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Service Delivery Encounters in Business-to-Business Contexts as a Source of Innovation – A Conceptual and Explorative Study

Abstract

This article offers a conceptual and empirical view on the potential for innovation impulses stemming from the supplier-customer interface as a more or less unplanned by-product of customer contact of service companies.

The empirical findings support the existence of a considerable innovation potential at the supplier-customer interface. Determinants of this source of innovation are identified and suggestions are made as to how companies can tap this potential.

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Problem Statement and Objectives

The EU enlargement and the increased productivity in newly industrialized economies have resulted in a significant increase of the competitive pressure on companies operating in high price economies. Companies can meet this challenge by strengthening their innovation management and increasing their competitiveness by either bringing more innovative goods onto the market or by raising productivity through the development of more efficient processes.

Consequently, research on innovation has addressed many different aspects of innovation in companies. In the last years in particular there has been a significant increase in the scope and depth of the field of innovation research (Hauschildt 2004; Henard and Szymanski 2001). In this research, customer relationships have frequently been identified as an important source of innovation (Cooper et al. 2004b; Håkansson 1989; Hauschildt 2004). The focus of this research lies on the joint, purposive, and cooperative development of new products and services within customer relationships. Emphasis is placed on interfaces with customers that have been specifically created to promote innovation. Examples for such interfaces are the integration of customers into innovation processes (e. g. Gruner and Homburg 2000; Lüthje 2000; Matthing et al. 2004; von Hippel 1995) or cooperating with customers in joint product or service development projects (e. g. Bruce et al. 1995; Noori and Lee 2004).

Despite the vast body of the innovation literature, comparatively little attention has been paid to the potential for innovation impulses arising as an unplanned by-product of customer contact during service delivery encounters, when frontline employees of the service supplier interact with employees from the customer ("idea-fishing or picking"). In our study we take a closer look at this type of innovation impulses originating in service delivery encounters in a business-to-business context and thus focus on provider-customer interactions that are not explicitly targeted towards active information input from customers. In such situations, innovation-relevant information can be obtained without questioning customers directly and thereby avoid having to rely on their ability and willingness to accurately verbalize needs and wishes they may not be aware of or to specify requirements in which they lack expertise (Leonard and Rayport 1997; Ulwick 2002).

We look at technical business-to-business services, provided either as a core service or as a facilitating or supportive service for industrial goods (Grönroos 2000). The complexity of these services and the high level of interdependency between supplier and customer in producing such services typically lead to intense and long-term interactions (Ford et al. 2003). In these services, we further concentrated on high-contact service delivery situations, where production and delivery of the service are not separable (Lovelock and Gummesson 2004) and the customer must be integrated into the service production process (Kleinaltenkamp 1996). In such service delivery encounters, there is necessarily a high level of interaction and information exchange between the frontline employees and the cus-

tomer (Lovelock et al. 1999). This interaction fosters the co-creation of knowledge and the conversational development of ideas, which provide a basis for innovation (Ballantyne 2004; Ballantyne and Varey 2006; Lundkvist and Yakhlef 2004).

In particular we focus on three research questions: (a) Does a potential for innovation exist in B2B service delivery encounters? (b) Which factors influence such a potential? (c) How can companies profit more from this potential? To the best of our knowledge, these questions have not previously been empirically researched.

We set the stage for our empirical investigation by analyzing the literature in relevant research streams. The object is to identify concepts and findings which provide the theoretical frame for our explorative study. We begin by looking at related research that supports the existence of an innovation potential during service delivery encounters and then turn to research on the antecedents of innovation initiation. The respective insights will be used to structure and focus our explorative study.

Conceptual and Theoretical Framework

The central guiding theoretical approach we follow in our conceptual work is a resource-based view of management (Barney 1991; Day 1994). Resources and capabilities of companies enable them to generate above-normal rates of return and sustainable competitive advantage. There is ample proof that physical, intangible, and financial resources shape the performance of companies (Collis and Montgomery 1995; Grant 1991; Hall 1992). Capabilities to innovate are foremost of an intangible quality and cannot be acquired on the market, but have to be developed within a company (Barney 1991) over a longer period of time (Dierickx and Cool 1989). We feel that the resource based view is thus a solid conceptual perspective that allows for the integration of extant research in our area of interest as well as the positioning of our exploratory research findings.

Innovation Potential in Customer Encounters

Evidence from General Innovation Research

The general innovation literature describes the ability of companies to generate information from their environment as an important success factor for innovation (Kirchmann 1996; Rothwell and Dogdson 1991). External information sources are particularly important for the initial phases of the innovation process, the development of new ideas (Tushman 1977; Utterback 1971). The innovation process can essentially be described as an information process (Kirchmann 1996) which includes the acquisition, integration, and use of new information (Cavusgil et al. 2003). Organizational learning theory also assumes that the ability to generate information from outside of the organization strengthens the innovation ability of companies (Shu et al. 2005).

Customers represent a critical source of such information (Hauschildt 2004; von Hippel 1995). In a study by Staudt et al. (1992) over 85 percent of small and medium-sized enterprises questioned stated that they see customers as their most important source of information. Li and Calantone (1998) showed that companies that can successfully acquire, interpret and integrate information are more innovative than companies unable to do this well.

Evidence from Research on Customer Integration

There is strong and pervasive evidence in the extant literature on customer integration that integrating customers and customer information into the innovation process is an important success factor in developing new products and services (e. g. Gruner and Homburg 2000; Kristensson et al. 2002). Most of the research on customer integration focuses on involving customers in the new product development process (Gruner 1997; Koufteros et al. 2005; von Hippel 1986; 1995). The body of research on integrating customers in the new service development process is still comparatively small (Johne and Storey 1998; Martin and Horne 1995), but has been growing steadily in the last years (e. g. Alam 2002; Magnusson et al. 2003; Matthing et al. 2004). A good overview of research on customer involvement in product and service development can be found in Matthing et al. (2004).

One of the core functions of integrating customers into innovation processes is the acquisition of innovation relevant information from customers (Alam 2002; Kirchmann 1996; Möller 2004). By integrating customers, companies can gain in-depth understanding of their customers' values, needs and wishes and access to their customers' knowledge base (Gruner and Homburg 2000; Tollin 2002). It also meets the demand that companies should incorporate the "voice-of-the-customer" (Griffin and Hauser 1993) into the development of new products and services (Cooper et al. 2004b; Matthing et al. 2004). This, in combination with other possible advantages of customer integration such as cycle time reduction and a more rapid diffusion (Alam 2002), may be an explanation as to why integrating customers into innovation processes is so quickly becoming established as a best-practice of innovative companies (Enkel et al. 2005; Taninecz 2005).

The integration of customers and customer information has a particular impact during the earliest phases of innovation, the generation of ideas (Alam 2002; Gruner and Homburg 2000; Magnusson et al. 2003), also referred to as the fuzzy front end of innovation (Khurana and Rosenthal 1998). The customer is seen as a co-producer and initiator for innovative new products and services (Prahalad and Ramaswamy 2000; Wikström 1996), and therefore represents an important source for innovation. Kristensson et al. (2002) refer to customers as a "hidden resource" for the innovativeness of companies.

