Janine Frauendorf

Customer Processes in Business-to-Business Service Transactions

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Business-to Business-Marketing

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Janine Frauendorf

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With a foreword by Prof. Dr. Michael Kleinaltenkamp

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Foreword

Services cannot be produced without customer participation. This aspect involves significant consequences for services management. The integration of the customer and the integration of the external resources that customers need to provide require comprehensive means to coordinate the activities of suppliers and customers. Services management literature is based on the idea that the success of service companies mainly depends on an effective and efficient design of supplier and customer interfaces. As a result, academic and practice-oriented service management problems are concerned with managing service processes. However, most approaches are focused on the supplier process side. Here, numerous concepts as well as IT supported tools for service process documentation and service process management have been developed. Customer processes, on the contrary, have mostly been ignored even though it is obvious that they have a high impact on the overall success of the service process.

The present work is a major step forward to close that research gap. The author analyses the customer influence on efficiency and effectiveness of the service process depending on the customer's service process knowledge. The empirical data of the thesis was gained from a practice study: it was made in cooperation with a corporate division of T-Systems International that provides business customers with virus wall and firewall service packages for data network security. The study is based on the assumption that service customers have a script, i.e. a relatively precise image of the structure and process of the service transaction. Such a script essentially affects the coordination of supplier and customer process activities. Presumably, process efficiency and process effectiveness of a service transaction are more successful if there is a strong compliance between the customer script and the actual service process that is planned by the service provider.

This central hypothesis as well as further hypotheses was verified through an empirical study. As a result from the study, customer knowledge affects the specification of the customer script. Also, it is shown that the process design of the service provider has an impact on the specification of the customer script. The script influence on the service process success needs to be considered on two aspects: First, the customer script has an influence on customer satisfaction as a measure for service process effectiveness. Second, script influence on service process time as a measure for efficiency could not be verified.

These results bear significant consequences for theory and practice: The theoretical discussion comes to the conclusion that special types of service transactions can be differentiated

according to the transaction cost reducing effects of the customer script. This differentiation of various service types is based on the necessity to allow for customer scripts on the one hand and the learnability of the script on the other. With reference to the practical implications of the study, it points out that the allowance for customer scripts may result in innovative process design of the service provider as well as modified marketing of services.

The thesis addresses a topical problem of practical as well as academic relevance and presents various suggestions for the implementation in business practice. Therefore, the work will hopefully be met with high response from academia and practice.

Prof. Dr. Michael Kleinaltenkamp

Preface and Acknowledgements

In the summer term of 2006, the work at hand was submitted to the School of Business & Economics of the Freie Universität Berlin as a doctoral thesis. The thesis evolved from my job as a research associate at the Institute for Marketing in Berlin on the one hand and from my time as a PhD at the University of Otago in New Zealand on the other. During both periods, I have received a lot of support from several parties and persons. Their support has not only contributed to the success of the thesis but it also mattered to me personally which is why I would like to take the opportunity of the preface to express my gratitude.

My first acknowledgement refers to my supervisor and academic mentor Prof. Michael Kleinaltenkamp who has had a great share in the development and the completion of the thesis in its present form. To begin with, he has encouraged me to look into the subject and during the last few years, he has always believed in the success of my topic. I have not only appreciated his academic expertise that regularly revealed through some resourceful thought-provoking impulses but also his constantly kind and positive personality. It has always been a pleasure to work for someone and with someone who demonstrates such a high level of both professional and human excellence.

Furthermore, I deeply acknowledge the inspiration and input of my supervisor and second referee Prof. Juergen Gnoth. During the 20 months that I have spent at the University of Otago, he has been very helpful and encouraging, constantly offering professional advice as well as friendly support. Despite his many activities and responsibilities he was available for discussions at all times and provided me with constructive criticism. Very rarely, I have met someone with so many visionary and creative ideas as well as a generous character.

I also owe my sincere thanks to the Institute for Marketing as well as all the Executive Masters of Business Marketing of the Freie Universität Berlin. The great teamwork and cooperativeness among all colleagues has always produced a very pleasant, open and "feel good" atmosphere. In particular, I would like to thank Dr. Michael Ehret. As a mentor and friend he has supported me from the very beginning up to the point of my orals, offering valuable criticism and advice. The same applies to Dr. Stefan Wengler; it has always been a pleasure to work closely with someone so trustworthy and fair-minded.

My special thanks are extended to the other side of the globe below the equator, to the Department of Marketing of the University of Otago. Most of all, I have appreciated the open-door policy and the helpfulness at Otago. I deeply acknowledge the sympathy, the advice and the friendly support of the PhD coordinator Prof. Brendan Gray and the Director of Research Higher Degrees and Scholarships Dr. Charles Tustin as well as many other PhDs of the School of Business. The close bonds that have evolved during my time at Otago represent a great enrichment for me – far beyond the period of my PhD.

