very important in positioning a product regardless of its definition (merchandise, store, service, etc.).

Conjoint analysis has experienced considerable success in marketing research and subsequently in marketing practice since its early development from its theoretical definition (Kruskal 1965) and its implementation in marketing (Green and Rao 1971). This methodology is still used in many research fields and it has also been used for making sustainable decisions regarding shopping behaviour (Stöckigt et al. 2018), entrepreneurship (Warnick et al. 2018) and tourism (Yang et al. 2017), among others.

This methodology involves describing the product through its attributes (quality, price, location, etc.) and includes some levels (high quality, low quality; high price, medium price, low price; downtown location, suburban location, etc.). These levels are then combined to form as many concepts as possible: if we have three attributes with two levels for the first attribute, three for the second and two for the third, we can obtain up to twelve combinations ($2 \times 3 \times 2 = 12$). Moreover, it becomes immediately apparent that when the numbers of attributes and levels become too high. The number of combinations explodes and this represents one of the strongest arguments against conjoint analysis. Many researchers have proposed solutions to expand the number of possible combinations between attribute levels. These include

factorial designs (Green 1984) and hierarchical Bayes conjoint analysis (Lenk et al. 1996) among others. Another criticism concerns the possibility of measuring the explanation level of the model (Fenwick 1978) because there is no way to be sure that every variable involved in the studied phenomenon is present. As a result, it is necessary to explore this phenomenon in depth, in this case: a location decision.

Three models can be considered alternative methods to measure preference structure (Green and Srinivasan 1990): composition and decomposition models and hybrid methods. In the compositional approach, the overall preference for a given product or situation (attribute bundles) is obtained from the sum of preference judgments for the attributes and their levels (Green and Srinivasan 1978). The most widely used compositional approach is the self-explicated approach (Green and Srinivasan 1990; Leigh et al. 1984; Srinivasan 1988; Srinivasan and Wyner 1989). This approach, such as the CASEMAP (Srinivasan and Wyner 1989) procedure, initially asks respondents to state their desire for each level of a given attribute on a 10-point scale (1 = "the least desirable" and 10 = "the most desirable"). Then each respondent is asked to rate attributes on an importance scale from 1 to 100 or to allocate a constant sum across all attributes. If the self-explicated approach is easy to implement and imposes less cognitive strain on respondents even when the number of attributes is large (Srinivasan and Park 1997), it is also often criticized. Indeed, the assumption that the most important attributes compensate for less important attributes decreases the chances of yielding results similar to a real situation and consequently leads to biased results (Green and Srinivasan 1990). However, some researchers suggest that the self-explicated approach is the best to understand consumer preferences for a particular offering (complex products) or in specific contexts (absence of explicit competitive offers) (Huber 1997).

The decompositional approach, commonly known as conjoint analysis (Green et al. 1976; Green and Rao 1971; Green and Srinivasan 1978; Green and Wind 1975), unlike the self-explicated approach, starts with respondents' overall evaluations of hypothetical choice alternatives which are then used to explain the values attached to the attributes and their levels (Akaah and Korgaonkar 1983). In other words, the researcher tries to infer the partworth for each attribute on the basis of consumers' overall responses to the global description of hypothetical products or situations. Traditional conjoint analysis like the full-profile method remains the most frequently used presentation of attributes (Hair et al. 2018). It has the advantage of allowing for a high degree of realism. In fact, individuals in the marketplace are more likely to make comparisons between objects based on multiple attributes rather than to evaluate each attribute separately. However, the usefulness of full-profile conjoint analysis is limited to situations where preference structure modelling involves a small number of attributes (six or fewer) (Green and Srinivasan 1990). Using larger number of attributes makes the tasks more complicated and creates a risk of confusion, which in turn may lead to false preference structures and managerial insights (Hauser and Rao 2004).

4.2 Hybrid Models and ACA

In order to combine the simplicity of the self-explicated approach with the realism of traditional conjoint analysis, hybrid conjoint models have been developed (Green 1984; Green et al. 1981; Green and Krieger 1996; Hoepfl and Huber 1970; Huber et al. 1971; Johnson 1987). The hybrid conjoint modelling process uses data obtained from self-explicated tasks, to derive a preliminary set of individualized partworths for each respondent. Then, in the full-profile approach, each respondent evaluates a subset of stimulus profiles (usually three to nine) (Green 1984). Thus, the resulting utility function leads to a combination of a compositional and decompositional data. Among various hybrid techniques, the Adaptive Conjoint Analysis (ACA) has become a highly used method of preference measurement (Green et al. 2001). Developed by Sawtooth Software (Johnson 1987), the ACA is able to handle conjoint studies with up to 30 attributes, each at up to 15 levels, and to reduce cognitive burden for participants. The computer administrated interviews reduce the complexity of the tasks and permit much faster data analysis (Johnson 1987). This computer interactive method is based on the respondent's previous answers to decide which question to ask next. Sawtooth Software has developed another software called Choice-Based Conjoint (CBC) to solve difficulties related to the use of price as an attribute: a specific questionnaire should be used (Orme 2013). We have chosen to use ACA, as we do not use price as an attribute.

Empirical studies comparing those three modelling approaches in terms of predictive validity (Akaah and Korgaonkar 1983; Cattin et al. 1982; Green et al. 1981; Green et al. 1982; Hofstede et al. 2002; Huber et al. 1993; Moore and Semenik 1988) converge to assert that traditional conjoint models predict at least as well as and sometimes even better self-explicated models, and hybrid models predict better than self-explicated approach and at least as well as even better traditional conjoint models.

The main point to emphasize is that the larger the number of attributes submitted to respondents' judgments (over six), the better the results of hybrid models and ACA compared to traditional conjoint analyses, as has been shown after lengthy debates (Green et al. 1991; Johnson 1991). In contrast, if the number of attributes is approximately six or fewer, the full-profile method does a better job than the other conjoint techniques. Given to the 19 attributes and their 66 levels considered in this study, ACA appears to be the most appropriate method to estimate retailers' location preferences.

Two estimation methods can be used in the Sawtooth's ACA: ordinary least squares (OLS) regression and Hierarchical Bayes (HB). Several authors (Allenby et al. 1995; Lenk et al. 1996; Orme 2000) show that an HB provides a more precise estimation of individuals' parameters (betas or partworths) than traditional regression when the number of levels within the attributes is faintly homogeneous and the number of parameters estimated is larger than the number of observations. This is why we compute the partworths using the HB estimation process. Formally, the

parameters estimation procedure with ACA/HB can be characterized by the following regression equations (Sawtooth Software Inc; 2006):

$$\mathrm{I}\,\beta - \mathrm{p} = e1 \tag{1}$$

$$\mathrm{X}\,\beta - \mathrm{y} = e2 \tag{2}$$

where:

I is the identity matrix.

X is a design matrix, indicating the dummy variable composition of each paired-comparison question. The entries of this matrix are 1, −1 and zero. Entry 1 (or −1) denotes the attribute level appearing in the partial profile on the right (or left) side of the screen and 0 the total absence of the level on the screen.

p is a vector of priors representing the self-explicated utilities.

y is a vector of answers to the paired-comparison questions, after converting the data into standard normal distribution.

β is the updated estimate of individual partworth utilities.

e1 and *e2* are vectors of residuals.

ACA/HB (version 3.0) offers four possible estimation models, taking into account two options: one indicates whether the partworth estimation is obtained by minimizing the sum of the squares of both *e1* and *e2*, or only *e2*. The second option indicates whether the partworth estimation employs constraints. The self-explicated information from the first part of the ACA survey (within-attribute rating data and between-attribute importance) is used as constraints. In the present study, we chose "pairs and priors with constraints" estimation model that fits both paired-comparison and the self-explicated information, minimizing the sum of squares of *e1* and *e2*. This model, as a "pairs only with constraints" model (fits only paired-comparison data), produces better partworths than the estimation models without constraints ("pairs only without constraints" and "pairs and priors without constraints") (Allenby et al. 1995; Srinivasan et al. 1983; Van der Lans et al. 1992).

4.3 Study Sample

A database of retail chains from the clothing and accessories sector in France was built through a multi-angulation of various sources: retail chain directories and websites, franchise directories, company profiles, membership in Procos (the Federation for urban planning and the development of specialized trade) and subscription to professional magazines[1] in the retail industry dedicated to clothing, shoes and accessories. A total of 462 store networks in France and having at least two stores

[1] www.journaldutextile.com, www.fashionmag.fr, www.pretaporter.com, www.trouvermafranchise.com, www.franchise-net.com

(corners in department stores not included) were contacted to fill out a questionnaire. The online conjoint survey emerges as the most appropriate mode of questionnaire administration given the difficulty in making appointments with retail network development managers, who are often out of office since they spend most of their time visiting stores in the network.

4.4 Conjoint Instrument Design

The conjoint analysis carried out in this study (ACA using hierarchical Bayes estimation) requires a data collection in four stages. In the first stage, each respondent is asked to rate each level for each attribute based on his/her preference. A 7-point scale was chosen in order to include the number of levels in any attribute. This phase enables the respondent to assign the best and worst levels of each attribute. In the second stage, the respondent indicates how important it is for him/her to choose the best level instead of the worst level. The respondent had to assess the importance of the attribute on a 7-point scale. Up to this point in the interview, we collected self-explicated data as "prior" information. In the third stage (the pairs section), each respondent receives a series of paired partial profiles chosen by the computer, taking into account the respondent's previous answers. In each paired-comparison, the respondent indicates, on a 9-point Likert scale (1 = "strongly disagree", 5 = "Indifferent" and 9 = "strongly prefer"), which of the two profiles is preferred. We used a 9-point Likert scale because the interviewees were accustomed to answering such questionnaires unlike consumers. Thirty paired partial profiles per respondent have been handled in this study. The number of attributes appearing in each partial profile does not exceed three. According to Huber and Hansen (1986), simple profiles reduce the evaluation task difficulty and could lead to higher predictive accuracy. Finally, the respondent rates his/her likelihood of choosing a small number (from two to nine) of full-profile descriptions on a scale from 0 to 100 points. Based on the paired-comparison responses, the computer composes five full profiles that are each composed of six attributes. These profiles are then presented by progressing from highly undesirable to highly desirable. The remainder of the questionnaire included information describing the retail chains from the clothing and accessories sector such as price range, age, main activity, and number of employees. The online questionnaire, which took approximately 30 minutes to complete, was administered using Sawtooth Software's SSI Web program.

To avoid attribute omissions and levels that may yield spurious results on locational preferences, and because location criteria can vary according to retail sectors we chose one sector and conducted five preliminary in-depth interviews with managers of clothing and accessories retail chains. The attributes and levels used in the adaptive conjoint analysis (ACA) are shown in Table 1. This table summarizes the set of attributes and their levels identified on the basis of findings from the literature and interviews with managers.

Table 1 Location attributes and levels considered in the experiment study

	Attributes	Levels	
Market area characteristics	Population size	> 200; [150, 200]; [100, 150]; [50, 100]; [30, 50]; 30 <	
	Customer income	High; average; low	
	Percentage of target population living within the trading area	High; average; low	
Type of location	Type of location	Downtown districts (DD)	
		Shopping Centre in DD	
		Suburban shopping Centre	
		Retail parks	
		Transportation connection points	
		Commercial activities area	
Interception	Volume of pedestrian traffic	High; average; low	
	Types of pedestrians	More adult pedestrians	
		More young pedestrians	
	Volume of vehicular traffic	High; average; low	
	Quality of automotive traffic	Flowing	Congested
Cumulative attraction	Competing stores	High; average; low; absence	
	Complementary stores	Present	Absent
	Anchor store(s)	Present	Absent
Compatibility or affinity	Affinity	High; average; low	
Accessibility	Distance of store to public transport	Small	Large
	Parking size	High; average; low	
	Store visibility	Good; average; bad	
Cost of occupancy	Lease payment	< market average	
		= market average	
		> market average	
	Rental charges	High; average; low	
Physical site characteristics	Desired store size	> 800m^2; 400 to 799 m^2; 2000 to 399m^2; 100 to 199m^2; 70m^2 to 99m^2; 50m^2 to 69m^2; < 50m^2	
	Size of store display window	> 12 m; 9 to 12 m; 6 to 9 m; 3 to 6 m; < 3 m; absence of display window	

5 Results and Discussion

5.1 Descriptive Data

We made appointments with managers and showed them the ACA software. They agreed to fill in the conjoint questionnaire on behalf of the chain. In total, 82 complete questionnaires were collected from respondents who were personally involved in the store's locational choice. Characteristics of the sample related to age of retail chains, main activity, number of employees and price levels are summarized in Table 2. In accordance with the nature of the clothing and accessories sector in France, the sample featured more established networks than new arrivals on the market. Six price levels as representing the retail positioning and ten activities were represented in our sample.

Table 2 Retail chains' characteristics

Number of employees	Frequency	Percentage
< 10 employees	2	0,02
10–49	18	0,22
50–249	29	0,35
250–500	13	0,16
> 500 employees	20	0,24
Age	**Frequency**	**Percentage**
Less than 5 years	8	0,10
5–10	10	0,12
11–15	17	0,21
More than 15 years	47	0,57
Main activity	**Frequency**	**Percentage**
Men's wear	11	0,13
Women's wear	21	0,26
Children's wear	12	0,15
Family wear	13	0,16
Sportswear	2	0,02
Underwear	3	0,04
Shoes	10	0,12
Accessories	3	0,04
Leather shop	3	0,04
Others	4	0,05
Price levels	**Frequency**	**Percentage**
Discount price	5	0,06
Low/average price	10	0,12
Average price	19	0,23
Average/high price	32	0,39
High price	13	0,16
Luxury price	3	0,04

5.2 Validations

Before analysing utilities and the importance of location attribute weights within the price levels of the retail chains, internal validity of the measurement model at both individual and aggregate levels was checked through: R^2 and RMSE (Root Mean Square Error). R^2, measure of goodness of fit, is used to assess the consistency degree in the responses of each individual. The values of the R^2 (at individual level) vary between 0.322 and 0.789. Owing to a small number of observations, we decided to exclude from the analysis nine respondents with R^2 below 0.75 (Auty 1995). RMSE "is the root mean square error when using the current betas to estimate respondents' answers to the paired-comparison questions" (Andrews et al. 2002). This measure is an indicator of goodness of fit at the aggregate level. According to the estimation model chosen for this study ("pairs and priors with constraints"), the RMSE refers to the values of RMS error for self-explicated answers (Pairs RMS) and RMS error for paired-comparison answers (Prior RMS). The average values of Pairs RMS and Prior RMS (lower is better) were respectively 0.959 and 1.640, which suggest good results considering the high number of estimated parameters per respondent (47 parameters).

5.3 Interpretation of Attribute Importance Values

Tables 3, 4 and Table 5 report respectively the results of the partworth utilities and the relative importance of each location attribute by price level of the retail chains. Firstly we use ACA/HB to generate the partworth utilities. Then we move the obtained data into the SMRT (Sawtooth Software Market Research Tools) module and we create a segmentation variable based on the price levels as we have selected price as the main attribute of a retail positioning strategy (Levy et al. 2005). Table 3 shows the existence of large differences in importance weights associated with the attributes between the six retailer clusters (A, B, C, D, E and F).

The volume of vehicular traffic (7.64%) and the presence of anchor store (7.62%) are among the most important attributes in the location decision of discount stores. Often located in suburban area, these types of retailers want to benefit from the demonstrated ability of the anchor stores to generate high traffic flows and attract consumers from long distances. Discount stores also strive to facilitate multipurpose trips through the proximity to anchor stores which may have compatibility (importance 5.47%) with them. Unlike isolated locations, the presence of discount store chain close of anchor stores reduces business costs through the sharing of parking facilities, services, etc. (Goworek and McGoldrick 2002). Regarding the weight of the presence of anchor stores in the other five retailers groups (A, B, C, D and E), it appears that this attribute is weakly considered in the location choice process of high-price stores, more precisely groups A (3.63%), B and C. By and large, high volumes of automotive traffic increase the sales potential of discount store chains by

Table 3 Attribute importance values over varying price levels

Attributes	Cluster A (n=3) Luxury-price retail chains	Cluster B (n=13) High-price retail chains	Cluster C (n=32) Average/high-price retail chains	Cluster D (n=19) avrerage-price retail chains	Cluster E (n=10) Low/average-price retail chains	Cluster F (n=5) Discount retail chains
Size of store display window	7.99	8.01	7.93	8.34	8.29	3.05
Desired store size	9.21	7.78	8.12	8.08	8.39	9.22
Rental charges	3.46	3.92	4.87	4.96	4.42	6.61
Lease payment	3.80	4.10	4.90	5.02	5.26	5.66
Store visibility	6.28	7.06	6.79	7.26	7.56	6.86
Parking size	3.22	3.03	4.01	4.01	3.87	6.32
Distance of store to public transport stop	3.76	2.75	3.56	3.60	3.83	1.53
Affinity	3.51	4.52	5.02	4.08	4.48	5.47
Anchor store(s)	3.63	4.41	4.60	5.50	5.36	7.62
Complementary stores	5.84	3.83	4.77	4.91	5.06	3.14
Similar stores competing stores	6.51	5.77	4.68	4.81	4.44	2.68
Quality of automotive traffic	2.05	1.89	2.26	1.87	1.41	3.73
Volume of vehicular traffic	2.40	2.09	3.12	3.53	3.28	7.64
Types of pedestrians	3.54	5.29	3.90	3.50	3.97	2.26
Volume of pedestrian traffic	6.00	5.17	4.99	6.65	5.74	3.67
Type of location	8.37	8.80	7.43	6.08	6.39	10.29
% of target population living within the market area	6.11	6.01	5.86	5.95	6.16	3.53
Customer income	6.00	7.54	6.14	4.82	4.51	3.92
Size of market area	8.34	8.05	7.04	7.03	7.61	6.82

Table 4 Estimated partworth utilities for each attribute level

	Attributes	Levels	Cluster A	Cluster B	Cluster C	Cluster D	Cluster E	Cluster F
Market area characteristics	Population size	> 200	72.22	61.61	46.61	42.50	42.64	6.46
		[150; 200]	42.97	54.18	36.34	44.92	42.29	−13.83
		[100; 150]	29.04	23.77	23.37	24.80	28.71	3.26
		[50; 100]	1.16	−15.35	6.24	5.51	13.96	−7.80
		[30; 50]	−71.33	−49.30	−37.94	−39.41	−36.18	25.25
		30 <	−74.07	−74.91	−74.63	−78.32	−91.42	−13.33
	Customer income	High	65.68	67.80	52.77	32.62	31.47	−31.36
		Average	−22.95	7.27	8.62	16.91	12.24	2.92
		Low	−42.73	−75.07	−61.39	−49.54	−43.71	28.44
	% of target population living within the trading area	High	57.17	57.84	54.25	50.33	56.03	30.28
		Average	1.81	−1.66	1.09	11.32	4.94	−8.77
		Low	−58.98	−56.18	−55.34	−61.65	−60.97	−21.51
Type of location	Type of location	Downtown districts (DD)	96.53	94.89	51.55	36.30	36.13	−55.82
		Shopping Centre in DD	29.28	30.78	17.82	10.34	18.15	−85.09
		Suburban shopping Centre	−47.58	−37.12	4.29	15.72	21.81	18.95
		Retail parks	−42.36	−52.87	−7.72	−5.58	−7.71	48.18
		Transportation connection points	26.65	8.54	−38.42	−38.32	−42.38	−29.28
		Commercial activities area	−62.51	−44.21	−27.52	−18.47	−26.00	103.06
Interception	Volume of pedestrian traffic	High	56.21	48.81	44.64	63.43	53.74	25.77
		Average	1.53	−0.06	1.84	−0.83	−2.84	13.21
		Low	−57.74	−48.75	−46.48	−62.59	−50.90	−38.98
	Types of pedestrians	More adult pedestrians	33.63	50.29	31.83	9.63	25.46	14.52

(continued)

Table 4 (continued)

	Attributes	Levels	Cluster A	Cluster B	Cluster C	Cluster D	Cluster E	Cluster F
		More young pedestrians	−33.63	−50.29	−31.83	−9.63	−25.46	−14.52
	Volume of vehicular traffic	High	−13.28	6.34	12.42	21.29	26.72	78.99
		Average	12.20	6.86	2.68	3.92	1.68	−15.42
		Low	1.07	−13.19	−15.10	−25.22	−28.40	−63.56
	Quality of automotive traffic	Flowing	19.46	3.71	18.07	14.57	6.71	23.24
		Congested	−19.46	−3.71	−18.07	−14.57	−6.71	−23.24
Cumulative attraction	Competing stores	High	22.30	24.24	19.16	3.79	−13.23	−15.72
		Average	56.85	26.31	14.58	15.39	10.67	−16.59
		Low	−41.17	−3.43	−6.42	0.08	10.70	27.03
		Absence	−37.98	−47.12	−27.31	−19.26	−8.13	5.28
	Complementary stores	Present	55.51	36.41	44.27	45.79	48.05	24.28
		Absent	−55.51	−36.41	−44.27	−45.79	−48.05	−24.28
	Anchor store(s)	Present	34.45	41.89	43.74	52.21	50.92	72.36
		Absent	−34.45	−41.89	−43.74	−52.21	−50.92	−72.36

Table 5 Estimated partworth utilities for each attribute level

	Attributes	Levels	Cluster A	Cluster B	Cluster C	Cluster D	Cluster E	Cluster F
Compatibility	Affinity	High	29.66	45.67	46.94	32.37	39.22	54.25
		Average	4.04	−9.49	−1.54	1.94	5.07	−9.44
Accessibility	Distance of store to public transport	Small	35.69	26.14	33.18	34.24	36.34	6.26
		Large	−35.69	−26.14	−33.18	−34.24	−36.34	−6.26
	Parking size	High	22.84	16.26	34.59	35.88	31.20	54.91
		Average	−3.80	−1.29	2.58	3.54	7.84	10.20
		Low	−19.05	−14.98	−37.18	−39.42	−39.04	−65.11
	Store visibility	Good	67.54	64.06	64.95	70.83	70.97	69.08
		Average	−30.59	6.04	−1.65	−3.80	1.74	−7.89
		Bad	−36.95	−70.10	−63.30	−67.02	−72.71	−61.19
Cost of occupancy	Lease payment	< market average	10.39	25.63	34.99	40.69	45.46	43.14
		= market average	24.35	13.95	15.38	10.86	8.96	21.32
		> market average	−34.74	−39.59	−50.37	−51.54	−54.43	−64.46
	Rental charges	Low	−5.88	16.38	35.64	37.73	35.04	67.24
		Average	26.89	15.55	9.93	13.82	8.99	−8.86
		High	−21.01	−31.92	−45.58	−51.55	−44.03	−58.38
Physical site characteristics	Desired store size	> 800m^2	−45.03	−40.07	−30.51	−25.85	−34.43	91.61
		400–799 m^2	−50.15	−51.01	−33.76	−11.11	−7.11	36.51
		2000–399 m^2	−42.98	−34.84	−9.63	11.30	3.69	3.08
		100–199 m^2	52.48	32.41	25.15	58.45	28.37	−17.40
		70m^2– 99m^2	87.55	51.55	41.04	13.28	12.38	1.36
		50m^2–69m^2	42.55	38.69	20.46	−5.61	5.83	−62.51

(continued)

Table 5 (continued)

	Attributes	Levels	Cluster A	Cluster B	Cluster C	Cluster D	Cluster E	Cluster F
		$< 50m^2$	−44.40	3.27	−12.75	−40.46	−8.73	−52.66
	Size of store display window	> 12 m	34.64	9.14	22.63	29.91	21.26	13.00
		9–12 m	38.30	35.69	42.60	52.88	41.22	5.63
		6–9 m	44.86	43.86	38.42	45.73	45.34	−9.49
		3–6 m	12.60	42.39	15.62	9.18	33.19	−9.50
		< 3 m	−47.93	−49.84	−45.94	−61.69	−58.49	−4.38
		Absence	−82.47	−81.23	−73.33	−76.00	−82.53	4.74

intercepting consumers during their travel from one place to another (Craig et al. 1984). If the volumes of vehicular traffic are far less significant in the location decision of the other five retail groups, pedestrian traffic flows hold considerable weight in their decision-making nevertheless.

The presence of similar stores in the trading area emerges as a very influential factor in the location decision of luxury (6.51%) and high-priced (5.77%) store chains. These retailers emphasize the clustering of similar retailing activities because of their limited ability to maintain sufficient customer flows to and within the site when acting alone. This form of agglomeration may also be analysed as an extensive choice of products at the disposal of potential customers. Moreover, shoppers frequently wish to visit several stores to compare goods, especially for high-priced clothing purchase (Brown 1987). The low- and average-priced retail chains (groups C, D, E and F) do not agree with clustering similar stores in the location decision. The increase in direct competition within the area may make these retailers lose their strong marketing advantage based on low prices, and consequently a part of their sales volume.

The size of store display window is ranked among the most important attributes influencing retail store location preferences with the exception of discount stores. In exposing some of their items in display windows, retailers groups A, B, C, D and E strive to intercept people passing by the store and engage them in impulsive or complementary purchases. Discount stores in the clothing and accessories sector are destination stores in which price acts as a magnet for customers (Levy et al. 2013). Hence, it is not so critical for these chains to evaluate locational preferences according to the display windows size (importance 3.05%).

Close relationships have been found between customer income within the trade area and locational preferences of some store chains. Luxury-, high- and average/high-priced retail chains pay more attention to population income levels than low priced retail groups (D, E and F). As an indicator of buying power (Ingene 1984), income affects consumers' shopping behaviour and store selection (Hoch et al. 1995; Gauri et al. 2008). As a result, discount stores want to establish themselves in lower income areas (28.44% of low income; 2.92% of average income; −31.36% of high income). As discount stores seek low prices and low costs, these retailers target lower income areas where consumers look for low prices and where location costs are generally lower. But this does not mean that consumers with higher incomes never patronize discount stores and that some discount stores never open (flagship) stores in higher income areas. The remainder of retail chains considered in the study prefers to locate their stores in areas with high incomes.

The results provided in Table 3 indicate that luxury- and high-priced retail groups pay less attention to lease payment in their location decision-making process (3.80% and 4.10%, respectively). The increasing scarcity of good sites and the importance of occupying a location consistent with a high-quality image and price assortment lead these retail groups—more than others (C, D, E and F)—to pay a high lease. However, some clothing chains which offer an assortment at an economically friendly price are able to outbid for the most attractive sites. Their higher volumes of sales per square metre allows them to spend more on the lease payment. Table 3

also reveals the existence of substantial differences in importance weight for the "parking size". Apparently, only discount stores chains think that the size of parking facilities may have a significant influence on their accessibility (6.32%).

Although desirable location attributes vary from one type of retail group to another, we find a similarity in the importance weights associated with the four attributes: trading area size, visibility, type of location and size of store. Indeed, as presented in Table 3, all retailers emphasize store visibility. However, this attribute is slightly lesser ranked in importance by the luxury-priced chains. These kinds of stores, which offer a selected fashion assortment or unique items of high quality and price, often serve fewer people than moderately priced chains (groups C, D and E), and their customers are more likely to make effort to reach them as specialty goods (Holton 1958; Luck 1959; Bucklin 1963). Thus, these chains pay less attention to store visibility in the locational decision-making process. Nonetheless good visibility from the road is particularly important for discount stores (6.86%) because they frequently attract customers from a large market area (Levy et al. 2013). According to attribute values, a high-level weight is associated with desired store size. Ranked among the top factors influencing retailers' preferences, this attribute appears crucial in implementing a retail concept. The presence of advantageous elements for store location cannot counterbalance the absence of size required as many managers told us during an in-depth interview after the conjoint analysis. Based on pricing level, the most preferred selling area vary from 70 m^2 to 99 m^2 for retail groups A, B and C, 100 m^2 to 199 m^2 for retail groups D and E, and over 800 m^2 for discount stores (group F).

The type of location also seems to be a very important factor in the locational decision-making process despite some variations in the ranking (importance order) given by the six retail groups. The most preferred location type for luxury-priced chains is the downtown district, followed by downtown shopping centres and transportation hubs. Retailers in the high- and average/high-priced category have the same preferences for location types, with the exception of transportation hubs. As with previous retail groups, retail chains D and E express a first preference for downtown district locations. However, they are less attached to downtown shopping centres versus suburban shopping centres, partly because of their higher costs. The partworth utilities show that discount stores prefer location types that are completely different from the other retail chains in the clothing and accessories sector: commercial activity areas, followed by retail parks. Thus, the appraisal of different types of location should be strongly linked to the price level of retail chains.

Regarding trade area size, estimated partworth utilities (Tables 4 and 5) reveal that a vast majority of the retailers in the clothing and accessories sector prefer areas with more than 200,000 inhabitants. Unlike this majority, discount stores seem more interested in small areas (between 30,000 and 50,000 inhabitants). Given their discounted prices, discount stores may have higher sales volumes per customer, and hence financial viability in smaller trade areas.

Finally, the results of this analysis indicate that all retailers having participated in this study are indifferent to the quality of automotive traffic and distance with respect

to public transportation service. Retail chains in the clothing and accessories sector consider those two attributes unimportant in choosing their potential locations.

6 Conclusion

To our knowledge, this research is the first to focus on the reality of location strategies in retailing. Most of the research on this topic remains either theoretical in many retailing handbooks or methodological (Ghosh and McLafferty 1987) with no empirical studies. At the very least, this research leads to two observations. First, the theory related to locational characteristics in store location decision-making, as it is frequently presented in retailing handbooks (Davidson et al. 1988; Levy et al. 2013; Lewison and Delozier 1997; Mason et al. 1993), is mainly based on intuitions without any empirical evidence. Second, unlike some assertions which tend to consider that distance and subsequently location problems are "dead" due to the development of e-commerce (Cairncross 1997). These management stakes related to store location are still very significant in retail chains and they can explain the opening of stores by e-commerce companies (Cliquet 2020). In this paper, we empirically demonstrate that location issues of physical stores are still very significant in the clothing and accessories retail sector.

The results from our conjoint analysis conducted with retail network development managers clearly show that location strategies are very different according to store positioning. As mentioned previously, as it has been already said above, this assertion can be found in many retailing handbooks but with no empirical evidence. For instance, discount stores do prefer locations close to anchors in order to attract customers due to multipurpose trips and subsequently, shared parking facilities, which seem to be critical, and many other services, etc., thereby limiting their costs. They also appreciate settlements in small- and medium-sized towns. Higher positioned retailers are looking to open stores in bigger cities preferably close to similar contenders, in order to increase customer choices. They also consider the strength of their brand sufficient to attract customers. Store display windows play a much more important role for higher positioned retailers than for discount stores. And it is not surprising that customer income level plays an important role for retail network development managers, discount stores being located within low income areas whereas higher positioned stores are situated in higher income areas. However, it should be noted that very strong retail networks (e.g. *Zara* or *H&M*) which can be considered discounters may open most of their stores in downtown areas as their high turnover allows them to pay high leases or buy at high rates.

Trade area size, visibility, type of location and especially size of store, which seems to paramount for every retailer according to store positioning are also important attributes for retailers in this retail sector. However, the most interesting result most likely resides in the choice of store size. This criterion appears to be critical in so far as this attribute cannot be offset by any others: a large number of retailers in this retail sector consider store size as the best support of the retail concept. Hence, a

location model in this sector cannot be a compensatory model but a disjunctive model (Dawes 1964; Gilbride and Allenby 2004; Hauser et al. 2010), which means that a decision-maker, in this case a retail manager, considers one specific criterion, store size, regardless of any other attribute, but in other retail sectors it can concern any other attribute. These characteristics which stem from a conjoint analysis in the clothing and accessories retail sector are very close to those identified in the furniture market (Cliquet 1995) through a consumer survey, assuming we exclude the store display window.

The aim of this research is to enhance locational characteristics of stores according to the positioning strategy of the chain. Characteristics stemming from the literature are not all relevant and this shows that any store location research or study should be done for a specific retail sector. No general set of locational characteristics is applicable to every retail sector. Therefore interviewing decision-makers as a first step is of great importance. Practitioners also have an interest in systematizing their decision-making process by establishing a set of variables weighted according to their strategic positioning. Check-lists were proposed quite some time ago (Applebaum 1966) but with no reference to strategic options.

This research suffers from several limitations. First, only one sector is concerned. Second, the survey was administered to a sample that was too limited. Third, the results are based on managers' opinions. Hence, it would be desirable to extend this work to other retail sectors and to compare the results with observations to determine whether the location policy corresponds to the marketing policy of the retail fascia in reality and not just in the managers' minds. Another issue also involves taking in consideration the consequences of technology usage by consumers on the one hand, and the influence of e-commerce on the other hand.

This research is a first step in a process of improving the net store closing (NSC) which computes the difference between store openings and store closings (Feng and Fay 2020). Choosing a poor location can be very costly and pose challenges to performance (Srinivasan et al. 2013). A second step would be, as suggested above, to compare desired locations and real ones through observations in the market. A last step would seek to highlight the reasons why a store location is successful or not and to compare this information with the results of our conjoint analysis. In this last step, the concept of retail positioning should be revisited with a shift towards a customer perspective (Siebers et al. 2013), as any retail positioning strategy should take into account customer satisfaction.

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Part III
Alliances

Analysis of Intra-organisational Networks: Principles, Application and Contribution to the Organisational Design Theory

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Abstract This study analyses intra-organisational networks as a new, authentic and multidisciplinary approach within the theory of organisation. It focuses on fundamental principles, applicability and contribution to the organisation and organisational design theory. The paper aims to enhance knowledge in the area of analysis of intra-organisational networks and to point out the complex ways in which intra-organisational networks influence the performance of employees, managers and organisations as a whole. In this study, we used a method of analysis and synthesis of the data gathered from the relevant references and a historical method to depict the concept of development. We applied quantitative and qualitative approaches to obtain a comprehensive analysis of intra-organisational networks and the research achievements on intra-organisational networks. Based on the literature review presented in this chapter, additional recommendations regarding the manner of execution of the analysis of international networks are given.