Customers can not only act as a resource for innovation but also as innovators themselves. Such user innovations created by customers can become the basis for highly successful new products and services (Morrison et al. 2000; von Hippel 1995). In the case of services, customers may divert from, or twist, the service situation so as to be more suitable to their individual needs and wishes (Aubert-

Gamet 1997). Such diversions from the intended service can concern either the service offer itself or the service delivery process and can have positive and negative results for the supplier organization (see Aubert-Gamet 1997, pp.37ff.). If frontline employees can pick up on these diversions and consumer innovations during service delivery encounters, these could become the basis for innovation in the supplier company – by either integrating positive service twists or addressing possible shortcoming in the service that may cause negative diversions from the service.

There are also a number of critical voices in the literature regarding the benefit of integrating customers into the innovation process. Some authors point out dangers inherent to involving customers in internal organizational processes, such as loss of know-how and problems regarding idea-ownership. Enkel, Kausch, and Gassmann (2005) give an overview of these risks as well as management strategies on how to address them. More critically, it is also argued that involving customers leads mainly to imitative and unimaginative solutions due to a "limited frame of reference" (Ulwick, 2002, p.92). Customer involvement benefits are seen as limited to incremental and continuous innovation, but as an obstacle for radical and discontinuous innovation (Christensen, 1997). However, there is also evidence that customer integration can lead to highly original ideas for innovation (Kristensson et al. 2002; Lundkvist and Yakhlef 2004; Magnusson et al. 2003).

Although there are potential risks associated with using information from and on customers as a basis for innovation, this information can be seen as a crucial resource for innovation. Interaction between frontline employees and customers in service delivery encounters could be used as an opportunity to fish for such innovation-relevant information. There are some tentative findings that support this proposition. Möller (2004) describes the information exchange during service encounters as a possible resource for identifying and generating service innovations, particularly for the service delivery process. A study by Martin and Horne (1995) showed that successful service development projects were more likely to have integrated frontline employees in the development process. Lundkvist (2003) uses a case study to illustrate how companies can use interaction with customers and communication between customers to develop more innovative products and services. Nohr (2004) discusses the need for an indirect integration of customer knowledge from various customer interfaces into innovation processes. However, although there is some support for the existence of a potential for innovation in service delivery encounters, there is a lack of empirical research on whether and how service delivery encounters can be used as a source for innovation.

Evidence from Research on Boundary Spanning

A further area of research offering insights on the acquisition, integration and utilization of customer information is the research on boundary spanning. Boundary spanners operate on the inter- and intraorganizational interfaces of companies, carrying out organizationally relevant tasks (Reid and de Brentani 2004; Tushman

1977). They act as exchange agents, facilitating the flow of information from outside into the company (Leifer and Delbecq 1978).

Boundary spanning for information and innovation can be seen as a two-step process: Firstly, relevant information is gathered from outside the company and then, in a second step, the information is disseminated and integrated within the company (Tushman 1977). Successful boundary spanners therefore need access to internal and external networks (Manev and Stevenson 2001; Tushman and Scanlan 1981). As boundary spanners carry information, ideas and suggestions from outside into the company, they also facilitate a company's ability to innovate (Reid and de Brentani 2004; Tushman 1977).

Research on the positive impact of boundary spanning on innovation generally focuses on the interface between customers and research and development units or customers and new product development (see Reid and de Brentani 2004; Tushman and Scanlan 1981). The boundary spanning activities described in empirical studies are mostly directly aimed at the acquisition of information relevant to innovation. Boundary spanners whose primary role is not to collect information or to be involved in innovation processes, but to represent the company to external parties, are generally not considered in this research (Neumann and Holzmüller 2007). In fact, Tushman and Scanlan (1981) assume that such boundary spanners play a negligible role in acquiring innovation-relevant information.

There is, however, also evidence to the contrary. As marketing-oriented boundary spanners (Walter and Gemünden 2000), frontline employees play a crucial part in developing and maintaining customer relationships (Biong and Selnes 1996). Ideally, they act as relationship promoters and facilitate interorganizational exchange processes through personal relationships (Walter 1999). In promoting exchange processes, relationship promoters can also help facilitate companies' innovativeness (Walter and Mörmann 1999).

In summary, findings from research related to the focus of our study offer support for the existence of a potential for innovation in the customer interaction in service delivery encounters (see Fig. 1). General research on innovation points to the importance of information from external sources and the role of customers as one such source. Research in the area of customer integration has shown that customers are a valuable resource for firms' ability to successfully innovate. Findings from research on boundary spanning indicate that boundary spanning personnel can be used to internalize external information and thus play an important role in innovation management. This suggests that frontline employees could act as informational boundary spanners and enable organizations to integrate information from and on customers, gathered in everyday service delivery encounters and used to improve the innovative capabilities of the organization. Using the frontline employee as an intermediary, service delivery encounters could be used as an opportunity for integrating the customer into innovation processes. As a next step, we turn to literature on antecedents for the initiation of innovation.
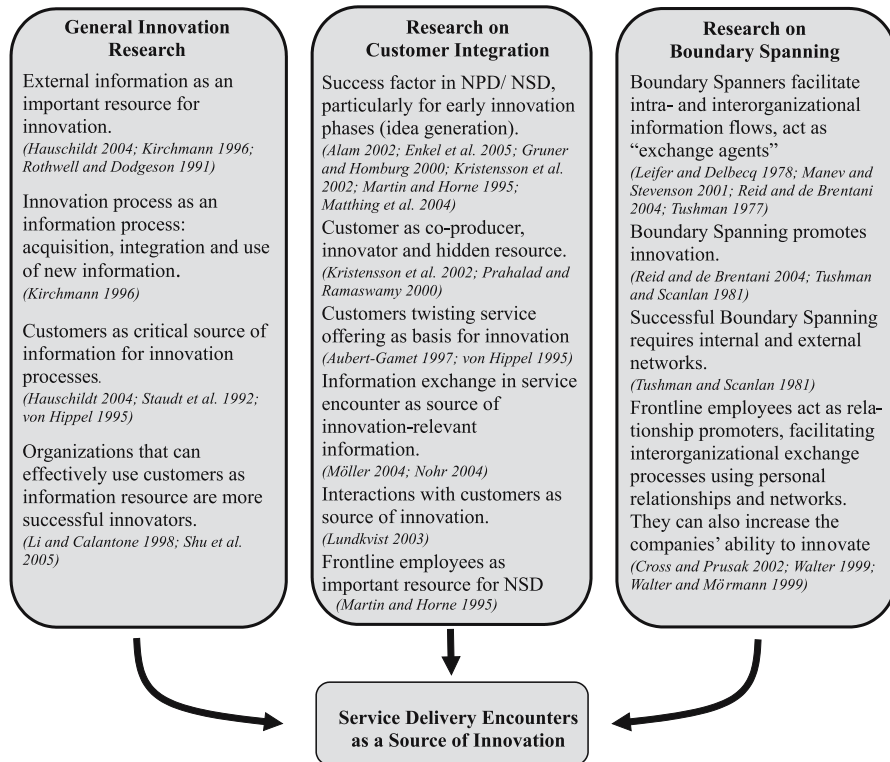
General Innovation Research	Research on Customer Integration	Research on Boundary Spanning
External information as an important resource for innovation. *(Hauschildt 2004; Kirchmann 1996; Rothwell and Dodgeson 1991)* Innovation process as an information process: acquisition, integration and use of new information. *(Kirchmann 1996)* Customers as critical source of information for innovation processes. *(Hauschildt 2004; Staudt et al. 1992; von Hippel 1995)* Organizations that can effectively use customers as information resource are more successful innovators. *(Li and Calantone 1998; Shu et al. 2005)*	Success factor in NPD/ NSD, particularly for early innovation phases (idea generation). *(Alam 2002; Enkel et al. 2005; Gruner and Homburg 2000; Kristensson et al. 2002; Martin and Horne 1995; Matthing et al. 2004)* Customer as co-producer, innovator and hidden resource. *(Kristensson et al. 2002; Prahalad and Ramaswamy 2000)* Customers twisting service offering as basis for innovation *(Aubert-Gamet 1997; von Hippel 1995)* Information exchange in service encounter as source of innovation-relevant information. *(Möller 2004; Nohr 2004)* Interactions with customers as source of innovation. *(Lundkvist 2003)* Frontline employees as important resource for NSD *(Martin and Horne 1995)*	Boundary Spanners facilitate intra- and interorganizational information flows, act as "exchange agents" *(Leifer and Delbecq 1978; Manev and Stevenson 2001; Reid and de Brentani 2004; Tushman 1977)* Boundary Spanning promotes innovation. *(Reid and de Brentani 2004; Tushman and Scanlan 1981)* Successful Boundary Spanning requires internal and external networks. *(Tushman and Scanlan 1981)* Frontline employees act as relationship promoters, facilitating interorganizational exchange processes using personal relationships and networks. They can also increase the companies' ability to innovate *(Cross and Prusak 2002; Walter 1999; Walter and Mörmann 1999)*