Furthermore, I would like to thank T-Systems International and the CSC Security in Stuttgart for enabling my empirical research. Primarily, I have received valuable support from my friend Tina Akbar, also from Rolf Binder, Bernhard Frei, Jörg Siebertz, and Wolfgang Piper. Their interest, their helpfulness and their professional expertise have been essential for the success of my work.

Last but definitely not least, I would like to express very special thanks to all those who have always believed that I would ever complete this work at all and who have made sure that I have managed the ups and downs during the time of my PhD successfully. Without doubt, I am indebted to my family – the Dabos, the Frauendorfs and the Schneiders; I thank them for their understanding and patience, the support of all my plans and the provision of so many opportunities. At the same time, I am truly grateful to my entire circle of friends who has always been there for me; during some phases of my PhD I would have simply been lost without them. Especially, I would like to thank Philipp Bohr, Julia von Dietman, and Sanam Moayedi who have greatly supported me by some means or other.

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List of abbreviations

CBU	Customer Behavior Unit
CERT	Computer Emergency Response Team
CP	Customer Process
EDP	Electronic Data Processing
e.g.	example given
etc.	et cetera
eTTS	electronic Trouble Ticket System
i.e.	that is [id est]
IT	Information Technology
ITIL	IT Infrastructure Library
Mgmt.	Management
NSD	New Service Development
SLA	Service Level Agreement
SOM	Service Operations Management
SP	Service Provider
TCE	Transaction Cost Economics
TSI	T-Systems International

1 Introduction

1.1 Customer Processes in Service Transactions

In service transactions, customers inevitably form part of the production process even though they generally do not ask for being involved in it. The notion of customers as co-producers and contributors in a service process has long been acknowledged. Yet, little is actually known about the customer process itself.

The entirety of a service transaction can be considered as a tripartite configuration: there are the internal service activities of the service operator, the co-performing activities of the client, and the sphere of interaction through which both of them are linked. Based on that interaction the client's integration into the service provider's process is taking place. This structure applies to all services albeit a varying scope of each sphere depending on the considered service type.

In a consulting project, for instance, the scope of both the consulting company's as well as the client company's activities may be quite extensive: The provider dispatches consulting staff to the client company while various employees of the client company are expected to cooperate with them, deliver and grant them access to necessary information as well as other company resources. Exemplifying a classic business-to-consumer situation, when a customer uses a dry-cleaning service, the scope of activities of the client is rather limited whereas the dry cleaner performs most of the service production. Interaction between the two parties then takes place when the customer delivers and picks up the garment. Customer integration in that case relates to the piece of clothing that the client leaves behind as well as additional information concerning any kind of special requirements or arrangements the client might add. In contrast to that rather small scope of client participation, the example of an online-banking service illustrates a fairly great amount of customer activities: Here, the service production depends on the customer input to a high extent; the customer is required to enter every bit of information stepwise for the service to take place. Nevertheless, no matter what kind of service is considered, it always amounts to the following: Whereas the internal activities of the service company are mostly portrayed and scrutinized with some form of process chart such as a service blueprint, the customer side and its process structure remain undetected.

However, pursuing a marketing approach, a service transaction should be geared to aligning both process sides to each other in order to achieve an integrated process entirety. At the same time, the attempt to align, harmonize and coordinate these two processes causes transaction costs. Consequently, there is a need to identify a structure that helps to configure the customer process with the purpose of reducing transaction costs. On that, this work suggests an approach using service scripts. The service blueprint on the one hand can be used as a tool to record the provider's process activities. The service script on the other hand configures the customer's process image. Both tools grasp the complete service transaction process and the previous model of the service blueprint can be extended by the dimension of the customer process.

The customer service script, representing an implicit process description in the customer's mind, offers a possible explanation to the questions why and if customers know how to participate in a service transaction and why some clients in a service situation perform better than others. In most service transactions the service provider depends on the participation of the client. This participation, known as co-production – active and passive, depending on the service situation – refers to the mental, physical and emotional input that the client contributes in order to produce and/or to deliver the service (Risch and Schultz 2000). This input includes actions as well as resources in the form of individuals, objects, information, rights and/or nominal goods that, even though coming from the customer, are processed by the service provider and integrated in the service transaction (Lovelock 1983; Fließ and Kleinaltenkamp 2004).

