Chapter Three
Service Delivery Design and the Front Office

In chapter two I argued that strategic positioning of services should be seen as service delivery process positioning in networks of service providers in which service processes can be viewed as configurations of critical resources like customer knowledge, a culture of customer orientation, customer coproduction abilities, relationship networks and IT infrastructure. I made a differentiation between three generic service positioning strategies, the mass, scope and partnership oriented strategies. Service innovation is understood as a process of incremental, recombinative, ad hoc and sometimes radical innovations contributing to the strategic activity of resource enhancement, destruction and reconfiguration within the scope of the strategy of the organization. Interaction between the service provider and the customer is seen as an important starting point for service innovation. Crucial to capitalize on the customer base is to focus on customer contact strategies and to provide multifunctional access points to the network which pull together the resources and service delivery processes to provide the customer with added value. The logic of bundling services, capitalization on existing relationships and providing one face to the customer has become the prevailing business logic in our networked information society.

The goal of this chapter is to problemize our limited knowledge on information requirements in service specification processes. I give an overview of the current body of knowledge on service delivery design in general and the function of service specification in the front office in particular. I start with presenting the dichotomy between front and back office in service delivery design. I differentiate between two customer contacts, one for service specification and one in service operations. Based on this insight, I provide a definition of front office in which customer contact for service specification is central. Then I discuss the effect of customer contact on service delivery design, leading to the conclusion that the degree of customization (the intervention depth of customer wishes) is a major determinant in service delivery design. In the next section I give an overview of the functions of service specification. Service specification is positioned in the complete service delivery process to show that in service specification promises are made about subsequent phases in the service delivery process and that we need information in service specification about these phases to make these promises. To gain a deeper understanding of service specification, I review the literature on studies on customization in the front office; empowerment of front office employees in relation to perceived service quality; and on the information requirements in service delivery processes. This leads to the conclusion that lack of information in the context of empowerment could explain role ambiguity, which turns out to result in negative
effects on customers’ perceived quality. As little attention in the literature is given to the use of information to improve service delivery processes, we lack insight into which information needs to be distributed to front office employees to specify services. Nevertheless, two studies on the information requirements of service delivery are found and this chapter will end with a review of these studies and the main conclusions of this chapter. The research model I will present in chapter four is drawn upon the body of knowledge presented in this chapter.

**Service Delivery Design: Front and Back Office Dichotomy**

Services have a clear front office and back office dichotomy in their operations (Stone & Woodcock, 1995; Fitzsimmons & Fitzsimmons, 1997; Molenaar, 1997; Grönroos, 1998).

Front offices are supposed to be designed with the prime objective to serve customers. The focus of front-office management is on specifying and meeting customer requirements. Front-office design should allow for the different requirements and types of customers. To allow for more complex processing of customer cases in the back office, in the front office processes are required to extract from customers all that is required (mainly information) to do so. In the front office there is a three-way interaction between customers, employees and technology or a two-way interaction between customers and technology (in the case of self service, like e-commerce) (Chase & Tansik, 1983). The major objective of the application of ICT in the front office is to respond as quickly as possible to customer requirements (Elfring, 1995).

Tasks are done in the back office mainly because of scale economies or because mixing of customer oriented tasks and complex case handling tasks could come at the expense of the quality of one or the other. The focus of back office management is on efficient, timely and accurate case processing. In the back office the interaction is two-way between employees and technology (Chase & Tansik, 1983). In the back office employees only deal with customer surrogates, like orders, often embodied in information technology. The main objective of the application of ICT in the back office is on efficiency improvement (Elfring, 1995).

Buffers between the front and back office are needed and consist of queuing cases for processing, escalation procedures and information systems to ensure rapid availability of data on cases to prevent back office staff from being disturbed by customer contact (Stone & Woodcock, 1995). The high contact units in the front office need to be supported by low contact units in the back office, introducing needs for informational and material handling tasks between the front and back office (Chase & Tansik, 1983). ICT is supposed to form the glue, which holds together the front and back office (Li, 1997).

In the front office, the service encounter takes place. The service encounter plays a central role in the service marketing literature (Solomon et al., 1985). The service encounter is seen as the event at which the customer interacts with the service provider (its people, its communications, its core service and its technology) (Heskett et al., 1990). Carlzon (1987) termed service encounters as ‘moments of
truth’: “the moment of truth is the moment at which the service provider and service customer confront one another and service quality is realized. At this moment both are very much on their own.... It is the skill, the motivation and the tools employed by the firm’s representative and the expectations and behavior of the client which together will create the service delivery process”. The following quote states the importance of the service encounter (Carlzon, 1987). “To the customer, the most important person in the company is very often the one at the point of contact. What happens is the usually brief one to three minutes of that contact will demonstrate – or destroy – for the customer all the value the company so expensively has sought to create through its product, quality, distribution, and advertising investments”. The service encounter is supposed to impact on service differentiation, quality control, delivery systems, and customer satisfaction (Solomon et al., 1985).