Service Delivery Encounters as a Source of Innovation

Fig. 1. Evidence for the innovation potential in service delivery encounters from neighboring research areas

Factors Influencing the Initiation of Innovation in Customer Encounters

To gain an a-priori understanding of mechanisms that may shape the development of impulses for innovation in a service delivery encounter, we again searched the existent literature. Following a managerial perspective, we were particularly concerned about aspects that relate to the supplier side of service deliveries. While we found no studies that directly relate to our area of interest, there is a large body of empirical work in other contexts that can provide a conceptual lead to the service delivery interface. The general innovation literature offers a multitude of success factors which determine innovation (for an overview see Henard and Szymanski 2001; Montoya-Weiss and Calantone 1994) as well as a long list of characteristics of innovative organizations (for an overview see Brown and Eisenhardt 1995; Damanpour 1991). Our review of the literature led to three concepts that we believe to be particularly relevant for facilitating innovation at the supplier-customer interface, namely corporate culture, innovative organizational climates and trust within the customer relationship.

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Evidence from Research on the Influence of Corporate Culture on Innovation

The concept of corporate culture describes the set of shared and fundamental beliefs, norms and values within a company (Schein 1991). The corporate culture of a company has a profound impact on the perception and behavior of employees (Reichers and Schneider 1990; Schein 1991) and therefore strongly influences companies' ability to innovate (Schneider et al. 1994). Empirical comparisons show that highly innovative companies possess a stronger innovation orientation (Cooper et al. 2004a).

When searching the innovation literature for characteristics of cultures that facilitate innovation, three cultural orientations are particularly salient: market, learning and entrepreneurial orientation (Hult et al. 2004, see Fig. 2). Below we outline how these cultural characteristics influence companies' ability to innovate and why they could impact the generation of impulses for innovation in service delivery encounters.

Market orientation as an element of corporate culture describes a set of behaviors that aim for the continuous generation, intraorganizational dissemination and responsiveness to market intelligence (Kohli and Jaworski 1990). Slater and Narver (1994) conceptualize market orientation in a similar manner as a consistent focus on continuously maximizing customer value. This includes the company-wide generation of market knowledge about customers, competitors and other relevant market participants, disseminating this knowledge throughout the company, and the strategic orientation of the company based on this information (Han et al. 1998; Slater and Narver 1995). In marketing literature there are several studies that support a strong correlation between market orientation and companies' ability to innovate (Deshpandé et al. 1993; Han et al. 1998; Henard and Szymanski 2001; Hult et al. 2004).

The frequent and close interaction with customers in service delivery encounters offers companies an opportunity to expand their market knowledge, in particular their customer knowledge. A market oriented culture at the interface encourages frontline employees to use their interactions with customers to acquire information and knowledge and to then pass it on within their company. As market orientation also promotes the responsiveness of companies, it increases the readiness of companies to innovatively respond to this information.

Learning orientation refers to a focus within an organization on organizational learning. It strengthens a company's ability to acquire information about
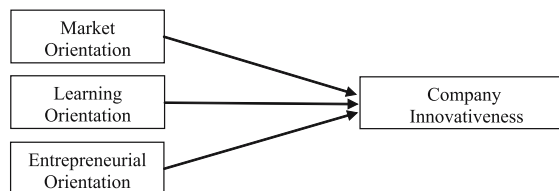

Fig. 2. Corporate cultures influencing innovativeness (Source: based on Hult et al. 2004, p. 430)

customers, competitors and market dynamics, to interpret this information and integrate it into the company (Hult et al. 2003; Hurley and Hult 1998; Slater and Narver 1995). Companies with a highly developed learning orientation as part of their corporate culture can build market knowledge better and faster (Kandemir and Hult 2005) and so are more successful innovators (Griffin and Hauser 1993; Li and Calantone 1998). Evidence for this comes from several empirical studies which show that a learning orientation rooted in the corporate culture facilitates the innovation ability of companies (Baker and Sinkula 1999; Calantone et al. 2002; Hult et al. 2004).

The interrelation between learning orientation and innovation has also been studied in the context of interorganizational relationships. Studies have shown that learning orientation has a positive impact on the innovation ability of joint ventures (Kandemir and Hult 2005) and on the innovativeness of companies within a supply chain (Hult et al. 2003). Assuming that the potential for innovative impulses in service delivery encounters arises largely out of the information exchanged and gathered therein, it is expected that learning orientation plays an important role for innovation at this interface.

Entrepreneurial orientation as a facet of corporate culture describes a strong focus on the development of new products and services, on entering new markets, and on competitive aggressiveness (Lumpkin and Dess 1996; Naman and Slevin 1993). Corporate cultures with an entrepreneurial orientation are characterized by proactive behavior and a high tolerance for risk (Naman and Slevin 1993; Slater and Narver 1995). However, a focus on market intelligence and customer value (as in market orientation) or on learning processes (as in learning orientation) is not part of an entrepreneurial oriented culture (Hult et al. 2004; Hurley and Hult 1998).