It demonstrates that customer participation needs to be stressed in service production, delivery and design since the client affects the quality and the value-added of the service outcome. "The service system should be so designed that it is easy for the customer not only to take part in but also actively to contribute to the process" (Edvardsson 1997, p. 37). Consequently, it benefits the overall service production as well as the service operator when clients develop an ex-ante process notion of their position as a co-producer and know when, where and how to participate in the service process and what to contribute (e.g.Mills, Chase et al. 1983; Lovelock and Wright 2002). Such can be described with the term 'service script', defining "a coherent sequence of events… (and/or actions) …expected by the individual, involving him either as a participant or as an observer" of the situation (Abelson 1976, p. 33).

Service scripts help customers to achieve a better understanding and knowledge of the service production and delivery process. The benefits of the customer script are based on the assumption of customers as partial employees (Mills and Morris 1986): Customers' input and their co-production performance have a considerable impact on the service provider's productivity, the value-added (Barnard 1948; Lovelock and Young 1979) and the efficiency (Boyer, Hallowell et al. 2002; Xue and Harker 2002). Just as employees often use a service blueprint (Shostack 1984; Kingman-Brundage 1989) to memorize what the service process looks like and what actions they have to carry out during the service transaction, customers inherently use their service script instead. Hence, the service script can be regarded as the client's personal surrogate process map; it serves as a guiding pattern and gives implicit information how much participation the service situation necessitates and what actions are essential to perform.

The success of having the service process and the customer script optimally intertwined is vital for the service provider. Not only can it lead to higher customer satisfaction but it also forms the basis for a unique selling proposition (USP): That service provider will be selected whose process seems to match the customer's script best. In addition, once the service script of a specific provider is memorized, it makes it easier for the customer to interact with this particular one. Thus, in turn, it will lead to higher customer loyalty. Given that customer performance has such a high impact on the service process and that co-production may be affected by the client's script, the script should be given closer attention. This way, a more efficient and effective service process can be realized in which the customer receives a higher-quality service outcome and more added value.

So far, the concept of scripts has been researched in various areas of organizational contexts, often related to employee training and service evaluation in terms of expectations. The mid-eighties can be considered as the key 'period of prosperity' in script research concerning services; then for several years, script literature here was widely lost sight of and only few field work studies have been done ever since. Overall, literature from three major disciplines can be reviewed as to how they interpret and apply the phenomenon of scripts: psychology literature, services marketing and economic theories.

The psychological discipline represents the first and most fundamental literature because that is where the idea of scripts originates. It is mainly in clinical psychology that scripts are used to detect perception disorders of patients. Given that the latter are not able to describe the

course of everyday events, disorders in their process behaviour could be ascribed to distortions of their scripts (e.g. Grafman, Thompson et al. 1991; Rosen, Caplan et al. 2003). Expected process sequences for instance are then compared to patients' actual ones. Studies in this context have a very strong focus on empirical research.

Services literature as the second discipline can be grouped into different sub-tracks. One group is mainly concerned with the investigation of the existence and characteristics of scripts in consumer behavior; by comparing action sequences among subjects they also observe the homogeneity or alternatively the divergence of scripts (e.g. John and Whitney 1982; Bozinoff and Roth 1983; e.g. Hoy 1991) and explore role-related scripts (Parker and Ward 2000) as well as the role of scripts in consumer decision-making (Rethans and Taylor 1982; Hellier, Geursen et al. 2003). Smith & Houston (1985) come to the conclusion that the sequence of events in the consumer's memory, i.e. the script, must affect the performance in the service production process. Another group introduces the script concept as a measurement basis for service encounter evaluation and satisfaction (e.g. Storbacka, Strandvik et al. 1994). In some early experimental studies scripts are used to operationalize expectations (e.g. Hubbert, Sehorn et al. 1995) in order to develop benchmarks for the evaluation of service events (Smith and Houston 1983). Solomon et al. (1985) pioneer by pointing out the importance of congruent service providers and clients scripts for the service quality. This idea is incorporated in other works which examine the impact of harmonizing scripts on external and internal satisfaction, i.e. customer satisfaction with the service quality, as well as the employee satisfaction. (e.g. Bateson and Hoffmann 1999; Chung-Herrera, Goldschmidt et al. 2004). Again another group of services literature eventually applies scripts to employee training, establishing standard service encounter routines (e.g. Gioia and Poole 1984; e.g. Tansik and Smith 1991; Hubbert, Sehorn et al. 1995; Harris, Harris et al. 2003). According to their findings, scripts can also be used as a basis to evaluate staff performance and to generate prototypical organizational behavior.