Definitions of the front office are quite rare. Generally, the front office is defined broadly in terms of the part of the organization in which customers participate in service processes (Grönroos, 1990). According to Normann (1991), the customer appears twice in the service process, as a customer specifying his requirements and as a coproducer taking part in the service production (Normann, 1991). Berkley and Gupta (1995), Parasuraman & Berry (1991) and Grönroos (1990) also differentiate between customer contacts in service specification and service fulfillment. Therefore I distinguish two ‘moments of truth’. The first ‘moment of truth’ is the coproduction of customers in the service specification process in which an agreement is reached between the customer and service provider, regarding the service to be delivered. The second ‘moment of truth’ is the coproduction of customers in service production. The first ‘moment of truth’ is the object of study in this thesis. Therefore I define the front office as the part of the organization in which customers have contact with the service provider to reach an agreement regarding the service to be delivered. This definition narrows front office activities down to service specification. The contact between customers and the service provider might be direct contact (between customers and employees) or contact between customers and service equipment (like in the case of ICT-enabled self service).

**Effects of Customer Contact and Customization on Service Design**

Chase & Tansik (1983) were one of the first to recognize the importance of customer contact intensivity to organizational design. They see the extent of customer contact as a major variable affecting the performance of the service system and thereby as a starting point for organizational design. They follow the general organizational design principle of Thompson (1967) to protect the operating core of the organization from environmental disturbances and uncertainties stemming from individual differences in customers’ attitudes and behaviors. They state that organizational performance will be improved if the operating core is placed in a low contact positioning and is structured according to operational efficiency norms. High contact activities of the firm should buffer the operating core and should be managed according to effectiveness norms. Fitzsimmons and Fitzsimmons (1997) use the
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term back office as synonym for low contact activities and front office for high contact activities. High contact tasks are operated at the organization’s boundary with workers carrying out boundary spanning roles (Thompson, 1967). High contact units play a central role in coping with environmental uncertainty in that they form a buffer between the environment and the back office. Chase (1978) proposes a typology of services according to increasing customer contact.

- Quasi-manufacturing service entailing virtually no face-to-face contact.
- Mixed services, involving a mix of face-to-face contact and coupled back office work.
- Pure services, in which the service organizations production is carried out in the presence of the customer.

It is clear that Chase and Tansik’s contribution to thinking about services has influenced Shaw. Shaw’s (1990) typology of services (product, product/service and pure service) as presented in chapter 2, is very similar to the one of Chase. Three remarks need to be made on Chase and Tansik’s line of thinking.

First, the centrality of physical presence of customers needs to be relaxed. One of Chase’s propositions states for instance: “in high contact systems, the service facility must be located near the customer” (proposition 6). De Jong and van Bemmel (1992) noticed a shift from direct contact towards interaction on a distance (by telecommunication) and self-service. Both ways of interaction are prevalent in the service industry nowadays and are predicted to grow dramatically as a consequence of the application of ICT. New self service and interaction on a distance distribution channels like internet, virtual communities (Hagel & Armstrong, 1997; Barnatt, 1998), multimedia call centers, cybermediairies (Sarkar et al., 1995) and other electronic channels are increasingly important for the interaction with customers and the marketing and distribution of services (Kalakota and Whinston 1996). These new ways of interaction still introduce uncertainties to the service provider (as Chase stated) but don’t need physical presence of customers anymore. In this regard proposition 7 of Chase and Tansik is supposed to hold better: “In high contact systems, the service facility must be laid out to accommodate the customer’s physical and psychological needs and expectations”. This proposition reflects both situations of self-service and interaction on a distance as well as situations of direct contact. Interestingly, Chase and Tansik (1983) mention several options to reduce high contact to low contact work, for instance, self service, restructuring service channels into standardized and customized operations and the application of ICT. They state: “the possibilities are endless in our opinion”, which seems to be the case nowadays.

Second, Chase and Tansik (1983) and others (Lovelock, 1983; Schmenner, 1986; Shaw, 1990) don’t make a difference between contact intensivity in service specification and in fulfillment, although they recognize the multi-facedness of customer contacts. According to Normann (1991), the customer appears twice in the service process, as a customer specifying his requirements and as a coproducer taking part in service production. Although customers need to appear physically in
the production of many services (like in hospitals, transportation, etc), their physical appearance in the specification of such services is not always needed.

An example of a service classification scheme in which no differentiation is made between customer contact for service specification and customer contact during service fulfillment is the classic one of Lovelock (1983) and is shown in table 3.1. For all types of services it is possible to specify the service on a distance without physical appearance being required at all. For instance, the specification of a bus-trip for a group of people (people processing quadrant) doesn’t mean physical presence of anybody during service specification. It could be done by telephone or by Internet. Furthermore, the fulfillment of services in the three non-people processing quadrants could be distributed by several delivery channels including (ICT) equipment (Lovelock & Wright, 1999).

