

Customer participation and its effects on service organisations: An institutional economics perspective

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Abstract*Purpose of this paper*

To provide the theoretical underpinning of a better understanding of customer participation in the service transaction and its main implications, from the service provider's point of view.

Design/methodology/approach

A conceptual paper, based on an extensive review of the literature.

Findings

A definition and typology of customer participation is presented, contributing to a classification of services according to the relevance of active customer involvement in the service delivery. The application of institutional economics (i.e., agency theory and information economics) shows that managerial implications for the service provider are rooted essentially in uncertainty resulting from customer participation in the service production and delivery. The economic implications are analysed with regard to the characteristics and behaviour of the customer. A conceptual framework is offered for the identification and assessment of uncertainty-related economic consequences of service quality, process design and control, and consequent transaction and production costs.

Research implications

Future research should test the proposed conceptual framework empirically. In addition, further research could aim at contributing to the reduction of uncertainty about the individual participative behaviour of customers, by gaining insights into the determinants operating on both the customer and provider sides of the equation.

Practical implications

Recommendations for the effective management of customer-induced uncertainty by making customers more predictable and more reliable co-producers are offered.

What is original/value of paper

This paper approaches the topic of value co-creation in a new and original way: in a service industry, it is not simply the market or customer orientation of a company that determines success but also the company orientation of the customer.

Keywords:

Services, customer participation, changed customer role, value co-creation, agency theory, information economics, uncertainty, quality, costs.

1. Introduction

One distinguishing characteristic of services is the customer's participation in the delivery process, either personally or by integrating some personal object into the production of the service. To complete the production and delivery of a service successfully, customers often need not only to take part passively but also to make essential physical or intellectual contributions to the process (Bowen, 1986; Kelley, Donnelly and Skinner, 1990; Faranda, 1994). For example, the client of a tax adviser is expected to provide the necessary documents and receipts, the client of an online banking service has to be able to make transactions independently, and participants in a diet programme should be ready to adapt their eating habits to the diet plan. Such an active kind of customer participation has been labelled "co-production" (Whitaker, 1980; Mills, Chase and Margulies, 1983; Bateson, 1985; Faranda, 1994; Schneider and Bowen, 1995; Wikström, 1996; Lovelock and Wright, 1999; Bettencourt et al., 2002; Bendapudi and Leone, 2003). The customer is seen in this context as a "partial employee" of the service provider (Mills and Morris, 1986; Bowen and Schneider, 1988; Bateson, 1992; Bettencourt, 1997; Keh and Teo, 2001) or as a "human resource" at its disposal (Bowen, 1986; Kelley, Skinner and Donnelly, 1992; Lengnick-Hall, 1996; Zeithaml and Bitner, 2003).

By participating in this manner, the customer significantly influences production of the service and limits the provider's autonomy. The consequences for the service provider are as diverse as the forms of customer participation: customers can influence the process of service production and the service quality (Dabholkar, 1990; Kelley, Donnelly and Skinner, 1990; Lengnick-Hall, 1996; Zeithaml and Bitner, 2003), or the productivity (Chase, 1978; Lovelock and Young, 1979; Chase, 1981; Goodwin, 1988; Gummesson, 1995). They can be a "substitute for leadership" for the employees with whom they interact (Schneider and Bowen, 1995) and take on some production activities on behalf of the service provider (Bateson,

1983), which will impose special coordination requirements on the service provider. These consequences are to some extent positive from the provider's perspective, but can also have dark sides. Which outcome prevails is ultimately the result of actual customer behaviour: that is, their *participation quality* in service production.

The aim of this paper is to identify and examine the main implications of customer participation for the service provider. The economic implications will be analysed with regard to the characteristics and behaviour of the customer. As a first step, a definition of *customer participation* is offered and services are classified according to the relevance of active customer involvement in their delivery. A conceptual framework is then proposed, which draws mainly on agency theory and information economics.

2. Classifying services by the extent of customer participation

To clarify the concept of customer participation, the definition of Silpakit and Fisk (1985) is a helpful basic statement: "the degree of consumers' effort and involvement, both mental and physical, necessary to participate in production and delivery of services" (p. 117). This behavioural conceptualisation clearly emphasises the active role of the customer, and the authors furthermore make a distinction between (active) customer participation and mere customer contact. The notion of "effort" could convey the impression of hard work, however, which is not necessarily the case. Normann (1991) points out that "participation may be an interesting or even stimulating experience" (p. 85). Moreover, the customers' contributions to the service production are not always absolutely "necessary" activities. Some could be voluntary actions in support of service production: for example, autonomous information gathering to prepare for a consultancy or support activities for other customers (Bettencourt, 1997; Bateson, 1983). Such activities are usually intrinsically motivated and are not perceived as an effort by the customer undertaking them. Thus, customer participation is defined here as

the active involvement of the customer in the production and delivery of a service, by the contribution of personal resources, which influence processes and outcomes.