1 Introduction

In the last two decades, along with the development of new technologies, connecting people and organisation has become more significant. Association and communication among people have spurred various social sciences and scientists to study these aspects of human behaviour (Lin et al. 1981; Krackhardt 1987; Coleman 1988; Nelson 1989; Krackhardt and Hanson 1993; Grandori and Soda 1995; Labianca et al. 1998; Carley 2003; Cross and Parker 2004; Grandori and Soda 2006; Cross and Thomas 2009; Spicer 2020; Hunter et al. 2020). The grounds for the analysis of intra-organisational networks were established at the beginning of the twentieth century. Jacob Moreno, a psychiatrist, psychologist and sociologist, the founder of psychodrama as a psychotherapy method and the method for analysing social networks as a sociology branch, developed sociometry to assess relations within

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the social structure and psychological well-being. Moreno described the grounds of sociometry in his book "Who Shall Survive?" published in 1934. This was a milestone in the history of the development of social network analysis since Moreno founded sociometry on "the experimental technique obtained by applying quantitative methods which investigate the development and organisation of groups and the position of individuals within them" (Freeman 2004). This statement is the core of the analysis of the social network.

The significance of network theory has increased with the changes that companies are experiencing. In the second half of the twentieth century, i.e. in the 1960s and 1970s, the business environment became turbulent for organisations. The environment was changing, becoming unstable, and competition on a global level started to appear. The concept of mechanistic organisational structure was no longer sustainable in this unstable and unpredictable environment. Thus organisations were forced to adapt their business style, reduce the number of employees, lower the level of formalisation and expertise and shift to an organic organisational structure. The relationship between formal and informal structures became more significant for the functioning of organisations. The Carnegie School and School of interpersonal relations representatives pointed out the significance of this relationship.

Research methodology. The methodology used in this chapter supports the primary goal of the chapter: to provide an overview of the knowledge gained so far in the intra-organisational networks. Being a relatively underresearched area compared to other areas of organisation theory, we opted to carry out theoretical literature research in network theory, computer organisational theory, organisational design and social networks in organisations. This chapter used analysis and synthesis of data collected from the literature.

The chapter aims to summarise previous knowledge of network theory. Also, the primary purpose of the chapter is to consolidate quantitative and qualitative tools that could provide problem-solving within the organisation's network.

Analysing the literature, we noticed a prevailing orientation towards describing, developing and using either quantitative or qualitative tools to present how intra-organisational networks work. We identified this as a gap in the literature about network analysis, so we wanted to emphasise the importance of using both quantitative and qualitative tools for network analysis.

The chapter develops the following propositions:

1. **Proposition 1**: *At the individual level, knowledge of the positions of employees in the intra-organisational network allows the management of the organisation to direct their development and influence the increase of their performance.*
2. **Proposition 2**: *Adequate knowledge of intra-organisational networks contributes to more efficient and effective management of the organisation.*
3. **Proposition 3**: *With their knowledge, experience and intervention, managers can influence the formation of intra-organisational networks and coordinate cooperation between the employees.*

4. **Proposition 4**: *Knowledge of the characteristics and structure of interpersonal networks allows the employees to recognise the importance of intra-organisational networks for their professional development.*
5. **Proposition 5**: *The mentoring system in the organisation should be formed based on knowledge of intra-organisational networks because, in that way, the system would be harmonised with the results provided by the analysis of specific types of networks.*

The chapter is divided into seven sections. Section one is about principles of network theory which are developed to organise the references about network theory and its development. Section two is about the quantitative approach, which represents a tool that provides numerical results. The third section describes the qualitative approach, which provides information about actors' position in the network and the possibilities for establishing ties between the actors. In the section about the application of network theory, we provide information about possible ways to apply the results of the analysis of network theory. In the section regarding analysing intra-organisational networks, the way for using the methodology of the analysis of the intra-organisational networks is discussed. Also, information about possible additional steps in this methodology is provided. In the section describing the contributions of network theory to organisation theory, areas in which the contribution of network theory is apparent are summarised. Finally, the last section provides an overview of the key findings and an outlook on future research.

2 Principles of Network Theory

The network theory is a scientific discipline that leans on mathematical principles from the early twentieth century. Graph theory and topology are the basis of the network theory (Krackhardt 1994). The first idea of a network emerged with the infamous problem of the seven bridges of Konigsberg. This mathematical problem became the basis for graph theory and topology. In the last couple of decades, with the development of modern technologies and networking, network theory has boomed both on an individual and business level.

The increasing significance of network theory is based on a wide range of its applications. Researchers have developed the idea to create programs that would process meta networks. Kathleen Carley, a university professor at Carnegie Mellon University in Pennsylvania, was one of the founders of the idea of meta networks (Carley 2003). Following the organisational theory of Linda Argote (Argote and Ophir 2002; Argote 2005, 2011), an organisation can be understood as a three-element structure composed of people, tasks and tools. It is important for an organisation to monitor the development and contributions of each of the structural elements and observe the results obtained from all three elements.

Network theory is a new tool for organisational design. The multidisciplinarity of the network theory enables us to provide an in-detail explanation of the results

obtained from the conducted analysis. Network theory is multidisciplinary because it relies on several scientific disciplines: computer science, mathematics, sociometry, psychology, sociology and anthropology. Each of these scientific disciplines has contributed to clearly distinguishing between the two approaches to analysing social networks—quantitative and qualitative.

Starting from the development of organisational design, we noticed that the informal structure in the organisation functions according to the principles of network theory. An overview of the relevant literature led to the following assumptions: (1) intra-organisational networks significantly affect the performance of an organisation; (2) intra-organisational networks facilitate the management of an organisation; (3) knowledge of intra-organisational networks helps managers manage employee behaviour because in this way they have a better understanding of the flow of employee communication.

The following two sections provide information about quantitative and qualitative approaches.

2.1 Quantitative Approach

The quantitative approach is related to sociometric analysis that relies on mathematical graph theory. During the 1960s, there was a systematisation of previous traditions that had left a mark on the formation of the network theory. The literature related to this approach has evolved (Krackhardt and Porter 1986; Krackhardt 1987, 1994, 2010; Raider and Krackhardt 2001; Carley 2003; Kilduff and Tsai 2003; Krackhardt and McGrath 2003; Nooy et al. 2005) and the development of this approach gained significance in the last three decades (Krackhardt 1994; Carley and Prietula 1994; Carley 2003; Nooy et al. 2005).

The quantitative approach is based on the calculation of the network analysis parameters. The last step in network analysis is visualising networks using computer software. The parameters of network analysis (Table 1) that are expressed quantitatively are density, centrality, availability, network structure, cohesion, structural equivalence and ties intensity.

Density is a structural characteristic which shows the interactions among individuals, and these structures can also be used to *interpret actors' individual behaviours* (Kilduff and Tsai 2003: 23). The network density is a measurement of how many ties exist between network participants in relation to the maximum number of the possible relations that can exist between participants: the higher the proportion of these factors, the higher the network density (Kilduff and Tsai 2003: 30).

Likewise, based on the level of centrality upon calculating centrality, data and recommendations can be obtained on connecting different centres within the network or softening the boundary between the centre and the periphery. On the other hand, the social structure is not always straightforward because it shows a complex combination of different types of networks that can be found at several levels of

Table 1 Parameters of intra-organisational network analysis

Parameters of network analysis	Explanation
Density	The number of ties in the network divided by the maximum possible number of ties (Kilduff and Tsai 2003:134)
Centrality	Data and recommendations are obtained on how to connect different centres in the network or to soften the border between the centre and the periphery in the network
Reachability	One actor can reach another actor in the network if a path connects the two actors. That is, a way for actor A to get a massage or a resource to actor B either directly or through intermediaries (Kilduff and Tsai 2003: 135)
Network structure	The degree of structuring can be partially assessed by measuring of balance that comprises both reciprocity and transitivity (Kilduff and Tsai 2003: 32)
Structural cohesion	Measures the degree of ties connectivity between group members within the network
Structural equivalence	Indicates the extent to which two or more positions in a network have a similar connection appearance as positions within the rest of the network
The strength of ties	The strength of a tie is a (probably linear) combination of the amount of time, the emotional intensity, the intimacy (mutual confiding) and the reciprocal services which characterise the tie (Granovetter 1973: 1361)

Source: The author, based on the available literature

network analysis. Krackhardt (Krackhardt 2010) lists three types of centrality: *degree centrality*, *closeness centrality* and *relational centrality*.

Reachability shows *how quickly one actor can reach another actor*, i.e. whether the contact is direct or the actor is reached through an intermediary. High-reachability networks are more efficient than low-reachability networks, i.e. the messages can reach more people through the same number of intermediaries (Kilduff and Tsai 2003: 32). Reachability is shown as the average number of people an actor comes in contact with during the process of making a connection with another actor (Kilduff and Tsai 2003).

One important question about networks is whether or not they are highly structured. The *degree of structuring* can be partially assessed by measuring the balance that comprises both *reciprocity* and *transitivity* (Kilduff and Tsai 2003: 32).

Structural cohesion measures the *degree of ties* between the group members within a network. This element of analysis is used to detect subgroups or clusters within a network, but it can also be an important structural element that manages the impact of interpersonal networks (Kilduff and Tsai 2003).

Structural equivalence is an element of analysis that indicates the degree to which two or more positions in a network have a *similar connection appearance* as positions within the rest of the network (Kilduff and Tsai 2003).

The strength of ties shows the power of the ties between the actors (weak and strong ties or absence of ties) (Granovetter 1973). The strength of a tie is a (probably linear) combination of the amount of time, the emotional intensity, the intimacy

(mutual confiding) and the reciprocal services which characterise the tie (Granovetter 1973: 1361).

The basic methods of the quantitative approach used in network analysis are graphs, matrices, relationship measures, cliques, structural equivalence, clusters and block-modelling. Recently, the issue of *computer analysis of networks* has become a "hot topic". In addition to the traditional way of analysing social networks, Carley (2003) presented a dynamics network analysis, which can manage large networks with many ties and actors with different levels of uncertainty. The traditional way of network analysis involves tracking several ties at a given point in time. Carley (2003) states that the problem with previous programs is that they cannot manage large networks, monitor their dynamic changes and spot more than one or two problems in the network. Therefore, she developed a dynamics network analysis that has three advantages over previous programs. The first advantage is related to the *use of meta-matrices* (monitors people, resources or knowledge, tasks or events and organisations, i.e. the matrix connects different data and as a result, you get information about what resources or knowledge a person has, what tasks they participated in and with whom is a group or organisation connected). The second advantage is that the *ties are considered probable*, and the third is that there is a possibility to *combine social networks and cognitive science*. The program makes it easier to monitor changes that occur within the network (innovation, learning, forgetting, goal setting, motivation to interact, recruitment, employee isolation, acceptance of new technology, turnover in an organisation and employee promotion). The need for the development of such a program is that the networks are constantly changing, and it is necessary to monitor all the parameters that affect the change of its appearance to make the right decisions about coordinating the network. The program for the analysis of large dynamic networks, developed by Carley (2003) and her team, is called The Organization Risk Analyzer (ORA). This program contains tools used for the analysis and visualisation of multidimensional networks. The results provided by this program are presented in the form of reports. Some of the programs used in network analysis are *AutoMap, BioWar, DyNet, SNA software, Spider, R software, USI Network, NetMiner, STRUCTURE, MultiNet, StOCNET and UCINET.*

Furthermore, a quantitative approach to network analysis can contribute to *managing the change process*. Three models of network theory of change were considered by Krackhardt and McGrath (Krackhardt and McGrath 2003). *The first model* of network theory of change is *dense integration over external ties*. This model shows that changes are successful if interpersonal networks within the organisation are strongly connected (Krackhardt and McGrath 2003). For the implementation of radical changes to be successful, it is necessary to analyse the extent of the presence of network ties that exceed the boundaries of formal organisational units. To make the changes easier to implement, one should rely on friendly relationships that affect employee motivation. The friendships that individuals form within an organisation spread faster throughout the organisation, which further influences large organisations to be more willing to support the collaboration and

selfless behavior necessary to apply the changes. The index for *measuring structural characteristics that facilitate change* is the *E–I index*.

The *E–I* index is calculated when the difference between the number of ties that exceed the boundaries of units in the organisation (*E*) and the number of ties that connect people within the same unit (*I*) is divided by their sum: $EI = \frac{E-I}{E+I}$ (Krackhardt and McGrath 2003).

The *E–I* model is the only model experimentally tested by Krackhardt and Nelson (1989).

The second model of network theory of change is *viscosity* and *isolation*. This model is the opposite of the *E–I* index, and it is borrowed from the biological literature on altruism. The viscosity and isolation model indicates that successful changes are more likely to occur if *organisational units are not well interconnected*, when cooperation between them is minimal, and when the changes move from the periphery to the centre. This process implies that the idea of change or innovation arises in smaller units and that the problem they face would trigger a majority in the organisation to change. Innovation can be divided into three broad categories (Krackhardt and McGrath 2003):

- innovations that are superior to the status quo
- innovations that are inferior to the status quo
- innovations that are neither superior nor inferior

The third model is *variance in ties* and *structural leverage* (Krackhardt and McGrath 2003). Although this model is based on mathematical principles, there are also strong implications for socially conditioned processes. According to this model, changes can occur due to disseminating information about changes. People can influence the acceptance of decisions made by their friends or contacts. Dissemination of information in organisations is determined by a mathematical principle because when changes are presented to a certain number of people, each of them will pass on the information about the changes to their friends. Krackhardt and McGrath (2003) call this *expansion strategy—structural power*. This model shows that changes spread faster if secondary contacts are used rather than a group of random primary contacts.

2.2 Qualitative Approach

The qualitative approach to network analysis explains the data obtained by quantitative analysis. Qualitative analysis determines the positions and roles of the employees in the network, the strength of the ties among the actors, how important homophilia is for establishing ties between people and what is the impact of networks on organisational behaviour (Lin et al. 1981; Burt 1992; Krackhardt and Hanson 1993; Grandori and Soda 1995; Labianca et al. 1998; Raider and Krackhardt

2001; Tsai 2001; Cross and Parker 2004; Grandori and Soda 2006; Cross and Thomas 2009; Hunter et al. 2020; Spicer 2020).

2.2.1 Positions of Actors in the Network

Types of Positions in the Network Based on the analysis of intra-organisational networks, Cross and Parker (2004) identified four types of people or four types of positions in the network:

- *central connector*—has a disproportionate number of direct ties and is likely not to be recognised as a source of opportunity or a bottleneck
- *boundary spanner*—connects the actor's sector with other sectors in the organisation and with other organisations
- *information blocker*—prevents the flow of information between different sectors
- *peripheral people*—who either need help to become part of the network or need space to work (Cross and Parker 2004)

Positions of High-Performance Employees In addition to the above-mentioned division of positions in the intra-organisational network, Cross and Thomas (2009) singled out the *positions of employees with high performance* in intra-organisational networks. They state that network analysis makes it possible to assess the usefulness of the talent management program designed to increase the number of high-performance employees who are self-starters within interpersonal networks (Cross and Thomas 2009). The authors (Cross and Thomas 2009) single out the following positions: *bottleneck*, *formalist*, *disconnected expert*, *biased networker*, *surface networker* and *chameleon*.

Positions of Intermediaries Another classification of the types of actors' positions within the network shows the positions of the employees who work as intermediaries. Based on network analysis provided by the software Pajek (Nooy et al. 2005), structural holes in the relationship among three actors can be determined. In places with no established connections, a person who is a mediator in a relationship between two people can gain a sole benefit. A person who has the role of a mediator can be a *coordinator*, an *itinerant broker*, a *representative*, a *gatekeeper* or a *liaison*. These three divisions and characteristics of each position are shown in Table 2.

2.2.2 The Strength of Ties

According to their strength, ties can be considered weak, strong and absent (Granovetter 1973). Weak ties or connections in networks have a connecting function because their peripheral position in the network allows them to access external information more easily than strong ties could (Granovetter 1973). Granovetter (1973) states that the strength of weak ties is not reflected in a large number of contacts, but in their ability to access potentially broader and more diverse

Table 2 Position of actors in the network according to the three divisions

Three divisions	Positions	Characteristics	The parallel between the three divisions
Division according to Cross and Parker	Central connector	The position where a person has the most contacts. There are two types: *unsung hero* and *bottleneck*	*Bottleneck* Coordinator
	Boundary spanner	They transmit information between physically distant places and establish strategic alliances	Itinerant broker Liaison
	Information blocker	The position between the persons who do not have direct contact	Representative Gatekeeper
	Peripheral people	Position with a small number of ties. Experts or people who have chosen that position themselves or have inapplicable skills are in this position.	./
Positions of high-performance employees	*Bottleneck*	Most colleagues rely on them, and they slow down the flow of information	Central connector Coordinator
	Formalist	They are not satisfied with how the work is done within the organisation; they are oriented towards a formal structure.	/
	Disconnected expert	An expert who does not develop his/her technical skills, or decision-making skills, fails to adapt when changing the workplace.	/
	Biased networker	They let colleagues who are similar to them play an important role in the decision-making process.	/
	Surface networker	Relationships with colleagues are on a superficial level; there is no connection that would enable them to form a close relationship with colleagues.	/
	Chameleon	The employee absorbs the interests, values and characteristics of different subgroups of employees.	/
Positions of intermediaries	Coordinator	They mediate communication between actors within a group	Central connector *Bottleneck*
	Itinerant broker	A mediator, a person who mediates, does not belong to the same group as the actors between whom he/she mediates.	Boundary spanner
	Representative	They represent the interests of their group and control the flow of information to other sectors.	Information blocker
	Gatekeeper	They control the information that comes to their sector	Information blocker
	Liaison	They mediate between the actors belonging to different sectors	Boundary spanner

Source: The author, based on the available literature

information. *Weak ties* are rare contacts that do not necessarily affect content because they are episodic (Nelson 1989: 380).

Strong ties are at the centre of intra-organisational networks. This position allows them to spread information and exert social influence. Strong ties are frequent contacts that almost inevitably have additional, often friendly meanings and can include mutual services.

2.2.3 Homophily

Homophily is the basic condition for the formation of ties between actors, and the connections that are formed in that way are called homophilic. This means that the similarity according to the level of education, age, gender and attitudes affects the speed of creating the ties between the actors (Cross and Parker 2004). The relationship that exists between the actors in an intra-organisational network affects the blurring of the boundary between formal and informal structures in an organisation (Hunter et al. 2020).

2.2.4 Influence of Intra-organisational Networks on Organisational Behaviour

According to Raider and Krackhardt (2001), network structure has a predictable impact on organisational behaviour. Networks are not isolated. They arise as the need for people to complete specific tasks. Therefore, the effect the networks have depends partly on the relationship between the participants in the network and partly on the task they are in charge of. Organisations' complex interaction between people, tasks and tools can be depicted in mathematical rules that explain ties and predict them. Moving and relocating actors within a network affects their behaviour. When employees move from central positions in the network, the actors lose their important function and adapt to new circumstances.

Below is the table of references (literature) based on the presented topics (Table 3).

3 Application

The contributions of intra-organisational networks are observed in several areas such as motivation, leadership, job design, improving work relationships and reducing absenteeism. In addition, these contributions could be used for improving labour market information, negotiation techniques, commitment to work, group and team performance, performance appraisal and reward system. Although the contributions of intra-organisational networks are much higher, in this chapter, we focus on the

Table 3 The proportion of topics in the literature for the chapter

Literature Keywords	Hierarchy	Dyad relations	Matrices/ programs	Homophily	Leadership	Performances	Actors' position in the network	Managers' role
Carley, K. (2003)	/	/	+	+	/	+	/	/
Cross, R., & Thomas, R. (2009)	+	/	+	/	+	+	+	+
Cross, R., & Parker, A. (2004)	+	/	+	+	+	+	+	+
Hunter, S. D., Bentzen, H. & Taug, J. (2020)	+	+	+	+	+	+	/	/
Kilduff, M. & Tsai, W. (2003)	/	+	+	+	/	/	+	/
Krackhardt, D. (2010)	+	+	+	+	/	/	+	+
Krackhardt, D. (1994)	+	/	+	/	/	+	/	/
Krackhardt, D., & Hanson, J. R. (1993)	/	/	/	/	/	+	+	+
Krackhardt, D. (1987)	/	/	+	+	/	/	+	/
Krackhardt, D., & Porter, L. (1986)	/	/	+	+	/	/	/	/
Labianca, G., Brass, D., & Gray, B. (1998)	/	/	/	+	/	+	/	/
Lin, N., Ensel, W., & Vaughn, J. (1981)	/	/	/	/	/	+	/	/
McGrath, C. & Krackhardt, D. (2003)	/	/	+	/	/	/	/	+
Nooy, W., Mrvar, A., & Batagelj, V. (2005)	+	+	+	+	/	/	+	/

(continued)

Table 3 (continued)

Literature	Keywords	Hierarchy	Dyad relations	Matrices/ programs	Homophily	Leadership	Performances	Actors' position in the network	Managers' role
Raider, H. & Krackhardt, D. (2001)		/	+	+	+	+	+	+	/
Spicer, A. (2020)		/	/	+	/	/	/	/	+
Tsai, W. (2001)		/	/	/	/	/	+	+	/

Source: The author, based on the available literature

contributions to the methodology of the analysis of intra-organisational networks in a business environment.

4 Conducting Analysis of the Intra-organisational Networks

The process of conducting the analysis of intra-organisational networks begins with the collection of data. Data are collected from employees and managers through questionnaires and/or interviews. In order to obtain objective results of the analysis, the sample, i.e. actors in the network, are selected independently and randomly. The second phase is to check the answers, and in the third phase, a network map is generated using the software.

According to Cross (Cross and Parker 2004), network analysis consists of six steps:

1. identification of strategically important groups—it is necessary to choose a group that is strategically important for the organisation.
2. approach to significant relationships—analysis of the relationships that indicate cooperation within a network, the potential for information exchange in the network, network rigidity and well-being and support in the network.
3. visual analysis of results—visual representations are performed via specialised software.
4. quantitative analysis of results—a picture of structural holes in the network, bridges and network density is obtained.
5. creating meaningful feedback sessions—after the data have been processed, the results should be presented, and feedback should be given to employees, i.e. interviews with actors who occupy central and peripheral positions in the network should be organised; furthermore, workshops that would contribute to the improvement of the intra-organisational network should be organised.
6. monitoring progress and effectiveness—by conducting the research again after 6–9 months, it can be seen whether the activities of the manager and the workshop had an effect.

According to Cross (Cross and Parker 2004), by considering the steps for conducting analysis of intra-organisational networks, we can suggest adding several steps for performing the analysis (Table 4). First, to analyse the network, the organisation must become aware of the need to analyse the intra-organisational network and set goals for its implementation. The next step is to identify strategically important groups. According to Cross (Cross and Parker 2004), the third and fourth steps represent a visual and quantitative analysis of the results. These two steps can be combined because, in order to perform a visual analysis of the results, it is necessary to conduct a quantitative analysis where the parameters would be recalculated, based on which the intra-organisational network would be visually

Table 4 Addition to the steps in conducting the analysis of intra-organisational networks

Steps	Name of the step	Explanation
I	Setting goals for the analysis	The organisation's management needs to be aware of the need to conduct the analysis and set goals to improve the intra-organisational network
II	Identification of strategically important groups	It is necessary to choose a group that is strategically important for the organisation
III	Approach to significant relationships	Relationships that indicate network collaboration, information sharing potential within the network, network rigidity, and network well-being and support analyzed
IV	Visual and quantitative analysis of results	Visual representations are performed by using the program, and we obtain the image of structural holes in the network, bridges and network density (problem identification)
V	Qualitative analysis of results	Presentation and interpretation of quantitative results in a qualitative way (understanding of the problem)
VI	Creating meaningful feedback sessions	After the data have been processed, the results should be presented, and feedback should be given to the employees, i.e. interviews with actors who occupy central and peripheral positions in the network should be organised; furthermore, workshops that would contribute to the improvement of the intra-organisational network should be organised
VII	Monitoring progress and effectiveness	By conducting the research again after 6–9 months, it can be seen whether the activities of the manager and the workshop had an effect

Source: The author, based on the available literature

presented. The researcher then identifies potential problems in the network and, based on a qualitative analysis, gives recommendations for solving the network's potential problems and how the network can be improved. The last two steps in conducting the analysis are creating feedback sessions and monitoring the progress and efficiency of the conducted analysis.

The organisational design applies the network theory through the parameters of organisational design: division of labour (workplace design), a delegation of authority, a grouping of job positions, coordination mechanisms and organisational structure (Janićijević et al. 2019) (Table 5). On the other hand, the network theory is an instrument that can provide managers with organisational design data quantitatively and measurably.

Table 5 Applications of the network theory in organisational design

Applications of the network theory in organisational design		
Organisational design parameters	Traditional view	A new perspective with the help of network theory
Division of labour (work-place design)	The degree of specialisation of employees, and the characteristics of the organisation in the form of competencies, abilities and skills of the employees are shown. Based on the degree of specialisation, it is determined whether the roles that employees have are routine or require some kind of creativity and innovation (Janićijević et al. 2019)	Based on the positions that the individual occupies within the intra-organisational network, the tasks that the individual performs can be determined (people on the periphery are in charge of expertise (usually technical support), and individuals in central positions are in charge of coordination and connectivity (e.g. sales due to contacts with colleagues from other sectors))
Delegation of authority	Based on this parameter, it can be seen whether decision-making in the organisation is centralised or decentralised	Decentralised decision-making shows that the organisation encourages employee networking and enables them to develop their contacts
Grouping of job positions	Grouping of job positions can be done according to: • functions (functional departmentalisation), • products (production departmentalisation), • markets (market departmentalisation), • geographical location (geographical departmentalisation). (Janićijević et al. 2019: 99)	Based on the contact between individuals within the intra-organisational network, it is possible to determine which sectors or functions cooperate the most and group job positions based on this information
Coordination	It shows the instruments that harmonise the functioning of all parts of the organisation and how to achieve control over all parts. Coordination mechanisms: direct control through hierarchy, standardisation, direct communication and organisational culture (Janićijević et al. 2019)	Based on the analysis of intra-organisational networks, it can be seen how the system is coordinated in reality, what the integration mechanisms are, and the points of improvement are revealed
Organisational structure	Formally established system of relations between individuals and groups, where mutual relations are determined by the schedule of tasks, responsibilities and authority (Janićijević et al. 2019)	The application of the analysis of intra-organisational networks reveals the appearance of an informal structure within the organisation, which contributes to easier understanding and management of this network

Source: The author, based on the available literature

5 Contribution of the Network Theory to Organisational Theory

In terms of the contribution of the analysis of intra-organisational networks to the organisational design, we can divide them into the contributions obtained by the quantitative and qualitative approaches to the analysis of the network. Quantitative approach is related to the speed of the flow of information and performance at the individual, team, group and organisational levels, and the qualitative approach is related to the improvement of work relationships, motivation and leadership.

Speed of the flow of information This contribution can be classified as the quantitative contribution of the analysis of intra-organisational networks because this results from information-processing approaches initiated by the Carnegie School. The representatives of the Carnegie School perceive the organisation as a system of the flow of information. Based on the analysis of networks, gaps in the flow of information are detected, as well as the actors that block this flow, and also space for inefficient use of resources. The reduced flow of information within an organisation makes it less productive. For the organisation not to be in such a situation, it is necessary to determine the actors that block the information based on the graphic presentation of the network and enable the flow through other actors. Involving actors in the organisation's transfer process opens up additional information transfer channels (Cross and Parker 2004).

Performance at the individual, team, group and organisational level For the organisational level to be satisfactory, it is necessary to improve group, team and individual performance. To some extent, group and team performance depend on employee behaviour and the way they maintain their contact networks. Good interconnection of employees provides the opportunity to adopt various information, new knowledge and possibilities. It is necessary to encourage and support strong ties between the employees because they are the key to strengthening trust and desire to achieve results. The analysis of intra-organisational networks provides the third dimension of organisational performance (Rummler and Brache 2013). It shows what kind of ties exist between employees in the team, their relationships, the strength of the relationship, and what positions employees occupy within the organisation.

Changes An important contribution of intra-organisational networks is implementing organisational changes. Three models of the network change theory have been pointed out by Krackhardt and McGrath (2003). For changes to be successfully implemented, it is important to understand the structure of interpersonal networks because it enables managers to implement changes.

Improving work relationships By observing and analysing advisory networks, the advantages and disadvantages of the current intra-organisational network are identified. Identifying actors to whom others turn for help is an advantage of the network, and it should be further encouraged. The disadvantages are the places where conflicts

can occur. The space for conflict between employees should be turned into a space for cooperation by discovering and eliminating the causes of possible conflicts. By identifying people who are the key to giving advice, an organisation has insight into who might be its ally in making routine changes (Krackhardt and Hanson 1993; Krackhardt 1994; Krackhardt and McGrath 2003). By analysing the network, an organisation can find individuals who would help analyse major changes in critical conditions (Krackhardt and McGrath 2003) and make them easier to implement.

Motivation Good interpersonal relationships in the organisation affect the motivation of employees. At the organisational level, the analysis of intra-organisational networks provides data showing ways to motivate the employees and how the teams could give their maximum and improve performance in the organisation (Rummler and Brache 2013). Motivation increases when an employee truly feels like a part of a team or group and when team or group success increases. The position employees have in an intra-organisational network affects their motivation (Cross and Parker 2004). Network transformations affect the positions of employees. Therefore, when changing the appearance of the network, it is necessary to improve the relations between employees and thus increase their motivation.

Leadership The formal structure in the organisation is adequate for transformations because it is presented graphically using the organisational chart and is under the control of the organisation's management. In addition, the hierarchical appearance of the structure is clearly defined. On the other hand, the informal structure is not susceptible to management's influence in the organisation to a great extent until it becomes visible (Krackhardt 1994; Carley 2003). The results obtained by analysing intra-organisational networks show the informal leaders in the organisation (Cross and Parker 2004). Informal leaders are those employees who encourage colleagues to be more committed at work, people to whom colleagues turn for advice or help. By discovering the informal leaders, the organisation can more easily introduce innovations or coordinate the work of employees.

5.1 Novelties That Network Analysis Brings to Organisational Design and Their Significance

The novelties brought by network theory to organisational design are as follows:

Focus The analysis of social networks in relation to standard research of the organisation has two very important characteristics: (1) It is focused on the relationships between subjects, not on the relationships between variables and (2) it is focused on the relationships between subjects, not on their characteristics (attributes). Based on this, we can say that each network is defined by subjects and ties that exist between them.

Quantification Instrument Intra-organisational networks have become an *instrument for quantifying organisational design and behaviour data*. Network theories present the data that managers need realistically and tangibly. Network theory turns static data into *dynamic data*. Dynamic networks were researched by Kathleen Carley (2003), recognising that it is easier to find solutions and opportunities for business improvement on dynamic data.

Monitoring and Improving Performance The development of the intra-organisational network creates an opportunity for *monitoring, and improving performance at the individual, group and organisational levels*. Rummler and Brache (Rummler and Brache 2013) distinguish between three levels of performance: organisational level, process level and job/performer level. These three levels follow changes in terms of organisation. Initially, the organisation was observed horizontally, then vertically. Then with the help of the network theory, the view of the organisation got a third dimension that shows the system behind the organisational chart. A clear picture of social interaction within the organisation, which is obtained by analysing intra-organisational networks, affects the breaking of functional boundaries and thus the improvement of organisational performance.

Networking and Strengthening the Structure of the Organisation The networks that employees form can be strong enough to improve the work of the organisation, that is, to affect employee productivity or block the exchange of information, which would lead to a significant slowdown in work. For an organisation to function well from within, it is necessary to pay attention to the organisation behind the organisational chart. Well-connected organisational units, i.e. good cooperation between employees, enable efficient task performance.

These four novelties provided by the network theory show the importance of the network theory (Table 6).

Focus The change of focus has led to a different view of the relationship between the actors that make up the intra-organisational network. The relationships in the network are determined based on the *schedule* and *position* of employees in the network, which leads to *insight into the appearance of communication channels and what kind of working atmosphere* is created in the company. In addition, networks influence the profiling and singling out the leaders in organisations.

Quantification Instrument The network theory is an instrument that makes it easier to manage the data provided by organisational design with the help of quantification and visualisation.

Monitoring and Improving Performance With the help of the network theory, *dynamic monitoring* of performance changes can be performed. Moreover, *a compact intra-organisational network* can be created, which directly *affects the organisation's productivity*. With a minimal investment of time, energy and resources to manage and coordinate them, a company can further increase its productivity.

Networking and Strengthening the Structure of the Organisation When changing the organisational structure, it is necessary to pay attention to intra-organisational

Table 6 Contributions of the analysis of intra-organisational networks

Contributions of the network theory to organisational design			
Contributions	Users of the contribution of network theory	Individual	Organisation
Quantitative analysis	Speed of the flow of information	+	+
		• Readiness for new tasks • Reduced time for task preparation • Performing the task on time	• Information on delays are avoided • The employee has new information in a shorter timespan • The degree of cooperation between employees can be seen
	Performance at individual, team, group and organisational level	+	+
		• Cooperation with colleagues affects common tasks • Strengthening trust between teams or group members • Competitiveness increases	• Better team and group performance affects the performance of the organisation
	Changes	+	+
		• It is easier for individual to accept changes when the group they believe in accepts changes	• It is important to understand the structure of interpersonal networks because it enables managers to implement changes • It is easier to implement changes when managers know the channels to communicate changes
Qualitative analysis	Improving work relationships	+	+
		• It simultaneously affects the relationship between colleagues • The possibility of major conflicts is reduced • The cause of the conflict is revealed	• Affects the company's achievements • The company's image is improving • The company gets an ally in making changes
	Motivation	+	+
		• Influences the individual to feel better in the team • Better communication and cooperation between employees increases motivation	• Ways to motivate employees are discovered • How to make a reorganisation to enhance performance
	Leadership	+	+
			• Discovering informal leaders within the

(continued)

Table 6 (continued)

Contributions of the network theory to organisational design			
Contributions	Users of the contribution of network theory	Individual	Organisation
		• The individual in a central position has the opportunity to stand out as a leader	organisation • With the help of informal leaders, one can introduce innovations and coordinate employees' work

Source: The author, based on the available literature

Table 7 Significance of the network theory for an organisation

Areas of action	Novelties in organisational theory	Significance of intra-organisational networks
Focus	The focus is on the relationships between the subjects, not on the relationships between the variables, and the focus is on the relationships between the subjects and not on their characteristics (attributes)	The ability to observe the relationship between the actors using the positions of the employees in the network
Quantification instrument	The data is presented in a realistic, tangible way	Managing quantitative and visually presented data is simpler
Monitoring and improving performance	Raising awareness about the knowledge and abilities that the colleagues have	Dynamic monitoring of the performances
Networking and strengthening the structure of the organisation	By encouraging and nurturing the relationship between employees, organisational structure is corrected and strengthened	Based on the results of the network analysis, changes in the organisational structure are made more efficiently

networks and pay more attention to their analysis. When companies are forced to change the organisational structure, they should perform an analysis of intra-organisational networks to avoid inconsistencies between the intra-organisational network and the organisational structure (Table 7).