A third stream of literature is based on economic theories with emphasis on transaction cost theory and embraces organizational process procedures and routines. The relevance of this field is based on the fact that it deals with uncertainties and tries to find measures for uncertainty reduction. Given that uncertainty is an important issue in service transactions determining the process behaviour of both actors with regard to the necessary coordination and monitoring, scripts in the form of institutions can be considered as a useful tool to

manage uncertainty (Powell 1987; Noteboom 1992; Egidi 1993; Noteboom 1996; Fließ 2001).

However, existing studies show insufficient concern for a comprehensive script analysis model giving attention to the customer side. Combining a blueprinting with a script approach offers a great opportunity to extend the internal process of a service-operator by integrating the customer side and thus reduce costs of coordination, i.e. transaction costs. The transaction cost theory (e.g. Commons 1931; Coase 1937; Williamson 1975) can be considered as the basic theoretical link between the process of both the service provider and the customer. It explains why these two have to be understood as one comprehensive process entity. Coordination costs do not only apply to intra-firm activities but also to inter-firm activities including the customer. For that reason, transaction costs affect both sides – the service provider and the customer (Williamson 1985; Williamson 1991). In this context, scripts offer a way of uncertainty reduction for both parties because they guide the process behavior and facilitate superior service process interaction. Scripts can therefore be considered as an instrument to reduce transaction costs.

The customer script can leverage the service production process in terms of efficiency, effectiveness as well as decreasing transaction costs and a general facilitation for both parties to perform the service. It is therefore in the service operator's interest that customers develop a script of the service transaction. In sum, the research problem being considered can be described as follows: So far, service processes are limited to the service provider's process side. The internal process of the service providing company can be structured in form of process tools such as a service blueprint but the equivalent of the customer process side is missing. The customer process in previous blueprint models is reduced to the line of interaction. In order to optimize the service transaction process comprehensively, facilitate high-quality customer integration and align both process sides to each other with the purpose of reducing transaction costs, it is necessary to explore the customer process. Such is approached by applying the theory of service scripts. As a consequence, the thesis addresses the questions if customers have a consolidated service script, what influential factors affect the script and if the service provider has an impact on the customer script.

Recapitulating the existing literature reveals that no attempts have been made to elaborate the script concept in the context of customer processes in service transactions. Some studies

implying that a script may benefit the customer's service perception and performance draw attention to the significance of the script topic and stress the necessity to pursue a deeper research argument (Hubbert, Sehorn et al. 1995; e.g. Bateson and Hoffmann 1999; Parker and Ward 2000; Bateson 2002). There is no precise approach to analyze the script structure including developmental factors thoroughly. Research lacks a concept of scripts with unambiguous reference to the customer service process and transaction cost theory. Concepts are missing that point out the importance for service providers to elicit script development and explore the conditions that have to be met for the client's script activation as well as resultant implications for service design. Consequently, vital research is needed in conceptual, in qualitative as well as in quantitative nature that can provide services literature and practice with fundamental and novel insights into the customer process because existing approaches show insufficiencies.

This thesis seeks to explore customer service scripts from a transaction cost based perspective. A conceptual framework for the analysis of customer service scripts is suggested which aims at identifying the fundamental influential factors and the conditions that need to be met for the customer script to develop. In order to improve co-production in terms of higher efficiency as well as effectiveness, focus is set on the process design as an instrument through which the service provider is assumed to be able to influence script development. In the end, the identified aspects of process design can then be used to create an integrated and comprehensive version of a service blueprint which incorporates the customer process side as an additional dimension. In order to test the theoretical framework in practice, an empirical study is carried out hosted by an ICT service company in a business-to-business environment. The relevance of this research is clearly not confined to the initial problem area regarding the analysis of scripts, the extension of the service blueprint as well as the transaction-cost perspective but corollary aspects may also be relevant for service innovations and service exports. Even though the research under discussion is carried out in a particular service industry and the thesis tends to set orientation towards business-to-business markets, the phenomena occur in a variety of exchange situations. The research theme can therefore be regarded as germane and original.

Two pathways of recent origin emphasize the topicality of this research stream: First, with regard to novel theoretical findings, the seminal work of Vargo and Lusch (2004; 2004) deserves to be given close attention. With services instead of goods dominating all economic

exchange, as the authors claim, the client's service process behavior, the view of a comprehensive process entirety of service transactions and the integration of customer processes into the service providers' processes gains even more importance. If service features are presumably found in products, as well, and separability between products and services is no longer given, product and service development must be geared towards the process all the more (Haase 2005). In a world of "servicization" (e.g. Thomas 1994; e.g. Laestadius and Pedersen 2005), the challenge of customer orientation, as postulated for decades now, demands for new resolution: The script approach focusing on the process aspect, as pursued in the thesis, offers a prospective way to accept the dare. By centering the customer process, this work deals with the problems accordingly and makes allowance for an integrated and universal marketing thought.