Service classification schema like this tend to have a bias towards physical service facility design, neglecting ICT as main carrier of service processes (Tinnilä & Vepsäläinen, 1995). The information elements of the service can be decoupled from the tangible elements, a decoupling of the physical and virtual value chain (Rayport & Sviokla, 1995; Evans & Wurster, 1997). This can be done for all services in all quadrants. The information service elements could be placed in the mental stimulus or information processing quadrant of the scheme, whereas the physical elements can be positioned in one of the upper two quadrants. At the same time sales activities like service specification for both physical and information elements could be placed in the lower two quadrants. A nice example of the dynamics in service delivery due to technology is provided by Walley and Amin (1994). They describe a typical people processing service, renal dialysis, in which patients service themselves by using renal dialysis self service technology (Continuous Ambulatory Peritoneal Dialysis). In this service the people processing element is distributed by self-service technology and is complemented by training elements (mental stimulus processing). Physical presence in the service facility is no longer required.

<table>
<thead>
<tr>
<th>Tangible actions</th>
<th>Intangible actions</th>
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<tbody>
<tr>
<td>People</td>
<td>Possessions</td>
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<tr>
<td>Services directed at people’s bodies (people processing):</td>
<td>Services directed at physical possessions (possession processing):</td>
</tr>
<tr>
<td>• Health care</td>
<td>• Freight transportation</td>
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<tr>
<td>• Public transportation</td>
<td>• Retail distribution</td>
</tr>
<tr>
<td>Services directed at people’s minds (mental stimulus processing):</td>
<td>Services directed at intangible assets (information processing):</td>
</tr>
<tr>
<td>• Advertising</td>
<td>• Banking</td>
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<tr>
<td>• Education</td>
<td>• Insurance</td>
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Table 3.1: Service classification scheme (Lovelock, 1983)
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Third, Schmenner (1986) already criticizes the typology of Shaw on the fact that the duration of a customer's presence in the service process is not a determinant for the type of service but merely the intervention depth of customer wishes in the process. According to Schmenner some service providers shelter customers without giving them any opportunities to influence the service delivery process (like in standardized services such as tourist hotels). Thus the degree of customization merely is a determinant of organizational design than the intensity of customer contact. Schmenner's idea resembles the idea of customer order decoupling point (CODP) in the literature on operations management (Browne et al., 1996). Although CODP is generally defined in terms of physical materials as being the point after which material is dedicated to a customer order in a physical production process, it could also be defined from an informational perspective. From this perspective the CODP could be defined as the point in organizational processes to which the specifics of the customer order defines the operations in that process. The specifics of the order are determined by the degree of customization.

This section leads to the following conclusions.

- Physical presence of the customer in the service facility is not required for service specification per se; is always required for people processing services during fulfillment and is often partly required for mental stimulus processing services during fulfillment (like in educational services, for example).
- Service classification schema tend to have a bias towards physical service facility design, neglecting ICT as carrier of service processes.
- The degree of customization (the intervention depth of customer wishes) is a determinant in organizational design.

Service Specification

The specification process in the front office forms the link between service marketing and production. Integration of service marketing with service production to meet or exceed customer expectations is seen as a strategic activity (Grönroos, 1990; Berry & Parasuraman, 1991; Lovelock and Wright, 1999). Seven functions of service specification can be recognized in the literature.

- In the specification process customers specify their needs and the service provider informs and advises the customer. The general promises the service provider made about its service quality in presales advertisement and branding is transformed to concrete service delivery promises (Berry & Parasuraman, 1991).
- In the specification process an important contribution is made to the building of customer relations, specifically through the specification of customized services (Grönroos, 1990; Stone & Woodcock, 1995). Customization makes it possible to meet the needs of varying customers. Contact is required to specify these needs, which often results in some kind
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of personal relationship between service employees and customers (social bonding). The specification process of customized services is assumed to take longer because an exchange of requirements and possibilities is needed. These kinds of extended encounters are likely to develop into boundary open transactions in which the customer believes that the service provider is interested in him as a person, giving a feeling of relationship rather than merely a transaction. Extended encounters are likely to require service providers to expend emotional labor (the management of feelings) (Price, Arnould & Tierney, 1995).

- Providing customers with a complete service specification before service commences is a strategy for service firms to reduce customer fear and improve perceived service quality (Berkley & Gupta, 1995). Fear is created by uncertainty and lack of information. There might be uncertainty as to exactly what services will be performed, how much time the service will require, the expected outcome and the total cost. Customers engage in information exchange behaviors for the purpose of clarifying service requirements. They seek information about service status or clarification of service parameters. Facilitating this information exchange should reduce customers’ perceived need to intervene in the delivery of service. (Kellogg, Youngdahl & Bowen, 1997).

- The specification of services not only plays a central role in the marketing of services but also is crucial to service production by initiating service delivery processes and by providing these processes with the right specifications. Service errors are often caused by misspecification (Berkley & Gupta, 1995).

- Service specification is the process in which the implementation set of a service network is specified. Through service specification the various pieces of the service network are mobilized to provide a service or a bundle of services. In many cases it will be the sole possibility to provide customers with ‘one face’ contact because during fulfillment of the service it might become clear to the customer that the service is provided by several parties in the network because the customer has to coproduce with these parties. Service specification provides customers with the access point to the network and provides the service provider which controls this access point with the ability to build relationships with the customer and to coordinate service delivery by the complete network (by contracts or service status control). The need for such an access point has been recognized by Vandermerwe (1994) and Mowshowitz (1997), although they didn’t relate it explicitly to service specification.