6 Discussion, Conclusions and Future Research

In the twentieth century, the network theory developed its principles and goals. The network theory is very applicable in the business environment and organisations. Intra-organisational networks are structures behind the organisational chart and that directs the work and engagement of the employees and affects the performance of the organisation. During the development of organisational theory, intra-organisational networks did not gain much attention. Still, some authors partially

pointed out their importance, showing that it is essential for an organisation to support top-down communication and ensure the stability of communication between employees and encourage cooperation of organisational units.

The main aim of the chapter is to summarise approaches and conclusions that the network theory has made so far. The chapter presents an overview of the knowledge in intra-organisational networks. We analyse the methods that qualitative and qualitative approaches provide. These two approaches enable a more detailed and structured analysis of intra-organisational networks.

Novelties that the analysis of intra-organisational networks brings to the organisational design are that the analysis is focused on the relations between the subjects and not on the relations between the variables and the characteristics of the subjects. In addition, intra-organisational networks enable the data obtained through analysis to be presented quantitatively and static data to become dynamic, i.e. clear and applicable. For the results obtained by quantitative analysis to be clear, the results need to be further explained using a qualitative approach to the analysis. The quantitative approach relies on graph theory because it can be used to graphically present the informal structure of the organisation and measure the degree of structuredness of the organisation.

The qualitative approach to the analysis of intra-organisational networks relies on the achievements of psychology, sociology and anthropology. At the individual level of analysis, this approach provides answers to the following questions: what are the characteristics of the actors, what are the relationships between the actors in the network, how the actors get in touch. At the organisational level, this approach provides data on the appearance of the network, its size, centrality, constraints, actor density and reach. For all these results to be applicable, presenting them in a measurable, clear and visible way is necessary.

Knowledge of network functioning contributes to an organisation directing and coordinating the appearance of the network and influencing employee behaviour. It is important for an organisation to adequately understand the intra-organisational networks because they contribute to more effective and efficient management of the organisation.

An in-depth analysis of the literature led us to the following conclusions:

1. The position of the employees in the network indicates and determines the behaviour of the employees in the organisation.

Knowing the employees' positions allows managers to influence organisational performance from two aspects. One aspect is to improve the organisation's performance by preventing the blocking of the flow of information and by increasing cooperation between different organisational units. The second aspect is focused on managing the positions of employees in the network to influence the development and the increase of employee performance. When employees become aware of their position in the network, they can use it for personal development. Positions that provide an advantage to employees are central positions, primarily the bottleneck position, the boundary spanner or the information blocker position. Regardless of

what impact these positions have on an organisation's performance, they provide a strong advantage to employees in the network at the individual level.

The employees who are in a central position in the network should be coordinated so that the central position does not have a negative impact on the development of the organisation and its performance. The employees who are in peripheral places in the intra-organisational network should be encouraged to show their abilities and knowledge in order to become more visible in the team. Of course, this is primarily related to professionals who are, due to the specifics of the job, on the periphery of the network, or to new employees. Furthermore, employee integration provides an opportunity for the employees to see the potential of expanding interpersonal networks.

Hypothesis 1 *(H1) At the individual level, the knowledge of the employees positions in the intra-organisational network allows the organisation management to direct their development and influence the increase of their performance.*

2. Analysis of intra-organisational networks is important for managing the organisation.

The results of the network analysis make it possible to identify the positions of employees in the network, improve the performance of the organisation and strengthen the organisational structure through the integration of employees. In terms of performance improvement, the application of network analysis, in addition to the horizontal and vertical dimensions, also provides an in-depth view of the entire system behind the organisational scheme (Rummler and Brache 2013). In this way, all variables included in the horizontal and vertical dimensions are analysed. Network analysis contributes to performance improvement, primarily because it provides the ability to clearly display the social interaction that affects the breaking of functional boundaries. Establishing good and collegial relationships in the organisation enables better integration between employees, which directly leads to strengthening of the organisational structure (Cross and Parker 2004).

Hypothesis 2 *(H2). Adequate knowledge of intra-organisational networks contributes to more efficient and more effective management of the organisation.*

Based on quantitative parameters in the analysis of intra-organisational networks, we obtain results that show more efficient use of resources in the organisation. Quantitative parameters, for example, show that there should be a reduction of bottlenecks in the network, also the establishment of reciprocity in relations between employees or the prevention of the formation of clusters in the network. Based on this, sub-hypothesis 2 can be singled out:

Hypothesis 2a *(H2a). In order to manage organisations more efficiently, it is necessary to use resources in accordance with a series of quantitative indicators provided by the analysis of intra-organisational networks.*

On the other hand, more effective organisation management is based on intentions or goals that are set before starting the analysis of intra-organisational

networks. Depending on the goals set, and in accordance with the obtained results, an analysis of one of the three types of networks, that will contribute to the formation of "feedback sessions", will be performed. Based on this, another sub-hypothesis of hypothesis 2 stands out:

Hypothesis 2b *(H2b). More effective management of organisations is based on a clear setting of goals and intentions before starting the analysis of intra-organisational networks.*

3. The analysis of intra-organisational networks is important for the management of groups in the organisation.

Managers with their knowledge and experience should coordinate the formation of intra-organisational networks. Coordination is primarily based on encouraging communication and providing legitimacy to communication mechanisms between the employees. The existence of two-way communication reduces the shortcomings of intra-organisational networks because the possibility of slowing down the flow of information or blocking is reduced. Managing groups in organisations is simpler because the analysis of intra-organisational networks is an instrument of quantification (processing and visualisation of data with the help of programs (Krackhardt 1994; Carley 2003)). Furthermore, it is easier to implement changes based on the three above-mentioned models of change (Krackhardt and McGrath 2003). The third element that affects the management of groups is the coordination of cooperation between the employees. The level of cooperation between employees is directly influenced by the manager because they shape the problematic part of the intra-organisational network. Network design is influenced by supporting communication between colleagues, organising joint, informal activities that contribute to developing employee relations, and the systematic use of mentoring as a means of employee integration and opportunities for mentor's contacts to become their student's contacts.

Hypothesis 3 *(H3). With their knowledge, experience and intervention, managers can influence the formation of intra-organisational networks and coordinate cooperation between employees.*

4. Analysis of intra-organisational networks plays an important role in individual and organisational development.

Based on the analysis of organisational networks, networks can be directed towards individual and organisational development. Individual development can be based on the analysis of networks that shows what are the movements of the employees in the network, what are the characteristics of employees and what places employees occupy within the network.

The extent to which individual characteristics influence the development and formation of both interpersonal and intra-organisational networks has been seen in research dealing with dyad relations in networks. Employee behaviour depends on the following characteristics that affect individual employee development:

homophilia (an important factor in creating ties between network actors (Krackhardt 1987, 2010)), strength of ties (Granovetter 1973), communication skills (Cross and Parker 2004), expanding the interpersonal network (Cross and Parker 2004).

Hypothesis 4 *(H4). Knowledge of the characteristics and structure of interpersonal networks allows employees to recognise the importance of intra-organisational networks for their professional development.*

Organisational development relies on individual employee development. In order for the organisation to be able to direct and coordinate individual development, it is necessary to form a good mentoring system.

The mentoring system for the company is a mechanism that allows new employees to accept the company's values in direct contact with the mentor. When the new employee knows that they have been assigned a colleague who will help them solve problems, it is easier to decide to turn to a colleague for help and advice. The mentoring system in organisations accelerates the integration process of new employees because by imitating the behaviour of mentors, employees unconsciously adopt the organisational culture. Mentoring is important for intra-organisational networks because it reduces discomfort when making contact with colleagues. Moreover, when there is a mentoring system, it is easier to detect and identify communication interruptions in the organisation.

Hypothesis 5 *(H5). The mentoring system in the organisation should be formed based on knowledge of intra-organisational networks because, in that way, the system would be harmonised with the results provided by the analysis of a specific type of network.*

Analysing the methodology for conducting the intra-organisational network analysis, we noticed that it is helpful to introduce additional steps to provide a more detailed analysis. New steps in the methodology for conducting the analysis of intra-organisational networks are setting the goals of analysis, visual and quantitative analysis of the results, and qualitative analysis of the results.

In the chapter, we presented the network theory applications in organisational design. In this section, organisational design parameters such as division of labour (task design), authority delegation, unit grouping, coordination and organisational structure are observed from traditional and new perspectives empowered by the network theory.

The chapter provides information about the contribution of the analysis of intra-organisational networks to organisational design. The contribution of the analysis of intra-organisational networks is divided by the quantitative and qualitative approaches to the analysis of the network. A quantitative approach is related to the speed of the flow of information and performance at the individual, team, group and organisational levels, whereas a qualitative approach is related to the improvement of work relationships, motivation and leadership.

Limitations of the chapter The chapter presents a literature review of network analysis. We gave both quantitative and qualitative tools for conducting the network

analysis. The limitations of the chapter are related to the practical application of the network analysis. In order to provide a complete understanding and application of quantitative and qualitative tools, it's necessary to conduct practical usage and application of the network analysis in a real business environment.

Future Research Further research into the analysis of the network theory, primarily, should move in the direction of the achievements that the network theory has for organisational design. It is necessary to conduct practical application of the analysis of intra-organisational networks. First of all, it should be understood how organisations develop in a real business environment when the speed of information transfer between employees increases, and commitment to work improves when the group and team performance is affected. Motivation and leadership should also be considered as an important element of the development of an organisation. On the other hand, it is necessary to show how the analysis of intra-organisational networks affects the structure of the organisation in a practical way (how important it is to know and control the informal structure in the organisation) and to what extent network analysis affects job grouping, delegation, job description and tasks.

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Market Entry Through Multilateral Networks in Developing Countries: The Case of Public–Private Development Partnership in Zambia

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Abstract Globalization and increased market saturation in most developed countries have prompted private sector firms to expand into international markets that offer growth potential. Thus, increasingly, private firms channel foreign direct investments into such markets, which are located in untapped developing countries. At the same time, the local economies in developing countries often lack technology, education, or access to international trade. Furthermore, foreign multinational companies need market-relevant knowledge and skills. Therefore, the format of public–private development partnerships (PPDPs) seems to combine the needs of the private and public sectors. Such partnerships also try to improve the economic prospects and livelihoods of people in developing countries. We explore the case of the Volvo Group forming a PPDP in Zambia to improve our understanding of how MNCs enter the market in developing countries using this format. Based on transaction cost theory, institutional theory, and resource-based theory, we find that PPDPs help reduce transaction costs, mitigate institutional risks, and create unique resources for multinational companies entering less developed countries. Ultimately, our results contribute to the understanding of value creation for PPDP's stakeholders from developed and developing countries.

1 Introduction

The idea of entering foreign markets to expand business activities to gain competitive advantage is not new (e.g., Hymer 1960). Many developing countries are important markets for firms from developed markets because their markets are generally less saturated, and they have promising growth potential. At the same

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time, developing countries are in severe need of improvements in their basic infrastructure and economies. Moreover, they often face major challenges such as high unemployment rates, particularly among young people, political instability, or a lack of education programs (Asiedu 2006; Zimmermann et al. 2013).

Multinational companies need to carefully evaluate the mode of entering developing countries, particularly with regard to issues such as the lack of available financing options, institutional rules, legal security, and a skilled workforce. Such choices usually involve a trade-off between control and the costs of committing resources in risky and uncertainty circumstances (Meyer et al. 2009). Working together with entities that have experience and networks in the target market might help reduce the international firms' liability of foreignness and risks and costs of market entry significantly. These entities can be private or public ones such as ministries or international and multilateral development organizations such as the United Nations (UN).

International development organizations support public and private investment projects in less developed countries to improve the livelihoods of their residents. Such organizations work closely together with various stakeholders from local and/or national authorities, non-governmental organizations, and the private sector to promote economic growth and job creation. However, research in the field of development economics still debates whether foreign development assistance has overall positive or even negative effects on the target country (Knack 2001; Knutsen and Kotsadam 2020; Leigland 2018; Qian 2015).

The governance form of collaboration between these stakeholders (i.e., the multinational company (MNC), the international development organization and the public entities in MNC's home country and the developing country) can be referred to as so-called public–private development partnerships (PPDPs). Since the literature on this form of partnership is very scarce, we need more research to be able to better assess the private sector's rationale for engaging in such cooperation with public development institutions (Blickle and Salzmann 2018; Di Bella et al. 2013). Thus, the goal of this study is to conduct a detailed analysis of a PPDP project to improve our understanding of why MNCs would choose to partner with public development organizations in the home and host country to enter a developing country. We selected a specific project called the Zambian Industrial Training Academy (ZAMITA) whose goal is to provide market-relevant and state-of-the-art education for young people in Zambia by putting special emphasis on the business point of view (LKDF 2014). The MNC partner in this PPDP is the Volvo Group. We attempt to identify the transaction costs, and institutional and resource-based factors that influenced the Volvo Group's decision to enter Zambia by choosing a PPDP.

This study contributes to the literature on market entry modes in emerging markets. To the best of our knowledge, this is one of the first studies that tries to explain PPDPs as a market entry mode. Specifically, we argue that such partnerships can help MNCs achieve a competitive advantage by (1) reducing transaction costs due to incomplete information about the market and institutional environment in the host country, (2) overcoming institutional constraints through stakeholder management, and (3) improving the access to local market resources and capabilities.

2 Governance Through Public–Private Partnerships

Private companies can pursue an internationalization strategy by acquiring specialized knowledge, expertise, and technology through different forms of market entry, while pursuing their strategic goals. On the other hand, by partnering with the business sector, the public sector can benefit from the technical expertise of private companies and their experience in project management to create a more business-friendly environment. Therefore, the public sector in developing countries often welcomes foreign firms that it regards as a promising source of financing for development and jobs. In turn, public entities provide various valuable benefits to the business sector such as close connections with local governments and information about the local business environment (Di Bella et al. 2013; Lucci 2012).

Since the 1970s and 1980s, many governments, particularly neoliberal governments, have promoted public-private partnerships (PPP) as an alternative method for providing public goods, particularly with regard to infrastructure (Hodge and Greve 2022; Leigland 2018; Mitchell-Weaver and Manning 1991). PPDPs are a novel and innovative subcategory of the more common PPPs, and focus on development assistance (LKDF 2020). They are defined as "...a way of delivering and funding public services with wider development impact. The investment, risks, responsibilities and rewards are shared between the public sector, the private sector and a development partner. [...] PPDPs are used in areas where poverty reduction cannot be achieved by separating private actors, the public sector and development agencies, and where all these actors share a common goal" (LKDF 2020, p. 4).

As Melville (2016) argued, the wide array of different possible legal structures of such a PPP makes a common definition difficult. However, there is consensus about the defined roles of the public and the private partner in a PPP. According to Poulton and Macartney (2012), the public partner usually refers to the state or a public actor such as a donor or non-profit foundation. In turn, when it comes to the private partner, it is usually agreed that the private partner is a for-profit business, which can range from small- and medium-sized enterprises to local companies, or MNCs, foundations or financial institutions.

Public and private entities vary in their missions, visions, and goals. Private sector firms are accountable to their owners or shareholders. However, with the growing importance of environmental, social, and governance concerns such as corporate social responsibility (CSR), sustainability, shared value, and the circular economy, corporate decisions must also consider the interests of other stakeholders such as employees, consumers, suppliers, and local communities. The goal is to develop business models of increased profitability and competitiveness that create economic, social, and environmental value for stakeholders. In contrast, the public sector's goal is to respond to the needs and interests of society. It focuses on creating the infrastructure, institutions, regulations, and other initiatives to support the economic, social, and environmental development of the country.

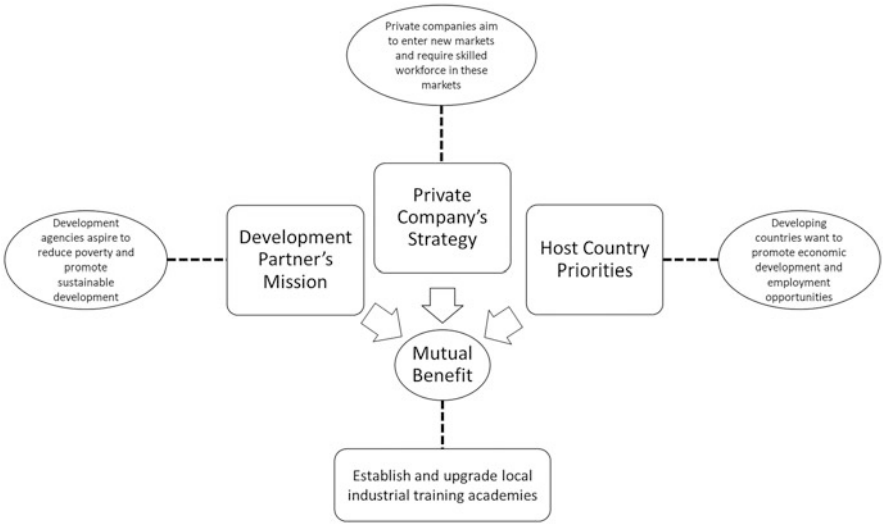

Fig. 1 PPDP structure for Vocational Training Academies (Source: adapted from LKDF 2015)

To be successful, cooperative projects must create benefits for the partners of both sectors. PPDPs are contractual governance structures that align the interests of network parties, coordinate their decisions, and utilize each other's resources (Schaeffer and Loveridge 2002). Private companies can channel foreign investments to the target country and provide specialized knowledge, expertise, and technology through different forms of market entry, while pursuing their strategic goals. In contrast, the public sector can create a more business-friendly environment by providing technical assistance and project management to the industry sector. In such an environment, market entry through a PPP is often seen as a promising method of financing for a country's development and improving its residents' standard of living, while contributing to the financial performance and profitability of the MNC. Therefore, the private sector also benefits from public–private cooperation through an "[. . .] enhanced corporate image, closeness to public-sector decision-makers in a non-commercial context, development of customer loyalty among program beneficiaries, market penetration/reduced costs, reduced scrutiny compared to contractual activity, easy access to information about public sector planning [. . .]" (Robertson et al. 2012, p. 54). However, the entry of foreign firms might also pose a competitive threat to domestic firms, especially when MNCs have lower costs through firm-specific advantages (Herzer et al. 2008; Kosack and Tobin 2006). Figure 1 illustrates the governance structure of a PPDP.

3 Theoretical Framework and Propositions

We consider three leading theoretical explanations for the internationalization of firms through public–private partnerships: transaction cost theory, institutional theory, and resource-based theory. We use these theories to analyze our case study of a PPDP situated in Zambia.

3.1 Transaction Cost Theory and Institutional Theory

During the 1980s and 1990s, the transaction cost theory was the leading explanation for the choices that international firms made about how to enter a foreign country (e.g., Anderson and Coughlan 1987; Anderson and Gatignon 1986; Erramilli and Rao 1993; Hennart 1991; Hennart and Larimo 1998; Kim and Hwang 1992; Taylor et al. 1998). According to Williamson (1981, 1985), two major dimensions influence the entry mode decisions of firms: asset specificity and uncertainty. They are based on behavioral assumptions regarding opportunism, bounded rationality, and risk neutrality. Asset specificity is a key dimension of a transaction. It enables the firm to identify the need for tailored investments versus being able to use standardized investments to support a given transaction. There are two types of uncertainty that influence the governance mode choice. Behavioral uncertainty results from information asymmetries between parties, which may trigger opportunistic behavior. External uncertainty refers to unexpected changes in the economic and institutional environment (Bremen et al. 2010). Therefore, in international business context institutional theory (e.g., North 1990; Peng 2003; Meyer et al. 2009) enriches the traditional transaction cost theory by focusing on the institutional factors, such as laws, regulations and norms that influence the market entry strategy of the MNC.

(I) Transaction Costs and Economic Uncertainty
As Meyer and Estrin (2001) argued, transaction costs are costs that result from the search for suitable targets, the analysis of their economic viability, and all of the aspects connected to negotiations with the management, owners, and governments. Due to the gaps and inefficiencies in developing markets, transaction costs are usually higher than in developed markets. In this connection, the liability of foreignness plays a significant role. It can arise from at least four different but not necessarily independent reasons (Zaheer 1995). First, there are costs directly linked to spatial distance and different time zones. For instance, firms expanding to host countries incur costs related to travel, transportation, and coordination. Second, firm-specific costs that are based on the company's unfamiliarity with the developing country and the lack of connections to the local area can have a significant influence. Third, the foreign entrant can face costs due to the host country's environment, through issues such as the lack of legitimacy or economic nationalism. Finally, firms must consider costs emanating from their home country such as restrictions on sales to certain foreign countries. Brouthers et al. (2003) postulated that choices about

entry modes based on transaction costs are efficiency-driven decisions in which firms will select the mode of entry that minimizes transaction costs. They found that firms are significantly more satisfied with their performance if they chose a transaction cost-efficient market entry strategy.

Therefore, we argue that PPDPs can help firms enter foreign markets by reducing transaction costs associated with environmental uncertainty. Their local partners can help mitigate or reduce the risks and costs associated with issues such as the liability of foreignness of the private company. Thus, we formulate following proposition:

Proposition 1: *PPDP as a hybrid governance mode for entering developing markets reduces the risks and costs of the liability of foreignness and hence the transaction costs of MNC caused by the highly uncertain economic environment.*

II Transaction Costs and Institutional Uncertainty

The institutional theory states that institutional factors such as laws, regulations, and norms, which are represented by formal rules and informal constraints, have an influence on the governance of firms and networks by reducing uncertainty (North 1990; Henisz 2000). Typically, institutions in developed economies are almost invisible, even though their role is critical. In contrast, in most less developed countries, the markets do not function properly, and the absence of institutions and their inability to govern under such circumstances are obvious (Meyer et al. 2009). Developing countries have significantly weaker institutions than developed countries. Their laws are often not well developed or enforced by independent courts. In environments where property rights are weak, governments often feel less accountable to their parliaments and people. The same applies to regulatory agencies that are often incompetent or not well enough insulated from politics, making them inefficient. They are also the breeding grounds for informal rules and issues such as bribery.

North (1990) postulated that institutions provide the rules that guide human interaction in societies. Organizations are the players bound by these formal and informal rules. The role of institutions is to reduce uncertainty and provide stable structures that facilitate such interactions, thereby reducing transaction and information costs. Thus, formal and informal rules can have a strong impact on the choice of entry mode of private sector entities. For instance, formal legal restrictions may limit the equity stakes that can be held by foreign investors, whereas informal norms might favor local enterprises over MNCs due to cultural differences. In developing countries, institutions are important for providing information that is not readily available. Without this information, foreign firms often fail (Peng 2003). Weak institutions amplify information asymmetries, making the choice of partner in the developing country a crucial decision (Meyer and Estrin 2001; Tong et al. 2008).

Consequently, MNCs entering emerging economies find it difficult to grow internally or through mergers and acquisitions due to weak institutional environments such as a lack of property rights, changes in regulations and political structures (Peng and Heath 1996; Henisz and Williamson 1999). In this case, hybrid strategies such as using networks can overcome some of these institutional

constraints. By pooling and coordinating resources, firms can achieve economies of scale and scope while fostering organizational learning. Thus, hybrid strategies—such as the use of PPDPs—can be an effective means of reducing transaction costs due to high institutional uncertainty. In this respect, Hoskisson et al. (2000) emphasized that personal relationships and network contacts have the potential to reduce uncertainties and their related costs, making locally experienced partners very valuable.

To conclude, PPDPs as a market entry mode have the potential to mitigate the MNC's risks and costs stemming from weak institutions and uncertain institutional environments in developing countries. Entities that are part of or directly associated with institutions that regulate the market are important partners in developing countries. Thus, our second proposition states:

Proposition 2: *PPDP as a hybrid governance mode for entering developing markets reduces transaction costs for the MNC caused by the highly uncertain and weak institutional environment.*

3.2 The Resource-Based View

The resource-based view explains why firms are different and how they can achieve and maintain a competitive advantage. Resources are defined as assets, capabilities, organizational processes, and knowledge that help a firm create a competitive advantage (Barney 1991). Barney (1991) classified a firm's resources and capabilities by their value, rareness, inimitability, and substitutability. Most resources that create a competitive advantage are intangible ones. They result in benefits such as cost advantages, differentiation advantages, and first-mover advantages.

In less developed markets, access to specific local market resources conditions the attainment of these benefits. Companies that can overcome the challenges of less developed markets can experience such first-mover advantages, including reputation effects, and economics of scale and scope (Hoskisson et al. 2000). However, it is difficult to realize such advantages in these markets without close relationships with the government and other public institutions. Such relationships can smoothen the path to licenses, properties, and approvals (Hoskisson et al. 2000). Doh (2000) stated that the resource-based view also highlights the importance of network relationships for firms. The learning and knowledge they acquire through such networks is an important factor in reinforcing the competitive position they achieve through their first-mover status and resource development.

Furthermore, according to McWilliams and Siegel (2010), CSR practices such as pollution abatement, recycling, and support for local social services can be an important aspect in the differentiation strategy of private sector firms and a tool for maintaining their competitive advantage. Nyborg and Brekke (2004) stated that CSR can enable the company to develop human resource capabilities by attracting and retaining highly motivated cause-conscious employees. At the same time, CSR

activities also have an influence on society, which becomes apparent when the firm links the provision of public goods to the sale of its private products.

Consequently, we maintain that, when expanding into developing markets, a MNC engages in a PPDP to be able to access new and unique resources to gain a competitive advantage under high institutional uncertainty. Accessing a skilled work force, gaining local market knowledge and assets, or implementing a CSR strategy helps it accomplish this goal by acquiring and upgrading valuable intangible resources and organizational capabilities. Hence, our proposition states:

Proposition 3: *PPDP as a hybrid governance mode for entering developing markets provides better access to critical resources and capabilities for the MNC, and hence to gain competitive advantage.*

4 Case Study Analysis

4.1 Methodology

We conducted a case study to investigate a MNC's choice for a PPDP to further expand into an uncertain economic and institutional environment such as emerging and developing countries. Case studies provide an opportunity to examine a real-life phenomenon within its environmental context (Ghauri 2004; Yin 2014). We used a single case study to analyze how various elements of a PPDP allow a company to overcome the constraints of time and money. However, adopting this approach limits our ability to make comparisons and generalize our results compared to a multiple case study analysis (Yin 2014).

We used purposive sampling to ensure that we could accomplish our goal in an efficient manner. We also wanted to ensure that the case provided sufficient information and data (Patton 2009). Furthermore, we selected a critical case so we could examine the empirical relevance of our predefined research propositions (Yin 2014).

According to Rowley (2002) and Yin (2009), data collection and analysis of a case study should follow the development of predefined propositions based on the existing literature and theory. We followed Mayring's (2000, 2014) qualitative content analysis approach to develop a matrix of theoretical categories and coded the empirical data using these categories (Yin 2014). Based on the predefined propositions, we first identified the categories, which we continuously redefined during the deductive data analysis to consider any new empirical findings. Doing so meant revisiting and testing the previously coded data to include new categories.

To guarantee the validity and reliability of our research, we utilized four principles of data collection (Yin 2014). First, we used multiple sources of evidence for data triangulation. Second, we created a case study database. Third, we maintained the chain of evidence. Fourth, we exercised care when using data from electronic sources. Table 1 lists the techniques we used to ensure the validity and reliability of our case study.

Table 1 Ensuring validity and reliability in our case study (adapted from Yin 2009)

Test	Case study tactic	Phase of research in which tactic occurs
Construct validity	• Use multiple sources of evidence • Establish a chain of evidence	Data collection Data collection
Internal validity	• Address rival explanations	Data analysis
External validity	• Use theory in single-case studies	Research design
Reliability	• Develop case study database	Data collection

To triangulate our data, we used information from two main sources. We collected 1566 pages from 17 publicly accessible documents such as gray literature, project documents, websites, newspaper articles, brochures, and sustainability reports in English language. Furthermore, we analyzed 21 min from five official and publicly accessible videos of interviews and presentations in English via YouTube.

4.2 Case Selection

The selection of an appropriate PPDP project was an important and difficult task in terms of the accessibility of information. Therefore, we adopted several criteria to select the case. First, we searched for an explicit PPDP project, which, as mentioned above, differs from an ordinary PPP. Second, the project had to include a private sector entity representing the firm as well as public and international development entities in the host country. Third, the project had to be ongoing to ensure that the employees were available to be contacted if needed. We used the open data platform of the United Nations Industrial Development Organization (UNIDO) on Learning and Knowledge Development Facility (LKDF) to identify our final case.

The PPDP project we chose is called the Zambian Industrial Training Academy (ZAMITA). The Volvo Group represents the private sector firm entering and investing in the Zambian market to provide vocational training for operating heavy-duty machines. The public side is represented by UNIDO, the coordinating body of the PPDP. The Swedish International Development Cooperation Agency (Sida) and the Zambian Northern Technical College (NORTEC) are the investing public entities.

4.2.1 The Political, Economic, and Social Environment of the PPDP

Located in the south-eastern part of Africa, Zambia borders the Democratic Republic of Congo, Angola, Namibia, Botswana, Zimbabwe, Mozambique, Malawi, and the United Republic of Tanzania. Like many other African countries, the country is landlocked, which usually has a significant impact on the country's economic development (Faye et al. 2004).

In recent years, Zambia has been peaceful and politically stable, allowing its public institutions to mature. Zambia is the largest copper producer in Africa, indicating its strong reliance on this commodity and its demand for market-relevant technology and education. From 2000 to the peak of copper prices in 2011, the country achieved macroeconomic stability, pushing it above the threshold of lower-middle-income countries. Zambia's economy is heavily dependent on mining. However, in recent years, its fiscal deficit has increased mainly due to the fall in copper prices and the slowdown in mining activity. While its GDP grew by around 4% in 2018, it achieved a growth rate of only 2% in 2019 (African Development Bank 2019).

Nevertheless, according to the World Economic Situation and Prospect (WESP) report of the UN, the country has tightened its monetary policy due to the depreciation of the domestic currency and inflationary pressure (United Nations 2020). According to the Doing Business Report from the World Bank (2020), the country is ranked 85th, up from 111th in 2014 (World Bank 2014a).

The main challenges of Zambia's business environment are "informal practices, electricity, and lack of skilled workforce" (World Bank 2014b). Privatization in 1991–2001, which also attracted FDI, did not help improve the overall social situation in the country. Labor standards and favorable working conditions remained weak, leading to the pollution of the local environment, especially related to the mining sector (Vertigans et al. 2016).

In 2001, Levy Mwanawasa became president and implemented a new approach to the privatization program based on the principles of the UN Global Compact. Zambia saw an increase in FDI, with the largest shares coming from Chinese firms in the mining sector. With support from the Zambia Congress of Trade Unions, foreign investors must implement CSR practices in their mining operations to ensure that local communities benefit from the operations. However, politics in Zambia is still clearly influenced by personalities, as the institutions themselves are weak. This situation underscores the importance of building additional capacity (Vertigans et al. 2016).

4.2.2 The ZAMITA PPDP

The goal of the ZAMITA PPDP is to establish a modern training academy for young people that specializes in teaching them how to repair heavy equipment. The program is located in the city of Ndola, Zambia. Such interventions are usually referred to as technical and vocational education and training (TVET). The ZAMITA PPDP functions under the LKDF platform managed by UNIDO. The project started in 2015 with an initial time frame of 4 years. In October 2019, the project partners announced the second phase of this PPDP, called ZAMITA Phase II, which aims to contribute to the project's goals until 2022. Table 2 indicates the tentative budget of the first and second phase of the ZAMITA project.

Table 2 Tentative budget ZAMIT PPDP Phase I + II (LKDF 2014, 2019)

ZAMITA Phase I		ZAMITA Phase II	
Volvo Group	1,705,000 USD	Volvo Group	955,554 USD
Sida	1,640,421 USD	Sida	1,249,357 USD
Ministry—Host Vocational Training Centre (NORTEC)	1,256,000 USD	Ministry	1,060,000 USD
Total budget	4,601,421 USD	Total budget	3,264,911 USD

VOLVO Group

The Volvo Group, headquartered in Gothenburg, Sweden, was founded in 1927. It is one of the world's leading manufacturers of trucks, buses, and heavy machinery for construction and mining. Today the group comprises ten different business areas and offers transport solutions, energy solutions for marine and industrial applications, and services such as finance with total sales of around $43.5 billion US dollars (Volvo Group 2020a; Wagner 2019).

The multinational company employs over 100,000 people and sells its products in more than 190 countries (Volvo Group 2020a). Manufacturing facilities are located in 18 different countries, with Europe (41% of net sales) and North America (28% of net sales) being the key markets. Africa and Oceania together account for 6% of net sales (Volvo Group 2020b) and form the basis for further market expansion.