An entrepreneurial orientation supports companies in acquiring new knowledge through exploration, to question long-held principles and assumptions, and to quickly develop new behavior (Slater and Narver 1995). It is therefore not surprising that empirical studies have found a strong correlation between entrepreneurial orientation and companies' ability to innovate (Hult et al. 2004).

An entrepreneurial oriented corporate culture encourages the search for new solutions and to extend that search to outside the company's usual sphere of action. During the interactions with customers in service delivery encounters, it can direct frontline employees' attention to information, ideas, and suggestions that are not directly related to the customer relationship and their immediate field of activity. This facilitates the development of innovations and innovative ideas that lie outside the company's usual line of business during service encounters.

A corporate culture that is market, learning, and entrepreneurial oriented is likely to enhance the development and effective utilization of innovation impulses in service delivery encounters. Market orientation at the interface would encourage the willingness of frontline employees to look for relevant information during customer contact and pass it on in their company. This would be assisted by learning orientation. Finally, entrepreneurial orientation extends the frontline employees'

search for information and new solutions to other aspects not in the company's usual field of activity.

Evidence from Research on the Influence of Organizational Climates on Innovation

The organizational climate construct describes the common perception of processes, practices and values within the organization (Reichers and Schneider 1990). Schneider et al (1994) refer to climate as the atmosphere created by the shared perception of practices and rewards. These perceptions are developed on a continual basis. Climate and culture are similar concepts but there is a difference between them. Climate refers to "what is happening", to the behavior that is encouraged, rewarded and expected by the company. Culture on the other hand refers to "why something is happening" and concerns the values and norms on which the climate is based (Deshpandé and Webster 1989).

Organizational climates influence the perception and behavior of the organization's members (Glick 1985) and so also have an impact on companies' ability to innovate (Cooper et al. 2004a; Schneider et al. 1994). Various conceptualizations of climates facilitating innovation can be found in the literature (Mathisen and Einarsen 2004). The most detailed descriptions of these conceptualizations can be found in studies that develop an instrument for measuring innovative climates. By comparing these measurement instruments with each other an overview of innovation promoting and inhibiting climate factors can be given.

Neumann, Joraschkewitz and Krause (2007) have compared instruments for measuring innovative climates that have been well documented in the literature: the "Creative Climate Questionnaire" (Ekvall 1996), "KEYS" (Amabile et al. 1996), "Team Climate Inventory" (Anderson and West 1998) and "INNO" (Kauffeld et al. 2004). These instruments have all been validated in empirical studies, which have supported the positive influence of the measured climate for innovation on companies' ability to innovate (Mathisen and Einarsen 2004).

A central aspect of all these instruments was "support for innovation". It includes the encouragement of innovative ideas and suggestions by senior management, immediate superiors and colleagues (e. g. Amabile et al. 1996; Kauffeld et al. 2004). This factor also proved as one of the main indicators of innovative companies in empirical studies (Amabile et al. 1996; Burningham and West 1995). "Challenge" was also identified as common to all instruments, which describes a feeling of emotional involvement and dedication towards tasks. Other similarities between the conceptualizations of innovative climates can be found in the dimensions "exchange of knowledge and ideas", "trust and safety", "autonomy" and "resources" as well as the dimension "conflicts", which has a negative impact on innovation. This dimension refers to internal disagreements, power plays and a tense atmosphere (Neumann et al. 2007).

Previous studies have measured the effect of innovative climates only within groups belonging to a single organization, such as development teams. Presumably, innovative climates may also positively influence the initiation of innovation

during customer contact in service delivery encounters, as it could encourage front-line employees to perceive and even help generate impulses for innovation in their interactions with customers.

Evidence from Research on the Influence of Trust on Innovation

Trust is defined as the "willingness to rely on an exchange partner in whom one has confidence" (Moorman et al. 1992, p. 315). Trust incorporates the aspects of belief and behavioral intention. The aspect of belief refers to three points: the belief that the exchange partner will act with goodwill, is honest and able to act in the interest of the relationship (Walter and Ritter 2003). The behavioral intention refers to the willingness to rely on the partner, even though this may be accompanied by uncertainty and vulnerability (Moorman et al. 1992). In other words, the company believes that the partner company will not act opportunistically.

In our study, we assume that a large part of the potential for innovation in service delivery encounters lies in the information that is being transferred between organizations. The amount and depth of this information is likely to be influenced by the strength of the relationship (Cavusgil et al. 2003) and the trust in that relationship in particular (Inkpen 2000; Kandemir and Hult 2005). Trust also has a positive influence on the willingness to cooperate in interorganizational relationships (Anderson and Narus 1984) and promotes the willingness of the exchange partners and their employees to share information (Mohr and Nevin 1990; Scheer et al. 2003). Trust therefore has a positive influence on learning processes between companies (Inkpen 2000) and thereby promotes companies' ability to innovate.

In summary, we took a closer look at literature on antecedents for the initiation of innovation to find factors that may be important in generating innovation impulses in service delivery encounters. The focus here lay on the service supplier.

Findings from research on the influence of corporate culture characteristics suggest that a market, learning, and entrepreneurial orientation (Hult et al. 2004) anchored in a company's culture will have a positive effect on the development of innovation in service delivery encounters. As well as cultural effects, an innovative climate will presumably strengthen a company's ability to profit from a potential for innovation impulses in service delivery encounters (Neumann et al. 2007). Trust within customer relationships and in customer contact situations positively influences the exchange of information, the openness and honesty between supplier and customer company (Mohr and Nevin 1990; Kandemir and Hult 2005). We therefore expect trust to have a positive impact on the initiation of innovation in service delivery contacts.

To provide empirical support for the arising of innovation impulses in service delivery encounters, we conducted an explorative empirical study. This study was designed to determine whether the insights taken from related research areas are transferable to service delivery encounters of business-to-business service companies. A further aim of the study was to acquire a first insight on how companies can promote and use such a potential for innovation.

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Empirical Study

Research Methodology

Although core propositions regarding the existence and antecedents of a potential for initiating innovation in service delivery encounters could be developed, we chose a qualitative approach in our study for two reasons. First, there is no empirical research on the supplier-customer interface as a source for innovative impulses, indicating a need for theory-development or appropriateness of theory transfer rather than theory-testing. At this stage, qualitative methods are more suitable than a quantitative methodology (Mariampolski 2001). Secondly, qualitative methods offer a broader scope of results and a deeper level of understanding than quantitative methods, as they are more open and flexible and allow for a more holistic view of the studied subject (Miles and Huberman 1994; Patton 2004). This makes them particularly suited to facilitate research on in-depth understanding of complex issues (Carson et al. 2001), such as the development of innovative impulses during service delivery encounters.

We conducted in-depth interviews (Carson et al. 2001) using an interview protocol (see Appendix), which we combined with the Critical Incident Technique (Flanagan 1954; Gremler 2004). In-depth interviews were selected as they are a "useful method for exploring new and under-researched topics" and enable researchers to gather "rich and meaningful data" (Carson et al. 2001, p. 90). The Critical Incident Technique was included as a suitable "exploratory method to increase knowledge about a little known phenomenon" (Gremler 2004, p. 64). It is used to collect information on occurrences which had a significant impact on the studied issue (Chell 1998), in this case on the development of innovative impulses in the supplier-customer interface. The interview protocol was not used to ask direct questions but more to ensure that all relevant aspects were covered in the interview and to keep the interview focused on the relevant topics. It also facilitates the comparability of the interviews (Patton 2004).