- The interaction between customer and service provider in service specification forms the starting point for service innovation (Sundbo, 1997). Specific solutions to customer problems might be specified and can lead to ad hoc innovations in which the unique solution is codified and standardized to make it reproducible (Gallouj and Weinstein, 1997).

- During service specification market information can be accumulated. The specification process is one of the organizational processes in which
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information that is vital to the organization can be recorded at its source. In general, moments of truth or service encounters are important moments to build customer information (Stone & Woodcock, 1995).

The function of service specification in the front office in the total service delivery process can be further illustrated by positioning the specification process into sales and buying process models (Grönroos, 1990; Moriarty & Moran, 1990; Stone and Woodcock, 1995; Lovelock & Wright, 1999). Table 3.2 relates sales cycle activities to these models.

Grönroos (1990) for instance introduces the relationship life cycle. A customer is in the initial stage of the cycle when he is unaware of the service provider. Image and brand building and advertising are the main activities of the service provider in this phase. Because of needs felt by the customer or as a result of advertising by the service provider, the customer might become aware of the service company and get into the purchasing process. He evaluates the service and makes a first purchase. Managing the buyer-seller interaction is the main activity during the purchasing stage. The purchase leads the customer to the third stage, the consumption process. During this process the service provider can take care of the consuming customer and can provide additional (after sales) services. During this phase the consumer coproduces and becomes a 'prosumer' (de Jong & van Bemmel, 1992). If the customer is satisfied, the whole cycle might repeat itself. The marketing effort differs during the three stages (Grönroos, 1990).

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<tbody>
<tr>
<td>Getting attention</td>
<td>Initial stage: create interest by advertising and brand building</td>
<td>Existence and identification of needs; problem recognition</td>
<td>Pre-purchase stage: awareness of need</td>
<td>Lead generation Qualifying sales</td>
</tr>
<tr>
<td>Inform Advise</td>
<td>Purchasing process: turn general interest into sales by getting the problem solving offering accepted by the customer (giving promises)</td>
<td>Search for information and evaluation of alternatives</td>
<td>Pre-purchase stage: information search and evaluation of suppliers. Service encounter stage: service request</td>
<td>Presales</td>
</tr>
<tr>
<td>Transact</td>
<td>Consumption stage: providing positive experiences to create re-sales and cross-sales (fulfilling promises)</td>
<td>Choice</td>
<td>Service encounter phase: service delivery. Post-purchase stage: evaluation of performance and future intentions</td>
<td>Close of sale</td>
</tr>
<tr>
<td>Fulfill</td>
<td></td>
<td>Post-purchase review</td>
<td></td>
<td>Post-sales service Account management</td>
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<td>After sales service</td>
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Table 3.2: Models of sales cycles and purchasing processes
Kierzkowski et al. (1996) propose a digital marketing framework (see figure 3.1), which seems to be a modern variant of the model of Grönroos (1990). In their version of the sales cycle they emphasize the customization, interaction / communication and personalization abilities of electronic commerce.

Especially the customization of the consideration set for customers is expected to be an innovation in e-commerce (Alba et al., 1997). Customers are supposed to use a two-step procedure in their purchase decision-making. In the first step they constrain the often-overwhelming amount of options to a small consideration set. The options in this set are often evaluated in more detail. In conventional sales customers use prior build beliefs and preferences to constrain considerations sets. In e-commerce this can be done by matching customer requirements with customer profiles and past purchase histories.

In figure 3.2 the specification process is positioned in the sales cycle. Preceding phases of the sales cycle have a function to subsequent phases, vice versa. In preceding phases the service provider educates the customer about the service quality the customer might expect and the coproduction behavior the service provider expects from the customer. In preceding phases the service provider makes promises about subsequent phases. These promises need to be kept in subsequent phases; the latter phases confirm the promises made in earlier phases (Grönroos, 1990; Berry & Parasuraman, 1991). To make a promise that can be held one needs clear information about the latter phases of the process in the earlier phases. Reliability ("keeping promises") is seen as the number one dimension of service quality (Parasuraman et al., 1991).
This section leads to the following conclusions.

- In the specification process, customers specify their needs, relationships can be built, service delivery processes are initiated, customer fear can be reduced by full specifications, the implementation set of the service network is defined, service innovation can be initiated and market information can be recorded at its source.
- In the specification process promises are made about subsequent phases in the service delivery process. To make a promise that can be held one needs clear information about these subsequent phases during service specification. Therefore the degree of customization in the service delivery process should be taken into account in service specification and thus should be reflected by the information available during service specification.

Studies on Service Specification in the Front Office

To come to a deeper understanding of service specification, I review the literature on three topics.

- Customization in the front office.
- Empowerment of front office employees in relation to customization and perceived service quality.
- The information requirements in service delivery processes.

Customization and the Front Office

The front office is supposed to afford the single greatest opportunity for a service firm to customize the delivery of its service down to the level of the individual customer (Surprenant and Solomon, 1987; Bettencourt & Gwinner, 1996). Customization in the front office can be thought of along two dimensions:
interpersonal adaptive behavior and service offering adaptation (Bettencourt & Gwinner, 1996).