The Volvo Group is strongly committed to CSR by emphasizing the principles of creating shared value in its overall business strategy (Volvo Group 2016). In doing so, Volvo addresses societal challenges such as lack of education by transferring its unique assets and expertise and creating business opportunities in host countries that benefit all stakeholders involved.

Sida

Sida is the Swedish International Development Cooperation Agency (Sida 2020). It is a public authority under the auspices of the Swedish Ministry for Foreign Affairs and therefore works on behalf of the Swedish parliament and government. Sida's mission is to reduce global poverty by allocating resources and knowledge to people in Africa, Asia, Europe, and South America. To achieve this goal, the agency works with various stakeholders from civil society, academia, and the public and private sectors (Sida 2019). The total amount of development assistance Sida managed in 2018 was $55.6 million US dollars. In the ZAMITA PPDP, Sida is represented by the Swedish Embassy in Zambia (LKDF 2014).

NORTEC

The Northern Technical College (NORTEC) was founded in 1964 in Zambia as an engineering skills training institute to provide workers with technical skills for the thriving copper mines. In recent decades, the college has expanded its range of courses to include construction, service, IT, and entrepreneurship. NORTEC is managed by a board of directors and can be regarded as a quasi-government

institution. It includes four different academic departments: Mechanical, Electrical, Automotive/Heavy Equipment Repair, and the Applied Sciences and Business Studies. Today, the College's objective is to offer quality technical and vocational training to meet the needs of the industry and thus contribute to the overall socio-economic development of the country (NORTEC 2020). However, the institution lacks cutting-edge technology equipment and know-how (LKDF 2014).

UNIDO
UNIDO is a specialized agency of the UN system based in Vienna with liaison offices in Brussels, Geneva, and New York. UNIDO's mandate is to promote and accelerate inclusive and sustainable industrial development. As of 2019, the agency had 170 member states and multiple field offices, regional hubs, and offices for investment and technology promotion in most member states. The agency has four strategic priorities on which development work is based: "Creating shared prosperity, advancing economic competitiveness, safeguarding the environment, and strengthening knowledge and institutions" (UNIDO 2020). These priorities are achieved through four functions: "technical cooperation, analytical and research functions and policy advisory services, normative functions and standards and quality-related activities, convening and partnerships for knowledge transfer, networking, and industrial cooperation" (UNIDO 2020).

For the ZAMITA project, UNIDO is responsible for managing activities between the Volvo Group, Sida, and NORTEC, including ensuring compliance with procurement and financial reporting standards (LKDF 2014).

4.3 Data Analysis and Results

We analyzed our data with the software tool MAXQDA. We coded the text and video data to align with the categories that represent the theoretical constructs of our predefined propositions. Table 3a, b, and c summarizes the categories, based on the theoretical concepts and predefined propositions, as well as some relevant empirical evidence from the data analysis.

Proposition 1
Our data support Proposition 1 that using a PPDP as a multilateral governance mode for entering developing markets reduces the risks and costs of the liability of foreignness and hence the transaction costs of MNCs caused by the very uncertain economic environment (see Table 3a).

PPDPs are usually governed by Agreements (Category T2) such as Memorandums of Understanding (MOUs) between the partners that solidify their commitment and create increased security in terms of management and project execution. Compared to classic contracts, MOUs leave room for greater flexibility as the project evolves. They are a useful mechanism in volatile and risky environments such as in

Table 3 Results—Proposition 1, 2 and 3

(a)			
Proposition 1			
Theoretical construct	Categories	Definition	Coding rule
Self-enforcing contract mechanism	T1: Trust	Level of trust between project partners	Statements will be coded that can be related to the level of trust between project partners
Empirical evidence			
"The Volvo Group already collaborates with UNIDO and the LKDF on a very similar project in Ethiopia, which is currently in its second year." (Document 16) *"As the PPDP places significant emphasis on local [country] ownership and working with local partners and vocational training centres, this requires building trust—and above all—time, to demonstrate that the model can work and provide highly-trained youth with skills that the labour market needs."* (Document 13) *"When a company involves itself and commits to a development project for several years, as the Volvo Group is doing here, it's completely different from the investments companies normally make within the framework of their social sustainability programmes," he says.* (Document 3)			
Enforcement mechanism	T2: Agreement terms	Agreements between project partners	Statements will be coded that give reference to established agreements between project partners.
Empirical evidence			
"Volvo and Sida have signed a MOU [memorandum of understanding] stating their mutual interest in vocational training." (Document 16) *"Based on the agreed funding...upon the agreement of the stakeholders...."* (Document 17)			
Hold-up risk due to transaction-specific investments	T3: (bilateral) transaction-specific investments	Investments shared by project partners	Statements will be coded that give reference towards the sharing of non-financial resources between project partners.
Empirical evidence			
"To add up to previous support and donations to the programme of training aid, Balkisson said the donation of Volvo Euro6 15 ton tipper truck by Volvo southern Africa will be used as a training aid for the institution to enable students have a practical learning experience." (Document 6) *"As part of the project, the institution will be provided with modern equipment and its trainers will undergo skills upgrading in technical and teaching proficiency. In addition, local trainers will receive support from a Volvo group master trainer."* (Document 16) *"To ensure the constant involvement of all project partners, the project will continue to use the Project Steering Committee (PSC) established during the previous intervention. The PSC will represent UNIDO's PMT and the host institution's ZC, but also the Ministry of Higher Education, the Volvo Group, and Sida..."* (Document 17)			

(continued)

Table 3 (continued)

(a)			
Proposition 1			
Theoretical construct	Categories	Definition	Coding rule
"...necessary items will be supplied by Volvo...UNIDO will supply the items that are not part of Volvo contribution, depending on budget availability." (Document 17)			
Transaction costs due to environmental uncertainty, e.g., information, acquisition monitoring costs	T4: Information exchange	Information sharing between project partners	Statements will be coded that give reference to the sharing of information between project partners
Empirical evidence			
"It also helps all the partners to try new things and learn from this and then apply the learning in other parts of the world, with shared risk." (Document 15) *"...The committee heads of the project will present their activity progress."* (Document 17)			
Transaction costs due to environmental uncertainty, e.g., evaluation risks, adaptation costs	T5: Liability of foreignness	The firm-specific costs that are faced by the private sector company which would not occur for local firms	Statements will be coded that can be related to firm-specific costs caused by its liability of foreignness.
Empirical evidence			
"For the Volvo Group alone it would not be viable to proceed with the project because the risks connected to operating in developing countries are too high." (Document 16) *"It would not be feasible through a private-sector-only approach. Without a public sector partner, the private sector partner would not be able to implement the proposed training programme on this scale as...the operation of trainings on this scale would not benefit the company..."* (Document 17)			

(b)			
Proposition 2			
Theoretical construct	Categories	Definition	Coding rule
Lack of local institutions/ infrastructure	I1: Lack of education	The absence or weak performance of institutions in terms of providing education	Statements will be coded that give reference towards the absence or performance gaps in providing education from institutions in the Zambian market.
Empirical evidence			
"In many instances, mine companies have complained that despite having locals with appropriate qualifications, many still lacked the required knowledge especially in modern mining technologies that the firms have adopted." (Document 5) *"...in terms of needs of the local economy (job demands, knowledge and skills gaps, gaps and needs of the education system of the target sector, including outdated training facilities and*			

(continued)

Table 3 (continued)

(b)			
Proposition 2			
Theoretical construct	Categories	Definition	Coding rule
machines).” (Document 13)			
Formal institutions	I2: Policies and Rules	Formal policies and rules that are put in place through institutions	Statements will be coded that give reference towards the presence of formal policies or rules in the Zambian market concerning the project.
Empirical evidence			
“Acknowledging this, mining industry stakeholders have signed a memorandum of understanding around the “Mining Skills and Training Framework (MSTF)”. The aim of the memorandum is to consolidate and improve skills development by creating an organisation named “Zambian Mining Skills, Education and Training Institute (ZAMSET)”, which would plan, commission, and monitor contracted mining education initiatives.” (Document 16) *“The relationship between the Ministry and Technical Education, Vocational Education and Training Authority [TEVETA] is the following: the Ministry is responsible for policy issues whereas TEVETA is a regulatory body. It regulates not only 28 public vocation training centers [VTCs] but also private VTCs. The authority is responsible for curriculum development, accreditation and examination.”* (Document 16)			
Informal institutions	I3: Lobbying	Informal rules that impact the market	Statements will be coded that give reference towards informal rules within the Zambian market.
Empirical evidence			
“Create a lobbying function (formally or informally), such as a lobby group for skills training.” (Document 15) *“For example, business knows the market and the technical needs and has the expertise and materials for specialized training; the government partner will have local detailed policy knowledge and relationships on the ground; UNIDO will have the international and multi-country perspective,* etc.*”* (Document 15)			
Local stakeholder participation/ commitment	I4: Involvement of institutions	The presence of institutions	Statements will be coded that give references towards the presence of institutions in the Zambian market through providing information and support.
Empirical evidence			
“The support extended by the Ministry of Higher Education and the Ministry of Commerce Trade and Industry was crucial in the success of the ZAMITA.” (Document 6) *“The LKDF partners with relevant vocational education and training [VET] providers across the VET landscape, ensuring the full synergy of the project and training facility establishment and support in the national context, both in terms of policy support...”* (Document 13)			

(continued)

Table 3 (continued)

(b)			
Proposition 2			
Theoretical construct	Categories	Definition	Coding rule
"Without a public sector partner, the private sector partner would not be able to implement the proposed training programme . . . there would be doubts about undue competition and involvement in an area that is essentially governed by the public sector." (Document 17)			
Building legitimacy through CSR	I5: Stakeholder approval	Contribution towards the CSR strategy	Statements will be coded that give reference towards the contributions of pursuing the CSR strategy of the private sector company.
Empirical evidence			
"The government cannot do everything alone. The government needs partners along the way and we relied on many of such partnerships to be able to carry out mandates. So when we have this partnership with Volvo, UNIDO, and Sida, it goes a long way in government meeting the needs of the people through institution such as NORTEC [. . .] we will be supportive of even these partners when they come calling on government for this or that because we see how they are willing to work with us." (Video 3)			

(c)			
Proposition 3			
Theoretical construct	Categories	Definition	Coding rule
Sustainable competitive advantage	R1: Long-term goal	Long-term goals of the private sector entity that help to build unique resources throughout time	Statements will be coded that give reference towards the long-term goals of the private sector company that helps to develop unique resources and competitive advantage in the host market.
Empirical evidence			
"Why we chose to join this programme is really that we see the business need for trained well skilled technicians and drivers in the future for our business expansion in certain countries like the countries in Africa." *"Trained mechanics will have the opportunity to work in countries with high unemployment, while Volvo will gain access to the trained personnel that we need in order to expand in Africa," says Malin Ripa, senior vice president, CSR management.* (Document 12)			
Exploitation of non-location-specific resources and capabilities	R2: Cooperation experience	Experience in cooperation with other stakeholder which facilitates organizational learning	Statements will be coded that can be related towards cooperation experience of the private sector company.
Empirical evidence			
"Over a period of five years, the Volvo group is planning to set up ten vocational training programmes in Africa. The Volvo group is partnering with development organisations and			

(continued)

Table 3 (continued)

(c)			
Proposition 3			
Theoretical construct	Categories	Definition	Coding rule
schools in different countries." (Document 3) *"Watch UNIDO's video from Ethiopia where the vocational training school has been in operation some years in partnership with the Volvo group, UNIDO and Sida."* (Document 12)			
Exploration of location-specific resources and knowledge assets	R3: Local market resources and knowledge assets	Apprenticeships and development of skilled workforce	Statements will be coded that give reference to the MNCs access to local partner resources for entering the foreign market and implementing the project.
Empirical evidence			
"In parallel, Volvo, a global company manufacturer of heavy-duty construction equipment and transport trucks, has recognized skills development as a key area of interest for their business. . .in terms of filling skills needs for their own purposes. . . ." (Document 16) *"In addition to that, NORTEC has a very equipped electrical hydraulic lab as well as simulators very expensive machines that is only to train the students, so the answer is yes, NORTEC is definitely fully equipped with the latest technology equipment."* *"Contributions from Sida will enable the partners to leverage each other's expertise and inputs for achieving sustainable, common and widely beneficial objectives."* (Document 16) *"By concentrating on vocational training, the Volvo group can. . .[remedy] the scarcity of trained mechanics and technicians."* (Document 11)			
Intangible assets	R4: Image and reputation	Contribution towards the CSR strategy	Statements will be coded that give reference towards the contributions of pursuing the CSR strategy of the private sector company.
Empirical evidence			
"In parallel, Volvo, a global company manufacturer of heavy-duty construction equipment and transport trucks, has recognized skills development as a key area of interest for their business. . .from the perspective of contributing to strengthening African economies." (Document 16) *"Societal engagement is about giving back and we believe the best way for us to do that is by taking part in long term projects where we can use our skills and our equipment. By participating in the vocational school programmes, we are driving prosperity for young men and women, while making themselves employable."* (Video 4)			

developing countries like Zambia. Using them can reduce ex-post contract re-negotiation costs.

The members of the ZAMITA PPDP share common interests and are governed by a steering committee composed of all partners who oversee the activities. The setup

of the Steering Committee and other shared transaction-specific investments (Category T3), such as equipment, financial resources, facilities, and training, create a bond between the partners helping them commit to a long-term involvement in the Zambian market. Enforced by the terms of the MOU, the shared investments reduce the transaction costs for the partners, such as investments in operations, monitoring, and safeguarding. Consequently, we maintain that having all of the PPDP partners share transaction-specific resources and the risks associating with investing in an uncertain market such as Zambia accounts for the relatively few instances we found in the Liability of Foreignness category (Category T5). While operating in the Zambian market alone would be very costly for Volvo due its distance from Sweden and Zambia's volatility, the company overcomes these limitations through collective engagement and participation in the PPDP.

Our results indicate that confidentiality and trust (Category T1) play a fundamental role in this form of partnership. Given the different mandates of public and private sector entities, the private sector must find a balance to protect its competitive advantage while cooperating with public actors, networks, and funding partners. Our data show that the trust between the PPDP entities resulted in a second phase of the project. It also opened up the possibility of additional cooperation in other host countries with similar situations such as within the LKDF framework (LKDF 2015).

These governance mechanisms of the ZAMITA PPDP—agreement terms, bonding, and trust—motivate the partners to share the lessons they learned from this project as well as other projects in the LKDF and their specific expertise, such as the technical assistance that UNIDO could provide. This finding supports a standardized approach to the Exchange of Information (Category T4) in a PPDP, such as through regular meetings of the Steering Committees. Thereby, partners can significantly reduce information asymmetries and the transaction costs of information acquisition. In addition, the meetings of the project stakeholders improve the monitoring of the project. Overall, we conclude that there is strong support for Proposition 1 that the MNC (i.e., Volvo) can reduce its transaction costs when entering a developing market such as Zambia with a very uncertain economic environment by establishing a PPDP.

Proposition 2

Our data support Proposition 2 that a PPDP as a multilateral governance mode for entering developing markets reduces transaction costs for the MNC caused by the uncertain and weak institutional environment (see Table 3b).

Our qualitative content analysis revealed that Zambian institutions have a weak infrastructure in training facilities, machines, and technologies, resulting in a Lack of Education (Category I1) of the local labor force. In general, such a weak institutional infrastructure prevents private firms from investing in developing markets. Volvo recognized that overcoming the lack of skilled labor was essential to expand their business in the Zambian market. The company also understood that a partnership with public institutions from the host country and abroad could help them reduce the risks of operating in an insecure business environment.

Our data provide strong evidence that the Zambian government has a proactive approach to reducing the skills deficit in the mining sector. The local institutions emphasize the implementation of Policies and Rules (Category I2) to facilitate and coordinate the development of vocational training programs in the country. Furthermore, to a lesser extent, there are also informal mechanisms in place such as Lobbying (Category I3) that help create favorable conditions for activities promoting training and skills acquisition in the Zambian mining sector.

These formal and informal institutional mechanisms, which coordinate skills acquisition and training, are important signals for attracting foreign direct investment into Zambia's mining sector. Such signals are necessary to offset Zambia's negative reputation for corruption. According to Transparency International, Zambia ranks 34th on the 2019 Corruption Perceptions Index, which is below the average of 39 in all African countries (Transparency International 2020).

From this point of view, cooperation with a quasi-government agency, meaning NORTEC, in the form of a PPDP, offers significant benefits to Volvo. The local facility can share local plans, policies, and institutional mechanisms. It can also help build relationships with local stakeholders critical to the project. Consistent with Pattberg et al. (2012), our collected data show that one of the main benefits of PPDPs is the access to and Involvement of Institutions (Category I4) from the host country. Their participation helps the private sector partner reduce the risks posed by weak institutions to a minimum.

Finally, our results show that the ZAMITA PPDP, as a development aid project, benefits the local economy and infrastructure. According to our data, local stakeholders such as the Zambian society, government, and institutions have positive views of the partnership project, prompting them to reciprocate by supporting the PPDP in carrying out their activities. This is a form of indirect lobbying that gives the PPDP legitimacy and Stakeholder Approval (Category I5), while reducing its vulnerability to corruption in the Zambian market. Its format is consistent with Draxler (2008) who pointed out that ethical and moral commitment is a fundamental element of partnerships, which, if guided by the purely financial intentions of the private sector partner, are otherwise prone to disruption and failure. Overall, based on our evidence, we conclude that there is support for Proposition 2 based on institutional theory that the MNC (i.e., Volvo) can reduce institutional uncertainty and overcome institutional restrictions in the emerging market by establishing a PPDP.

Proposition 3

Our data also support Proposition 3 that a PPDP as a multilateral governance mode for a MNC entering developing markets provides better access to critical resources and capabilities, and the ability to gain a competitive advantage (see Table 3c).

Volvo's participation in the ZAMITA PPDP is part of their Long-term Goal (Category R1) to establish their market position in the African market by developing and accessing a skilled local workforce. This finding is consistent with Draxler (2008) who argued that the private sector, as an investor in a partnership that is not explicitly geared towards just making money, is more likely to focus on

long-term value creation in areas such as risk management, market potential development, and image promotion. Such partnerships also strengthen relationships with potential customers and improve the quality of the local work force and/or community relations. Strategies such as expanding into African countries are based on long-term goals and a commitment to exploring intangible assets such as a skilled workforce as sources of competitive advantage.

An important criterion for successfully entering the Zambian market by establishing a PPDP is Volvo's extensive experience in working with various stakeholders and entities in developing countries. This Collaboration Experience (Category R2) promotes organizational learning within the PPDP and is manifested in the correlation between the Collaboration Experience and Information Exchange categories (compare Category T4 discussed previously). Therefore, we can infer that the sharing of information in well-functioning partnerships and alliances not only reduces transaction costs and risks, but also helps firms exploit intangible resources and capabilities as sources of a competitive advantage.

Through the establishment of the ZAMITA PPDP partners explore the Local Market Resources and Knowledge Assets (Category R3) needed to create vocational training in Zambia. By participating in this venture, Volvo gains relevant knowledge about the local market such as an understanding of the local economic conditions characterized by high levels of youth unemployment and the lack of a skilled labor force. As far as the data show, this understanding is a critical driver for the Volvo Group to engage in this project. To sell their products and secure their foothold in the Zambian market, Volvo needs to have skilled local personnel who can ensure high-quality maintenance and repairs for their customers.

With regard to the creation of a skilled workforce, the evidence is also in line with Robertson et al. (2012) who postulated that the majority of development partnerships in the area of education are taking place in the field of technology. According to them, private sector firms have a very strong interest in supporting the training and development of a technology-savvy generation. The Volvo Group combines its expertise in the transfer of vocational training with the additional technology assets and resources of their PPDP partners. Once it has completed the vocational training, Volvo will have access to an employable and productive workforce that can handle and repair their heavy-duty, state-of-the-art vehicles in local markets.

Finally, the data indicate that Volvo's strategy to provide vocational training through a PPDP centers not only on performance goals, such as market expansion via access to a skilled labor force, but also on sharing the value created with the local society and economy. We can link this finding to Robertson et al. (2012)'s reasoning that the non-profit-driven engagement of the private sector in educational development activities accords with their CSR strategy as an integral part of their corporate strategy. Hence, Volvo's participation in the PPDP might not only generate intangible assets such as Image and Reputation (Category R4) but also result in a sense of belonging among Volvo's employees, creating intangible assets such as loyalty and bonding among employees. These factors are critical to a company's business and success.

All these aspects can be seen as building up unique resources (mostly intangible ones) through the PPDP and thus creating competitive advantage while facilitating access to the emerging market by providing support for the development of a skilled workforce that can handle the heavy-duty vehicles sold by the Volvo Group. Therefore, it can be concluded that, in accordance with Proposition 3 and the resource-based theory, the Volvo Group can access through the PPDP unique resources and assets as a potential source for achieving competitive advantage in a highly uncertain institutional environment.

5 Discussion, Implications, and Future Research

5.1 Findings

Our results show that engagement in the ZAMITA PPDP helps the Volvo Group as a private company achieve its business goals. We identified three main categories where the company benefits from investing in a PPDP when entering a volatile and underdeveloped market with weak institutions like Zambia. First, there are high transaction risks when entering developing countries, which differ greatly from industrialized countries in their economic, cultural, and institutional environment. Private sector companies rarely make large financial investments in such markets. They are more likely to offer products, expertise, and in-kind contributions to educational partnerships in developing countries. This approach ensures their flexibility because they invest fewer non-retrievable assets than through other forms of market entry such as greenfield investments or joint ventures. PPDPs with a focus on technology education are particularly attractive to private companies, the public sector, and those promoting the country's development because this approach unites their goals and intentions. Coupled with the smaller scale of operations achievable in less developed countries, this approach has a positive impact on the sharing of investment costs and risks between partners and utilizes a strategy that serves both private and public interests.

Second, the local infrastructure and institutions in developing markets are significantly less developed. Their lack of clear policies, laws, and market regulations discourage direct private sector investment. Therefore, local government and stakeholders create supportive measures for the PPDP to offset the country's institutional weaknesses and ensure the partners' confidence in the implementation of the PPDP's long-term strategic goals. Such a form of trust- and relationship-based cooperation enables all those involved to gain experience in successful cooperation and implementation throughout the project.

Third, the combination of the tangible and intangible resources of the partners within the PPDP plays a significant role in realizing the competitive advantage of the private sector enterprise. The approach is based on a long-term, high-investment strategy, i.e., the development of a skilled workforce. It is important to remember that the ZAMITA PPDP is a project within the LKDF and a successful iteration of

other PPDP TVET programs from other countries. ZAMITA's PPDP partners have a history of successful collaboration and developed competencies combining their unique resources and skills in the vocational training project in Zambia. It promotes confidence and organizational learning, ensuring the successful achievement of the full scope of the project. This success, in turn, creates a positive image and reputation for the PPDP—the private sector company and its partners. It helps create strong local community ties and global, regional, and local partnerships. These factors are important sources of path-dependent intangible assets that help secure Volvo's competitive position and growth on the African continent.

5.2 Limitations

It is important to mention that the findings of case studies tend to be more complex in nature, which makes it challenging to translate them into easily accessible and realistic pictures. As Yin (2009) stated, in reviewing any document, it is crucial to understand that it was written with a specific goal and for a specific audience other than the researcher. Therefore, he emphasized that it is important to constantly try to identify any objectives that might lead to misleading conclusions and to view the sources of evidence critically. In this regard, Jewitt (2012) noted that, when analyzing videos, it is necessary to understand the background of a video, the context of its production, and the original purpose and audience, as these aspects are embedded in the video. Crucial aspects might be missing in the video, because they do not serve its purpose. This point is important to take into consideration with regard to the findings because the published videos are one key source of evidence. At this point we should also note that we did not use all of Yin's (2009) six sources of evidence because they were not readily available, retrievable, or accessible due to the COVID-19 situation.[1]

The design of a single case study has limitations with regard to the ability to generalize its outcomes. Even though, as Yin (2014) suggested, the use of theory helps mitigate this problem, the issue of external validity still remains. Thus, we regard our findings as a starting point for more research in this area. In addition, we also underscore that there are other forms of PPDPs that do not include technical and vocational education and training interventions and that use other forms of FDIs that we did not consider.[2]

Finally, we focused on the Zambian market, which has comparable but also unique and different characteristics than other developing countries. Thus, our findings provide some initial insights into the broader topic of PPDPs and market

[1] For example, we could not conduct some of our planned interviews due to the COVID-19 pandemic and its ensuing restrictions. Selected employees had to take forced holidays or significantly reduce their work hours and thus were unavailable.

[2] Many projects can be found here: https://disclosures.ifc.org/project-mapping

entries into developing markets. The fact that vocational training PPDPs under the LKDF are also used in similar ways in different markets mitigates this problem to a certain extent and shows that common issues and rationales between markets and private sector firms exist (LKDF 2014). At the same time, we must also note that the private sector in PPDPs with a focus other than vocational training might pursue different goals.

5.3 Implications for Theory and Practice

Our study combines transaction cost theory, institutional theory, and resource-based theory to explain the entry and expansion of MNCs in developing countries through the establishment of a PPDP as a multilateral network. Our findings imply that when MNCs target growth in regions that are less developed, their choice of governance mode is determined by the type of business the MNC wants to establish in the foreign country. For businesses that are less in need of skilled labor in less developed markets, the traditional international business and entry mode variables explain the choice of entry mode. Therefore, a combination of firm-level transaction efficiency and resource deployment factors, along with country-level institutional conditions, offers a range of possible governance modes such as greenfield investments, mergers and acquisitions, hybrid modes such as alliances, and non-equity modes such as exporting.

In contrast, for knowledge-intensive MNCs seeking entry into developing countries, country-level factors are the deciding factor in their mode of entry, limiting the choice of entry modes to hybrid governance structures such as strategic alliances. The weakness of the educational system in developing countries excludes non-equity modes from the available choices and requires MNCs to make long-term investments in transferring the necessary knowledge-based resources to developing countries. Since the economic conditions in these countries do not permit larger ventures, at least in the short- and midterms, the investments will be profitable only if they are planned over a long time period, which is also outside the scope of for-profit equity investments and joint ventures. A PPDP is a specific form of hybrid governance where private and public sector partners work together by assigning decision rights to the partners to achieve a common goal based on development assistance. Therefore, in countries with underdeveloped conditions in their educational infrastructure, decisions about the type of entry depend on the knowledge intensity of the business and the MNC's strategy and attitudes about creating shared value. Both knowledge transfer and philanthropic strategies require a collaborative entry mode such as a PPDP that combines resources from private and public partners to achieve the long-term strategic goal.

From the managerial perspective, our findings underscore that MNCs can use PPDPs as a tool for pursuing several goals at the same time. First, they can help private companies enter unsecure and risky business and institutional environments such as developing markets. Second, they provide the opportunity to pursue and

implement CSR strategies in a visible manner by providing development assistance that is also monitored by a publicly recognized partner such as development aid organizations or multilateral organizations such as the UN. Third, PPDPs provide the unique resources of the partners that allow private companies to achieve and retain a competitive advantage. However, these advantages may take a long time to come to fruition. In the case of vocational training PPDPs, the contribution to the development of a country or specific market will not actually be evident before the graduation of the students. Some private firms might balk at this seemingly long-term investment. Another expectation of the private sector in connection with the PPDP is that by helping local people climb the economic ladder through better education and finding jobs in other firms, they will learn how to use the firm's products and services. Thus, in accordance with Robertson et al. (2012), they will become future customers of the firm.

In comparison to other market entry forms, PPDPs can be less resource intensive and have a more flexible contractual frame than joint ventures. This is a crucial aspect, which ensures that the private sector company can cope with a volatile business environment in an appropriate manner. At the same time, managers should not neglect the risk that firm-specific know-how, capabilities, and information are shared with the partners when considering this form of cooperation. The partners are monitored by the government, public clients, and donor organizations for compliance with guidelines and political frameworks. Thus, this multilateral network form of market entry is fundamentally different from market entries based on cooperation between private parties only.

5.4 Future Research

As highlighted in this study, PPDP as multilateral network is a hybrid governance form for market entry in developing countries. Finally, we compare PPDP with the traditional equity and non-equity market entry forms by focusing on the governance structure as transaction cost savings as well as knowledge creation and transfer mechanisms when expanding into developing countries. Thereby we differentiate between the following transaction cost and resource-based factors (see Fig. 2). First, the realization of transaction costs savings under increasing economic and institutional uncertainty requires increasing control from market, to bilateral network and more hierarchical governance modes; and second, the realization of resource-based advantages due to increasing intangible firm-specific and local market-specific resources requires increasing control from market, to bilateral networks to multilateral networks, such as PPDP. Thereby we have to include institutional uncertainty in the comparative analysis; institutional uncertainty is low under strong institutions (i.e., in developed countries), and it is very high under weak institutions (e.g., in developing countries).

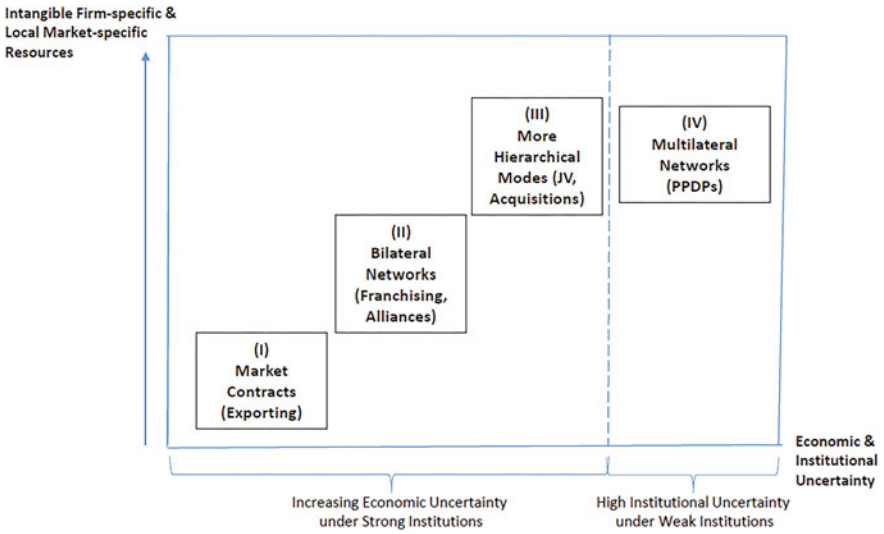

Fig. 2 Comparative institutional framework

(I) Strong Institutions: Under low economic and low institutional uncertainty and no intangible firm-specific and local market-specific resources, the MNC will choose market contracts, such as exporting, as international expansion strategy.

(II) Strong Institutions: Under moderate economic uncertainty, low institutional uncertainty, and moderately intangible firm-specific and local market-specific resources, the MNC will choose bilateral networks, such as alliances and franchising, as international expansion strategy.

(III) Under high economic and low institutional uncertainty and highly intangible firm-specific and local market-specific resources, the MNC will choose more hierarchical modes, such as acquisition and JV, as international expansion strategy.

(IV) Under high economic and high institutional uncertainty as well as highly intangible firm-specific resources and local market-specific resources, the MNC will choose a multilateral network such as PPDP.

We can conclude that, compared to the traditional market entry modes, PPDP as a multilateral governance mode results in transaction cost savings and resource-based advantages under high economic uncertainty, high institutional uncertainty due to weak institutions and highly intangible firm-specific and local market-specific resources. Future research should examine this research proposition by collecting data on market entry modes from developed and developing countries.

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The Impact of Quality Management Practices on Purchasing Performance Within Supply Chain Relationships in Service Organizations

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Abstract The primary purpose of this study has been to investigate the association between Quality Management Practices in Purchasing (QMPPs) and purchasing performance within supply chain relationships in the service industry. A set of hypotheses derived from the key aspects of quality management practices in purchasing and purchasing information system practices, as envisaged in past research in the areas of quality management, purchasing, and supply chain management, has been tested on a sample of 100 purchasing managers drawn from the hotel industry in Thailand. The findings indicate that quality management practices in purchasing have a significant direct impact on the use of purchasing information service practices and the purchasing performance, as well as an indirect impact on purchasing performance of service organizations mediated through purchasing information system pratices. Numerous theoretical and managerial implications of the findings of this study have been presented, that would not only be instrumental in furthering research in supply chain networks and service industry domains but would also offer useful insights to the industry practitioners enabling them to manage service operations competitively.

1 Introduction

An acute need to draw a sustained competitive advantage in today's hypercompetitive global marketplace has profoundly induced management to change its philosophy from company-orientation to supply chain orientation (Ugochukwu et al. 2012). The critical role of the supply chain management (SCM) in galvanizing company performance could not be undermined by the firms. For companies to remain profitable these days, the attention of management needs to be directed to an effective management of supply chains

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(Gutierrez-Gutierrez et al. 2018; Uluskan et al. 2016). Firms are pursuing a variety of ameliorated SCM practices to improve product and/or service quality while simultaneously reducing costs (Anil and Satish 2019; Baraniecka 2016). They are a lot more open to integrate instrumental tools and techniques all along the supply chain networks to enhance its efficacy in accelerating company performance. The integration of quality management initiatives is one of them (Peng et al. 2016; Tizroo et al. 2017). Various scholars have strongly advocated such an integration of QM systems to enhance firms' competitiveness through enhancing their supply chain performance (Foster et al. 2011; Gutierrez-Gutierrez et al. 2018; Kaynak and Hartley 2008).