Interview partners were selected according to a criterion sampling method (Patton 2004). We selected 21 frontline employees of service companies offering technical services either as core service or as facilitating or supportive service. All selected interview partners spend the majority of their time in direct customer contact. They worked as technical sales representatives or managers, technical support, technical consulting and project engineers. All of the interviews were conducted in German companies located in the Rhine/Ruhr area. The interviews were carried out in the workplace of the frontline employees and took between 30 minutes and one hour.

The first part of the interview focuses on whether and to what extent the companies get impulses for innovation from customer contact situations. We also asked the interviewees to describe if and how they are encouraged by their company to look for innovative ideas and impulses in customer encounters. During the next stage, respondents were asked to describe in detail critical incidents, which were

defined as situations in which the frontline employees had won impulses for innovation during a customer contact situation. In the third part of the interview we asked the frontline employees what they perceived as promoting or inhibiting factors for the development of innovation impulses. Finally, they were asked them to identify instruments with which companies could profit more from a possible potential for innovation impulses at the interface to customers. The interviewees provided mainly descriptions of themselves and their customer counterparts. This material was then used to reconstruct the initiation of innovations in service delivery encounters.

All interviews were recorded and transcribed. The interviews were evaluated using qualitative content analysis (Miles and Huberman 1994; Patton 2004). This method of analysis was used to reduce the high complexity and specificity of individual statements and to generalize the findings. With the help of QSR NUD*IST Vivo, a program for computer-aided qualitative data analysis, the collected material was allocated to categories. To do so, the transcribed interview text was coded by summarizing sentences or sections and assigning them to specific subject areas (Gibbs 2002).

This empirical work fulfills the following quality criteria: comprehensiveness, transparence, replicability, argumentative validity and multipersonal discourse (Miles and Huberman 1994; Patton 2004). The interviewees were given room to explore all points they felt relevant to a certain topic, fulfilling the comprehensiveness criterion. The empirical method is described in detail and the interview protocol is published, so that the criterion of transparence is also fulfilled. The replicability is fulfilled by publishing examples of statements made by the interviewees and by using a rule-based method for analyzing the text material. Finally, the material was independently reviewed, analyzed and interpreted by two researchers and their results compared to arrive at the findings of this study, complying with the criterion for multipersonal discourse. The interviews were conducted in the workplace and therefore in a familiar environment, fulfilling a further reliability criterion.

Results

The first part or the empirical results looks at the potential for innovation impulses at the supplier-customer interface. The second part deals with the determinants on the development of innovation and innovative ideas at the interface and in the last part instruments designed to help companies to use the potential for innovation impulses more effectively are described.

The Potential for Innovation in Service Delivery Encounters

The empirical results of our study point to the existence of a considerable potential for innovation impulses in service delivery encounters. During the interviews more than 70 incidents for innovation impulses were described that originated in

customer contact situations during service delivery. These included product, service and process innovations.

Sources for innovation: In our interviews the frontline employees described a number of situations in which impulses for innovation had developed. These can be roughly categorized into seven categories (see Table 1). The impulses described included ideas for the further development of existing products and services as well as for creating new products and services.

The most frequently described source for innovative impulses were **queries and requests from customers**. In these cases innovation was initiated because customer enquires demanded a new way of using existing products or services required a function that had not previously been thought of by the supplier or the product or service was to be used in a new context. In some cases the customer requirements demanded a new form of delivering a service, organizing processes or a similar type of social innovation. **Feedback and suggestions by customers** were also frequently described as an important source of innovative ideas. Unlike ideas from customer queries and requests, the ideas were created in customer contact situations *after* the customers had already used the product or service of the supplier. These ideas commonly pertained to small incremental improvements for existing products, services or processes, but in one example resulted in a highly successful new product (Interview 6 [I 6], see Table 1).

Open communication and frequently asking questions can help to breach new topics and areas, resulting in new and innovative ideas. Impulses can also come from frontline employees being **on site at the customer's company**. Something that the frontline employees notice and observe during even short visits to the customer or that they pick up while working for a longer time in the customer's company can result in impulses for innovations.

Projects were also frequently described as valuable sources for innovation impulses. Furthermore, **leisure contact with customers** were said to allow for open and unstrained conversations in an informal atmosphere, creating opportunities for new ideas and impulses to develop. A further source described were **trade fairs, conferences and similar events** as well as contact to **employees of the customer company other than the direct contact person**.

I: Interview

Role of the customer: In a lot of the situations described by the interviewees were actively and directly involved in the development of the impulse for innovation. The problem, and sometimes even the solution, is advanced by the customer and the resulting innovative idea is carried back into the company by the frontline employees. In these cases the interviewees frequently said that the idea was something their company simply had not thought of before. In other situations however, the customer was only passively and indirectly involved in the creation of innovative impulses, such as when frontline employees pick up innovative ideas from a casual comment made by the customer or are inspired by something they see during customer contact.

Number of contacts with the customer: Most of the impulses for innovation described by the interviewed frontline employees were created in a single moment

Table 1

Source of impulse	Examples of statements: (translated from German)
Queries and requests by customers *when approaching the supplier (pre-sale).*	'A customer wanted the system to automatically dial a number when it received a certain message. That is something that the system has not been designed for. We just didn't think of that option before. That innovation came directly from a customer and we have sold to several other customers since.' (I 15) 'Often the customer has a certain idea of what a solution might look like. We then discuss several possible solutions, which usually ends in the generation of a lot of new ideas' (I 20).
Feedback and suggestions by customers *after having used product/ service (after-sale).*	'Our customers wanted these boards to be more flexible, so that they could bend them. (. . .) Someone working on a building site suggested making our boards thinner, as they had noticed that it gave a little. Well, we did that and true enough, those boards became very flexible and bendable. That was a big seller.' (I 6)
Being on-site at the customer's company	'When you are in the customer company you see the same things from a different viewpoint, you get exposed to different ideas and opinions.' (I 1) 'When our consultants work on site for the customer, they become our eyes and ears there. There is a huge potential there, we can see of what other problems and ideas the customer is working on.' (I 8)
Open communication between supplier and customers	'To enter an open dialogue with the customer, ask questions such as why things are the way they are and not different.' (I 1)
Projects	'I would say that the majority of ideas comes from working in different projects and carrying back information from there back into the company.' (I 21)
Leisure contact to customers	'If you can get the customer to spend some of their free time with you and you get talking (. . .) you get so much valuable information, it is really incredible.' (I 19) 'After a conference you might be sitting together in a hotel and after a few beers some- one might start jotting ideas on the beer coaster.' (I 6)
Employees of the customer company other than the direct contact person	'It's important to not just talk to the purchasing people but also to the people actually working with the machines. To ask them how it is going and if everything is Ok. They often have a lot of ideas; you should do this so and so. They know the product much better than the person you have actually sold it to.' (I 19)
Trade fairs, conferences, and similar events	'People often approach us with new ideas at trade fairs' (I 8) 'You go to trade fairs and think: "they have this technology, the others have that technology. If you could combine both that would be something really new.' (I 6)

during one particular service delivery encounter. However, sometimes an innovative idea was developed over several service delivery encounters. In one case, several frontline employees of a company noted that many customers had an information need that was not catered for by the market. The company then developed a highly successful new service offering to match this need. In other cases, frontline employees noticed that certain aspects of the service delivery were the same for most customers and thus could be standardized, resulting in process innovations. These innovations resulted from the impressions, ideas and information accumulated over several contacts. The findings of our study therefore strongly support the existence of a potential for innovation impulses in service delivery encounters.