- Interpersonal adaptive behavior refers to an employee altering various interpersonal communication elements (e.g. tone of voice, vocabulary, gestures) to meet what they perceive to be the unique needs of individual consumers, also known as personalization.
- Service offering adaptation refers to tailoring or creating a unique bundle of service attributes or benefits based on an individual consumer’s needs, known as customization.

Despite its purported importance, relatively little theory exists concerning the service contact employees’ ability to customize service delivery (Bettencourt & Gwinner, 1996). An exception is the study of Surprenant and Solomon (1987) on the effects of interpersonal adaptive behavior (personalization) and service offering adaptation (customization) on customer satisfaction with the service offer. They differentiate between three forms, one form of customization and two forms of personalization.

- Option personalization (service offering adaptation / customization).
- Programmed personalization. Programmed interpersonal adaption like for instance greeting procedures or predefined interaction scripts.
- Customized personalization. Which means adaption to the interaction style of the customer.

They see personalization as a trade off between personal service delivery and conformance to customer's role expectations. These expectations vary on the degree of formalization, depending on the structural dimensions of the service encounter. To put it simply, customers don’t expect to build a personal relationship with the ticket seller at the railway station counter. Surprenant and Solomon conclude that not all forms of personalization result in an increase of customer satisfaction with the service offer.

- Option personalization (customization) positively affected trust in the service provider and customer’s satisfaction with the offering.
- Service strategies based on unabashed friendliness are not attractive, particularly if they violate role expectations. Role definitions within a service-setting dictate the amount of personalization expected. When the service is highly formalized, little personalization will be anticipated. As more non-task related information was included (like being too personal, too friendly), evaluations of employee’s competence, the service provider’s trustworthiness and satisfaction with effectiveness decreased.
- If the service provides high option personalization (customization), programmed personalization beyond simple courtesy resulted in lower evaluations, whereas customized personalization showed to be effective.
Customized personalization had positive effects on evaluations with no difference between high and low option customization.

The study of Surprenant and Solomon (1987) suggests that customers focus on the outcome dimension (option personalization) of the interaction in the first place and on the process dimension in the second place. This is congruent with the study of Zeithaml et al. (1990). They found five dimensions of service quality (see table 3.3). The first service quality dimension, reliability (keeping promises) is seen as the most important (a prerequisite for staying in competition) and is concerned with the outcome dimension of the service. The other four are concerned with the process dimension of the service and are important in exceeding customer expectations of service quality.

The prevailing marketing approach in electronic commerce is seen as one of personalization and customization ('one-to-one' relationship marketing). The traditional interpersonal adaptive behavior is replaced by personalization technology (facilitating personalized advertisement, consideration sets and interaction) and in which service offering adaption (customization) will be necessary to confirm to the personalization expectations, which rose out of personalized communication. Developments in electronic commerce provide service companies with powerful tools to analyze the behavior of their customers and to establish a dialogue and sense of community among customers by enabling the sharing of experiences, problems and solutions. (Kierzkowski et al.; 1996; Hagel & Armstrong, 1997; Bakos, 1998).

This section leads to the conclusion that in mass oriented strategies, with ‘take it or leave it’, highly formalized interaction governance, little personalization is expected. In scope and partnership oriented strategies it seems to be attractive to add to the positive effects of option personalization (customization) the positive effects of customized personalization to increase customer’s evaluation of the service.

In scope and partnership oriented strategies customization and personalization are pursued by empowerment of front office employees (see table 2.3 in chapter 2). This raises the question whether there is a relationship between empowerment of front office employees and perceived service quality by the customer.

<table>
<thead>
<tr>
<th>Quality dimension</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Reliability</td>
<td>The ability to perform the promised service dependably and accurately.</td>
</tr>
<tr>
<td>Tangibles</td>
<td>The appearance of physical facilities, equipment, personnel and communication materials.</td>
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<tr>
<td>Responsiveness</td>
<td>The willingness to help customers and provide prompt service.</td>
</tr>
<tr>
<td>Assurance</td>
<td>The knowledge and courtesy of employees and their ability to convey trust and confidence.</td>
</tr>
<tr>
<td>Empathy</td>
<td>The caring, individual attention provided to the customer.</td>
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Table 3.3: Five dimensions of service quality (Zeithaml et al., 1990)
Empowerment of Front Office Employees in Relation to Perceived Service Quality

In the ‘Service-Profit Chain’, Heskett, Jones, Loveman, Sasser & Schlesinger (1994) relate revenue growth and profitability to customer satisfaction stemming from perceived service quality or as they define it, the value of the service provided to customers. This value is supposed to be created by satisfied, loyal and productive employees (see figure 3.3). The loyalty of employees is supposed to be a result of the quality of the service delivery system (including employee selection, reward systems, service equipment, job design and management skills). Internal service quality is establishing the ability and authority of front office employees to achieve results for their customers (empowerment of front office employees). This line of reasoning can also be found in Normann (1991). Carlzon (1987), Grönroos (1990), Quinn & Paquette (1990) and Vandermerwe (1994) propose the concept of inverting the organization and to make all systems and support staff in the company work for the frontline person to deliver the companies full capabilities at the moment of customer contact.