Quality management corresponds to the management of all functions and activities necessary to determine and achieve quality. In pragmatic terms, it means providing a product or service, which is satisfactory to the consumer, at a price commensurate with that satisfaction, in the most cost effective and efficient manner. According to Soltani et al. (2011), and Wiengarten et al. (2015), quality management offers more scope for achieving and maintaining a company's competitive advantage than other management techniques. The integration of quality management tools and techniques into SCM has been designated as "Supply Chain Quality Management" (SCQM) in the literature (Lo and Yeung 2006; Sila et al. 2006; Foster et al. 2011; Uluskan et al. 2016; Tsai and Hung 2016). A profound need to diverge from conventional firm or product centric view to a collaborative SCM in an age of network approach to business has inspired academicians and practitioners to solidify this much needed overlap between QM and SCM (Ross 1998; Sila et al. 2006; Lo and Yeung 2006; Foster 2008; Foster et al. 2011; Prajogo et al. 2012; Tsai and Hung 2016; Uluskan et al. 2016). An organization-wide approach to managing quality across the entire supply chain network can invigorate its performance in a competitive environment through promoting greater understanding, alignment, mutuality, cooperation, coordination, and knowledge sharing among the key SC stakeholders for the maximization of co-created value (Huo et al. 2014; Humphries and Gibbs 2010; Kamal and Irani 2014; Soares et al. 2012; Zhang et al. 2011). Several studies have attested to the performance enhancement effects of the integration of quality management practices in SCM (Fernandes et al. 2017; Jayaram et al. 2013; Quang et al. 2016; Sampaio et al. 2016).

Purchasing (or in a broader sense procurement) is one of the key SCM activities that occupies a crucial role in amplifying competitive position and performance of a firm not only through cost reduction but also through value creation and/or enhancement (Ik and Azeez 2020; Bezecný et al. 2019). Purchasing, as an essential function, is primarily responsible for materials being moved from suppliers/vendors to manufacturing facilities. An organization's profit is determined and defined by its purchases to a notable extent, and purchasing performance is one of the key drivers of a company's growth, even survival. According to one estimate, between 50 and 70% of a manufacturing and/or service company's potential value is in purchased items (Mihaly 1999). Some authors (e.g., Dowst 1987) have noted that half of the quality problems arise due to the defects in purchased supplies (aka garbage in, garbage out) leading to an unwanted rise in cost of production, hampering firms'

competitiveness especially in international markets. According to Zsidisin and Smith (2005) and Andresen (2009), a crucial challenge for effective purchasing is not only to ensure continuity of supplies but also to block cost escalations in the face of supply chain disruptions caused by any natural or man-made disasters, or the outbreak of pandemics such as Covid-19—the integration of QM into purchasing can profoundly help it in the successful realization of these goals. Prajogo et al. (2012) and Uluskan et al. (2016) noted that the efficacy of purchasing and supply chain management could significantly be enhanced through committing substantial quality-enhancement-centered investments in purchasing practices. Cavinato and Kauffman (2000) also revealed implementation of QM in purchasing as an effective step towards an acceleration of firm performance.

Åhlström and Nordin (2006) and Smeltzer and Ogden (2006) contend that purchasing (materials and services) for service organizations is more complex than doing the same for manufacturing firms. The complexity primarily stems from factors like the dispersed rather than centralized nature of procurement, the absence of a clear link between inputs, processing, and outputs, low priority given to the procurement expertise of personnel, end user rather than process focus, loss of control over suppliers and customers due to excessive outsourcing, writing poor contracts, etc. (Abouzeid 2019; Åhlström and Nordin 2006). Despite such a complexity, the dynamics of purchasing performance for service organizations remains an under-researched area (Abouzeid 2019). Realizing this deficiency in literature, we have focused on investigating dynamics of purchasing performance in service organizations, more specifically the (direct as well as indirect) impact of quality management purchasing practices (hereafter QMPPs) on purchasing performance in hotel industry. The hotel business is one area where there is intense competition. Each hotel continuously seeks to develop and modify its services to stay competitive. The purchasing function is a broad-based and key business activity in hotel industry. It is a critical support activity that ensures that operations run smoothly and efficiently. A hotel's operational efficiency has a direct impact on economic gains through both the quality-enhancement and cost reduction avenues.

Though several studies have investigated impact of the adoption and implementation of quality management systems in purchasing on the supply chain performance and/or the overall performance of the firm, there has been scarcity of research examining the (direct or indirect) impact of such a QM integration on purchasing performance, especially in service organizations (Abouzeid 2019; Cua et al. 2001; Anil and Satish 2019; Baraniecka 2016; Gutierrez-Gutierrez et al. 2018; Zeng et al. 2017). This research makes up for this deficiency by explaining how the integration of QM systems in purchasing practices enhance purchasing performance directly as well as through inducement and consequent adoption and implementation of purchasing information system services, in service organizations. The intended contributions of this study are manifold. First, we seek to contribute to the existing body of knowledge in QM, purchasing, technology management, and SCM by exploring the QMPPs—purchasing performance link by considering the mediating effects of the purchasing information system services. Putting it differently, this study contributes to the purchasing and SCM literature by investigating the impact of QMPPs on

purchasing performance through inducing/implementing purchasing information systems. Second, by focusing on service sector, this study makes up for a critical deficiency in purchasing management and SCM literature where focus of most research has been on purchasing in manufacturing businesses. Third, owing to the (perceived) pivotal role of effective procurement during abrupt crises, this study seeks to offer some useful insights for enhancing firms' adaptive response to the organizational crises stemming from environmental disruptions. Finally, the study has been conducted in ASEAN region, the findings of the study bolster the generalizability of etic theories developed in the west to other cultural and/or geographical contexts.

The subsequent sections of this paper are structured as follows. The second, third, and fourth sections, besides presenting an account of the problem background, relevent literature review, highlight some research gaps and subsequently outline a theoretical framework to bridge these research gaps. Section 5 explains methodology of the empirical study. Section 6 presents an analysis of the data as well as the results ensuing from this analysis. Section 7 presents a discussion on the (empirically substantiated) cause and effect relationships among the subject constructs. The final section discusses some theoretical and managerial contributions of the study, besides concluding the entire discussion.

2 Theoretical Background

2.1 The Hospitality Industry Today

In today's shrinking, fast-moving world-airlines, passenger ships, trains, buses, and automobiles carry travelers all over the globe on either pleasure or business trips. These travelers require food, lodgings, and services of a good standard, at reasonable prices. In every country, new hotels offer improved standards of accommodation, restaurants, bars, banqueting halls, and facilities for meetings, conventions, and recreation. The United States is the tourist capital of the world, and the dollar value of travel amounts to billions every year. Hotel management today is controlled by computers and data processors, which spew out a continuous stream of useful information on unit costs, budgets, payroll control systems, market research analysis, and statistics. This data could be helpful not only in correctly understanding the concurrent situation but could also help hotels to make sound projections about the future and be ready to adjust to the future contingencies. It is a fiercely competitive business: every operator aims for maximum occupancy and profitability. This goal could be achieved by continuously improving efficiency within the establishment and by offering the highest standards of accommodation, facilities, and service at competitive prices. The phenomenal growth and expansion of the industry since 1960s have created a constant demand for trained, skilled staff. With modern management and new business techniques, the future will bring an increasing

demand for intelligent, well-educated young people trained in science and technology.

2.1.1 Purchasing in the Hospitality Industry

Purchasing in the hospitality industry can be described as obtaining the *right product, at the right place, at the right time*. This statement sounds extremely simple, but when it is applied to the 1000 to 2000 items a hotel purchases, it presents a great challenge for the purchasing manager. The hotel purchase function supports virtually every department within the property, whether purchasing chemicals for the housekeeper or stewarding office, supplies for marketing, computer supplies for accounting, or food and beverage products for the restaurant service. Hospitality purchasing professionals are usually referred to as purchasing managers or purchasing agents. These individuals are responsible for acquiring material resources for a hospitality enterprise in a timely and cost-efficient manner. A process called sourcing is how purchasing professionals identify the vendors that provide resources that meet the specifications of a specific hospitality organization. The purchaser will base procurement volumes on operational forecasts used to determine resource use. Once the volume levels have been determined, the purchaser will secure pricing bids from some vendors. The purchaser then will issue a purchase order to each selected vendor. The purchase order is an authorization for accounts payable for a specific invoice after the goods are received by the hospitality organization (Andrew and John 2001).

3 Literature Review

3.1 Quality Management Practices in Purchasing (QMPPs)

Total quality management (hereafter TQM) has been defined as a "philosophy" or an "approach to management" made up of a set of mutually reinforcing principles, each of which is supported by a set of practices and techniques (Dean and Bowen 1994). According to Hoyle (2007), successful implementation of TQM enhances performance through enhancing process controls, reducing wastage, decreasing costs, increasing market share, instilling greater staff involvement, and setting a virtuous mission and vision of a company and directions to be followed. Peng et al. (2016) contend that competencies achieved through the adoption of TQM may have tremendous effects on organizational performance. Ameer (2018) found that inadequacies of the current SC models in realizing desired performance levels are partly due to a lack of adoption and implementation of TQM programs. Kawalla et al. (2019), while reckoning quality as a key strategic goal, urge the need for quality certification all along the supply chain networks to gain superior economic and social gains. Peng et al. (2020) showed how SC performance is impacted through

enhanced collaboration among SC partners when TQM is instituted. Consequently, a vast number of scholars have advocated a stronger need to integrate QM tools and techniques in all functions and areas of value chains, including purchasing (Wee and Wu 2009; Fletcher et al. 2016; Tsai and Hung 2016; Tsanos and Zografos 2016; Sancha et al. 2015).

The adoption of quality management practices in purchasing has attracted attention of numerous authors. The literature discusses such issues as the need to establish cooperative relationships with suppliers, barriers to implementation, and performance. A review of the literature also finds a number of studies that have adopted a broader view of the implementation of quality management in purchasing, including the need to manage purchasing personnel based on quality, the need to enhance the coordination of purchasing with other functional areas of the company, the strength of purchasing managers' commitment towards quality, and benchmarking in purchasing (Hemsworth and Sanchez-Rodriguez 2003).

The first set of practices included in the quality management practices in purchasing (QMPPs) construct deals with involvement of the suppliers in quality management. Several studies have recognized the importance of supplier quality management (hereafter SQM) to a buyer's success in achieving quality (Humphries and Gibbs 2010; Ketchen et al. 2008; Kannan and Choon Tan 2006; Soares et al. 2012; Tsai and Hung 2016). SQM could be regarded as reducing size of supplier portfolio, appraising performance of the suppliers, outlining effective improvement goals for the suppliers and acknowledgement of such improvement, facilitating suppliers' involvement and development, etc. (Trent and Monczka 1999, 2002; Tsai and Hung 2016).

The implementation of QMPPs is, however, not limited to supplier management practices but also involves coordination of the purchasing function with other functional areas, such as the collaboration between purchasing and marketing in new product design processes or the collaboration between purchasing and manufacturing in quality-related problems (Burt 1989; Carter and Narasimhan 1994; Otley 2016; Soares et al. 2012). The literature has also identified purchasing personnel management as a key implementation issue in purchasing for companies with a total quality management (TQM) system, including personnel autonomy, commitment to empowerment, and teamwork (Abouzeid 2019; Giunipero and Vogt 1997; Prahalad and Hamel 1990; Uyarra et al. 2014). The implementation of certain QM practices is necessitated to encourage purchasing personnel to participate actively in the firm strategy that facilitates the firm in securing a continuous strategic alignment. Other key elements of the implementation of a quality management system are the commitment of managers towards quality improvement, and benchmarking (Prajogo et al. 2012; Uluskan et al. 2016). Thus, the QMPPs construct adopted for this study includes measures of supplier quality management, cross-functional coordination in purchasing, purchasing personnel management, the commitment of purchasing managers, and benchmarking in purchasing.

3.2 Purchasing Information System Services (PISS)

The most significant development during the last couple of decades could be the emergence of an information-driven economy (Kefel 2010; O'Donovan 2020). The formation of such an information-driven economies could inevitably be associated with the digitalization of firms, organizations, and institutions. In the so-called digital age, information has become the key resource for the firms to attain competitive advantage. Ilcus (2018) argues that digitalization is creating a new competitive environment through the transformation of business strategies, models, and processes. Consequently, an overpowering capability to collect, process, and use information is considered vital in all areas of business, including purchasing and SCM (Neamțu et al. 2019). Companies across the world are adopting digital technologies to create efficient, transparent, and resilient systems. In future, competitive advantages would be available only to those companies whose business processes will be based on, or strongly integrated with digital technologies (Verhoef et al. 2021).

As Cousins (2005), asserts that purchasing function and strategy need to be strongly resource-enabled to achieve a sustained performance. One such enablement could be the adoption and integration of real-time digital technologies. Xu (2011) views communication and information sharing using IT-enabled digital technologies as a prerequisite for optimizing performance of multi-echelon supply chain networks. Many other studies (e.g., Chang 2017; Dumond and Newman 1990; Gregory et al. 2017) have identified the integration of information technology as a potent enabling condition for effective management of purchasing and SCM in the face of challenges stemming from environmental dynamism. In consonance with these contentions, we have used purchasing-related information system practices construct as the mediating and/or enabling condition for superior purchasing performance through instituting quality management in purchasing practices.

In this study, the PIS construct comprises of investments of a firm in two key enabling technologies, i.e., Electronic Data Interchange (EDI) and the Internet (-enabled technologies). Effective QMPPs rely on the ability to use real-time information. As such, investments in information system practices such as EDI, the Internet enabled technologies and sharing information with suppliers all play a pivotal role in actualizing quality enhancement, as they provide the vehicle whereby frequent, accurate, and secure information can be compiled, manipulated, and exchanged (Gregory et al. 2017; Sriram et al. 1997; Xu 2011).

3.3 Purchasing Performance (PP)

Even though there were times when purchasing function has been subordinated by activities like production or SCM (Cousins et al. 2008; Ponce and Prida 2006), in present times it is considered a vital support activity comprising a crucial and integral part of firms' value chains. Even though primary considerations in purchasing may

be continuity and cost reduction, however it must in principle be carried out with the aim of buying safe and quality assured supplies. Since purchasing-related issues like (adverse) selection of a wrong supplier, writing a disadvantageous contract, poor quality of social embeddedness due to lack of trust and commitment, and the moral hazards ensuing from it all may have dire consequences for the company's well-being, purchasing performance becomes quite critical for an organization (Eckstein et al. 2015; Yaqub 2013). Superior management of supplier relationship and purchasing could put a firm in an advantageous position vis a viz competitors and becomes quite handy especially during turbulent times (Bezecný et al. 2019; Ik and Azeez 2020; Kemboi 2016; Yaqub 2009).

The ultimate exogenous construct, i.e., purchasing performance, was adpated from Chao et al. (1993). Its individual indicators included materials' quality, physical inventory performance (Leenders et al. 2002), timeliness of delivery, and discrepancy between desired and actual costs. We have postulated the integration of quality management in purchasing practices as a direct as well as indirect antecedents of purchasing performance. The following section elaborates upon the hypothesized cause-and-effect relationships among our subject constructs.

4 Hypotheses of Study and the Conceptual Model

Figure 1 depicts our conceptual model.

It has been hypothesized that the QM purchasing practices have a direct impact on purchasing performance as well as an indirect effect mediated through purchasing-related information system services. The following paragraphs would elaborate upon the theoretical basis for this conceptualization.

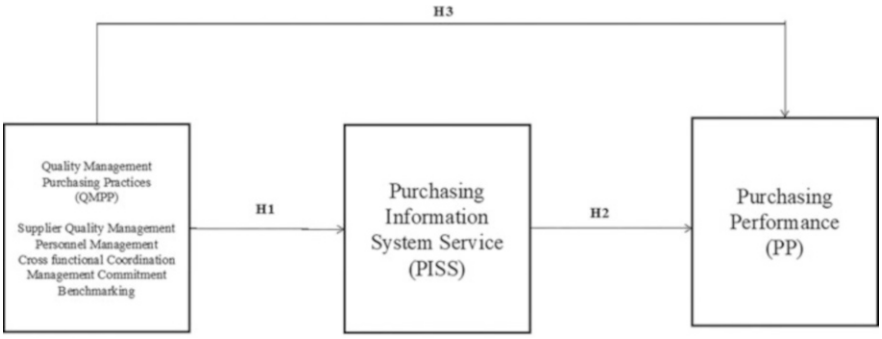

Fig. 1 The conceptual model

4.1 QMPPs and Purchasing Information System Services (PISS)

In the recent times, we have witnessed an increasing trend in the firms putting in place one or more productivity-enhancing program such as Total Quality Management, Business Process Re-engineering, Just-In-Time Management, Industry 4.0 integration (Dewhurst et al. 2003; Gutierrez-Gutierrez et al. 2018; Queiroz et al. 2020; Uluskan et al. 2016). It has been argued that the success of all these tools and/or interventions rely on investments in information systems to get rapid and more accurate information, improve communication links, and facilitate the implementation of advanced tools, systems, and modeling techniques. Information systems support quality programs and more specifically, efforts in management leadership in quality, customer relationships, supplier relationships, workforce management, quality data and reporting, process flow management, and product design processes (Lubis et al. 2019; Xu 2011). The QMPPs are designed to maintain close collaboration internally with other functions and externally with the SC network partners. The need for timely and accurate sharing of information, intense communication, and close monitoring are crucial aspects for the success of quality-oriented purchasing practices. Also, the total quality management program causes an increase in IS investment for purchasing activities and for communications with vendors. Thus, effective QMPPs rely on the ability to use real-time information. As such, investments in information system practices such as EDI, the Internet, and sharing information with suppliers and other stakholders in SC networks all play a pivotal role in implementing these programs because they provide the vehicle whereby frequent, accurate, and secure information can be compiled, manipulated, and exchanged (Parast and Golmohammadi 2016; Sriram et al. 1997). Hence, the following hypothesis is formulated:

H1: Implementation of quality management practices in purchasing has a positive impact on the use of purchasing information system services.

4.2 PISS and Purchasing Performance

It is frequently argued that investment in information system practices is an important factor in increasing productivity and internal customer satisfaction, as well as reducing costs—there is evidence of positive and significant returns from IS investments (Bessen 2002; Hemsworth et al. 2007; Keitemoge and Narh 2020). Some studies have analyzed the impact of individual purchasing-related information system practices on specific purchasing performance indicators. For example, researchers (such as Banerjee and Sriram 1995; Lou et al. 2015) found that implementation of EDI systems improves supplier-buyer efficiencies and reliability, lowers costs and order cycle times, and increases customer satisfaction. Research

has also found that Internet order purchasing, and production scheduling directly enhance efficiency of the purchasing function (Lancioni et al. 2000). Timely and accurate information is also crucial for buyer-supplier decision-making and ultimately the supplier performance (Handfield et al. 2000; Mazzuto and Ciarapica 2019). However, some other studies show contradictory results that information system practices do not increase productivity and reduce costs and have failed to find a significant impact on financial performance or competitive advantage arising from information systems (Dwivedi et al. 2015; Lucus 1981). With respect to purchasing information system practices (e.g., order processing, online purchasing, production scheduling, clerical effort, security, tracking and control, as well as intra- and inter-company communication) and financial performance link, Craig (1989), and Dwivedi and Henriksen (2017) found that information technology investment geared at enhancing strategic IS investments generally produced poor results in the short term. Whereas there is plethora of research signifying the financial impact of such investments, there has been shortage of research to corroborate its impact at functional performance levels. Hence, to make it up, the following hypothesis is proposed and, subsequently examined:

H2: The implementation of purchasing information system practices has a positive impact on purchasing performance.

4.3 QMPPs and Purchasing Performance (Direct Effects)

Regarding QMPPs, several other studies have also reported that SQM lowers material costs, increases the quality of materials, reduces delays in deliveries from suppliers, and eliminates mistake in quantities ordered and received (Fernandes et al. 2017; Jayaram et al. 2013; Quang et al. 2016). Noordewier et al. (1990) found positive relationship between QMPPs and four indicators of purchasing performance. Researchers such as Bergman and Klefsjö (2010), and Cavinato and Kauffman (2000) have also made similar assertions. Quite concomitant with such literature, it would be reasonable to postulate that the adoption of QMPPs could be directly associated with superior purchasing performance, and hence the following hypothesis is formulated:

H3: Quality management practices in purchasing have a direct positive impact on purchasing performance.

4.4 The Mediating-Effects Hypothesis

Also, the effect of QMPPs on performance could also be indirect through the influence of purchasing information system practices on purchasing performance (H2). This link is consistent with recent literature that recognizes the critical

importance of information system practices as an enabler of quality improvement programs on performance. This relationship represents an important gap in the current literature since few studies have explicitly considered the role of information system practices on quality management practices when considering purchasing performance outcomes. Based on this reasoning, the fourth hypothesis has been generated as following:

H4: Quality management practices in purchasing have an indirect positive impact on purchasing performance mediated through the effect of purchasing information system services.

5 Research Methodology

The research has been designed to provide an exploratory analysis investigating the purchasing functions/departments of hotels in Thailand, with interest in the measurement of purchasing performance. We also validated the model through confirmatory factor analysis, followed by testing through structural equation modeling. In this way, it sought to establish a causal relationship between QMPPs and its impact on Purchasing Performance (PP).

To carry out this research, a questionnaire-based survey approach has been adopted. The questionnaire contained a series of questions (see Table 2) that were answered by the purchasing managers who had sufficient knowledge in this field. The survey instrument measured a total of 31 items adapted from the scales used for these constructs in previous research: 22 items referred to QMPPs, 5 items related to IS practices, and 4 items corresponded to purchasing performance. The survey has been distributed to the 3 to 5 stars hotels in Thailand which had earned the certificate from the Thailand Hotel Standard Association.

The hypothesized model was tested by structural equation modeling (SEM) using AMOS. SEM is a pertinent tool for analysis where multiple regression equations encapsulating association among various constructs reflecting upon various first and/or higher-order measurement levels are calibrated simultaneously (Hair et al. 1995). Besides, yielding useful estimates on the measurement quality, it also generates measures on the strength of individual connections, as well as the overall fit of the entire model.

6 Results and Findings

A brief profile of the survey respondents is contained in Table 1.

Factor analyses (FA) and tests of the alpha coefficient were conducted to address the validity, reliability, and unidimensionality of the constructs in this study (see Table 2).

Table 1 Profile of respondents

Location	Level	Respondents
Bangkok and Central Region	Five stars	6
	Four stars	20
	Three stars	16
Eastern Region	Five stars	4
	Four stars	5
	Three stars	3
Northern Region	Five stars	5
	Four stars	5
	Three stars	4
North-eastern Region	Five stars	1
	Four stars	2
	Three stars	0
Western Region	Five stars	1
	Four stars	2
	Three stars	3
Southern Region	Five stars	8
	Four stars	8
	Three stars	7
Total		100

Table 2 Results of confirmatory factor analysis

Code	Construct/item	Standardized Loading	CR	*t*-values
SQM	*Supplier quality management*	−1.280	−0.829	<1.96
PM	*Personnel management*	0.077	–	–
CFC	*Cross-functional coordination*	0.097	0.906	<1.96
MC	*Management commitment*	−0.100	−0.918	<1.96
BM	*Benchmarking*	0.024	0.346	<1.96
IS	***Information system***			
Q.23	We use EDI with suppliers	0.755	6.638	>1.96
Q.24	We use the Internet with suppliers	0.664	–	–
Q.25	We use computers to process orders to suppliers	0.793	6.911	>1.96
Q.26	Suppliers have access to our production schedule	0.675	6.023	>1.96
Q.27	Purchasing has access to suppliers' internal information	0.764	6.700	>1.96
PP	***Purchasing performance***			
Q.28	Purchasing meets its material target cost	0.731	3.770	>1.96
Q.29	Most raw materials and parts received conform to specifications	0.468	–	–
Q.30	All raw materials and parts arrival within delivery date	0.678	3.721	>1.96
Q.31	The quantity of materials purchased in inventory meets the quantity performance objective	0.613	3.590	>1.96

Referring to Table 2, SQM (supplier quality management) scale consists of Q1 to Q6 of the questionnaire and represents the C.R < 1.96, which means that it is not significant. Moreover, all the standardized loadings of Q1 to Q6 $= -1.280$ also represent weak relationships between each variable. The PM (personnel management) construct consists of Q7 to Q12 and represents the C.R < 1.96 which means that it is not significant either. Moreover, all the standardized loadings of Q7 to Q12 $= 0.077$ also represent weak relationships between each variable. CFC (cross-functional coordination) scale measured through Q13 to Q16 represents C.R. < 1.96 which means that it is not significant. Moreover, all the standardized loadings of Q13 to Q16 also represent weak relationships with the dependent variables. MC (management commitment) scale consisted of Q17 to Q19 and represents the C.R < 1.96 which means that it is not significant. Moreover, all the standardized loadings of Q17 to Q19 also represent weak relationships. BM (benchmarking) scale consists of Q20 to Q22 and represents the C.R < 1.96 which means that it is not significant Moreover, all the standardized loadings of Q20 to Q22 also represent weak relationships between the variables. IS (Information system) scale consisting of Q23 to Q27 represents the C.R > 1.96 which is significant. Moreover, all the standardized loadings of Q23 to Q27 also represent strong relationships between the variables. Lastly, PP (purchasing performance) scale consists of Q28 to Q31 and represents the C.R > 1.96 which is significant. Moreover, all the standardized loadings of Q28 to Q31 also represent strong relationships between the relevant variables.

6.1 Summary of CFA Fit Indices

We performed Confirmatory Factor Analyses (CFA) to assess measurement quality through reliability, validity, and unidimensional nature of the constructs (Anderson and Gerbing 1998). The results are contained in Table 3. For the constructs, namely benchmarking and commitment, the structure could not be ascertained for the reason of loss of degrees of freedom due to the model being over-specified. The two

Table 3 Summary of results from CFA

Fit measure	Recommended threshold values	Constructs					
		SQM	PM	CO	MC BA	IS	PP
χ^2	–	33.704	25.151	0.234	102.119	17.149	10.251
p-value	≥0.05	0.000	003	0.890	0.000	0.004	0.006
d.f.		9	9	2	9	5	2
RMSEA	≤0.05	0.167	0.135	0.000	0.323	0.157	0.204
RMR	≤0.05	0.044	0.041	0.006	0.204	0.036	0.047
NFI	≥0.90	0.899	0.920	0.998	0.433	0.919	0.878
CFI	≥0.90	0.922	0.946	1.000	0.436	0.939	0.894
GFI	≥0.90	0.900	0.921	0.999	0.765	0.937	0.958
AGFI	≥0.90	0.768	0.815	0.994	0.452	0.812	0.788

constructs thus were paired. Subsequently, after determining validity and reliability of the five individual indicators of QMMP, an average composite score was measured. As such, QMPP has been measured as a higher-order construct.

A convergent validity reflects that the individual indicators measuring the construct encapsulate the essence of that construct. Here, the convergent validity was assessed by examining significance of the factor loadings, all of which were found to be significant, attesting to the sufficiency of convergent validity. The coefficients for all indicators in the five quality management constructs (SQM, PM, CFC, MC, and BM) were large and significant ($p < 0.01$), providing strong evidence of convergent validity. Similarly, the coefficients for the indicators in the constructs for QMPPs, IS, and PP are also large and significant ($p < 0.01$). Also, since each of the CFA models demonstrated good fit, each of the constructs is unidimensional.

6.2 Hypothesis Testing

The results of the structural model estimation suggest that the chi-square statistic of the model was significant (CMIN = 89.619; df = 73; and $p = 0.091$; $p \geq 0.05$). The model tested in this research indicated a good fit. The ratio CMIN/d.f and RMSEA with values 1.228 and 0.048 respectively were below the recommended maximum of 3.00 and 0.10. Similarly, the index RMR was below the acceptable level of 0.10, with the value of 0.049. Also, the fit indices NFI = 0.93, CFI = 0.95, GFI = 0.90, and IFI = 0.96 were above the minimum threshold level of 0.90 recommended by Chau (1997). Thus, there is strong evidence to indicate that the hypothesized model fits well with the sample data. Hence, the hypothesized model permits an examination of the direct effects of QMPPs and related information system (IS) practices on purchasing performance as well as the indirect effect of QMPPs, as mediated by IS on purchasing performance.

6.3 Findings

The first hypothesis (H1) asserts that the implementation of QMPPs has a positive impact on purchasing-related information systems. Based on the results, the path relating these two constructs was negative and non-significant (standardized QMPPs → IS = −1.650, CR = 0.692; <1.96, $P = 0.489$; $P > 0.05$). This provides no evidence to support H1. This indicated that the adoption of QMPPs rather reduces the usage of PIS.

The second hypothesis (H2) states that PIS practices positively affect the purchasing performance. The association between both was found to be significant (standardized IS → PP = 0.281; CR = 2.856; meaning that the path is significant at the 99% level). This provides strong evidence that information system practices have a direct, positive impact on purchasing performance (PP).

The third hypothesis (H3) states that QMPPs have a positive and direct impact on purchasing performance (PP). This hypothesis was tested and evaluated in the direct and indirect effect of QMPPs on purchasing performance. According to the results, the direct path relating QMPPs and purchasing performance (PP) was positive and significant (standardized QMPPs → PP = 0.048; CR = 3.626; meaning that the path is significant at the 99% level). This provides strong evidence of the direct effect of quality management practices on purchasing performance and thereby supports H3.

The fourth hypothesis (H4) speculates that QMPPs have an indirect positive impact on purchasing performance mediated through the effect of the information system (IS). The indirect effect of QMPPs on purchasing performance (PP) is calculated from the direct effect of QMPPs on IS (H1, standardized = −1.650; CR = 0.692; P = 0.489), mediated by the impact of IS on PP (H2, standardized = 0.281; CR = 2.856; $P > 2.5$). This produces a significant indirect positive effect of QMPPs on purchasing performance.

Thus, the total effect (direct: H3 + indirect effect: H4) of QMPPs on purchasing performance is 0.511 (0.048 + 0.463). These results provide strong support to indicate that the adoption of QMPPs increases the level of purchasing performance (PP) both directly and indirectly through purchasing-related information system practices (IS).

7 Discussion

7.1 Insights Stemming from the Measurement Model Testing

In the measurement model, 31 indicators were used to measure the three constructs investigated in this research. The first construct, QMPPs, was measured using five scales: supplier quality management (SQM), personnel management (PM), cross-functional coordination (CFC), management commitment (MC), and benchmarking (BM). The findings suggest that benchmarking emerged as the indicator with the highest loading, followed by personnel management, management's commitment, cross-functional coordination, and supplier quality management. These results confirm the critical importance of benchmarking in managing quality in the purchasing function and support previous research by Ahire et al. (1996) and Erdil and Erbıyık (2019).

Regarding second construct (i.e., purchasing information system), results from auxiliary model analysis showed standardized loadings for the use of the Internet with suppliers, access to quality information suppliers; supplier-buyer integrated ordering, and supplier access to buyer production scheduling. Sharing internal information with suppliers had the lowest loading on the IS factor. These results implicate that purchaser face difficulties in gaining access to the suppliers' internal information. These results are consistent with studies by Sriram and Stump (2004) and Vickery et al. (2003) and support the critical importance of applications (e.g.,

sharing information) when designing integrated purchasing-related information systems.

Regarding various facets of purchasing performance, we found that cost of material had the highest standardized loading on the purchasing performance factor. These results support previous research by Anil and Satish (2019), Baraniecka (2016), and Hendrick and Ruch (1988) and confirm the amplified relevance of the cost of material performance when measuring purchasing performance.

7.2 Insights Stemming from the Structural Model Testing

The structural model tested association among the three constructs: QMPPs, PISS, and PP. The results provide strong support for all the proposed hypotheses, except H1. The direct and indirect effects of QMPPs were empirically substantiated. The proposed mediated model fits the data collected from the system under investigation and gives us insight into the most pertinent areas of QMPPs and PISS and their potential to increase purchasing performance. This research expands on results reported in the previous literature which traditionally focused on the impact of individual IS applications related to purchasing, e.g., Banerjee and Sriram (1995) and Sriram et al. (1997). This research has focused on a group of related IS practices in purchasing and identified the realization of valuable benefits from their joint implementation.

7.3 General Discussion

Supply chain management (SCM) is increasingly becoming recognized as a cornerstone of business success, and effective management of supplier chain networks and purchasing is progressively turning out to be the keys for supply chain as well as firms' success. Purchasing is not only important from a functional standpoint but also an essential strategic instrument that may profoundly ameliorate overall performance of the firm. In this information and digitization driven age, where outsourcing is at the forefront of competitive business landscape, the heterogeneity of firm performance could fairly be attributed to the heterogeneity in purchasing and SCM performance. However, uninterrupted challenges, in the form of opportunities and threats constantly emanating from environmental dynamism, always keep the relevance, appropriateness, and efficacy of purchasing and SCM under continual strategic alignments pressures.

Total quality management and digital transformation, the most notable developments in the last couple of decades, have also presented significant alignment challenges for the firms to sustain their purchasing and supply chain performance as they have over the year offered enormous potential for productivity and value enhancement through a consistent rollout of disruptive systems, instruments, and

technologies. Firms that were able to timely and effectually integrate the tool, techniques, and instruments offered by the quality and digital revolutions were generally able to draw sustained competitive advantage over those who are reluctant or sluggish in making proportionate investments in these systems and/or technologies, that have already disrupted and/or destroyed competition in various industries.

This study investigated contributions of adoption and integration of the latest developments in quality management and purchasing information systems in enhancing purchasing performance in service organizations. The results showed that both antecedents exhibited a significant positive impact on purchasing performance. QM purchasing practices impact purchasing performance both directly and indirectly. However, the premise that a desire to adopt and implement QM purchasing practices induces greater investments in purchasing information system services could not be empirically substantiated, which means that plenty of other factors impact the decisions relating to the adoption and/or enhancement of IS architecture and/or capabilities. However, irrespective of its origin, purchasing information systems strongly mediate the impact of QM purchasing practices on purchasing performance, thus qualifying as an important contingency for the QMPPs to create desired impact on the purchasing performance. Hence, both the quality management and technology management decisions merit significant managerial involvement and investments of time, effort, energies, and resources from the firms for better economic gains.