The second pathway refers to recent trends in business developments: Since the increase of the service industry becomes particularly evident in electronic services, script-related process design may be a useful way to face the specialties of online-environments. Novel service scenarios pose a challenge which scholars as well as practitioners need to rise to. Taking customer processes more into account and thus incorporating service scripts might be a helpful and promising technique to face this challenge. Consequently, these recent developments even enhance the necessity of focusing on customer processes and thus, to deepen and explore the topic of customer service scripts.

1.2 Outline of the thesis

The thesis is divided into two major sections: a theoretical and an empirical section. Whereas the theoretical section lays the foundation and provides the basis for the development of a conceptual framework model, the empirical section serves to test this model in practice. The basic structure of the thesis is illustrated in the figure below (Figure 1-1).

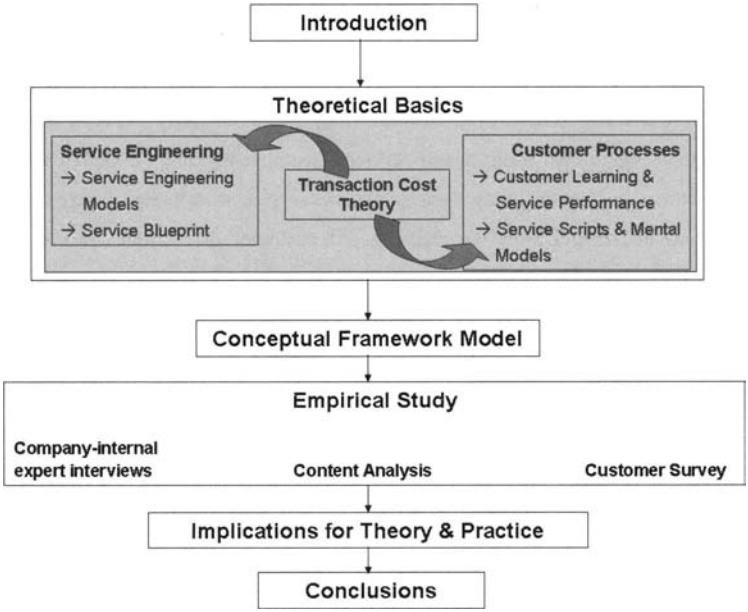

Figure 1-1: Structure of the thesis

After the introduction chapter which familiarizes the reader with the topic area and presents a short abstract of the research focus as well as the essential structure of the thesis, the second chapter commences. Delivering an extensive discussion on service engineering, this chapter basically attends to the provider's side of a service process. At first, a preliminary understanding of the service concept is specified, including the notions of customer integration and process apparentness. Based on that, the fundamentals of the subject of service engineering are discussed, portraying different service engineering models that aim at grasping service process activities and designing a service transaction. The main focus is then set on one particular model, the service blueprint which turns out to be most relevant for the research purpose of the thesis. Thus, the chapter goes into detail of the service blueprint. It gives a thorough overview and points out its imperfections in terms of a disregard of the customer process side because for the most part, the model still relates to the internal process procedures of the service operator.

Since customer processes represent the core theme of the thesis, the third chapter can be considered as the essential link between the service blueprint on the one hand, standing for the service provider process, and the customer process itself, on the other hand. This third chapter refers to transaction cost theory which incorporates both sides of the process. The theory therefore forms a source that both process sides can profit from and at the same time, the theory can be extended by integrating elements from both sides. In this context, transaction costs are highlighted in the service blueprint and service scripts are identified as institutions.

The theoretical part of the thesis then culminates in the fourth chapter, finally addressing the customer process as such. At first, the idea is to obtain a substantial understanding of the customer process in a service transaction. For that purpose, it is important to generally explain the function of service customers, their performance within the service as well as the efficiency of clients as co-producers. In order to comprehend the customer process and the structure behind it, the chapter then descends to customer learning and customer knowledge in a service transaction, adapting elements from cognitive psychology. Specifying the learning of service process procedures, service scripts represent the main focus of the chapter. Scripts as a procedural form of the cognitive construct of schemata are discussed comprehensively and particular attention is given to scripts in services. After looking into role theory and various other constructs that are assumed to be related to scripts, the argument continues with the construct of mental models. It will be shown why mental models are considered to be of particular significance for service process design with regard to customer processes.

The empirical part of the thesis starts with the fifth chapter which intends to produce a conceptual model. Based on the line of argument of the theoretical section, the key research aspects are to be clarified. The precise definition of the research problem and the explanation of the major research questions then lead to the research hypotheses. From there, the model framework is derived including the different concepts and their dimensions as well as interrelations.