Determinants of the Development of Innovation Impulses in Service Delivery Encounters

The study also revealed several promoting and inhibiting determinants on the development of impulses for innovation at the supplier-customer interface (see Fig. 3). These were differentiated into the areas customer contact, innovative climate, corporate culture and trust in the customer relationship.

Role of the frontline employees: Interviewees outlined the central role of frontline employees in promoting and utilizing the potential for innovation impulses during service delivery. A majority of the interviewees highlighted the importance of building close and personal relationships to customers. Developing contacts to personnel in the customer companies other than the direct contact person and thereby developing networks in the customer companies were also described as having positive influence on the development of impulses for innovation in the supplier-customer interface. With this, the frontline networks improve their ac-
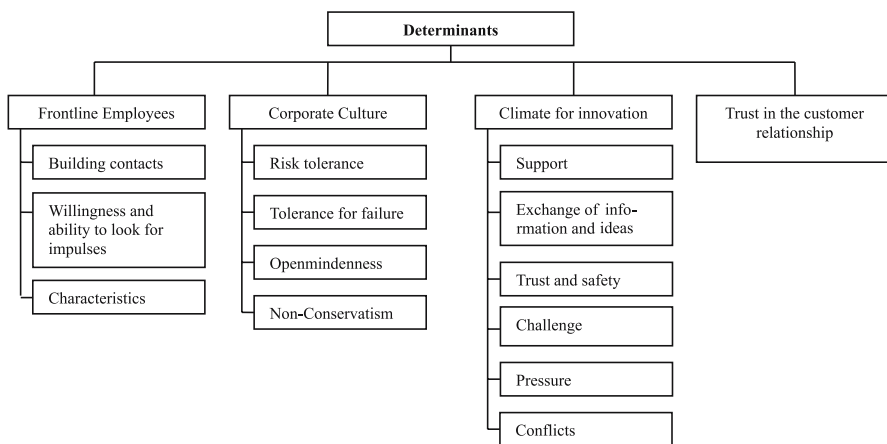

Fig. 3. Determinants influencing innovation impulses at the supplier-customer interface

cess to external networks, the first step of successful boundary spanning behavior (Manev and Stevenson 2001; Tushman and Scanlan 1981).

The material suggest that a critical factor for the ability of companies to effectively tap the potential for innovation impulses at the interface is the willingness and ability of the frontline employees to actively seek out and recognize impulses for innovation in customer contact situations. In other words, the frontline employees have to be aware of the potential for innovation impulses and to be motivated to use this potential. The interviewees said it was important to 'keep eyes and ears open', and that frontline employees should keep in mind that they should look for new ideas and ways of doing things. The interviewees also described characteristics of frontline employees that they felt had a positive impact on the development of impulses for innovation. These included friendliness, communication skills and being open to new ways of doing things.

Corporate Culture: During the interviews cultural characteristics such as a tolerance for risk and failure were named as having a positive influence on the potential for innovation impulses at the interface. One interviewee stressed that a company needs to provide a setting in which employees are encouraged to think about new ideas and to take time out for developing new ideas and that "it is a question of the company's culture, whether you can try new things and ideas with customers even if it does not work in the end" (SR 2, translated from German). Another interviewee said that looking for new ideas and potentials was seen by most employees as a natural part their work. A conservative company attitude and a focus on short-term and formal sales targets were described as inhibiting the generation of impulses for innovation. These findings imply the importance of an entrepreneurial orientation at the supplier-interface (Hult et al. 2004; Naman and Slevin 1993).

Climate for innovation: Our study provides substantial support for the positive effect of a climate for innovation at the interface (see Table 2). We understand as climate factors the characteristics and aspects named by the interviewees when describing situations in which they had received impulses for innovation or which they believed to promote the development of such impulses. They can be seen as situational factors, perceptions of practices as well as the expected and valued behavior that are developed on a day-to-day basis (Reichers and Schneider 1990; Schneider et al. 1994).

I: Interview

Some of the aspects describing situations promoting the development of impulses for innovation can be summarized as a "**support for innovation**" climate factor. The "support for innovation" factor has two sides. Firstly, it refers to the support and encouragement given by frontline employees to the customer; secondly it refers to support and encouragement given to the frontline employees by the company. The first can be said to promote the development of impulses for innovation, the second the development and recognition of such impulses. The support by frontline employees towards customers were described in the interviews by aspects such as giving customers positive feedback on suggestions or ideas they made, letting the customer know that the information gained by the frontline employee is appreciated, and keeping them informed on the development of im-

Table 2

Determinants of the climate for innovation	Examples of statements (translated from German)
Support for innovation	(After gaining an impulse for innovation) '...the most important thing is to praise the customer. You have to let them know that their idea is really good and that you are taking it back to your company.' (I 3) 'To ensure that the customer will continue to make ideas and suggestions, you should call them back after a few days, let them know that it was a great idea, that you passed it on and that the ideas was well received there too. You have to give them feedback'(I 6)
Exchange of information and ideas	'It is also important to keep on asking questions, to keep asking why something is done in a certain way, why a current solution is being used. Often this opens the way to new ideas and solutions.'(I 12)
Trust and safety	'The more trusting the atmosphere, the more information you get' (I 21)
Challenge	'If you are under time pressure, you think that you have to get this finished now and whether the problem could not be solved differently in less time.' (I 4) 'Cost pressure can have a very stimulating effect on innovation.' (I 17)
Pressure	'Of course it is important that employees have sufficient time to think. If you are under a lot of pressure, you have very little motivation to see what else is going on, what other possibilities present themselves in a situation' (I 15) 'The pressure you are under in everyday business is certainly inhibiting for innovation. Impulses and ideas for innovation that you get during customer contact situations disappear again because you don't have the time to develop them.'(I 8)
Conflicts	'If there is a tense and loaded the atmosphere (...) it is very difficult to think of new ideas. If a customer contact is very stressful, you spend all your time and energy trying to get the atmosphere back to a tolerably relaxed level.' (I 1)

pulses gained from contact to that customer as well as never speaking derogatively of customer ideas. In other words, an atmosphere in which innovative ideas are welcomed and encouraged has a positive influence on the potential for innovation impulses at the supplier-customer interface. A similar atmosphere was described by the frontline employees as promoting the willingness and motivation to actively look for innovation impulses at the interface. Here, however, most frontline employees gave negative examples showing a lack of encouragement and interest of their company towards suggestions and ideas made by the frontline employees. Many complained of no or unsatisfactory feedback, few if any incentives, and of difficulties in distributing information and ideas in their companies.