7.4 Managerial Implications

This study contributes to developing a better understanding of the interaction between quality management practices and IS practices in enhancing purchasing performance, implicating managers in the purchasing and/or supply chain domains to vigorously contemplate investments in quality and technological enhancements. To keep securing an alignment with environmental changes by integrating continual developments in quality and technological transformations is need of the time even to survive, let alone progress in today's high velocity markets. The emergence of Industry 4.0 technologies like blockchain, Internet of things, big data analytics, etc. offers enormous potential for value maximization through improved decision-making in a real-time environment ending up providing much needed flexibility, agility, and resilience in business processes, including purchasing and SCM. So, a proactive and *sooner the better* approach is always a welcoming predisposition in this regard. Finally, an adoption and implementation of the state-of-the-art quality management tools and digital technologies require significant resources, which organizations especially SMEs seldom have. Therefore, it's advisable to carry out any such investments with greater precision—sooner is better, more is not, always. Nonetheless, psychological and resource entablements gained through such investments pay off significantly both in the short run and the long term.

8 Conclusions, Limitations, and Suggestions for Future Research

By testing the relationship between QMPPs, purchasing information system services, and purchasing performance in service organizations, this research not only enhances our understanding of the complexities surrounding the purchasing activities but also explores ways in which purchasing performance could be improved. These findings provide insights that can help guide managers in their future investments and implementation of QM systems and IS technologies in their quest to improve purchasing performance.

The study contributes towards developing a fine-grained understanding about the interaction among the first order indicators of the subject constructs, specifically, while it reveals that role of benchmarking and supplier performance is critical in enabling QMPPs to produce desirable effects on purchasing performance. This finding is particularly important given that firms might not have sufficient resources to invest in all aspects of QM, a comprehension of the relative impact of these capabilities could help firms enhance the precision of their effort by prioritizing their capacity-enhancement investments.

Although both the QMPPs and IS turned out to be significant antecedents and/or mediators in our study, there could be certain other factors that could potently mediate the cause-and-effect relationship between QMPPs and the firm performance, even between IS and the purchasing performance. Future research may enhance the explanatory power of this model by integrating more mediators, focusing especially on the IS-purchasing performance connection as envisaged in this model. We used EDI and internet as the key IS technologies. In the face of explosive developments in digital transformation, the internet-enabled technologies need to be further elaborated and augmented with state-of-the-art real-time technologies such as blockchain technology, big data analytics, and internet of things that may have significant implications for purchasing performance enhancement. Future research may also investigate the impacts of integrating specific QM instruments, such as Kaizen and Lean Six Sigma, that may have stronger implication for purchasing and SC performance, both form individual as well as a collaborative network perspective. Besides, the model presented in this study has far reaching managerial and administrative implications for enhancing firms' efficacies of managing through pandemics, that could profoundly be ameliorated by integrating leading QM and IS concepts and technologies like Kaizens, Lean Six Sigma, blockchain technology, big data analytics, internet of things, etc. Future research may also investigate the contributions of QMPPs and IS in enhancing social and ecological gains, rather than limiting it just to the economic performance.

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Knowledge Attributes and Internationalization of E-service Firms: Literature Review and Conceptual Model

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Abstract While previous international business studies have addressed e-commerce in the form of online retail shopping, there is a lack of research on how e-service firms enter international markets. Our study attempts to address this gap by systematically analyzing the relevant literature and developing a conceptual model that explains the internationalization of e-service firms. Specifically, we explore how their specific knowledge attributes affect the internationalization process and the choice of entry mode of e-service firms. Our conceptual framework distinguishes hard and soft service components of e-service firms by two types of knowledge characteristics—codifiable firm know-how and non-codifiable (intangible) firm know-how. We develop three propositions on the entry mode choice of e-service firms—low-control modes, network modes, and high-control modes.

1 Introduction

Globalization in an increasingly digitalized economy has an irreversible effect on the ways of doing business, including the internationalization behavior of firms (Brouthers et al. 2016; Wentrup 2016). Consequently, the internationalization of e-business firms challenges the traditional theories of internationalization (Etemad 2017).

The evolvement of ICT and the internet led to profound changes in the service industry (Etemad-Sajadi 2015). Due to technological innovations, the internet for the first time in history allows a consumer experience of services supported by a flow of information a customer can interact with (Rust and Lemon 2001). Additionally, e-services constitute a significant share of the total service trade (UNCTAD 2019) and, therefore, are an important part of the service economy that should not be ignored.

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Although a vast amount of literature regarding online retail has recently emerged, internationalization of e-service firms gained significantly less attention (Javalgi et al. 2004; Rowley 2006; Jin and Oriaku 2013; Park et al. 2014; Wentrup 2016; Etemad 2017; Salegna 2018). To address this research gap, our study uses the systematic literature review to summarize the important influencing factors on the propensity to the internationalization of e-service firms. The focus of the study is to reveal what are the specific features of e-services and what are their impacts on the internationalization process and market entry mode choice of e-service firms. Specifically, we try to answer the following research questions: (1) How do specific e-service characteristics impact the internationalization process of e-service firms? (2) What are the knowledge attributes of e-services that distinguish them from traditional services and influence their mode of international market entry?

This study contributes to the international business literature as follows: First, we provide an overview of the existing knowledge on the antecedents of e-service firms' internationalization. Second, based on the systematic literature review, we develop an internationalization framework for e-service firms by focusing on the codifiability of firm-specific knowledge that influences the internationalization strategy of e-service firms.

Section two presents a systematic review of the relevant literature on e-service firm internationalization. In section three, we develop our framework for the choice of market entry mode by e-service firms based on specific knowledge characteristics. Finally, the last section summarizes our research findings and provides suggestions for future research.

2 Literature Review

We used a thematic analysis technique to analyze the literature on e-service firms' internationalization. Thematic analysis is a qualitative research method to identify, analyze, and report the patterns within a data set. This technique provides an opportunity to create an orderly account of data while keeping it sufficiently detailed, as well as a certain degree of flexibility in the research process (Braun and Clarke 2006). We organized the information in an Excel file so we could filter the data. We codified the information using a bottom-up inductive thematic analysis (Braun and Clarke 2006). Thus, we did not begin with a pre-defined theoretical framework but rather identified the topics based on our coding of the information.

To determine our sample of articles, we applied a customized algorithm based on the procedures described by David and Han (2004) and Pukall and Calabro (2013). We searched full text, peer-reviewed articles that were published between 1989 and 2019 in the databases of EconLit, ABI, Emerald Insights, or JSTOR using keywords such as internationalization + e-business, internationalization + online, internationalization + online services, internationalization + e-services, internationalization + electronic, internationalization + e-commerce, internationalization + e-commerce

company (ECC), internationalization + born global, e-services, internationalization + services, internationalization + services + intangible.

2.1 Overview of the Thematic Domains

We divided the articles into three thematic domains that should provide information relevant to our research questions. We organized and studied the literature within each thematic domain in chronological order. Table 1 includes the studies on the themes we identified: (1) e-commerce internationalization, (2) specific features of service internationalization, and (3) online services.

2.1.1 Thematic Domain 1: E-commerce Internationalization

Concept of E-commerce Companies

E-commerce companies (ECCs) are described as firms that run their business digitally (Singh and Kundu 2002; Grochal-Brejdak and Szymura-Tyc 2018; Wittkop et al. 2018) and provide value to customers using the Internet and information systems (Brouthers et al. 2016; Wittkop et al. 2018). E-commerce companies are "born digital," meaning they have engaged in e-commerce since they were founded, use the resources of virtual commercial networks as their competitive advantage, have multinational accessibility, and, consequently, can expand internationally more easily and quickly than traditional firms (Singh and Kundu 2002; Grochal-Brejdak and Szymura-Tyc 2018). The term e-commerce companies could also be used to describe various types of companies with different business models that offer their services via the Internet (Brouthers et al. 2016).

Distinctive Features of E-commerce Internationalization

The digital market is quite different from the traditional market environment with regard to issues such as value chain, information exchange, and knowledge creation

Table 1 Distribution of articles by thematic domain

Thematic domain	Relevant articles
E-commerce Internationalization	Foscht et al. (2006), Schu et al. (2016) Jin and Oriaku (2013), Grochal-Brejdak and Szymura-Tyc (2018), Brouthers et al. (2016), Rowley (2006), Wentrup (2016), Kotha et al. (2001), Mahnke and Venzin (2003), Wittkop et al. (2018), Singh and Kundu (2002), Kevin Tseng and Johnsen (2011), Sinkovics et al. (2012), Glavas et al. (2019), Zhang and Tansuhaj (2007)
Specific features of service internationalization	Bianchi (2011), Goerzen and Makino (2007), Stare (2002), Jack et al. (2015), Erramilli (1990), Blomstermo et al. (2006), Ekeledo and Sivakumar (1998)
Online services	Rowley (2006), Javalgi et al. (2004), Salegna (2018), Park et al. (2014), Etemad (2017), Wentrup (2016), Jin and Oriaku (2013)

(Wittkop et al. 2018; Glavas et al. 2019). Consequently, e-commerce companies face specific threats and opportunities when seeking to internationalize (see Table 2).

2.1.2 Thematic Domain 2: Specific Features of Service Internationalization

Services are not only regarded as a unique category of product in the literature. Their internationalization process is also considered different from that of companies providing tangible goods (Goerzen and Makino 2007; Bianchi 2011). The heterogeneity of services is a factor that has a considerable effect on the service providers' mode of entry into a foreign market (Stare 2002; Jack et al. 2015).

While some types of services, such as goods, can cross borders, others require both the recipient and the provider of the service to be present in the same physical location (Stare 2002). Erramilli (1990) was the first to note this distinction by dividing services into two types: hard services, meaning those connected to the physical asset such as music on cassettes or air conditioning whose consumption can be separated from its production, and soft services such as those provided by the hotel industry that are produced at the same moment they are being consumed. Scholars have established a connection between soft and hard types of services and the choice of mode for entering foreign markets (Ekeledo and Sivakumar 1998; Blomstermo et al. 2006). Specifically, soft service firms are more likely to choose entry modes that give them more control. In contrast, hard service firms tend to choose entry modes that require less control.

2.1.3 Thematic Domain 3: Online Services

Specifics of E-service Delivery
Since online business transactions take place in a different environment, they have their own specific features. They are generally more complex (Etemad 2017) due to their reliance on technological mediation (Rowley 2006; Wentrup 2016).

Customer Anxiety
E-services do not cultivate relationships with customers in the same way that traditional service firms do (Rowley 2006). E-services can be a source of anxiety for consumers and providers because of the weak regulatory environment, problems with the protection of intellectual property, piracy, and intellectual property theft (Javalgi et al. 2004).

Online services are provided through technology that often does not involve face-to-face interaction (Rowley 2006; Salegna 2018). The e-service experience is considered somewhat "impoverished" in comparison to traditional services. While the former involves only the sight and sound of the customer, the traditional service experience can address all senses (Rowley 2006).

Table 2 Potential positive and negative impacts of online internationalization

Characteristics of online environment	Potential opportunities	Potential threats and challenges
Importance of networks and customer relationships	• Enhancement of network relationships. Allows firms to maintain effective relationships with their peers and connect with supply chains abroad (Glavas et al. 2019; Kevin Tseng and Johnsen 2011) • Enhancement of customer relationships. More opportunities for the firms to learn about their customers (Sinkovics et al. 2012), enhancing customer reach (Glavas et al. 2019; Kevin Tseng and Johnsen 2011), and market responsiveness (Sinkovics et al. 2012) • ECCs have a unique way of value generation that is based on users and existing user networks (Brouthers et al. 2016)	• As users are crucial for the ECC's value creation, the major strategic concern of such a firm is overcoming user-network outsidership in the target market (making the users in the target market aware of the offering and persuading them to adopt it) (Brouthers et al. 2016) • ECCs are likely to suffer from the liability of outsidership, meaning lack of embeddedness in the foreign market user community, due to having too few network contacts (Brouthers et al. 2016) • Importance of networks for the ECCs leads to the need to constantly adapt to customers' needs (Rowley 2006)
Changing competitive advantages Newness of the online market environment	• Opportunity to act quickly and seize a considerable market share. Requires fast decision-making • Possibility to create a new market sector and occupy it due to the newness of the environment • Cheaper (or cost-free) replication of digital goods allows flexibility and the ability to adjust according to customers' needs (Wittkop et al. 2018)	• Permanent state of uncertainty • Pressure to constantly adapt and re-configure in order to respond to technological complexity (Singh and Kundu 2002; Wymbs 2000) • Challenge for already established businesses (Wittkop et al. 2018) and types of services historically protected by regulation (Wymbs 2000, p. 465) • On the company level, rapid evolvement of the situation can create a major gap between a firm and its less successful counterparts (Singh and Kundu 2002; Wentrup 2016)
Absence of geographical barriers	• ECCs suffer less from the liability of foreignness because information goods are less vulnerable to logistical, transportation, cultural, and regulatory demands (Kotha et al. 2001; Brouthers et al. 2016; Mahnke and Venzin 2003) • Lower costs of transferring the business from one country to another (Brouthers et al. 2016) • Reduction in the importance of asset and location specificity; more outsourcing possibilities (Wittkop et al. 2018)	• Existing user networks, which are a key asset for ECCs, are non-transferrable between countries. (Brouthers et al. 2016)

(continued)

Table 2 (continued)

Characteristics of online environment	Potential opportunities	Potential threats and challenges
	• Larger geographic coverage (Glavas et al. 2019)	
Fewer resource and capital requirements	• Facilitation of internationalization process, especially in SMEs (Sinkovics et al. 2012; Kevin Tseng and Johnsen 2011) • Fewer risks associated with internationalization (Foscht et al. 2006; Zhang and Tansuhaj 2007)	• Lower entry barriers for competing firms • Reductions in perceived risk of online internationalization can lead to strategic errors: – Possibility of overestimating the potential customer base abroad stemming from the lack of market understanding. The number of accessible users in the target market can be too small for the firm to reach a profitability level (Brouthers et al. 2016) – Risk facing harsh competition when entering markets where a dominant competitive offering already exists, as the local platform most likely already has a larger user base – Risk of over-expanding operations, especially when dealing with culturally and institutionally diverse countries, leading to the situation in which the costs of managing a complex multicultural environment exceed the benefits of the expansion (Schu et al. 2016)
Cost effectiveness	• Cost reductions via standardization, simplification, and automating of processes, especially in the service industry (Wittkop et al. 2018; Wymbs 2000) • Significant reduction in transaction and travel costs (Brouthers et al. 2016; Wymbs 2000) making early internationalization a cost-effective option (Schu et al. 2016)	
Competition	• Opportunity to use the benefits of partnerships and alliances to compete (Singh and Kundu 2002) • During internationalization, if there are several local competitors, the late-mover advantage can be beneficial for a business. Switching costs are lower for users in such markets. Therefore, late entrants can address a specific user demand with less rivalry (Brouthers et al. 2016)	• ECCs have to compete not only on the domestic, but also on the international and global levels (Singh and Kundu 2002) • More competition due to lower entry barriers, especially considering the trend of financial deregulation, economic liberalization, and the lower cost of Internet development (Kevin Tseng and Johnsen 2011)
Better access to information	• Facilitation of the internationalization process via better access to information. (Brouthers et al. 2016; Etemad 2017) • Opportunity to have detailed information regarding the customer base and be more innovative	• More "picky" and well-informed customers • Greater volatility of customer demands and more pressure on the producer (Jin and Oriaku 2013; Wymbs 2000). Firms must quickly learn how to develop

(continued)

Table 2 (continued)

Characteristics of online environment	Potential opportunities	Potential threats and challenges
	(Glavas et al. 2019; Kevin Tseng and Johnsen 2011) with product development and customer service, enhancing the benefits of the network (Singh and Kundu 2002) • Creation of self-enhancing mechanism of knowledge creation in knowledge-intensive firms (Kevin Tseng and Johnsen 2011)	relationships with customers online and adapt to their needs to cultivate e-loyalty. Will likely lead to more personalization in servicing customers online (Rowley 2006) • Possibility of becoming overconfident and falling into the virtuality trap (Sinkovics et al. 2012)

Building Trust and Customer Loyalty

Due to the different methods of delivering e-services, communication competencies become crucial for building and maintaining sustainable customer relationships (Park et al. 2014). According to Rowley (2006), perceptions of service quality and customer satisfaction depend on the quality of the information provided. Better quality information reduces risks and uncertainty (Rowley 2006). Seeking information and window shopping are important steps in making online purchases (Rowley 2006). Online customers have more opportunities to conduct their research and compare the options, increasing the volatility of the customers' demands (Jin and Oriaku 2013). Consequently, perceptions about the quality of the service provided are the key to customer loyalty and trust (Park et al. 2014).

Increased Flexibility in Service

In addition to the quality of information provided, customers also demand service features, such as a user-friendly website, high-quality and reliable customer service, and transactions that are interactive (Salegna 2018). Cultural and social sensitivity are also essential when selling e-services. The webpage should be localized and the customer service should be provided in the native language (Javalgi et al. 2004).

E-service providers therefore must compete harder for clients and be more flexible in adapting their offerings. Flexibility is important to respond to changing customer demands and deal with high levels of uncertainty (Jin and Oriaku 2013).

Successful e-service firms are flexible enough to customize the service itself and how it is delivered. They also have a specialized web platform where consumers can interact, building a community (Rowley 2006). E-services are independent of the restrictions of time and place, making their consumption possible at any time, which is very convenient.

2.2 Drivers of E-service Internationalization

Product-Specific Factors
ECCs that provide standardized services and require minimal face-to-face customer interaction are well-positioned to expand internationally. These factors are particularly significant for smaller ECCs (Etemad-Sajadi and Bezençon 2012). In contrast, resource-constrained firms should opt for exporting standardized services, or at least consider standardizing their basic set of services (Etemad-Sajadi 2015). Inexpensive post-entry product adaptations are possible thanks to the nature of digital goods and relatively easy access to data regarding local customers' preferences (Mahnke and Venzin 2003). Thus, firms can opt for rapid internationalization with less risk.

Firm-Specific Factors
Firm-specific competitive advantages such as intangible assets, particularly web traffic and reputation, help e-service firms internationalize. Customers are more trusting of and quicker to adopt services provided by a firm with a good reputation. Additionally, such ECCs have more opportunities to choose a partner for a strategic alliance (Kotha et al. 2001).

Network effects and a proactive, dynamic entrepreneurial position are also important in facilitating the internationalization of e-services (Cunningham et al. 2012). ECCs must engage in competitive and cooperative actions to protect themselves in the high-paced and highly competitive online environment (Kotha et al. 2001). ECCs participating in domestic alliances are more likely to internationalize with the support of the partnerships (Kotha et al. 2001).

Institutional Environment and Infrastructure
The proactive role of the government in the development of the IT industry is a key factor in promoting e-service exports. Making IT education available leads to the availability of more skilled labor and a larger number of IT professionals. Finally, the presence of a reliable and cost-effective telecommunications infrastructure also promotes e-service exports on the macro level (Javalgi et al. 2004).

The Speed of Internationalization
The speed of internationalization can refer to two different concepts—the time lag between the founding of the firm and its first international entry, as well as the speed of sequencing the growth post-entry. Wentrup (2016) argues that the speed of entry in both senses is quite fast for online service providers. E-service firms seek accelerated internationalization and tend to opt for quick entry into foreign markets (Mahnke and Venzin 2003). However, even though online businesses internationalize quickly, they do not do so in accordance with the born global theory (Kotha et al. 2001).

The speed of internationalization in e-service firms depends on the environmental characteristics of the Internet analyzed in Table 3. The drivers of rapid internationalization are the intense rivalry for customers and the first-mover advantage that, if obtained, really sets the firm apart from its competition (Kim 2003; Wentrup 2016). According to Wymbs (2000), the "astonishing" feature of the knowledge economy is

Table 3 Challenges of the internationalization of traditional service firms and e-service firms

	Service firms	E-service firms
Marketing	Since services are invisible and intangible, marketing can be more challenging without having the opportunity to show the product (Bianchi 2011)	It is unclear if e-service firms face the same marketing challenges. Intuitively it might seem so. However, since online services can affect only the customer's sight and hearing, it is possible to demonstrate the product to a potential customer just through a normal website
Language	Language can be a challenge for service providers or in the case of inward internationalization, for the clients (Bianchi 2011)	• This challenge is present but most likely to a lesser extent. The website, course material, and videos can be translated and the company can hire a local customer support team that speaks the language. The language barrier will still be an issue for e-services with a high degree of customization and customer interaction that are provided online in real time. Examples include online language training with a tutor or legal consultations
Culture	Cultural differences can be an additional difficulty for service providers or clients in the case of inward internationalization (Bianchi 2011; Asakawa et al. 2012). It is crucial for firms to accumulate and share the knowledge generated abroad in the form of manuals, processes, and procedures, and recruit foreign personnel to access local knowledge and build relationships (Pluta-Olearnik 2011)	This challenge is present as well, as the local website is vital to making sales online. In addition, the marketing strategy and tactics should consider the local culture when choosing the potential audience
Maintaining inventory	Given that services cannot be inventoried like goods, it is hard to balance fluctuations in supply and demand. That difficulty increases in a foreign country (Bianchi 2011). However, technological advantages such as the ability to digitize services make a physical presence during the service encounter unnecessary (Pluta-Olearnik 2011). Technology also makes it easier to replicate digital goods. Obviously, this is a solution only for a distinct group of services	This challenge is present to a much lesser extent for e-services. As discussed earlier, it is much easier and also cheaper to replicate and adjust online goods. Therefore, it is possible to produce the necessary copies following fluctuations in customer demand. This challenge might be a problem for online services that involve a great deal of customer interaction rather than pre-recorded content
Heterogeneity	The output of services varies depending on the customer, the personnel providing the service, and the location (Bianchi 2011). The sources of	E-services with a high degree of separability are much less affected by heterogeneity because they are easily replicable and standardizable. On the

(continued)

Table 3 (continued)

	Service firms	E-service firms
	this challenge can be subdivided into three groups—customer resources, contact resources, and physical resources (Pluta-Olearnik 2011). To ease this challenge, firms can master different service styles—American, European, and Oriental (Pluta-Olearnik 2011)	other hand, highly customizable e-services might still vary in quality

the speed at which firms are acquiring their wealth. Instead of competing for a share of existing markets, most of the new entrant firms either create new markets or recreate the old ones online. The Internet also facilitates the quick generation of ideas, further intensifying the dynamics of the industry change (Wymbs 2000). Note that not all ECCs meet the criteria of rapid internationalization, because some of these firms are actually created 2–4 years before their "official" formation (Cunningham et al. 2012).

Given that e-businesses exist in two different environments—online and offline—sometimes we must also consider their physical internationalization, not just their virtual presence. The significance of their physical presence increases with time and in many cases is necessary due to the legal requirements of a host country (Wentrup 2016).

Geographical Pattern

In choosing their target market, firms focus less on their tacit knowledge and experience with foreign markets. Instead, they rely on variables such as a degree of Internet penetration, a reliable telecommunications infrastructure, and market potential (Mahnke and Venzin 2003). These attributes indicate that a large customer base can participate in online activities, which predetermines the success or failure of a business enterprise in the online environment.

Additionally, the markets are selected according to the possibility of expanding into less strategically important markets in the region later on (Mahnke and Venzin 2003). Internet firms begin their expansion with the most strategically important markets in the region to test whether their brand is marketable in the key markets before launching it in other, secondary markets (Kim 2003). If their initiation entrée is successful, ECCs are likely to enter multiple secondary markets in the region at the same time (Kim 2003).

Socio-cultural distance indices explain the geographical trajectory of online service internationalization fairly well (Kim 2003). Therefore, they also follow the pattern of gradually entering geographical areas (Wentrup 2016). Exporting to markets with a familiar culture helps ensure success when internationalizing. In contrast, moving into geographically or culturally distant target markets is risky for e-service firms (Etemad-Sajadi 2015).

Table 4 Characteristics of different product types (based on Ekeledo and Sivakumar 1998)

Product	Characteristics
Manufactured goods	Tangible, storable, separable
Hard services	Intangible, storable, separable
Soft services	Intangible, non-storable, inseparable production and consumption
Electronic services	Intangible, can be both storable and non-storable, can be both separable and inseparable

2.3 Comparing the Internationalization of Traditional Service Firms and E-service Firms

Table 3 compares the service-specific features that influence the internationalization of traditional service firms and e-service firms.

2.4 Summary

Based on the results of our literature analysis we can conclude that e-services constitute a separate service type and behave differently than their traditional service counterparts. E-services are characterized by a set of unique features and exist in a unique environment. They face the same challenges as firms providing traditional services but to a much lesser extent. Furthermore, they have their own specific challenges and opportunities. Additionally, we cannot classify e-services unequivocally as soft or hard services. Therefore, we cannot use the traditional classifications to determine how they will choose to internationalize (Ekeledo and Sivakumar 1998).

Table 4 summarizes the characteristics of the different product types.

3 Conceptual Model of the Internationalization of E-service Firms

Adopting the hard and soft service classification (Ekeledo and Sivakumar 1998; Blomstermo et al. 2006), we propose a spectrum model to provide a finer granularity of e-service classification which is used for explaining the relationship between knowledge attributes and the choice of market entry modes (market modes, network modes, and wholly-owned subsidiary) (see Fig. 1).

Figure 1 indicates the possible range of e-services located on the spectrum between soft and hard services. E-services can be found anywhere along the 45-degree line, from hard services characterized by the strict separation between production and consumption to soft services where production and consumption are

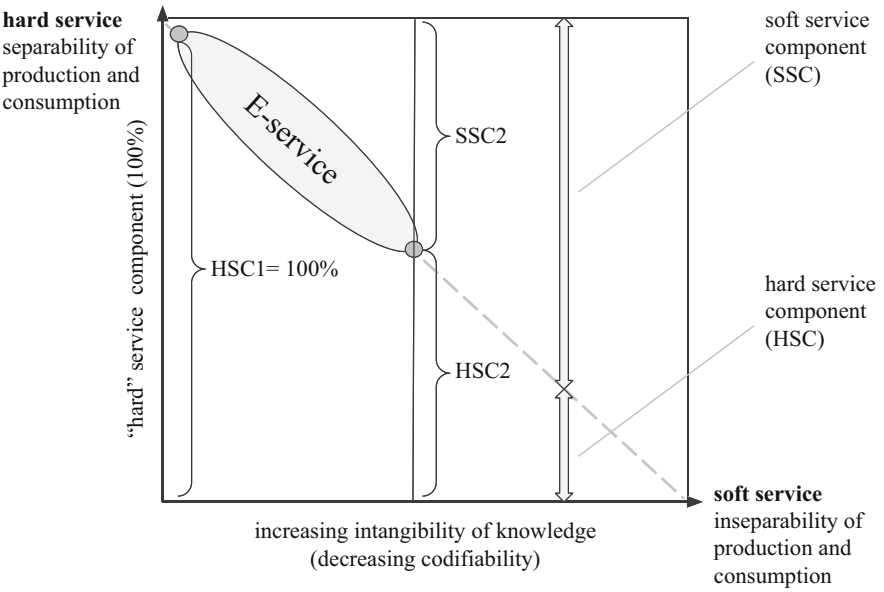

Fig. 1 Spectrum approach to soft and hard classification of e-services

inseparable. Thus, e-services can encompass all possible combinations of the components of soft and hard services in different proportions.

3.1 The Influence of E-service Knowledge Attributes on the Choice of Entry Mode

Based on the knowledge-based theory, we can analyze the choice of market entry mode of e-service firms according to the differentiation of hard and soft service components of e-services. The knowledge-based theory was developed two decades ago (e.g., Winter 1987; Kogut and Zander 1992, 1993), when scholars researched the process of knowledge transfer within and between firms. The knowledge-based theory considers the ability to set up effective inter-organizational knowledge-transfer mechanisms for explicit knowledge and tacit knowledge, a key factor for gaining a competitive advantage through the creation of a business network (Barney 1991; Zander and Kogut 1995; Inkpen 1996; Nonaka et al. 1996). Our study considers knowledge creation and transfer equally important for internationalizing e-service firms (Hult et al. 2004; Mu et al. 2008) because knowledge competency is a major determinant of success in entering foreign markets (Park and Rhee 2012; Langseth et al. 2016).

Thus, our model maintains that e-services are associated with two types of knowledge characteristics: codifiable firm know-how and intangible,

Table 5 Knowledge characteristics of the hard and soft service components of international e-service firms

International service components	Example of E-service	Associated Knowledge Characteristics
Hard service	Content production	Codifiable firm know-how (*CFK*)
Soft service	Consulting services	Intangible (non-codifiable) firm know-how (*IFK*), such as procedures, processes, and capabilities Ability of the firm needed to provide innovative products/ services to the local market

non-codifiable firm know-how. These knowledge characteristics are also associated with two types of service components: hard and soft. Table 5 summarizes the knowledge characteristics of hard and soft services.

According to the knowledge-based theory, the difficulty of knowledge transfer is related to the codifiability of the knowledge, which determines the choice of entry mode of e-service firms into foreign markets. Explicit, codifiable knowledge does not require complex transfer mechanisms. Hence, it can be distributed via written or oral instructions such as user manuals and pre-recorded tutorials. In such cases, e-service companies can use entry modes such as exporting and licensing over which they exercise little control. In contrast, transferring tacit, intangible know-how requires more resources and personal interaction between the actors in the firm. Therefore, e-service firms with intangible knowledge characteristics will be inclined to opt for a high-control entry mode, such as sole ownership, in order to maintain the complex mechanisms of tacit knowledge transfer within the company. The proportion of hard and soft service components, which require different mechanisms for the transfer of different knowledge types, will affect the choice of entry modes into a foreign country, with increasing control from market governance modes such as exporting and licensing, to network governance modes such as franchising, management contract, and joint venture, to the sole ownership modes. By differentiating between hard and soft service components of e-services, we can derive the following propositions regarding the choice of entry modes of e-service firms based on the knowledge characteristics (see Fig. 2).

P1: E-service firms with codifiable firm know-how (CFK), which is the characteristic of hard service components, use low-control modes for internationalization that enable them to transfer the know-how to foreign markets by market contracts.

P2: E-service firms with intangible (non-codifiable) firm know-how (IFK), which is the characteristic of soft service components, use high-control modes for internationalization that enable them to transfer their intangible e-services to foreign markets by sole ownership.

P3a: E-service firms with hard and soft service components use market entry modes with medium to high levels of control, such as management contracts or joint ventures, when the intangible (non-codifiable) component of the firm know-how is predominant (IFK $>$ CFK).

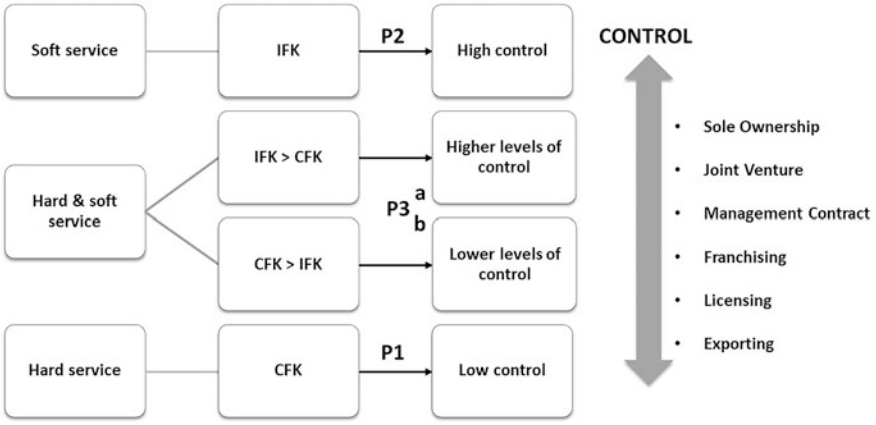

Fig. 2 Entry mode choice of e-service firms based on the knowledge characteristics of hard and soft service components

P3b: E-service firms with hard and soft service components use market entry modes with medium to low levels of control, such as franchising or licensing, when the codifiable component of the firm know-how is predominant (CFK > IFK).

4 Discussion and Implications

This study investigates the unique characteristics of e-services, including their specific knowledge characteristics and their influence on the choice of entry mode. Our systematic literature analysis reveals that e-services constitute a distinct service category of e-commerce firms that deserve our research attention. Our framework of the choice of entry mode of e-service firms distinguishes between the hard and soft service components of e-service firms based on two types of knowledge characteristics—codifiable firm know-how and intangible (non-codifiable) firm know-how. We also develop three propositions on the major entry mode scenarios of e-service firms—low-control, high-control, and network-based control modes. Due to the codifiable know-how of hard service components, these e-service firms choose low levels of control such as exporting and licensing. Their decision is not determined solely by knowledge characteristics. Other factors such as first-mover and scale advantages may result in a preference for low-control entry modes. In contrast, e-service firms with intangible firm know-how, which is characteristic of soft service components, should use high-control modes for internationalization to host markets. Their decision is strongly determined by the difficulty of transferring tacit knowledge outside the firm without a loss of value. Finally, e-service firms that contain both hard and soft service components should choose the market entry control level according to the ratio of hard and soft service components of

e-services. If the hard service component dominates, the relatively greater share of codifiable firm know-how can be transferred using lower-control entry modes (e.g., exporting, licensing, and franchising). If the soft service component dominates, the relatively greater share of intangible non-codifiable firm know-how must be transferred using higher-control entry modes (e.g., joint ventures, management service contracts, sole ownership).

Our study contributes to the literature of international e-service firms by conducting a systematic literature review. Based on this review, we developed novel knowledge-based research propositions explaining the knowledge characteristics of soft and hard service components as determinants of the choice of market entry modes of e-service firms. Our model can be useful for practitioners by providing them with a roadmap for the choice of entry modes based on the specific knowledge characteristics of their e-services.

This study has several limitations that suggest possible avenues for future investigation. Since we have not evaluated our conceptual framework with empirical data, future research would benefit from empirical testing of our propositions. Another limitation concerns the implicit assumption of treating e-service providers as a homogeneous group of firms. Hence, future studies should distinguish among the variety of e-services and investigate their internationalization patterns and entry mode choices. Finally, our study explains the entry mode choices of e-service firms using the firm-specific product knowledge types characterized by hard and soft service components, i.e., codifiable and non-codifiable firm know-how. Thereby we do not take into account that specific market knowledge might be required to facilitate the implementation of the soft and/or hard service components of e-services. Future studies should combine the specific product know-how of e-service firms with the specific market know-how that is required to enter the foreign market in order to explain the level of control of entry modes.