Several empirical studies support parts of this line of reasoning. Previous research on the employee side of the service profit chain has examined issues such as management commitment to service quality (Ahmed & Parasuraman, 1994), empowerment (Bowen & Lawler, 1995), the effects of role ambiguity and role conflict on employee behavior and responses (Singh, 1993) and the relationship among job-satisfaction, adaptability and employee effort (Glisson & Durick, 1988; Spiro & Weitz, 1990). Research on the employee-customer interface side of the chain has examined the relationship between customer perceptions of the service encounter and contact employees’ attitudinal and behavioral responses (Bowen & Schneider, 1985; Bitner, 1990; Singh, 1993; Bitner, Booms & Moor, 1994). The findings from this research lead to two major conclusions.

![Figure 3.3: Service Profit Chain (Heskett, Jones, Loveman, Sasser & Schlesinger, 1994)](image-url)
1. Managers can influence customer-contact employees’ responses so as to enhance service quality, for instance by eliminating role ambiguity (which reduces job satisfaction and performance) by empowerment (Singh, 1993; Rafiq & Ahmed, 1998).

2. The responses of customer-contact employees influence customers’ perceptions of service quality and the service encounter. For instance employee role conflict, role ambiguity and dissatisfaction are contributors to their inability to deliver service quality (Schneider, 1980; Shamir, 1980). Customers are more satisfied with the service encounter when employees possess the ability, willingness and competence to solve their problems (Bitner, 1990; Bitner, Booms & Tetreault, 1990) or to adapt to special needs and requests (Bitner, Booms & Tetreault, 1990). Customer-contact employees’ friendliness, enthusiasm and attentiveness also positively affect customers’ perceptions of service quality (Bowen & Schneider, 1985; Rafaeli, 1993).

Hartline and Ferrell (1996) used these results to further support the service profit chain line of thinking by examining the degree to which management commitment to service quality, empowerment and behavior based evaluation, influenced role conflict and role ambiguity among customer-contact service employees. Low levels of role conflict and role ambiguity were hypothesized to have a positive relationship with job satisfaction, self-efficacy and adaptability, resulting in high degrees of customers’ perceived service quality (see figure 3.4). Their findings indicate the following.

![Image of the model of Hartline and Ferrell (1996)]

Figure 3.4: The model of Hartline and Ferrell (1996)
Employee self efficacy (referring to an employee’s belief in his or her ability to perform job related tasks) and job satisfaction have a positive effect on customers’ perceived quality.

Role ambiguity has a negative effect on employees self efficacy, job satisfaction and adaptability, thereby in the end resulting in negative effects on customers’ perceived quality.

Role conflict does not reduce employee’s self efficacy, job satisfaction and adaptability; but higher levels of role conflict do lead to higher levels of role ambiguity, thus role ambiguity mediates the effects of role conflict on self efficacy, job satisfaction and customer satisfaction.

Managers committed to service quality are more likely to empower their employees and use behavior-based evaluation.

Empowerment increases self-efficacy, thereby contributing to customers’ perceived quality.

Empowerment increases role conflict, thereby in the end resulting in role ambiguity and less satisfied customers.

Role ambiguity is supposed to occur when an employee lacks salient information needed to effectively enact his or her role (Singh, 1993). The lack of information in the context of empowerment could explain role ambiguity which turns out to be a major determinant of employee’s self efficacy, job satisfaction and adaptability, thereby in the end resulting in negative effects on customers’ perceived quality. Empowerment programs are seen to fail when they focus on power without redistributing information and knowledge (Quinn & Paquette, 1990; Hammer & Champy, 1993; Bowen & Lawler, 1995). Without such a redistribution of information, frontline employees have the power to act in the interest of the customer but don’t have the knowledge, skills and information to act as responsible business people ( Bowen & Lawler, 1995). Through information front office employees could perceive more control over the customer contact situation, which enables them to provide the customer with the right information to educate the customer about realistic service level expectations, coproduction behavior and service process control abilities. (Berry & Parasuraman, 1991).

As I already argued in chapter one, understanding information requirements for service specification contributes to our understanding on providing role clarity and avoiding gap three, one of the five potential shortfalls of service quality (Zeithaml, Parasuraman and Berry, 1990). Several factors contributing to gap three (role ambiguity, role conflict, poor employee – technology – job fit and lack of perceived control) could be explained by lack of information.

This section leads to the following conclusions.

- For scope and partnership oriented strategies a management approach of empowerment is proposed (see table 2.3 in chapter 2). This empowerment is needed to provide for customization and personalization, which is positively evaluated by the customer.
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- Empowerment increases self-efficacy and thereby in the end increases customer’s perceived quality.
- Empowerment increases also role conflict and thereby role ambiguity, in the end resulting in a decrease in customer’s perceived quality.
- The lack of information in the context of empowerment could explain role ambiguity which turns out to be a major determinant of employee’s self-efficacy, job satisfaction and adaptability, thereby in the end resulting in negative effects on customers’ perceived quality.

This raises the question whether the distribution of information to front office employees indeed decreases role ambiguity and thereby contributes to customer’s perceived quality. But we can’t answer this question without answered another question: what information is needed by front office employees?