The sixth chapter deals with the facets of methodology. In the beginning, the purpose of the study is explicated with reference to the framework model and the research aspects of the foregoing chapter. As an essential part of the methodology, the author reasons the chosen paradigm that the study is based on. Several other methodological characteristics, such as the study setting, the unit of analysis or the sampling design, are then described before addressing

the data collection method of triangulation that is applied in the research study. After that, the chapter deals with the operationalization of the model variables as well as with the goodness of the measures.

The analysis and the interpretation of the collected data is the subject matter of chapter seven. Following the method of triangulation as explained in the previous chapter, the analysis firstly refers to the investigation of documents and material within the company. Then, the key results from the expert interviews as well as the expert group discussion are inferred. The last part of this chapter is concerned with the survey results. After the goodness of the data is tested by way of different statistical tests, the editing as well as the preparation of the data is explained. Next follows a section which interprets the most significant descriptive data results; subsequently, the research hypotheses proposed in chapter five are tested and a few corollary data analysis results are depicted in addition. The chapter then ends with a brief synopsis summarizing the results of all three triangulated methods.

The eighths chapter covers the implications for theory as well as for practice. These implications are based the results of the foregoing chapter and the enhancement of further considerations in terms of theoretical and practical future trends. On the subject of theoretical implications, the discussion refers to transaction cost theory; it suggests a service typology which includes components of the script approach as well as transaction cost theory. The chapter then continues with possible prospects for the overall development of service engineering as well as consequences for service innovation and export. With respect to practical implications, ideas for future action in practice are contemplated that can be seen as consulting recommendations for the company hosting the research study as well as for service practitioners and marketers in general.

Ultimately, the thesis closes with the ninth chapter which draws a final conclusion. After providing the reader once again with an overall summary of the work, the chapter descends to limitations of the research and eventually points out opportunities for further research.

THEORETICAL BASIS

2 Service Engineering

In order to clarify the understanding of service engineering, the first chapter of the theoretical basis proceeds as follows: to begin, an integral conceptualization of services will be given. Then, customer integration and process apparentness will be highlighted as two essential service basics. To explain the concept of service engineering, an historical abstract of the term will be given, covering the different disciplines in which the term has been used. After the presentation of several service engineering models, the chapter will focus on the service blueprint model in particular.

2.1 Introductory theoretical basics of services

2.1.1 Intangibility

When talking about services, one characteristic always stands out: intangibility. Intangibility means that a service cannot be physically had at hand but instead is rendered and consumed in the course of an activity. Intangibility results from the fact that services do not consist of ingredients but of processes and, based on that, the simultaneity of service operator and client[1]. That is why services are defined as "deeds, processes, and performances" (Zeithaml and Bitner 1996, p. 5). However, following the recent argument of Vargo and Lusch (2004), no product is fully tangible nor are services completely intangible (Shostack 1977; Zeithaml and Bitner 1996): to a certain degree, every product transaction involves a service. A customer buying a table, for instance, engages the service of the shop assistant or the convenience of an online-ordering procedure in the form of the supplier's website. The same can be said about services (Vargo and Lusch 2004): there is no service that does not feature tangible elements. An airline company, for example, delivers meals and drinks during the flight. Thus, a service contains intangible process activities and physical side elements (Rushton and Carson 1989). Intangibility can be differentiated into palpable and mental intangibility. Palpable intangibility relates to physical intangibility, i.e. the service lacks a substantial material that is either visible or tactile, whereas mental intangibility refers to a more mental-intellectual aspect. Yet, palpable intangibility presumably represents the basis

[1] This simultaneity is also termed the "uno-actu-principle". It also refers to the fact that, unlike physical goods, services cannot be stored (Berekoven 1974; Parasuraman and Varadarajan 1988).

for mental intangibility (Bowen and Schneider 1985; Rushton and Carson 1989; McDougall and Snetsinger 1990).

Although, in the research literature, the phenomenon of intangibility is sometimes referred to as "immateriality"[2], this thesis deliberately uses the term "intangibility" and insists on a conceptual differentiation as follows: the two terms can be interpreted in relation to the object itself as well as to the user who perceives and engages the service. Whereas the phrase immateriality merely refers to the object, i.e. the service, intangibility comprises both aspects. A service may be immaterial when considered only from the perspective of the service itself; that is, it does not consist of physical or touchable components. However, from the user's perspective, the service signifies a certain utility to which is attributed a definite material value. In contrast, intangibility relates to both perspectives because the service itself, considered as an object, consists of intangible components just as the user perceives the service as intangible and non-concrete. This explanation highlights the fact that services actually feature a problem of perception –reference here to the two perspectives – and thus a problem of measurement costs. As a result of these problems, both parties are confronted with uncertainties. These uncertainties become even more complicated as contract and disposal of the service are arranged prior to the actual service production. The production and therefore the service itself can only be accomplished by the customer's cooperation during the production process. This simultaneity of production and consumption inherent in services is based on the generic concept of customer integration which will be discussed in detail in section 2.2.