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The Two-Sided Effect of the Sharing Economy and Its Impacts on Inter-organizational Cooperation in the Tourism Sector

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Abstract The sharing economy has recently enjoyed increasing interest, especially in the tourism sector, thanks to the growing popularity of information and communication technologies including digital platforms. However, it remains a phenomenon not fully recognized, especially in the context of inter-organizational cooperation. The aim of the paper is to determine whether and how the popularization of the sharing economy impacts tourism sector development and stimulates inter-organizational cooperation within the sector. Recognition of the two-faceted effects of the sharing economy (i.e., accelerating and limiting effects) on the development of the tourism sector resulted in the use of the quantitative approach and structural equation modeling. The data, gathered from a randomly selected representative sample of 368 Polish tourism companies, members of Destination Marketing Organizations, shows that the sharing economy can paradoxically both accelerate and limit the development of the tourism sector. The research results also revealed that the popularization of the sharing economy (measured by two intentionally chosen factors, i.e., the increase in both information and communication technologies, and experience tourism) positively and significantly impacts intra-sectoral cooperation in the tourism sector.

1 Introduction

Almost two decades ago, Stamboulis and Skayannis (2003) identified two main streams of changes in tourism. One is the growing desire among tourists to have exceptional experiences, while the second is the change in the creation, production,

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and consumption of tourism products due to the rapid development of information and communication technologies (ICT). Both of these can be perceived as particularly important factors stimulating one of the most revolutionary phenomena affecting the condition of the tourism sector, that is the sharing economy (SE)—the general trend towards sharing assets instead of owning them (Fang et al. 2016; Pappas 2019; Paulauskaite et al. 2017; Qian et al. 2020; Roblek et al. 2016; Sigala 2018; Ukpabi and Karjaluoto 2017).

ICT have provided new opportunities for entrepreneurs, including alternative forms of access to the goods and services that are recognized as important and desirable to customers. At the same time, the desire to embrace new experiences and emotions, and to appreciate the authenticity of meeting new people and seeing new places (Chen et al. 2020; Wang et al. 2020) has begun to increase in importance on the market. Indeed, the so-called experience economy, including experience tourism (ET), is evident primarily in the dynamic development of services providing access to alternative forms of travel as offered by digital platforms (Bae et al. 2017) such as Airbnb, Triple, Vayable, or Withlocal. This is in addition to much more inclusive tourism platforms such as Accomable, Andyamo, Handiplanet, or Mobee Travel, which focus on providing access to smart and inclusive destinations for tourists with disabilities and limited mobility.

It seems, however, that although SE is an important issue and has become a more popular research stream, it is still relatively insufficiently explored (Leung et al. 2019; Moreno-Izquierdo et al. 2019), thus several knowledge gaps can be identified.

Firstly, there are some empirical works that explore SE from the demand side perspective (i.e., the tourist/user perception) (Belk 2010; Buhalis and Amaranggana 2015; Hamari et al. 2015; Tussyadiah and Pesonen 2016), whereas the supply side (i.e., the tourist entrepreneur perception) has not yet been broadly analyzed. It is essential, for example, to understand how tourist entrepreneurs perceive the impact of SE on the tourism sector (Cheng 2016).

Secondly, the literature underlines some limitations stemming from the development of SE regarding the tourism sector (Lyons and Wearing 2015). SE activities are often perceived as hampering the development of the tourism sector or even as a dangerous threat that result, for instance, in unfair competition, increase of intra-sectoral opportunistic behaviors, reduction in employment in the tourism sector, tax evasion, and disregard for legal regulations (Fang et al. 2016; Heo 2016). Given the above, SE can be seen as potentially limiting tourism sector development. Simultaneously, other researchers stress that SE has wide positive impacts (e.g., environmental or social) on development of the tourism sector (Botsman and Rogers 2011), including, for instance, providing additional capacity in cities in peak seasons. This suggests that SE has the potential for accelerating tourism sector development. Indeed, in the literature there is no coherent stance among researchers on whether the SE accelerates or limits tourism development (Heo 2016), thus further research is needed.

Thirdly, the current stock of knowledge not only fails to provide a clear answer as to whether (and how) the popularization of SE impacts the development of the tourism sector (Cheng 2016), but in particular we are missing transparent evidence

regarding its impact on development of intra-sectoral cooperation in tourist destinations (Wójcik et al. 2020).

Fourthly, according to a systematic literature review run by Mwesiumo and Halpern (2019), this cooperation, as an inter-organizational relationship, is one of the fastest growing areas of research in tourism. Moreover, due to the complex character of tourist products, such cooperation is crucial, especially in tourist destinations. It develops quickly as it can be successfully utilized through different formal and informal solutions, including strategic alliances, managerial cooperatives, and strategic and social networks. Mwesiumo and Halpern (2019) identified six streams in current research on cooperative relationships in tourism, of which one was still underexplored, that is research related to their formation. Therefore, this chapter focuses on the triggering of inter-organizational relationships among tourism companies by two factors related to SE development, ICT and ET.

Finally, although some research on SE has been conducted from the perspective of western countries, including Western Europe in particular (Almeida-Santana et al. 2020), relatively little attention has been paid to emerging central and eastern European countries such as Poland (Tolkach et al. 2016). Similarly, researchers interested in tourism management as well as intra-sectoral cooperation within the tourism sector have called for further research to be carried out in European contexts, but restricted to one country only (Kylänen and Rusko 2011; Mariani 2007).

This chapter addresses all of the above-mentioned gaps. In particular, it aims to determine whether and how the popularization of SE (measured by two chosen factors: the increase in both ICT and ET) impacts tourism sector development and stimulates inter-organizational cooperation within the tourism sector. Our study was conducted using a quantitative approach and a random, representative sample of 368 Polish tourism companies associated in 124 local Destination Marketing Organizations (LTO—Local Tourism Organizations), which are a popular form of inter-organizational tourism cooperation in Poland.

2 Theoretical Background

2.1 The Sharing Economy Phenomenon and Digital Platforms Used in the Tourism Sector

The idea of sharing is not new (Belk 2010); however, around 2000, when natural resource constraints started to become increasingly visible, the Internet became a tool for more efficient use of resources. This was achieved by the sharing of such resources among strangers through the convergence of online and offline communities and the breaking down of the historical links between geographical and social distance (Botsman and Rogers 2011; Gössling and Hall 2019; Price 1975). Earlier sharing (mostly non-profit and community-oriented, such as Couchsurfing, Napster, and Freecycle) was different to sharing nowadays (more for profit, e.g., Airbnb or

Uber), which is connected to ICT and the development of digital platforms (Botsman and Rogers 2011; Martin 2016; Ravenelle 2017).

Digital platforms can be understood as a set of digital resources, be they services or content, which facilitate interactions between its participants (Bonina et al. 2021). Such platforms share three basic characteristics: they are technologically mediated, enable interaction between user groups, and allow such user groups to carry out defined tasks (Cusumano et al. 2019). Digital platforms have become globally dominant intermediaries, labeled also as cybermediaries (Stamboulis and Skayannis 2003) with their own rights (Gössling and Hall 2019). Based on a technological core infrastructure, they connect various external actors for purposes such as knowledge generation, improvement of communication, information sharing, product development, or supply and demand matching.

Moreover, recent rapid developments, particularly in the context of Industry 4.0, have pointed to the enormous potential of digital platforms for business models and inter-company relationships (Veile et al. 2022), e.g., thanks to transforming traditional roles in areas like employment, productivity, and innovation activities (Bonina et al. 2021). Digital platforms simultaneously stimulate an inclusive business ecosystem incorporating customers and further actors. This implies a shift towards the customer centricity of value creation, or even value co-creation, and integrative business models performed via multi-sided networks (Wang 2021). Digital platforms can orchestrate service providers to learn from other participants in the platform market (e.g., in online communities). Thus, researchers emphasize the increasing importance of engagement in the usage of digital platforms in the context of coordination, collaboration, and cooperation among firms (Cremona et al. 2014).

Additionally, as recent research shows, since the important attributes of using digital platforms are external network elements and interactivity (Yang et al. 2018), these generate the need to design an appropriate strategy that platform leaders can use to manage service providers in the sharing economy (Wang and Jeong 2018). Digital platform providers might need to allocate more of their resources to further strengthen network externalities (e.g., the number of users and the extent of additional services generated by the growing network) (Yang et al. 2018). Thus, many strategies need to be established in order to increase the number of platform participants. As digital platforms connect an increasing number of actors in an ever-growing complex network, firms which are determined to maintain and grow the network must manage new boundaries (and issues) within the digital platforms. These include, for example, the boundary of power (relating to issues such as competing interests among actors, competing for power, and power shifts to new actors) and the boundary of identity (relating to issues such as reaching a consensus among actors regarding the changing roles of digital platform firms in facilitating exchanges) (Leong et al. 2019).

Finally, platforms sharing economic goods, represented by Airbnb, Uber, and Lyft, have brought about changes in tourists' behavior. They put security and trust at the center of interest, which is of special importance in SE development.

Despite the growing popularity of the SE, there is no single definition of the concept (Gössling and Hall 2019; Pappas 2019; Wójcik et al. 2020). The "sharing

turn" as a general trend for sharing assets instead of owning them, is described by many authors using different terminology, for example, "sharing economy," "peer to peer economy" (Cheng 2016), "collaborative consumption" (Botsman and Rogers 2011; Moreno-Izquierdo et al. 2019; Pouri and Hilty 2018a), and many others.

When defining and delimiting the SE concept, the following criteria are taken into account: type of sharing (digital vs. non-digital) (Dredge and Gyimóthy 2017), type of platforms used (owned by global corporations or not) (Boffey 2017), monetary aspects (monetary vs. non-monetary exchange), type of transactions (commercial vs. non-commercial), type of resources (digital vs. physical) (Hamari et al. 2015), and adopted business model (Belk 2010; Botsman and Rogers 2011; Sigala 2015). In general, the majority of researchers consider only peer-to-peer (P2P) relationships facilitated by technology as adequate for qualifying for the SE (Botsman and Rogers 2011; Frenken et al. 2015; Gansky 2010), allowing people to use underused assets (Palgan et al. 2016) without permanent transfer of ownership (Botsman and Rogers 2011; Eckhardt and Bardhi 2015). Finally, some authors (e.g., Frenken et al. 2015) claim that the SE should only refer to sharing physical assets, whereas others include intangible resources (Pouri and Hilty 2018a, b), encompassing not only sharing but also exchanging, selling, and buying such resources (Sigala 2017). As a result, as the authors make no distinction between the above-related terms and the adopted scopes, their boundaries are blurred (Allen and Berg 2014).

In this chapter, the sharing economy is defined as "a socio-economic model of peer-to-peer relationships i.e. bottom-up initiatives between individuals who utilize the idle capacity of assets in order to share them via a digital platform for free or for a fee" (Wójcik et al. 2020, p. 275). The adopted approach remains in line with considering the SE as a "techno-socio-economic" phenomenon as it bridges digital technology, people, and economic behaviors/goals/functions (Pouri and Hilty 2018a) in order to "provide temporary access to resources that may involve either direct or indirect monetary value" (Pouri and Hilty 2018b, p. 5).

The development of the SE and the use of digital platforms can be associated with a wide range of benefits at a different cognitive levels. At the macro level it is said that the SE positively impacts environmental sustainability (Pouri and Hilty 2018a). At the tourism sector level, the SE expands the overall size of the accommodation (Moreno-Izquierdo et al. 2019; Pappas 2019) and transportation market (Cervero et al. 2007; Martin et al. 2010); increases employment (Moreno-Izquierdo et al. 2019); provides innovations, more choices, and service differentiation (Paulauskaite et al. 2017); and increases profitability (Moreno-Izquierdo et al. 2019). At the destination level, the SE stimulates the supply of tourist destinations (Paulauskaite et al. 2017), including its deseasonalization (Moreno-Izquierdo et al. 2019), and leads to the higher competitiveness of tourism destinations (Moreno-Izquierdo et al. 2019). At the level of firms, the SE stimulates competition by making it fiercer and more challenging (Sigala 2017), but also leads to additional sources of income (Paulauskaite et al. 2017), more effective pricing and a higher quality of services (Paulauskaite et al. 2017). Finally, the SE impacts individuals, including not only tourism entrepreneurs, but also tourists. Indeed, the SE broadens travel opportunities

as it creates the possibility to see new destinations, which would be financially unattainable if it were not for the SE (Juul 2015; Shaheen et al. 2012; Tussyadiah and Pesonen 2016). Moreover, it offers a higher level of belongingness ("feeling at home"), uniqueness ("atypical places to stay"), and affordability for tourists (Paulauskaite et al. 2017), making it easier to experience a tourism destination.

However, alongside the benefits, certain problems and costs connected with the SE are also mentioned (Malhotra and van Alstyne 2014; Zervas et al. 2017). At the macro level, in the long-term perspective, the SE can generate a classic rebound effect, as due to its significant impact on tourism it may lead to higher tourist traffic utilizing a wide range of transportation more frequently and leaving a heavier ecological footprint on our planet (Pouri and Hilty 2018a). At the sector level, one should mention inter-sectoral conflicts, as hoteliers (especially lower-priced ones) and governments often treat SE entities as a threat to traditional tourism entrepreneurs (Queensland Tourism Industry Council 2014) (i.e., enterprises not formerly using new business models based on the SE). This is because traditional market players have to compete with new rivals offering non-traditional products, such as accommodation through Airbnb.com, but also with customers who offer, for instance, couchsurfing accommodation (Sigala 2017). Moreover, the SE is considered as responsible for disruption to traditional value chains (Sigala 2017), as the time-to-market shortens and the delivery follows shorter distribution channels in terms of the number of actors engaged, e.g., travel operators are often excluded (Li and Suomi 2007). Regarding tourism destinations, the SE is perceived as leading to massification/touristification (i.e., a type of gentrification), especially in some the most well-known and popular tourism destinations (Moreno-Izquierdo et al. 2019), and also as leading to the problem of overcrowding, mainly in non-traditional tourist destinations (Paulauskaite et al. 2017). Another problem is tax evasion and the illegal renting of property (Lyons and Wearing 2015; Roblek et al. 2016), which stimulate conflicts and lower destination budget revenues. At the micro level, the SE impacts on employment and bankruptcy in traditional tourism firms (Fang et al. 2016; Paulauskaite et al. 2017; Sigala 2017). This is because tourists are moving to non-traditional accommodation providers who adopt new, more profitable, platform-based business models (Pappas 2019). Another problem is the lack of social security cover for a firm's workforce if the income from the SE becomes the sole source of revenue (Lyons and Wearing 2015; Schor and Fitzmaurice 2015), as well as the bypassing of government regulations, which can not only violate consumer rights, but also negatively affects the standard of services (Juul 2015; Rauch and Schleicher 2015). Last but not least, the SE can be considered to negatively impact the demand side of the market, namely tourists. For example, it is claimed to lead to depersonalization and lack of assistance in the case of any problems or bad experiences (Moreno-Izquierdo et al. 2019), but also as creating certain social problems, including discrimination among Airbnb hosts on the basis of race, ethnicity, or religion (Paulauskaite et al. 2017). Furthermore, it is said that too much reliance on the user-generated content available and shared through digital platforms may lead to problems of lock-in and redundant information (Martínez-Pérez et al. 2019).

Given the two-faceted positive and negative nature of SE development in the tourism context, it can be considered as either accelerating or limiting the speed of tourism sector development, while the literature claims that the real contribution of the SE should continue to be examined further (Gössling and Hall 2019; Moreno-Izquierdo et al. 2019; Paulauskaite et al. 2017). For instance, Paulauskaite et al. (2017) propose an SE framework covering two integral components, that is experiences (underlying the phenomenon called experience tourism—ET) and digital communication/platforms (underlying ICT development). With regard to the first, it must be stressed that tourists are increasingly considered as so-called prosumers as they are interested and engaged in the co-creation of tourism products (Sigala 2018), which includes their intentional involvement in the creation of their tourism experiences (Kim and Fesenmaier 2017; Sigala 2018; Yoo and Gretzel 2011), and co-investing in new product development (Sigala 2018; Egger et al. 2016). Nonetheless, to some extent the fast-growing phenomenon of presumption in the tourism context (Egger et al. 2016) may unintentionally lead to value co-destruction (Sigala 2016). Once again, alongside the pros and cons of the SE, its two-faceted nature can be seen through the beneficial or harmful role assumed by "engaged" tourists.

All of the above options, which favor co-creation of the tourism offer and tourism experiences through digital sharing of information, knowledge, and experience, suggest mutual connections between ICT and ET. Similarly, from the marketing perspective, following Qian et al. (2020), e-Word Of Mouth (eWOM) and e-viral marketing as indicated by Roblek et al. (2016) are good examples of new solutions that significantly impact tourism and tourism management linking both ICT and the focus on ET in the context of the SE, exploiting content co-created and shared by a crowd of individuals or by communities of individuals. Indeed, digital WOM (e.g., other tourists' reviews, recommendations, warnings, etc.) is considered as much more impactful, convincing, and trustworthy for tourists in the tourism decision process than traditional forms of marketing, including offline WOM, which has a limited scope of spread (Qian et al. 2020).

2.2 ICT and ET as Factors Related to the Sharing Economy Phenomenon

As outlined above, in the context of accelerating and limiting the speed of development of the tourism sector, we have indicated two extraordinarily important factors of the SE:

- an increase in ICT as a factor related to the supply side of the market (e.g., the usage of new technologies by tourist companies, and presence on different digital tourism platforms)
- an increase in ET as a factor related mainly to the demand side of the market (e.g., changing expectations and preferences of tourists, the need for customized services)

2.2.1 The Role of ICT

In the twenty-first century, the digitization of the tourism sector has been a response to the growing expectations and behaviors of tourists (Pouri and Hilty 2018a; Ukpabi and Karjaluoto 2017) and has caused enormous changes (both opportunities and threats) to the market (Ho and Lee 2007; Werthner and Klein 1999). Thus, ICT is seen as a major tool with the potential to fundamentally change business behavior, business models, and business strategies (Koch and Windsperger 2017), allowing companies to survive and be more flexible and adaptive to changes in the tourism sector (Islam 2012; Sigala 2003).

ICT has allowed tourist experiences to be created by modifying tourists' expectations and preferences regarding tourist offers (Lam et al. 2020; Munar and Jacobsen 2014). The adoption of ICT can be utilized by a tourist before, during, or after a trip or journey (Bae et al. 2017; Ukpabi and Karjaluoto 2017). Pre-trip solutions include tourism attraction websites and social media (i.e., Facebook, Twitter, Instagram, Snapchat, Flicker, and YouTube) (Lam et al. 2020; Mandić and Praničević 2019), as well as digital platforms (i.e., Airbnb) used to collect opinions, recommendations, ratings, etc. (Sigala 2018). These shared opinions and recommendations are not only acknowledged as relevant (Roblek et al. 2016), but also as much more valuable, honest, and convincing than those made directly by tourist organizations or third parties (Pierdicca et al. 2019). Moreover, pre-trip solutions allow tourists to make direct and indirect bookings (Mandić and Praničević 2019). On-site solutions include mobile guide information services (e.g., e-tour maps, voice maps, automated translators—Lam et al. 2020); apps and websites for navigating and tracking travel routes (Mandić and Praničević 2019); chatbots that are able to interact with visitors and tourists on site (Martínez-Pérez et al. 2019); and augmented (Martínez-Pérez et al. 2019; Yung and Khoo-Lattimore 2019) and mobile augmented reality (MAR) (Lam et al. 2020) that allow, for example, descriptions of attractions to be provided, or can be used to guide tourists at the destination. Moreover, thanks to ICT, tourists can better interact with locals. Finally, post-trip solutions include social media (Lam et al. 2020; Mandić and Praničević 2019) and online platforms used to share and co-create opinions, recommendations, ratings, etc. (Sigala 2018). As a result, as research shows, ICT has a positive and statistically significant effect on tourist demand (Adeola and Evans 2020). Moreover, given the impact of COVID-19 on the world today, one may assume that ICT usage will become even more important than before in the area of consumers' decisions as we move from the real to the virtual world in many aspects of human activity (Yaqub et al. 2020).

Moreover, the dynamic growth in the use of ICT has also resulted in changes to the structure and operations of the whole travel and tourism sector (Buhalis and Deimezi 2004). This has led to significant changes in the ways tourist firms are run (Buhalis 2003) and to the reorganization and greater efficiency of tourist businesses (Frias et al. 2008), including the process of digitization of the tourism supply chain (Moreno-Izquierdo et al. 2019). ICT is also perceived as a key factor in

competitiveness (Martínez-Pérez et al. 2019; Pierdicca et al. 2019) both at the destination and the company level. For example, at the destination level (Buhalis 2003; Buhalis and O'Connor 2005), new digital technologies are shown as improving the accessibility of tourist attractions, thus increasing tourism development and destination attractiveness (Lam et al. 2020; Pierdicca et al. 2019). On the company level, it reduces transaction and operational costs (Stamboulis and Skayannis 2003), thus making competition more intensive and dynamic (Berne et al. 2012), and leads to improved company performance (Mandić and Praničević 2019). This is possible due to the wider use of online sales channels (via, for example, the use of new media), and the increasing personalization of offers. ICT development is also acknowledged as leveraging innovativeness (e.g., as companies gain inspiration from the shared opinions and ideas of tourists), decreasing the time-to-market, and increasing the number and the novelty level of newly developed tourism products (e.g., better tailoring of the offer to customers' needs—recognized via digital platforms). Therefore, ICT is seen as a factor that is moving the tourism sector towards a higher, more modern, more innovative and more digital level (Berne et al. 2015; Sigala 2018). The rise of technologies based on big data, sensors, and information exchange has led tourism to evolve into e-tourism (Li and Suomi 2007; Martins et al. 2017; Ukpabi and Karjaluoto 2017), and further from e-tourism to smart tourism in many tourist destinations (Kim and Fesenmaier 2017).

To sum up, ICT is an important factor that impacts the tourism sector, including the SE phenomenon observable inside the sector. As shown above, ICT makes sharing possible, gives access to outcomes through sharing by peers, expands options and accelerates sharing actions, including those undertaken by disabled people (Lam et al. 2020). A large amount of current, online ICT use user-generated data (labeled also as user-generated content, UGC—Sigala 2017), but what is more, it also gives access to this data in a processed form not only to these same users, but to other users as well. In this perspective, ICT definitely nurtures the benefits of the SE phenomenon. Moreover, as ICT provides a great many solutions for P2P activity, it can be considered as a source of social commerce, to some extent overlapping with the idea of the SE, in which a wide range of collaborative tools and applications are used (Sigala 2017).

2.2.2 The Role of Experience Tourism

Experience tourism is a part of the experience economy (Pine II and Gilmore 1998), a modern megatrend understood as a social tendency resulting from the increasing demand for individual experiences (Lund et al. 2005). Pine II and Gilmore (1998) identified personal experience as the fourth product on offer in the economy, alongside raw materials, goods, and services. Experience phenomena include sensory pleasures, daydreams, esthetic enjoyment, emotional responses (cheerfulness), fantasies, feelings, and fun encompassed by the so-called "experiential view" (Holbrook and Hirschman 1982). Experience relates to elements such as colors and sounds, impressions and feelings of attraction and repulsion, as well as ecstasies

and disillusionments. Experience can be "addressed as an object of study" (Koch 1964, p. 34). According to the experiential view, an individual's purchase decision is only a small component in the constellation of events involved in the overall consumption experience, given the operation of the pleasure principle in multisensory gratification, exciting fantasies, and cathected emotions. This is why an increase in importance has been noted in the role of esthetic products and services, multisensory aspects of product/service enjoyment, product-related fantasies and imagery, and feelings arising from consumption.

Sensation-seeking (Zuckerman 1979) is a variable likely to affect a consumer's tendency to enjoy more complex entertainment. An important part of the consumer experience are patterns of association, which Osgood (1957) called "associative hierarchy." This refers to sensations, imagery, feelings, pleasure, and other symbolic or hedonic components which are frequently paired together in experience (Klinger 1971). The stream of associations that occur during consumption (imagery, daydreams, emotions) may be important experiential aspects of consumer behavior.

Adaptation of the experience economy concept to tourism seems to be of interest to increasing numbers of researchers and managers (e.g., Buhalis and Amaranggana 2015; Hwang and Lyu 2015). It is even said that tourism is one of the pioneering examples of the experience economy (Quan and Wang 2004). This is because experience is considered as "the place where experiences of pleasure, enjoyment, and entertainment can be encountered, as well as where human interactions occur" (Walls et al. 2011, p. 170), thus a place where the two dimensions of experience can materialize simultaneously. Stamboulis and Skayannis (2003) claim that "experience emerges from the interaction between destinations and tourists." It can be concluded that an experience occurs when visiting (and touching, feeling, smelling, etc.) a specific tourism destination.

It is acknowledged that a tourism experience is memorable if it is simultaneously emotional (as it creates a specific connection with the tourist) and immersive (as it leads to the full involvement of the tourist in the specific surroundings), or if not immersive then at least multisensory (Martins et al. 2017). Several sensory channels should operate simultaneously. Many products and services project important non-verbal sensory cues that must be seen, heard, tasted, felt, or smelled to be appreciated properly. Esthetic stimuli should be designed to vary in complexity over a broad enough range (Holbrook and Hirschman 1982). Researchers pay attention to aspects such as emotional responses (Platt 1970), pictorial imagery (Richardson 1969), fantasies (Klinger 1971), and daydreams (Singer 1966), or esthetics (Berlyne 1960). It is indicated that emotions form an important substrate of consumption. This sphere of human experience has been often neglected by scientists, while others have developed systematic and coherent models of emotion (Plutchik 1980) as an important element of consumption, also for tourism. It is worth adding that many relevant symbolic meanings lie beneath the consciousness threshold of users of products and services (Levy 1980). In some cases, the symbolic role is especially rich and salient: for example, architecture, paintings, museum exhibitions, the arts, the performing arts, and associated patterns of entertainment and leisure activity (Holbrook and Hirschman 1982) such as tourism.

Tourists are ready to pay more for such an experience as long as it provides unique opportunities, for example, gaining new knowledge and skills, or experiencing new adventures (e.g., visiting unique places, meeting unique people). Nowadays, tourists play an active role in deciding on their tourist trips, interacting with tourist providers in destinations, influencing other tourists and choosing how to satisfy their own needs (Buonincontri et al. 2017). Research by Buonincontri et al. (2017) has shown that experience co-creation positively affects tourists' satisfaction and happiness, as well as their level of expenditure on goods and services in tourist destinations. Thus, ET can bring benefits for both tourists and tourist destinations (Buonincontri et al. 2017; Grissemann and Stokburger-Sauer 2012).

What is important is that experience tourism favors the SE. Experience can be a favorable factor or the only motivation for traveling (Stamboulis and Skayannis 2003) and for visiting specific tourism destinations (e.g., "foodies" representing gastro tourism) (Qian et al. 2020), but also for participating in the local community (e.g., through private social dining) (Qian et al. 2020), and using P2P accommodation (Pappas 2019). This is because ET takes the form of authenticity-seeking tourism in which experience is co-created with locals and other tourists (Paulauskaite et al. 2017). Interestingly, while ET favors the SE, in return the SE favors experiences had by tourists. Tourists use social media such as TripAdvisor, Facebook, Twitter, or Instagram to share their experiences and to build relationships (Kim and Fesenmaier 2017; Munar and Jacobsen 2014). Moreover, these sharing activities are an important element in creating meaningful tourism experiences (Kim and Fesenmaier 2017; Wang et al. 2012). What is important is that SE platforms can also be very useful for ensuring emotive experiences for tourists in tourist destinations. Using digital platforms, local people may play the role of hosts welcoming tourists in their homes and thus assuring the authenticity of a tourist offer. For tourists, it is a chance to visit a given place from a different, unique perspective (Chen et al. 2020; Wang et al. 2020), while for hosts it provides the possibility to earn money as their main or supplementary income (Zervas et al. 2017).

Summing up, the development of initiatives undertaken within the framework of the SE impacts on changes in the tourism sector, caused by an increase of both factors, i.e., ICT and ET. Interestingly, both these important factors related to popularization of the SE phenomenon seem to impact another relevant, modern and dynamically growing phenomenon—inter-organizational cooperation.

2.3 The Sharing Economy in the Tourism Sector: Its Impact on Intra-sectoral Cooperation

Nowadays, different forms of networks are crucial for business activity. Cooperation is also crucial for the tourism sector, understood as "relationships between two or more agents that agree, either formally or informally, to exchange information, technical support, managerial training, capital and/or market information" (Wilke

et al. 2019, p. 341). Due to increasing dynamics and growing customer pressure, cooperation in this sector more often connects a wide range of different organizational partners not only in an ad hoc manner, but also longitudinally (Wilke et al. 2019), for instance in the form of Destination Marketing Organizations.

The motives for intra-sectoral cooperation may result from perceived opportunities (understood as an accelerating factor) (Mendonça et al. 2015) and threats (understood as a limiting factor), both regarding development of the whole tourism sector and an individual actor's business activity. Due to the potential opportunities, perceived by entities as a chance to develop their own business or the tourist offer in a particular destination (Czernek-Marszałek 2020; Mendonça et al. 2015; Mwesiumo and Halpern 2019), and as a consequence of an acceleration of tourism sector development, entrepreneurs start to cooperate with one another. In the second scenario involving potential threats, tourist entities may perceive the risk of being forced out of the market because of SE popularization, therefore they begin to cooperate, e.g., to increase their collective strength. Thus, in such a situation, partners enter into cooperation voluntarily, but they make this decision under certain pressure (Palmer and Bejou 1995). According to these authors, cooperation is all the more necessary and its objectives are all the more complex, the higher the level of motivation of the partners, often associated with the perceived opportunity (accelerating factor) or threat (limiting factor) to developing their own business and the tourism sector in a given area.

Also, the SE opens companies to cooperation (Egger et al. 2016). We claim, therefore, that both factors driving the SE, i.e., ICT and ET, favor intra-sectoral cooperation because both perceived opportunities (accelerators) and threats (limiters) may lead to cooperation and ultimately to development of the whole tourism sector. In turn, both ICT and ET are perceived as factors that influence the popularization of the SE, and this popularization affects intra-sectoral cooperation within the tourism sector.

Firstly, ICT development can stimulate inter-organizational cooperation as its use can be a factor that contributes to combining the competences of various tourism entrepreneurs (Buhalis and O'Connor 2005; Lam et al. 2020; Mandić and Praničević 2019; Pierdicca et al. 2019), thus improving a wide range of both B2B and B2C external relationships (Li and Suomi 2007). Moreover, ICT tools facilitate communication between entities, which supports horizontal, vertical, and diagonal cooperation between companies inside the sector (Garces et al. 2004), resulting, for instance, in the introduction of innovations and stimulating their continuous development. ICT as a whole, including digital and e-commerce solutions, facilitates the establishment and supports the maintaining of cooperation in the long-term perspective (Mandić and Praničević 2019; Mendonça et al. 2015) as it may consist, for example, of creating joint offers that can be accessed with the use of telephone applications, or by creating joint e-booking platforms (Aramendia-Muneta and Ollo-Lopez 2013). Furthermore, ICT favors international and boundaryless cooperation among tourism organizations (Li and Suomi 2007; Sigala 2017). For instance, due to improved and more efficient communication, inter-organizational cooperation can be seen as a valuable path to internationalization (e.g., making a product global

through online cooperation with foreign partners representing distant destinations) (Brandão et al. 2019).

Secondly, the development of ET stimulates the development of the tourism sector, and thus encourages tourism enterprises to cooperate. This is related to the fact that entrepreneurs are aware that tourists are now looking for new and very personal experiences, based on unique attractions (Gao et al. 2020). This means that they are forced to adapt their offer to the needs of such tourists (Chen et al. 2020; Wang et al. 2020), and cooperation between them is often necessary. This may, for example, consist of organizing meetings with people representing local traditions, history and culture, or using the services of local guides who show tourists a tourist destination from a completely different perspective than the one usually offered by travel agencies.

Cooperation between tourist entrepreneurs may also result from the occurrence of negative phenomena. For instance, this may be random events in response to which tourist demand is highly volatile (e.g., natural disasters, terrorist attacks), as well as a decline in interest in a tourist destination's offer due to other reasons such as deterioration of the destination's image, changes in tourists' habits, new trends, etc. The literature provides many more such examples (see, e.g., Gursoy et al. 2015; Nordin 2003), including very recent ones, namely those related to COVID-19 (González-Torres et al. 2020).

It should also be highlighted that the increase of ICT and ET can negatively affect tourism sector development. Braun (2004), Danielle and Mistilis (1999) and Hollick (2003) have noted that although the development of the Internet and ICT generates a great many benefits, many small and micro tourism enterprises have not managed to effectively implement solutions in this field. Thus, the tourism sector has no choice but to adapt itself to this new world and the new order of doing business, and enterprises that do not understand this must disappear from the market (Kathan et al. 2016). Additionally, as a result of the necessity for even greater use of ICT in the times of the global COVID-19 pandemic, what the future tourism market will look like remains in the sphere of uncertainty.

Finally, in the case of ET, it may turn out that new entities operating on the market and offering their services at lower prices, e.g., as part of the Airbnb platform or others, will start to replace traditional tourism enterprises (those companies that have never operated and do not operate according to the SE model). Also, a real threat to the effective shaping of a competitive tourist product is the danger of overloading an offer with too many attractions. Although the modern tourist is a collector of experiences and is looking for new impressions, excessive saturation with emotions can lead to weariness, even indifference or the trivializing of a tourist offer.

Given the above, one can state that popularization of the SE can be seen as driven by an increase in ICT and ET. Simultaneously, the popularization of the sharing economy implies changes in traditional business sectors of the economy. Last but not least, these changes may be positive or negative in terms of economic development. Therefore, in the context of the tourism sector, we may consider a two-faceted effect of the growing popularity of the SE (Table 1).