Based on this working definition of active customer participation services can be classified according to the importance and impact of customer participation on their production and delivery. Several classification schemes have been proposed on this basis, for example by Chase (1978, 1981), Mills and Margulies (1980), Larsson and Bowen (1989) and Bowen (1990). Chase's scheme distinguishes services according to the extent of "physical presence of the customer in the system" (1978, p. 138), which does not define the extent of the customer's active participation in the process. Thus, 'customer contact' is only a time-related criterion, not related to participation or influence.

In a later definition of customer contact, Chase placed more emphasis on the active role of the customer: "The customer-contact dimension allows services systems (and subunits within them) to be classified according to the types and amounts of interactions customers have with the service facility." (Chase, Northcraft and Wolf, 1984, p. 543). Four service types were distinguished on this basis: pure service, mixed service, quasi-manufacturing, and manufacturing. Mills and Margulies (1980) also based their classification system on the extent of interaction, a more useful way to characterize participation-intensive services than the extent of simple customer contact (Faranda, 1994), since it relates more directly to customer behaviour.

However, it is intuitively reasonable to argue that all kinds of interaction between service providers and their customers should be taken into account, not just the personal exchanges between clients and employees but also the kinds of interaction that typify automated service encounters, which definitely require significant inputs from the customer. Furthermore, Chase and his colleagues did not follow their idea through to its logical conclusion, but still measured the level of interaction by the amount of personal contact: "Essentially, the customer-contact dimension is a continuum ranging from no contact to 100%

contact between customers and service personnel during the production and delivery of the service” (Chase, Northcraft and Wolf, 1984, p. 543).

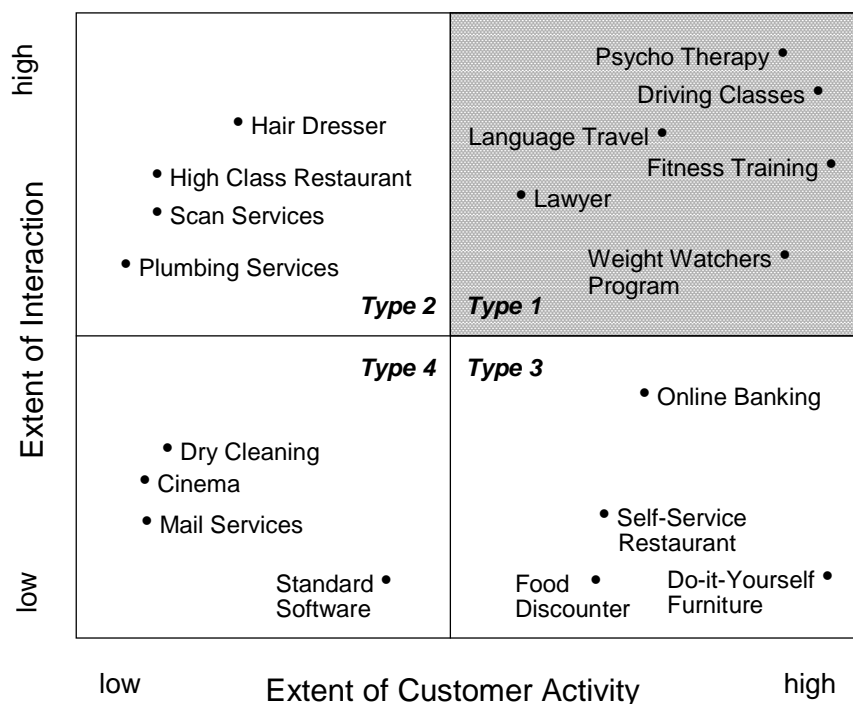
The concept of interaction was defined by the pioneer sociologist Homans (1950) in these terms: “When we refer to the fact that some unit of activity of some man follows, or [...] is stimulated by some unit of activity of another [...], then we are referring to interaction” (p.36). Thus, interaction could be better measured as the number and extent of a service provider’s activities that are influenced by others. Moreover, even the degree of interaction could be argued to be an insufficient criterion for the classification of services according to participation. Though a high level of interaction is generally positively correlated with a high degree of customer participation (at least at the communication level), not every customer input entails interaction. Actions that the customer may undertake outside the service production system – for example, in collecting documents for a tax accountant or following a prescribed medical regime – are not covered by the criterion ‘extent of interaction’.