Due to the intangibility of a service, customers have difficulty in evaluating a service before the purchase. In most cases services lack search qualities, i.e. features that can be evaluated ex ante. Thus, the client is only able to assess the service after he/she has experienced it; this means that services are dominated by experience qualities (Nelson 1970). However, sometimes the client is not even able to evaluate the service after the purchase, as often occurs in medical services. In that case, credence qualities prevail (Darby and Karni 1973). Consequently, intangibility results in fairly bad or even impossible comparableness of various services that the market offers (Liechty and Churchill 1979; Burton 1990; McDougall and Snetsinger 1990). Word-of-mouth communication, such as recommendations through friends

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[2] In the literature, different authors such as Shostack (1982), Rushton and Carson (1989), Stauss (1996) partly use a different terminology. Yet, both terms "intangibility" and "immateriality" relate to the same phenomenon, namely, the fact that something is not concrete.

or fellow customers, therefore provides an important substitute for the client (Langeard 1981; Crane and Clarke 1988; Freiden and Goldsmith 1989; Hilke 1989). Furthermore, when making the purchase decision, the customer tries to find surrogate indicators for the service quality such as, for example, the appearance of the business premises, the appearance and demeanor of the service staff (Engelhardt and Schwab 1982; Crane and Clarke 1988; Grund 1998) or the price (Liechty and Churchill 1979; Zeithaml 1981; Wiswede 1995). Intangibility often makes it difficult to demonstrate the quality of a service or even to develop a new one. It is therefore important to draw upon an integral service conceptualization that takes the entirety of service prerequisites into account and, at the same time, lives up to the intangible as well as the tangible elements of a service[3].

2.1.2 Components of a service production model

The elements of a service production model based on Kleinaltenkamp (1997) can be elucidated and additionally enriched with the similar approach of Edvardsson (1997). His model is primarily focussed on new service development, yet it delivers an appropriate conceptualization of services by identifying three service components: "service concept", "service system" and "service process". This trichotomy shows parallels to the model of service production according to Kleinaltenkamp (1997), who conveys the idea of service "potential", service "process" and the "outcome" as a product-service bundle (see also section 2.2). In this model, the service "potential" includes all internal resources and assets of the service provider as well as their prior combination[4]. In an attempt to confront the two conceptualizations, Edvardsson's concept may be found to be embedded in Kleinaltenkamp's more comprehensive understanding of service production: since the notion of the service provider's potential also comprises the prior combination of internal resource factors, the "service system" is only part of the potential. Kleinaltenkamp's model emanating from a production-theoretic view offers a fertile approach because it stresses the customer contribution and therefore forms an integrative value chain (Fließ and Kleinaltenkamp 2004).

A service concept stands for the idea of an offer that the service provider embraces. In describing the service for customers, employees and other stakeholders (Haksever, Render et al. 2000), it focuses on the notion behind the service in terms of what the client wants and

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[3] Gnoth (1994) offers a more detailed explanation of service quality with reference to an integral service conceptualization that he refers to as 'technology of service'.

[4] Aiming at a general definition of the term, "potential" as well as "potential activities" (a term which will be used in the context of the service blueprint in chapter section 2.5) comprise the management of the resources and the structure of the organization.

wishes and how this is to be achieved (Edvardsson 1997; Tseng, Qinhai et al. 1999). Whereas the service concept is intrinsically more relevant to the development of new services, the components of potential and process undoubtedly offer a useful approach to comprehending services in an integral way, embracing service product and process attributes (Pullmann and Moore 1999).

On the one hand, the potential is affected by the design of the service concept. On the other hand – and this is the more important aspect for this research – it represents a premise for the service process. The service process can only take place with the specific potential resources implicit in the set-up of the service system as a framework. Furthermore, the client needs to be familiar with the different elements of the service system he encounters in order to participate in the service process. Following Edvardsson (1997), the service system is described as the resource structure and categorized into various subsystems: the physical and technical resources, the service company's employees, as well as the organizational structure and control system[5]. Yet, differing from Edvardsson's view, the customers should here be considered simply as an indirect part of the potential, given that they are only part of it insofar as they engage with it in order to perform in the process. Hence, the client represents an external resource factor which is actually activated in the course of the service process performance. All elements of the service system can be differentiated by their external visibility, by the degree to which they form part of the service company's internal infrastructure and the degree to which they take place onstage, i.e. if they are visible for the client. For that reason, they can be related to different activity layers in the service blueprint (see section 2.5 in more detail).