Information Requirements in Service Delivery

The definition of information requirements is probably the most neglected area of management in the service industry (Berkley & Gupta, 1995). Little attention has been given in the academic and practitioners literature to using information and ICT to improve customer service. Although information is regarded as a primary input to service delivery, few studies have investigated its effects on service design (Wathen & Anderson, 1995). In general there seems to be a facility bias in service analysis and classification and information as the surrogate of the customer in back office and ICT as carrier of service process logic, has been neglected (Tinnilä & Vepsäläinen, 1995). Jeffery (1996) states that organizations have detailed information about their customer but it is scattered all over the organization. He mentions different sources like point-of-sale technology, branch automation, front office systems, transaction processing systems, accounting systems and systems registering when and where products were delivered. More in general Glazer (1991) states: “The real issue is to go beyond the technology and to consider the output, the information itself, as an important variable for analysis”.

This situation has slightly changed during the last decade. Quite a body of knowledge appeared on marketing topics like database marketing (Blattberg & Deighton, 1991; Stone & Woodcock, 1995; Hoekstra & Huizingh, 1995) and the effects of electronic channels on marketing (Kierzkowski et al. 1996; Hagel & Armstrong, 1997). More recently, the topic of Customer Relationship Management receives some attention in the literature (Chmilevsky & Koenders, 1999; Galbreath & Rogers, 1999; Gamble, Stone & Woodcock, 1999). Despite this development in knowledge little is known about the information requirements in service processes in general and service specification in the front office in particular, although many scholars recognize its importance (see framework 3.1).

The studies of Berkley & Gupta (1995) and Chase & Acquilano (1995) are the only known studies on the information requirements of service processes. Berkley & Gupta (1995) studied the information requirements needed to deliver quality service in high customer contact businesses. They differentiate between three phases in the service delivery process and relate some information requirements to these phases, which I discuss shortly.

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According to Tinnilä & Vepsäläinen (1995), information plays an important role in the delivery, co-ordination and quality assurance of services. Information is an essential input requirement for service delivery and service providers' process information (Mills & Turk, 1986; Wathen & Anderson, 1995). Information is seen as the raw material of service organizations and its processing has a direct bearing on the organization's productivity (Mills & Turk, 1986).

According to Evans & Wurster (1997) every business is an information business, every value chain includes information flows between customers and suppliers. It contains information about relationships, brand identity, process coordination, customer loyalty, etc.

Berry and Parasuraman (1991) relate a one-to-one marketing approach to what they call efficient customization and view the informational abilities to efficiently tailor services to customers’ specific requirements and to build relationships proactively as a requisite. They see precise and relevant customer information as essential in one-to-one marketing. Hart (1995) indicates a relationship between mass customization, the availability of information and the building of relationships as well. Stone & Woodcock (1995) relate mass customization to access to information about customer needs for marketing purposes, and the capability of the organization to analyze this information.

According to Perrien et al. (1995-b) effective relationships primarily mean proper knowledge of the customer’s business and environment that results in customized offerings. Evans & Wurster (1997) equate the value of customer relationships with the value of information the company has about its customers.

Information about customers and their needs should be available at several points of contact and across various types of contact (sales enquiries, ordering, complaints taking, billing and servicing) (Stone & Woodcock, 1995). According to Stone & Woodcock (1995), customers expect their relationship with suppliers to be managed and expect the service company to recognize the kind of relationship they have. Customers know that suppliers have information on them and they expect them to use this information to improve service offerings and the relationship.

Framework 3.1: The importance of information to services and service specification

Service processes start with forecasting customer demands to plan necessary service capacity. In forecasting, information is used to adjust capacity to match fluctuating demand levels. When capacity falls short, the service provider may prioritize repeat customers. To do so, information on customer’s loyalty is required.

In the specification process, information must be secured from the buyer to specify the service. The more complete this information, the easier it will be to perform other process functions. Service errors are often caused by misspecification. Service standards should be set by stating customer service expectations in a way that is meaningful to employees, so that misinterpretation of specifications is minimized. With a customer database, a firm can sketch a detailed profile of each customer’s preferences and create opportunities for more personalized service. Customer service histories allow frontline employees to know which customers are first-time clients and which are repeat customers.
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In the specification process, customers also need to be made aware of the various services available and its costs to ensure that the needs and expectations of the customer are fulfilled and the organization’s time and resources are not wasted in dealing with customers whose needs and expectations it cannot, or should not, fulfill (Johnston, 1989). Information systems can be used to support employees in their knowledge to customize services by specifying and programming the most relevant customizing variables in advance. Information systems improve service consistency (Berkley & Gupta, 1995).

In the service delivery process employees and customers require information to deliver the service. Coproduction becomes problematic with uninformed customers. Customers are confused by what they have to do or employees have to repeat instructions to customers frequently. Moreover, customers generally try to facilitate their service and the feeling of having coproduced appropriately contributes to their satisfaction with the service. The likelihood of customers requiring status information on work-in-progress (such as estimated completion times) increases, the longer service delivery takes to be completed. This might result in back office interventions to determine information on work-in-progress.