Table 1 Specificity of items referring to the observable effect of popularization of the sharing economy in the tourism sector

Two-faceted effects of development of the tourism sector	Sharing economy popularization factors	
	Increase in ICT	Increase in ET
Acceleration	Firms' development (1)/ Business opportunity (1)	Firms' development (1)/ Business opportunity (1)
Limitation	Firms' limitation (1)/ Business threat (1)	Firms' limitation (1)/ Business threat (1)
Preliminary source of factors of the popularization of the sharing economy	More pushed by supply than by demand	More pushed by demand than by supply

Notes: * The number of items is given in brackets

The two-faceted effect of popularization of the SE in development of the tourism sector may be reflected in intra-sectoral cooperation. The popularization of the SE may be measured by two factors, i.e., ICT and ET. Thus, either opportunities (perceived as accelerating) or threats (perceived as limiting) may impact cooperation within the sector. This means that the results of both acceleration and limitation of the tourism sector development may be linked to the popularization of the SE. As discussed earlier, ICT and ET, as well as the sharing economy per se, can encourage, push, or even force companies into cooperation. Given the above, the authors see it justified to set forward and test the following research hypotheses:

Hypothesis 1. *(H1). The popularization of the sharing economy, by accelerating tourism sector development, stimulates intra-sectoral cooperation.*

Hypothesis 2. *(H2). The popularization of the sharing economy, by limiting tourism sector development, stimulates intra-sectoral cooperation.*

3 Research Process

Our field study focused on recognition of whether the development of the SE, reflected in either acceleration or slowdown of tourism sector development, influences cooperation between entities in this sector.

Exploration of the role of a changing business environment on cooperation among and between tourism companies was carried out on tourism companies experienced in intra-sectoral cooperation. Therefore, our sampling frame from which the research sample was drawn was purposefully set as members of 124 Local Tourism Organizations, acknowledged as the biggest, the most powerful and the most reputable network of associations for companies operating in the tourism sector in Poland. Furthermore, we also addressed one of the methodological claims of Wilke et al. (2019), as the vast majority of prior works on inter-organizational cooperation were focused on a single tourism industry (e.g., hospitality services, transportation services, entertainment venues), whereas it is cross-industry, tourism sector focused studies which are most needed.

The study was limited by its national and regional context. This is because the SE is seen as a global phenomenon with a highly distinct local impact. Therefore, it is recommended to analyze the SE in a specific, limited geographical scope (Moreno-Izquierdo et al. 2019), e.g., a region, city, or country. The study was conducted in Poland, as the SE is acknowledged as having a significant impact on the scope of supply in the case of lesser-well-known locations (Fang et al. 2016). To date, however, the dominant empirical focus has been on high-demand and well-known destinations (e.g., in Portugal—Martins et al. 2017, in Spain—Moreno-Izquierdo et al. 2019, Martínez-Pérez et al. 2019, in Brazil—Wilke et al. 2019).

The data was gathered from 368 randomly selected Polish tourism companies experienced in intra-industry cooperation (random selection from 1647 members of 124 LTOs operating in Poland). It should be noted that the key informant organizations covered by our sample represented all dimensions of the application of ICT considered important when addressing the leveraging of tourism experience (Buhalis and Amaranggana 2015), namely accommodation, tourist attractions, gastronomy, tourist guides, and transportation. The data was collected through direct contact using the PAPI research technique from directors, top managers, and owners of companies acknowledged to be key informants for an investigation concerning both organizational (Venkatraman and Grant 1986) and inter-organizational (e.g., Kumar et al. 1993) issues. Direct interviews allowed the researchers to ensure that the informants clearly understood (Tsaur and Wang 2011) the issues being explored, as these are not common knowledge inside the industry (Kagerbauer et al. 2013).

The final sample ($n = 368$) was randomly selected and representative (maximum measurement error $< 5\%$; sig. level of $\alpha = 0.05$; fraction size $= 0.5$). It met the requirements in terms of sample size imposed on studies run using factor analysis, i.e., at least 5 observations per item, hence fewer than 200 (following Gorsuch 1983) or 300 (following Yong and Pearce 2013), and structural equation modeling (i.e., at least 10 cases per estimated parameter, but fewer than 200—Wolf et al. 2013), so as a result these were accepted as the applied methods for data processing and hypotheses testing.

As the current literature does not provide researchers with a scale for measuring the two-faceted effect of popularization of the SE, normative statements from non-empirical literature were included in our measurement scale (Table 2). The research questionnaire consisted of closed questions based on the 5-point Likert scale. The answers for all items followed the gradation from 5—strongly agree to 1—strongly disagree. In order to ensure face validity (Hardesty and Bearden 2004), the items used were discussed with experts (i.e., for statistical and content issues), moreover in the final version of the questionnaire we presented the definitions of every term used in individual questions—these definitions were also pre-evaluated by the experts.

Given the methodological recommendations (e.g., Hair and Hult 2016), the scale followed the multi-item approach regarding both popularization of the SE (8 items—measurement of independent variables) and intra-sectoral cooperation (6 items—measurement of the dependent variable). The multi-item approach was followed as it remains the most commonly used approach in studies on management

Table 2 Items used in the study

Variables	Code	Question	References
Independent		The popularization of the sharing economy is driven by	
Accelerating tourism sector development	ACC_1	Popularization of ICT stimulates the development of "traditional[a]" entities formally operating in the tourism sector	Poon (1993), Sheldon (1997), Werthner and Klein (1999), Buhalis (2003), Buhalis and O'Connor (2005), Frias et al. (2008), Cervero et al. (2007), Martin et al. (2010), Berné et al. (2015), Buhalis and Amaranggana (2015), Sigala (2018), Moreno-Izquierdo et al. (2019), Pappas (2019), Wójcik et al. (2020)
	ACC_2	Popularization of ICT stimulates innovation among "traditional" entities formally operating in the tourism sector	
	ACC_3	Popularization of experience tourism accelerates the development of entities operating in the tourism sector	
	ACC_4	Popularization of experience tourism accelerates innovation among entities operating in the tourism sector	
Limiting tourism sector development	LMT_1	Popularization of ICT limits the development of "traditional" entities formally operating in the tourism sector	Danielle and Mistilis (1999), Evans and Peacock (1999), Buhalis (2003), Hollick (2003), Braun (2004), Islam (2012), Kathan et al. (2016), Sigala (2017), Sigala (2018), Fang et al. (2016), Paulauskaite et al. (2017)
	LMT_2	Popularization of ICT creates a threat to "traditional" entities formally operating in the tourism sector	
	LMT_3	Popularization of experience tourism limits the development of entities operating in the tourism sector	
	LMT_4	Popularization of experience tourism is a threat to entities operating in the tourism sector	
Dependent		The changing business environment inside the tourism sector	
Intra-sectoral cooperation	COOP_1	Induces tourism companies to establish cooperation between "traditional" entities formally operating in the tourism sector (e.g., *to make the offer for customers more attractive, to meet the expectations of the customers in a better way or to be more competitive,* etc.)	Palmer and Bejou (1995), Fyall and Garrod (2005), Mariani (2007), Lemmetyinen and Go (2009), Baggio (2011), Beritelli (2011), Czernek (2013), Kylänen and Rusko (2011), Gursoy et al. (2015), Mendonça et al. (2015), Martins et al. (2017), Moreno-Izquierdo et al. (2019), Martínez-Pérez et al. (2019), Wilke et al. (2019)
	COOP_2	Forces tourism companies to start cooperation between "traditional" entities operating in the tourism sector (e.g., *to improve competitiveness or ensure survival on the market,* etc.)	

(continued)

Table 2 (continued)

Variables	Code	Question	References
	COOP_3	Results in my organization establishing cooperation with other (s) "traditional" entity(ies) formally operating in the tourism sector. (e.g., *to make the offer for customers more attractive, to meet the expectations of customers in a better way or to be more competitive,* etc.)	
	COOP_4	Induces tourism companies to establish cooperation with different entities (e.g., *traditional, digital, informal, individuals*) operating in the tourism sector (e.g., *to make the offer for customers more attractive, to meet the expectations of customers in a better way or to be more competitive,* etc.)	
	COOP_5	Forces tourism companies to start cooperation with different entities (e.g., *traditional, digital, informal, individuals*) operating in the tourism sector (e.g., *to improve competitiveness or ensure survival on the market,* etc.)	
	COOP_6	Results in my organization establishing cooperation with other (s) entity(ies) (e.g., *traditional, digital, informal, individuals*) operating in the tourism sector (e.g., *to make the offer for customers more attractive, to meet the expectations of customers in a better way or to be more competitive,* etc.)	

[a]Understood as enterprises not formerly using new business models based on the SE

(Diamantopoulos et al. 2012), including those within the tourism sector (e.g., Millan and Esteban 2004), and its development (e.g., Lankford and Howard 1994), as well as in research based on structural equation modeling (i.e., with a threshold of 3 items per variable—Iacobucci 2010). Furthermore, the data collection process was purposefully focused on measuring the considered phenomena using a wide perspective on the tourism industry, not limited to traditional tourism organizations. Such an approach is acknowledged as relevant in both the open and shared economy. For instance, Sigala (2015, 2018) distinguishes traditional and new actors/players in the tourism industry, with the latter considered to be technology agents that intensively utilize digital solutions in their business models. In the same vein, Stamboulis and

Skayannis (2003) differentiate between the conventional tourism industry and the new tourism industry, as the latter includes ventures based on intensive exploitation of ICT. Therefore, in our study, every variable was measured using proxies referring "just" to the traditional boundaries of the tourism industry, as well as to a "wide and open" definition of tourism industry boundaries.

Firstly, the two-faceted effect of the growing popularity of the SE was measured using eight items, namely four referring to the observable acceleration of tourism sector development (independent variable) and four to the observable slowdown of tourism sector development (independent variable). Furthermore, as these effects are perceived as reflecting the growing popularity of ICT and ET, the items referring to acceleration and limitation were linked with such reflections in business practice. Similarly, as both the acceleration and limitation of tourism sector development are—in business practice—linked either to the general development of tourism companies (e.g., perceived through increasing turnover, employment, areas of business activities, etc.) or to their capability to innovate, the items included in the measurement tool were connected with the above-mentioned aspects.

Secondly, inter-organizational cooperation within the tourism sector (dependent variable) was measured using six items, including proxies for willingness, pressure and formal establishment of cooperation with "traditional" tourism actors, or cooperation in a wider perspective also covering new actors. It is worth noting, as identified by Mwesiumo and Halpern (2019), that it is hard to find studies that examine both traditional tourism organizations and those that emerged as a result of the digital revolution or the SE phenomenon, as the latter are usually outside the scope of consideration, even in the case of studies exploring the SE phenomenon.

As the aims of the empirical investigation targeted exploration and initial revelation of quantitative insights, exploratory factor analyses (EFA) were carried out first (Osborne and Costello 2009), followed by structural equation modeling (SEM) (Gefen et al. 2000). First, EFA allowed us to identify the relationships among different reflections of the SE phenomenon either limiting or accelerating tourism sector development. Second, SEM allowed us to support with empirical data the a priori assumed directional relationship between SE reflections and inter-organizational cooperation.

4 Empirical Results

Given that the minimum sample size (i.e., 300—Yong and Pearce 2013) was achieved, the data was checked in terms of meeting the basic requirements of exploratory factor analysis, including sampling adequacy, sampling sphericity, and common method bias (Costello and Osborne 2005). Firstly, the KMO test proved that the scales used for both independent variables and the dependent variable were adequate (KMOIV $= 0.682$; $p > 0.5$ and KMODV $= 0.711$; $p > 0.5$). Secondly, Bartlett's sphericity test showed both scales to be applicable to factor analysis, as the results of the test for sphericity gave a significant p value. Thirdly, the results of the

Herman one-factor tests showed that less than 70% of all variances (the threshold adopted in management studies—Fuller et al. 2016) were explained by factors with the highest eigenvalue, namely 36.571% in the case of the independent variables and 49.195% in the case of the dependent variable.

Exploratory factor analysis was applied separately for our two potential constructs, namely the independent variables reflecting the considered effect on development of the SE, and the dependent variable reflecting the willingness and readiness to participate in intra-sectoral cooperation. It must be noted that both analyses were run using Promax, as this is one of the oblique rotation methods suggested for use in the case of probable interdependencies among items (Byrne 2010) and factors (Costello and Osborne 2005) (Table 3).

One should bear in mind that the analyses were conducted using generalized least square (GLS) as an extraction method as it provides more reliable results in the case of latent constructs and for potential factors which can correlate (Fabrigar et al. 1999).

4.1 The Structure of Intra-sectoral Cooperation

The exploratory factor analysis carried out for items related to the perceived willingness and readiness to participate in intra-sectoral cooperation supported the one-dimensional view of this construct. However, by applying Kaiser's criterion, the considered set of items seems to provide a two-factor solution, as there were two factors with eigenvalues greater than 1 (i.e., 2.952 and 1.047; total variance explained 66.636%). Nevertheless, the screen plot sharply flattened after the first factor. Given that Cattell's criterion is seen as more prone to overestimations (Yong and Pearce 2013), as well as considering the fierce discussion on the reasonability of the strict application of Kaiser's criterion in social science research (e.g., Osborne and Costello 2009), a one-factor solution was adopted including six directly measurable proxies (Table 2).

The loadings of the items range from 0.625 to 0.712, thus there was no need to exclude initial items from further analyses (minimum level 0.6—Fornell and Larcker 1981). Given the quality of the solution, it seemed to be consistent (Cronbach's alpha = 0.711, so less than 0.95 but more than 0.7—Tavakol and Dennick (2011)) and reliable (AVEs = 0.423 although less than 0.5 but at the same time CR = 0.813 so more than 0.7—Fornell and Larcker 1981) as it explains 49.195% of the total variance.

Table 3 Inter-item correlations

Itę	Parameter	ACC_1	ACC_2	ACC_3	ACC_4	LMT_1	LMT_2	LMT_3	LMT_4	COOP_1	COOP_2	COOP_3	COOP_4	COOP_5	COOP_6
ACC_1	rho_s	1.000	0.651**	0.356**	0.422**	0.067	0.057	0.009	0.068	0.415**	0.186**	0.494**	0.333**	0.196**	0.308**
	Sip.		0.000	0.000	0.000	0.196	0.274	0.866	0.195	0.000	0.000	0.000	0.000	0.000	0.000
ACC_2	rho_s	0.651**	1.000	0.360**	0.486**	0.001	0.041	0.048	0.046	0.389**	0.201**	0.455**	0.289**	0.142**	0.331**
	Sig.	0.000		0.000	0.000	0.979	0.432	0.355	0.378	0.000	0.000	0.000	0.000	0.006	0.000
ACC_3	rho_s	0.356**	0.360**	1.000	0.601**	0.023	0.020	−0.024	0.010	0.283**	0.146**	0.306**	0.308**	0.159**	0.322**
	Sig.	0.000	0.000		0.000	0.657	0.707	0.652	0.849	0.000	0.005	0.000	0.000	0.002	0.000
ACC_4	rho_s	0.422**	0.486**	0.601**	1.000	0.021	0.023	−0.001	0.005	0.325**	0.161**	0.315**	0.314**	0.190**	0.407**
	Sig.	0.000	0.000	0.000		0.690	0.667	0.991	0.917	0.000	0.002	0.000	0.000	0.000	0.000
LMT_1	rho_s	0.067	0.001	0.023	0.021	1.000	0.784**	0.543**	0.551**	0.227**	0.483**	0.188**	0.191**	0.423**	0.134*
	Sig.	0.196	0.979	0.657	0.690		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010
LMT_2	rho_s	0.057	0.041	0.020	0.023	0.784**	1.000	0.514**	0.579**	0.232**	0.573**	0.210**	0.211**	0.464**	0.118*
	Sig.	0.274	0.432	0.707	0.667	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.024
LMT_3	rho_s	0.009	0.048	−0.024	−0.001	0.543**	0.514**	1.000	0.792**	0.132*	0.392**	0.222**	0.208**	0.509**	0.264**
	Sig.	0.866	0.355	0.652	0.991	0.000	0.000		0.000	0.011	0.000	0.000	0.000	0.000	0.000
LMT_4	rho_s	0.068	0.046	0.010	0.005	0.551**	0.579**	0.792**	1.000	0.214**	0.467**	0.270**	0.276**	0.574**	0.243**
	Sig.	0.195	0.378	0.849	0.917	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000
COOP_1	rho_s	0.415**	0.389**	0.283**	0.325**	0.227**	0.232**	0.132*	0.214**	1.000	0.385**	0.592**	0.353**	0.230**	0.311**
	Sig.	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.000		0.000	0.000	0.000	0.000	0.000
COOP_2	rho_s	0.186**	0.201**	0.146**	0.161**	0.483**	0.573**	0.392**	0.467**	0.385**	1.000	0.322**	0.275**	0.583**	0.163**
	Sig.	0.000	0.000	0.005	0.002	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.002
COOP_3	rho_s	0.494**	0.455**	0.306**	0.315**	0.188**	0.210**	0.222**	0.270**	0.592**	0.322**	1.000	0.425**	0.277**	0.477**
	Sig.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000
COOP_4	rho_s	0.333**	0.289**	0.308**	0.314**	0.191**	0.211**	0.208**	0.276**	0.353**	0.275**	0.425**	1.000	0.382**	0.538**
	Sig.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000
COOP_5	rho_s	0.196**	0.142**	0.159**	0.190**	0.423**	0.464**	0.509**	0.574**	0.230**	0.583**	0.277**	0.382**	1.000	0.368**
	Sip.	0.000	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
COOP_6	rho_s	0.308**	0.331**	0.322**	0.407**	0.134*	0.118*	0.264**	0.243**	0.311**	0.163**	0.477**	0.538**	0.368**	1.000
	Sig.	0.000	0.000	0.000	0.000	0.010	0.024	0.000	0.000	0.000	0.002	0.000	0.000	0.000	
N		368													

Notes: *Significance at the level of 0.05 (two-tailed) **Significance at the level of 0.01 (two-tailed)

4.2 The Two-Faceted Effect of the Growing Popularity of the Sharing Economy

The EFA results provided a two-factor solution supporting the initial assumption on the two-faceted effect on the tourism sector related to the development of the SE. Using both criteria, i.e., Kaiser's and Cattell's, it seems that the considered independent items load into two factors, as the screen plot starts to flatten after the second factor (Cattell's criterion—Yong and Pearce 2013) and there are two factors with eigenvalues higher than 1 (Kaiser's criterion—Osborne and Costello 2009). The extracted factors (eigenvalues 2.926 and 2.451) explain 67.205% of the total variance, and their loadings prove that all of the initially considered items adopted in the scale should be included in further analyses (the loadings exceed the threshold set at the level of 0.6—Fornell and Larcker 1981) (Table 4). The revealed solution meets the requirements (Costello and Osborne 2005) of internal consistency (the Cronbach's alphas exceed 0.7 but are lower than 0.95), composite reliability (the CRs exceed the level of 0.7) and convergent validity (the AVEs exceed the level of 0.5).

The results of factor analyses both for our independent variables driven by popularization of the sharing economy (i.e., accelerating tourism sector development and limiting tourism sector development) and for our dependent variable (i.e., intra-sectoral cooperation) show them to be latent, directly unmeasurable complex variables loaded with multiple items. As the considered variables have been shown to be loaded by more than two items, it was possible to apply structural equation modeling to test the conceptual research model (Iacobucci 2010).

Table 4 Exploratory factor analysis for the two-faceted effect of sharing economy popularization

The effect of sharing economy popularization	Model matrix			Internal consistency (Cronbach α)	Convergent validity (AVE)	Composite Reliability (CR)
Independent variables	Codes	Factor				
		1	2			
Accelerating tourism sector development	ACC_1	0.036	**0.731**	0.797	0.534	0.820
	ACC_2	0.013	**0.787**			
	ACC_3	−0.027	**0.650**			
	ACC_4	−0.025	**0.747**			
Limiting tourism sector development	LMT_1	**0.809**	−0.004	0.871	0.666	0.889
	LMT_2	**0.811**	0.003			
	LMT_3	**0.809**	−0.009			
	LMT_4	**0.836**	0.006			

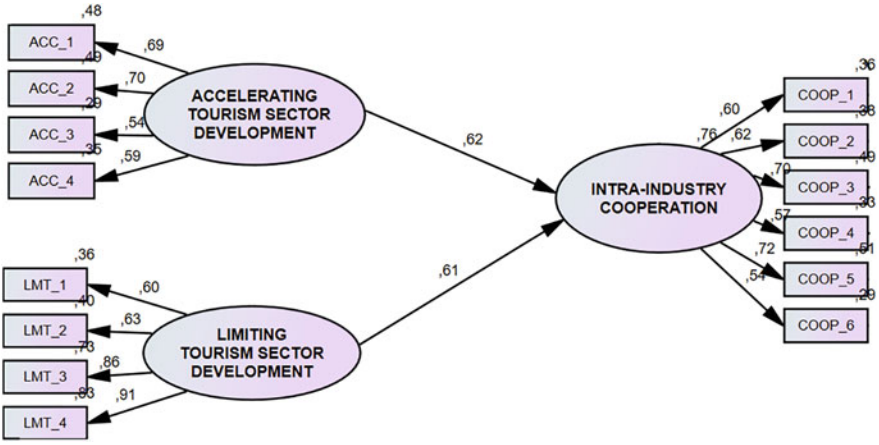

Fig. 1 The influence on intra-sectoral cooperation of changes in the tourism sector driven by development of the SE. Source: own elaboration prepared using AMOS under IBM SPSS ver. 25

4.3 Factors of Cooperation Inside the Tourism Sector

The research aims to test a theoretically reasoned model to explain the more or less autonomous propensity and willingness to cooperate within the tourism sector, using the effect of SE development as a determinant. Based on the results of factor analyses, a structural model was created and used in order to test our hypotheses (Fig. 1).

The goodness of model fit was verified using a wide range of fit measures including the absolute (CMIN/DF = 2.478; GFI = 0.956; AGFI = 0.912) and relative fit measures (NFI = 0.951; CFI = 0.969; TLI = 0.947), as well as fit measures based on the non-central chi-square distribution (RMSEA = 0.063; FMIN = 0.351). Given the results of the fit assessment, the model can be considered as satisfactory and representing appropriate goodness of fit, as all of the most commonly used fit measures meet the imposed thresholds (Blunch 2013; Hair and Hult 2016; Iacobucci 2010).

5 Discussion and Conclusions

This study provides original and relevant findings on driving phenomena in the tourism sector as it targets cognitive gaps identified in the existing literature.

Firstly, the SE is analyzed from the point of view of its perception by tourist entrepreneurs, i.e., the supply side of the market, therefore we shed complementary light on previous literature, in which the SE was investigated from the perspective of tourists—i.e., the demand side of the market (Cheng 2016; Hamari et al. 2015; Tussyadiah and Pesonen 2016).

Secondly, our deliberations, as well as the empirical results, point to the two-faceted nature of the SE, which should be seen by tourist entrepreneurs not only as a threat, perceived as a limiting factor (either to the tourism sector or their individual businesses) as it has been perceived in the literature so far (Heo 2016; Lyons and Wearing 2015), but also as a possible opportunity. This can be perceived as an accelerating factor for the development of the tourism sector and—as is so important nowadays—different forms of networks, including intra-sectoral cooperation. Although this two-faceted nature (i.e., accelerating and limiting simultaneously) of the considered SE factors (i.e., ICT and ET) can be seen at first glance to be contradictory or mutually exclusive, we do believe that both are of importance inside the industry. This is due to the fact that the considered factors are complex, reflect a wide scope of both positive and negative impacts (as discussed in Sect. 2.2), and significantly impact different tourism organizations. For instance, their role in development can be different for different tourism organizations—in terms of size, experience, technological advancement, tourism offer, etc.

Thirdly, our empirical results cumulatively develop the current stock of knowledge on tourism management in the era of popularization of the SE, including intensive use of digital platforms. Our attention was focused on inter-organizational cooperation within the tourism sector, and the study was not restricted to one specific tourism industry (e.g., accommodation only, transportation only) or one particular tourism destination, but covered 368 tourism entrepreneurs from across Poland.

Fourthly, another research gap filled is that the study indicates how, in the opinion of tourist entrepreneurs, the sharing economy may affect cooperation in this sector (Cheng 2016). This study adds to one of the rapidly growing streams of research, namely research on the drivers, factors, and antecedents of inter-organizational relationships (including cooperation and coopetition) inside the tourism sector (Mwesiumo and Halpern 2019). We see our findings as valuable and original as they relate to the two-faceted effect of SE popularization, stimulated by increasing ICT and ET—issues not considered to date in this context.

Fifthly, the SE phenomenon was analyzed in relation to a relatively novel context less well-known in the literature, that is Poland—a country in a different geographical location to most countries (from Western Europe or North America) analyzed in the current literature with regard to the SE phenomenon (Kylänen and Rusko 2011; Mariani 2007; Tolkach et al. 2016). Given this perspective, our empirical evidence should be seen as supportive to research conducted in other national contexts, thus bringing us closer to generalizable conclusions about the SE phenomenon.

Last but not least, our findings expand knowledge on the drivers of cooperation in the context of the tourism sector (Mwesiumo and Halpern 2019). We see this as relevant and valuable, as the scope of consideration was not restricted only to cooperation with non-rivals in business activity, but also to business rivals operating in Local Tourism Organizations (Kylänen and Rusko 2011; Mariani 2007; Tsaur and Wang 2011).

The results of the quantitative analyses point to a significant link between cooperation and the popularization of SE in the tourism sector. The identification of the positive influence of SE popularization on this cooperation suggests that

tourism companies are more willing to cooperate both due to the acceleration and the limitation of development of tourism sector entities. Thus, our research is in line with those works where the SE is perceived as having a dual effect on tourism sector development, i.e., accelerating (Boswijk 2017; Cervero et al. 2007; Fang et al. 2016; Martin et al. 2010) and limiting (Fang et al. 2016; Heo 2016; Lyons and Wearing 2015; Malhotra and van Alstyne 2014; Zervas et al. 2017). This shows that both groups of authors were right about the SE's perceived impact on tourism sector entities. In other words, it can be said that for companies in tourist destinations, the development of the sharing economy has a two-faceted effect on tourism sector development, which in turn results in greater openness to cooperation. Furthermore, it seems that tourism companies and their propensity to cooperate are driven by both an increase in ICT and an increase in experience tourism. Thus, our research results are in line with those papers where ICT is perceived as a stimulant to cooperation (Aramendia-Muneta and Ollo-Lopez 2013; Buhalis and O'Connor 2005), and where experience tourism is concluded to also be such a stimulant (Wójcik et al. 2020). Since the development of ICT strengthens cooperation in the tourism sector, in the era of intensive popularization of digital platforms, as mentioned in the latest literature (Cremona et al. 2014; Yang et al. 2018; Leong et al. 2019; Veile et al. 2022), it can be expected that these ties in the sector will grow stronger, and that the industry will also digitize.

From the methodological perspective, our study adds to the prior stock of knowledge as it offers reliable operationalization of two phenomena that are significant for tourism development, namely SE and inter-organizational cooperation. Firstly, as the lack of comprehensive conceptualization and operationalization of SE may lead to invalid research results (Pouri and Hilty 2018a), thus hampering sound knowledge development, we perceive our proposition for measuring SE as worthy of validation in further studies, especially as it covers its two integral components, namely ICT and experience tourism (Paulauskaite et al. 2017). Secondly, in the literature there is no commonly accepted tool for measuring inter-organizational cooperation. Even though there have been some initial attempts to create such a measurement tool, we decided to use our own scale, as validation of prior solutions is either not always reported (Martínez-Pérez et al. 2019) or its results can be seen as questionable (e.g., a too high internal consistency for scales, along with Cronbach's alpha greater than 0.9 suggests that the scale covers redundant items—Wilke et al. 2019). Furthermore, in comparison to prior studies, our investigation is one of the first to consider inter-organizational cooperation as a dependent variable in quantitative studies. So far, the focus has been on reviewing and synthesizing the literature on the sharing economy in the context of ICT and/or experience tourism (Mandić and Praničević 2019; Roblek et al. 2016) using qualitative and case study-based exploration (e.g., focus on ICT—Lam et al. 2020; inter-organizational cooperation in the context of supporting technological solutions—Mendonça et al. 2015). At the same time, in the limited number of quantitative investigations available in the literature, inter-organizational cooperation has been considered as independent variable influencing, for instance, pricing practices (Martínez-Pérez et al. 2019) or firm performance (Wilke et al. 2019).

Finally, the results obtained in the study, particularly those regarding the positive impact of tourism sector limitation on intra-sectoral cooperation, appear to be of unique value in the current, pandemic-affected business reality. Although it is too early to estimate specific losses at this point, it is already clear that the hospitality industry, including the accommodation sharing sector, was one of those impacted the most (Baum and Hai 2020). Constant uncertainty, the need to observe social distancing, and fear about the possibility of infection at the place of stay (e.g., as a result of not ensuring a sufficient level of cleanliness and disinfection—especially in private houses) significantly reduced the propensity for tourists to travel, including with use of the SE model. Some even consider whether this model will survive as a result of the global COVID-19 pandemic (Baum and Hai 2020; Zenker and Kock 2020). At the same time, one may wonder whether staying in an apartment away from large hotels, only among one's own travel companions, will stimulate travel using the SE model. It is still difficult to make unambiguous forecasts in this respect.

As no research is free of limitations, we see it as important to outline those which should be considered in relation to our sampling, data gathering, data quality, and data analysis. Firstly, regarding our sample, it should be emphasized that its representativeness corresponds to a purposefully restricted sampling frame, namely all tourism companies operating in Poland, but associated in Local Tourism Organizations. Thus, any generalization can relate only to the above-defined population. It should be noted, however, that inter-organizational issues, including intra-sectoral cooperation, are shown as sector-dependent and country-conditioned (Oliver and Ebers 1998), thus an intentional focus on one sector and one country can be seen as reasoned, especially as the exploration was placed within the tourism sector (Mariani 2007). Secondly, the data was collected using a survey questionnaire based on the 5-point Likert scale to gather information about informants' perceptions and their subjective opinions, hence not an objective view of the considered phenomena (McMullan et al. 2001). Nevertheless, the adopted measurement approach remains the most common in management studies (Hinkin et al. 1997; Venkatraman and Grant 1986) and typical for research applying an indirect approach to evaluation of inter-organizational issues (Kumar et al. 1993), especially those using SEM to analyze data (Hair and Hult 2016). Furthermore, we believe that direct contact with key informants resulted in them being much more aware and conscious of their answers (Kagerbauer et al. 2013). Thirdly, regarding the quality of our data, it should be noted that although the basic requirements imposed on quantitative data as well as on the developed model are satisfactorily fulfilled, the scale used to measure the dependent variable explains just 49.195% of the total variance, thus the convergent validity of the measurement may be seen as dubious. However, the explained level is not far from the threshold set at 50% (Costello and Osborne 2005) and the slight differences should not be seen as an exclusion criterion (Blunch 2013; Byrne 2010). Fourthly, the research followed an unmeasurable approach to investigating both the two-faceted effect of development of the SE (namely the acceleration and limitation of tourism sector development) and intra-sectoral cooperation. Therefore, the data was analyzed using SEM and the reflective approach to identify the links between the latent variables and the proxies. Even though our variables may be seen

as directly measurable, we consider them to be latent as they are deeply rooted in experience, perception, and cognition, and are thus definitely unmeasurable. To develop both the measurement and structural models, we applied the reflective approach to the relationships between our variables and particular items, as the observed indicators are considered as determined by the variables. Nonetheless, although the reflective approach is seen as traditional and more popular (Christophersen and Konradt 2012; Hair et al. 2019), also in the case of research on inter-organizational issues (Luo et al. 2006), it would be recommended to apply a formative approach, at least for comparing the results.

Regarding managerial implications, our research has shown that knowledge about the sharing economy concept among some of our respondents was insufficient, which strengthened their reluctance to adopt the SE model and cooperate with entities employing the model. We claim that in order to encourage tourist entrepreneurs to cooperate, it is necessary to organize meetings to inform them about possible forms of cooperation, and to present successful case studies and the potential benefits of intra-sectoral cooperation, including cooperation with direct and indirect competitors in particular. The entities responsible for the organization of such meetings could be local authorities and representatives of different forms of tourism cooperation, e.g., Destination Marketing Organizations. In addition, on the basis of our research, it is necessary to point out the positive effects of using ICT and experience tourism, which means that tourist entrepreneurs should not only develop their competences and skills in the use of ICT, but also offer an increasing number of elements related to ET in their business activity. It is also worth highlighting the specificity of different tourism enterprises (e.g., accommodation or catering facilities) of various sizes (micro/large companies) and in different locations (urban/rural). It seems that each of these groups will perceive the SE phenomenon differently, and thus also benefit from its popularization. Finally, it must be stressed that it is necessary to introduce legal changes to the scope of regulations concerning the SE phenomenon in Poland. Many countries around the world have already introduced such regulations, which is beneficial in that it increases transparency and security in the provision and use of SE services.

In the context of future research, it would be worth focusing on three issues. First of all, considering recent events related to COVID-19, research is needed to show what the tourism sector will be like in the future and how the SE phenomenon will react and change under pandemic conditions. Secondly, it is worth researching which factor stimulates entrepreneurs to cooperate more: the development of the tourism sector or the threat to this development resulting from the SE. The research appears to show that when entrepreneurs feel threatened—i.e., they feel that if they want to survive on the market, they have no other option but to establish cooperation—they are the most motivated to cooperate. As mentioned before, COVID-19 and its impact on world tourism may be just such a threat that stimulates the development of inter-organizational cooperation. Finally, it would be worthwhile carrying out qualitative research on this subject, thanks to which a better insight could be gained into the decisions and activities of tourism entrepreneurs in this area.

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