A further characteristic of promoting situations is the climate factor "**exchange of information and ideas**". This aspect is captured by the interview persons' de-

scriptions of the positive effect of open dialogues and intensive questioning in customer contact situations on the development of impulses for innovation. The climate factor "**trust and security**" was also described as a promotion characteristic of situations in which impulses for innovation arises. The interviewees highlighted the positive effect of trustful atmospheres, which promotes a more open communication and allows problems and weaknesses to be more openly addressed. They also stated that in such an atmosphere other subjects not related to the immediate transactions in the customer contact situation are addressed and valuable information and suggestions can be won.

An innovation inhibiting climate factor described was "**pressure**". A strong time pressure especially was described as an inhibiting influence, as no attention could be spared to take note of new ideas and impulses. A moderate time or cost pressure was described as sometimes promoting innovation influences, as it forced frontline employees and customers to look for new solutions to a problem. These findings are in line with the argumentation of Amabile et al. (1996) in that excessive pressure inhibits creativity and innovation, but moderate pressure can be seen as a stimulant for innovation and be classed as part of the climate factor "**challenge**". A lack of time pressure, time for ideas, is also described as a positive climate factor by Ekvall (1996). Another inhibiting climate factor described in the interviews is „conflicts". Situations with a tense atmosphere were described as having a negative effect on the development of impulses innovation whereas the opposite, a relaxed and friendly atmosphere, was said to have a positive effect.

To summarize, it can be said that the characteristics and aspects of situations that were described by the interviewees as promoting or inhibiting innovation correspond to the climate factors identified in the literature.

Trust in a customer relationship: The importance of trust in the customer relationship was highlighted by most of the frontline employees interviewed. The interviewees stated that in relationships with a high level of trust the felt that more information was being exchanged and that the customers were more likely to pass on ideas and improvement suggestions to the frontline employee. Interview partners also said that it was important that the customer had trust in the competence of the supplier company, that they felt that the supplier is able to help them with problems or new business areas. Correspondingly, a lack of trust was described as severely inhibiting the development of impulses for innovation.

The empirical data therefore suggests that frontline employees, the culture and climate at the supplier-customer interface and the trust in the customer relationship are important determinants of the potential for innovation impulses at the interface.

Reported Measures for the Promotion and Effective Utilization
of the Innovation Potential

In the course of the interviews a number of measures for the promotion and more effective utilization of the potential for innovation impulses at the supplier-customer interface were described. In some cases, these instruments were already in part implemented in the companies of the interviewed frontline employees.

We do not differentiate between suggested and actually implemented measures, as the measures suggested by some of the interviewees were partially used by the companies of other interviewees. The measures are categorized into measures for heightening frontline employees' awareness of the potential for innovation impulses at the interface, instruments for exchanging information, the use of heterogeneous sales teams, the development of special roles and other measures.

Measures for heightening the frontline employees' awareness included regularly addressing the importance of the interface for innovation, idea pools and competitions as well as training programs for frontline employees. They also included the development of appropriate motivation and incentive schemes. The importance of getting feedback from the company for suggestions made and ideas passed on was also stressed. Many felt that their company did not use the information and suggestions they could make as relevant for innovation and so felt little motivation to actively look for new ideas in customer contact situations. Documenting ideas and information from customer contact situation was also described as a suitable method for raising the awareness of the potential for innovation impulses at the interface.

Measures for exchanging information can be subdivided into three categories: measures for promoting the interorganizational information exchange between supplier and customer company and measures for promoting the interorganizational exchange of information firstly between frontline employees and secondly between frontline employees and other members of the company. Measures for interorganizational information exchange include periodical events such as customer meetings, customer advisory boards, customer integration and an after sales dialog with customers. Measures to improve information sharing between frontline employees include regular meetings and after-sales or after-project discussions. To improve the exchange of information between frontline employees and other members of the company, measures named in the interviews included primarily trainings and creating exchange platforms such as competence centers.

A further instrument suggested by the interviewees was using interdisciplinary, **heterogeneous sales teams**, with members with a technical and a sales background. Interview partners also frequently described the creation of **specific roles** designed to promote the development of innovation. These roles could serve to look for impulses for innovation in the information gathered by different frontline employees with different customers and so promote the information dissemination and transfer within in the company. They could also serve as a reminder to frontline employees to actively look for possible impulses for innovation at the interface.

Discussion and Implications

The aim of our study was to examine impulses for innovation emerging in service delivery encounters. We used findings from neighboring research areas to gain a first understanding of our research topic and to develop basic research proposi-

tions. The results of our qualitative study offer strong support for the assumptions based on the literature review, showing that the insights of related research area are at least partially transferable to the supplier-customer interface in business-to-business service companies.

The interactions between frontline employees of customer and supplier companies during service delivery foster the development of impulses for innovation. All of the interviewed frontline employees were able to describe several examples for innovation impulses originating in service delivery encounters and including impulses for product, service and process innovations. The results also corroborate the determinants identified in neighboring research fields. They offer initial evidence that frontline employees, corporate culture, climate and trust in customer relationships are the main influencing factors on innovation impulses at the interface. The frontline employees interviewed for the empirical study also offer some suggestions as to how companies can promote and profit from the development of innovation impulses at the supplier-customer interface.

Our study is based on the previous work in different research streams. The findings further the research on integrating customer information in innovation processes for new service and product development (e. g. Gruner and Homburg 2000; Matthing et al. 2004). We provide empirical support for the conceptual work of Möller (2004), who states that the information exchanged in service delivery encounters may be used to generate and identify innovative ideas for new service concepts and new ways of delivering a service. Together with other work, for example by Martin and Horne (1995) and Lundkvist (2003), we broaden the understanding of the use of customer interactions as a resource for initiating innovation.

In addition, our findings widen the research on boundary spanning and help bridge a divide that has developed in this literature. Previous research on informational boundary spanning for innovation has not looked at frontline employees (e. g. Reid and de Brentani 2004; Tushman and Scanlan 1981). Research on the boundary spanning role of frontline employees has concentrated on the employee and concepts such as role conflict, ambiguity and job satisfaction (e. g. Bettencourt and Brown 2003; de Jong et al. 2004; Singh et al. 1996) or their influence on customer relationships (Biong and Selnes 1996). Studies by Walter (1999), Walter and Gemünden (2000), and Walter et al. (2003) have shown that frontline employees as boundary spanning relationship promoters also play an important role in interorganizational exchange processes and thereby facilitate the innovativeness of their company. Our findings offer further empirical support for the importance of boundary spanning frontline employees as a resource for innovation.

Our results also enrich the literature on innovative climate research as we have made a first investigation of the role of innovative climates in an interorganizational context, looking at the possibility of innovative climates between employees from different companies. Previous research has concentrated on exploring the role of innovative climates within one company (e. g. Amabile et al. 1996; Burningham and West 1995; Kauffeld et al. 2004). The findings of our research suggest that concepts from the research on innovative climates can also be applied in studies on inter-organizational aspects.