The physical and technical resources of the service company include the equipment of the service company. On the other hand, the physical system is what the client engages with during the service transaction and therefore represents the technical environment of the service provider (Tseng, Qinhai et al. 1999). The ATM of a bank, for instance, represents the part of the service system that the customer has to deal with. For this reason, it is important that the service system be designed in a customer-adjusted way (Edvardsson 1997). Thus, physical and technical resources are found to be a vital part of the onstage activities because the client interacts with them. Yet, they are part of all internal service activities where

[5] A similar approach is given by Gnoth's (1994) 'technology of service' which can be applied not only to service innovation but also to other service process scenarios such as service recovery (e.g. Boshoff 1997).

employees use them to pursue service procedures, representing the service provider's potential.

Employees are the key resource of most service companies and are therefore a significant element of the service system. Generally, the service staff embodies the attitude and the quality promise of the company itself. Since the service employees chiefly interact with the clients, they are able to co-guide the client through the service transaction process and help the customer to deliver the right contribution. The service staff is therefore able to facilitate the client's participation in the service transaction (Edvardsson 1997). With regard to the employees' interaction with the client, they are essentially part of the onstage activities. At the same time, they are part of the organizational structure which indicates human resource planning as part of the preparation and facility activities. Besides, staff operate all physical and technical resources, and are therefore of high relevance for all service activities.

The third subsystem, the organizational structure and control, is mainly focussed on the internal organization of the service company, as the term suggests. It comprises the structure in terms of responsibilities and company divisions, as well as the administrative support system. Organizational structure and control are therefore mainly part of facility and preparation activities.

The customer, as pointed out earlier, is considered as the external resource[6] of the service company[7]. Given that the client's engagement in the service system is activated in the course of the process performance, he/she represents the connecting link between potential and process. Since the client takes part in the service production and finds himself in the role of a co-producer, the service system design needs to allow for this participation and make it as easy as possible. Regarding the client as a system resource also affects the marketing approach of the service operator, in matters like the design of invoices, customer telephone conversations and information objects. Not only has the client to be informed but the service provider has to train the client in the function of the co-producer. Customer outcome and customer process need to have the attention of the service operator (Edvardsson 1997).

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6 This line of argument can also be taken further when drawing on the resource-based view (e.g. Penrose 1959, Wernerfelt 1984, Barney 1991, Grant 1991, Peteraf 1993).

7 This aspect will recur in more detail in the context of the service blueprint (section 2.5).

The service process itself can be viewed as a series of activities taking place in a sequential and a parallel order and in interaction with the service client. "A process is any purposeful activity or group of activities that result in an outcome... [it] requires input such as human intelligence, information, machines, and materials" (Haksever, Render et al. 2000, p. 152) which may produce physical output, a service or a combination of both as a result. It can be defined by the way the client makes use of the service operation and deals with it (Kullven and Mattson 1994). The service process, i.e. the chain of activities, has to be activated by the client. Therefore, the prior installation of the potential, including the service system of the provider, forms the prerequisite for the customer process. For that reason, in a service blueprint all "potential activities"[8] are arranged chronologically preliminary to the actual "process activities" (see section 2.5).

The comprehensive service process can be divided into different components, namely the technical part, where activities are performed by machines or computers, the staff part, where activities are carried out by the staff (possibly supported by the technical process), and the customer process, i.e. those activities that are carried out by or with the help of the client (Edvardsson 1997). "The company ... does not have direct control over all parts of the process but must nevertheless be able to control the process in its entirety" (Edvardsson 1997, p. 38). This statement gives the reason why the customer process is of such importance and needs to be incorporated in the service process. That is, the service process has to correspond to various customer processes in order to control the process as a whole.

In the service process different parts of the service system are employed so that the service system supports the process. Whereas the service system - as part of the service provider's potential - is static and makes the crucial resources available, the service process is dynamic (Edvardsson 1997; Edvardsson 1998). The client, in the active role as a co-producer, needs to be familiar with the service system. Only then is he/she able to fulfil his/her tasks during the service process and to know how to participate and what to contribute to the process. A hotel guest, for instance, needs to know that there is a reception desk, i.e. part of the service system, and has to be acquainted at least vaguely with what it looks like so that he is able to check-in, i.e. fulfil the task in the service process. To elucidate potential (including the service system) and process in their context, it can be said that the former represents the basis for the latter but

[8] The term "potential activities" refers to all activities in a service blueprint that deal with the disposition of the firm's internal resources. Therefore, these activities are considered as customer-independent and as preliminary to all process activities, which are induced by the customer.