Chase & Acquilano (1995) view service organizations as information-processing systems. They consider information content requirements as a variable in designing service tasks. They provide us with a matrix by which tradeoffs can be made between marketing and production considerations (see figure 3.5). Service delivery options are ordered from left to right by increasing richness of information transfer. Production efficiency is related to the degree of customer contact with service operations and sales opportunity is a measure of the probability of increasing the revenue that is generated from each customer, for instance by cross selling. In their model they relate levels of customization to levels of customer contact, production efficiency and sales opportunities, indicating that specifying high levels of customization involves high levels of contact, loose specifications, relatively low production efficiency and good opportunities for additional sales. In their theory they relate tight specifications of services to procedural worker skills, loose specification to trade skills and high level customization to diagnostic skills. Along the continuum from low to high contact Chase and Acquilano recognize the importance of ICT as workflow technology to database technology to high touch support systems. As the level of contact increases the focus shifts from static capacity management based on demand management and forecasting to dynamic capacity management based on customer’s actual needs.

Although studies on the information requirements in service processes are rare, the above-mentioned studies give an overall view on the information requirements for service specification.

- One-to-one relationship marketing is associated with mass customization and the informational ability to recognize customers, their needs and their transaction history and to specify customized solutions based on this information. With a customer database, a firm can sketch a detailed profile of each customer's preferences and expectations and create opportunities for more personalized service.
Figure 3.5: The service-system design matrix (Chase & Acquilano, 1995)

- Information must be secured from the buyer to specify services.
- The more complete information on specifications, the easier it will be to perform service delivery.
- Customer service histories allow frontline employees to recognize customers. When capacity is short, they may prioritize repeat customers.
- Customers need to be made aware of the various services available and the costs of each alternative. Such information ensures that the needs and expectations of the customer are fulfilled and the organizations time and resources are not wasted in dealing with customers whose needs and expectations it cannot, or should not, fulfill.
- Information systems can be used to support employees in their knowledge to customize services by specifying and programming the most relevant customizing variables in advance. Information systems can be used to improve service consistency.
- Customers expect service companies to have their information available at every point of contact.
- The likelihood that customers need information on the status of work-in-progress increases as service delivery takes longer than expected. This might result in back office interventions to determine information on work-in-progress.
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- Specifying high levels of customization involves high levels of contact, loose specifications, relatively low production efficiency and good opportunities for additional sales.
- Tight specifications of services are related to procedural worker skills, loose specification to trade skills and high-level customization to diagnostic skills.
- As the level of contact increases the focus shifts from static capacity management based on demand management and forecasts to dynamic capacity management based on customers actual needs.

Conclusions

Services have a clear front office - back office dichotomy in their operations. A differentiation should be made between two types of customer contact at the ‘moment of truth’, those during service specification and those during service fulfillment. Therefore, I define the front office as the part of the organization in which customers have contact with the service provider to reach an agreement regarding the service to be delivered.

The specification process in the front office forms the link between service marketing and production. In the specification process, customers specify their needs, relationships can be build, service delivery processes are initiated, customer fear can be reduced by full specifications, the implementation set of the service network is defined, service innovation can be initiated and market information can be recorded at its source.

The degree of customization (the intervention depth of customer wishes) is a determinant in organizational design. In the service specification process, promises are made about subsequent phases in the service delivery process. To make a promise, which can be held, one needs clear information about subsequent phases of the service delivery process. The degree of customization in the service delivery process should be taken into account in service specification and thus should be reflected by the information available during service specification. Higher degrees of customization are associated with increasing richness of information transfer and higher degrees of customer contact.

For scope and partnership oriented strategies a management approach of empowerment is proposed. Empowerment increases role conflict and thereby role ambiguity. The lack of information in the context of empowerment could explain role ambiguity which turns out to be a major determinant of employee’s self-efficacy, job satisfaction and adaptability, thereby in the end resulting in negative effects on customers’ perceived quality. This raises the question whether the distribution of information to front office employees decreases role ambiguity and thereby contributes to customer’s perceived quality. We can’t answer this question without answering another question: what information is needed by front office employees?

Although little attention in the literature is given to the use of information to improve service delivery processes and we lack insight into the information
requirements for service specification, some overall insight is provided by the literature.

- Mass customization is supposed to be related to relationship marketing and the informational ability to recognize customers, their needs, preferences and transaction history based on a customer profile.
- On services information is needed on the availability of the service, its price and its customization variables (if these are specified and programmed in advance, service consistency can be improved).
- To know the availability of services, the front office needs information on the availability of service capacity (because services are activities). This information is also needed for prioritizing service delivery to repeat customers and to answer questions on the status of work-in-progress. Capacity management is supposed to shift from static (based on service forecasting) to dynamic planning (based on customer’s actual needs) when customization increases, indicating in a shift of information about capacity in the same direction.
- Specification of higher levels of customization is related to higher levels of contact, looser specifications, relatively lower production efficiency and better opportunities for additional sales. Low customization and thus tight specifications are related to procedural worker skills, loose specification (‘medium’ customization) to trade skills and high-level customization to diagnostic skills.

These insights will be used in the next chapter to develop a model of the information requirements of the front office.