As well as theoretical contributions our study offers managerial implications. These can be differentiated as pertaining to the acquisition of impulses in service delivery encounters, the process of handling innovation-relevant information within the supplier company and finally suggestions on using frontline employees to develop management instruments.

Gaining Innovation Impulses at the Interface: The empirical findings show that frontline employees are to some extent aware of the potential for acquiring innovation impulses during service delivery. They emphasized the importance of building close and personal relationships with representatives of customer companies and developing contacts to other members of the customer companies. In other words, the frontline employees extend and strengthen their external networks. Because of this, they have more opportunities of gathering better quality information from more varied sources. This in turn creates a greater potential for collecting innovation impulses at the interface.

For managerial practice, our results imply that it would be worthwhile to develop programs targeted at increasing the sensitivity of frontline employees for collecting ideas for innovation as a by-product of their daily tasks, at developing their skill in recognizing, collecting and documenting and even fostering innovative ideas and innovation-relevant information. The training programs should also be tailored to the respective setting in a business unit or company. A further task is the implementation of "idea fishing", in particular motivational programs aimed at encouraging frontline employees to make the identification of ideas a continuous effort in their interaction with customers. Finally, monitoring and auditing concepts should be developed to inform the front-end employees on the development and success or failure of innovative ideas.

Capitalize on Acquired Innovation Impulses: For companies to be able to profit from innovation impulses acquired at the customer-supplier interface, these outside impulses must be brought into the company and developed further. This refers to the second step of successful boundary spanning for innovation is the dissemination and integration of relevant information and impulses in the company (Manev and Stevenson 2001; Tushman and Scanlan 1981). The findings of the empirical study imply that this second step is currently only little developed in service companies. Interviewees reported that they were unsure of what do to with impulses acquired at the interface and who to go to. A lack of interest and encouragement of the companies towards ideas and suggestions made by frontline employees was reported. In total, the empirical study shows that there is generally no or unsatisfying feedback, few if any incentives and no mechanisms or opportunities for distributing ideas and information from the interface in the company. This suggests that many innovation impulses acquired at the supplier-customer interface also stay there and are not capitalized on by the company.

Bearing the results of our study in mind, the following suggestions for managerial practice are made. Companies should develop standardized procedures and routines to enable frontline employees to document their ideas and transmit them to the relevant decision makers without this being perceived as simply another burden in their daily work. As the ideas and information for innovation collected in

service delivery encounters are likely to be at a very initial stage, more intuitive drafts than fully developed plans, routines to develop ideas into concepts and then projects must be set up to be able to fully capitalize on acquired information impulses. As transparence and an openly communicated appreciation of suggestions and ideas are important, company should develop structures for evaluation and following-up on ideas and ensure that feedback and recognition are given to the frontline employee who brought the idea into the company. Finally, success stories of innovations developed initiated in service delivery should be documented and communicated within the company.

Using Frontline Employees' Experience to Develop Innovation Management Instruments: The interviewed frontline employees were able to not only describe situations in which they had acquired innovation impulses in service delivery encounters but also to give suggestions and recommendations for measures that enable companies to promote and profit from this innovation potential. The described measures are either aimed at improving the acquisition of information and impulses or focus on enhancing the dissemination of the collected information and impulses throughout the company. This shows that frontline employees are very well able to reflect on how best to foster and profit from the potential for innovation impulses in service delivery encounters and understand the issues at hand. Their knowledge and experience is therefore a valuable source of information and should be included in developing suitable innovation management techniques mentioned above.

It is important to bear in mind the limitations of our findings. Our study is explorative, designed to provide first empirical results of the innovation potential and mechanisms of innovation impulse in service delivery encounters. Furthermore, our data stems from a broad range of industries but a highly concentrated geographic area. The companies and interviewees were selected as a simple criterion sample (Patton 2004). However, the empirical data was collected and analyzed with great diligence. The findings of this study can therefore be seen as being of a high quality and are likely to be largely generalizable.

This study offers a viable starting point for future research in this subject area. From our perspective, a promising way to gain more insights in the mechanisms that shape the initiation of innovation would be to extend our approach to a dyadic design. The simultaneous inclusion of the supplier side and the customer's perspective may lead to a more comprehensive understanding of the processes in the interface which lead to idea generation. Another step to further our insights in the topic would be to conceptualize the interface-climate for innovation as a theoretical construct and operationalize it using suitable measurement instruments. Respective reliable and valid scales could be used for identification of antecedences and consequences of an interface-climate for innovation.

With this initial analysis of an area that has not been empirically explored we hope to stimulate further research. Another aim of this study is to heighten the awareness of practitioners for questions regarding the effective use of the potential for innovation impulses in the supplier-customer interface. Thus, this study con-

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tributes to sharpening the competitive edge of companies in the global race for market share and in securing the long-term survival of companies.

Interview-guide used during interviews

First Questions, Identification of Interviewees

- Could you give me a short description of your job and your position in your company?
- Please describe the sort of situations in which you have contact to customers.

Customers as a source of innovation impulses

- From which sources does your company get ideas and impulses for innovations?
- Who is responsible for the development of new products or services or new ways of doing things?
- To what extent does your company use information from customers as a source of new ideas?
- To what extent does your company encourage employees to look for new ideas for products and services or for new ways of doing things during customer contact?
- If you or your company gains impulses for innovation from customer contact what happens with these impulses? How are such impulses and ideas treated?
- Based on your own experience, how important do you feel customer contact to be as a source for impulses and ideas for innovation?

Critical Incident

- Can you think of a situation in which you yourself received ideas or impulses for new products, services or ways of doing things during a customer contact situation?
- Could you describe this situation in more detail?
- What circumstances or factors do you think contributed to the development of that new idea during that particular customer contact?
- Why do you believe these aspects to have been so important for the development of the innovative idea?
- How would you describe the relationship to this customer?

- Was there something particular you or the customer did that you believe was important for the development of the idea?
- How would you describe the atmosphere during that contact?

Factors that Promote or Inhibit Innovation

- Can you think of specific measures or instruments which would allow companies to more effectively use their customer contacts as a source of innovative ideas?
- What can frontline employees themselves do, are there specific activities or behaviors that promote the development of innovative impulses in customer contact situations?
- What should frontline employees not do, what activities or behaviors would inhibit the development of innovative impulses in customer contact situations?
- If you think on the actual customer contact situation, the atmosphere and circumstances during contact to customers, what would you say is particularly stimulating for the development of innovative impulses? What would you describe as the ideal customer contact situation for gaining innovative impulses?
- Do you feel that the type of customer relationship has an influence on the likelihood of gaining innovative ideas from a customer? What would you describe as the ideal customer relationship for gaining innovative impulses?
- You have now mentioned several factors and aspects that promote the development of impulses for innovation in customer contact situations. Are there also aspects that you would describe as inhibiting?
- Is there anything that we did not yet talk about that you feel is important for gaining impulses for innovation in customer contact situations? Do you have any other ideas, suggestions or comments on how companies could use their interface to customers more effectively as a source for innovative ideas?

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