This deficit of established classification schemes is offset by a further criterion: the extent of ‘customer activity’. This relates the number of activities within the service production and delivery process that are carried out by the customer to those performed by the service provider. In this framework, two kinds of customer activities can be distinguished. *Compulsory customer contributions* are necessarily carried out by the customer to reach a desired service outcome. Self-service in restaurants is a classic case in point, but other instances might be performing training routines in pursuit of sporting achievements or providing essential information in order to receive legal advice. *Optional customer contributions* are activities carried out by a customer which could, in principle, be contributed by the service provider itself. For instance, it is not compulsory for self-service customers to clear the table after finishing their meal (though it is customary in such chains as Starbucks or Pret A Manger) or for customers of retail stores to advise fellow shoppers about the location of particular counters or departments. Yet, if they do not perform these part-services

voluntarily, the employees of the provider are obliged to do so. Optional customer contributions are thus a form of ‘organizational citizenship behaviour’ (Smith, Organ and Near, 1983; Bettencourt, 1997; Lengnick-Hall, 1996; Lengnick-Hall, Claycomb and Inks, 2000).

The higher the input of customer contributions, both compulsory and optional, the more important and influential customer participation is for the service provider. The overall typology proposed in Figure 1 combines the *extent of interaction* with the *extent of customer activity*. It suggests that *customer participation* will be most relevant to the providers of Type 1 services, in which the client or customer contributes significantly to the production and delivery of the service, and there are numerous and often continuous interactions between provider and recipient. Examples are given in the north-eastern cell of the diagram. Participative behaviour in this type of service setting can be very diverse and variable. It is highly important and influential in the process and the outcome. For those reasons, the analysis of the effects of customer participation which follows applies mainly to Type 1 services.

Figure 1
Typology of Services based on relevance of Customer Participation



3. Service provider's uncertainty

The primary consequence of customer participation for service providers is increased uncertainty, resulting from their dependence on inputs from those customers, which can be planned and managed only imperfectly (Ennew and Binks, 1996; Bowen and Schneider, 1988; Larsson and Bowen, 1989; Goodwin and Radford, 1993; Faranda, 1994; Bitner et al., 1997; Lengnick-Hall, 1996). Uncertainty can be formally defined as “the difference between the amount of information required to perform the task and the amount of information already possessed by the organization” (Galbraith, 1973, p. 5). In general, natural variation in the demand pattern combined with shortage of information about time, place, object, quantity and quality produces uncertainty and thereby causes planning difficulties (Chase, 1978; Argote, 1982; Larsson and Bowen 1989; Siehl, Bowen and Pearson, 1991; Hoffman and Bateson, 1997). In the specific context of services, the general problem becomes especially relevant, because providers generally cannot them (Collier, 1985) and production capacity therefore has to be matched to expected demand as best possible (Armistead and Clark 1994; Bitran and Lojo, 1993; Bitran and Mondschein, 1997; Zeithaml and Bitner, 2003). Perhaps even

more crucial is uncertainty about the characteristics and behaviour of customers that influence their participation in the transaction, and are therefore highly relevant to service production (Chase, 1981). This has been given little attention in research studies to date.

Institutional economics offers a theoretical basis for a deeper insight into the process and effect of uncertainty, from the point of view of the service provider. It permits the analysis of conditions, causes and effects of possible information problems, and suggests means to overcome them. Two subsets of the discipline have major relevance to customer participation, since they deal with economic exchanges under uncertainty and asymmetric information: agency theory (Pratt and Zeckhauser, 1985; Arrow, 1985) and information economics (Marschak, 1954; Stigler, 1961). These will be discussed in the next two subsections. A third subset, transaction cost theory (Jones, 1983; Bowen and Jones, 1986), is a major cause of uncertainty for the service provider, and will be discussed in a later section of the paper.

3.1 Agency Theory

This theoretical framework focuses on relationships characterised by a mutual contractual interdependence, with divergent goals and incomplete information (Arrow, 1985). In analyses of buyer-seller relationships in the service industry, the emphasis is mainly on the risk experienced by customers (usually treated as the principals), who cannot verify before the conclusion of the service contract what a service provider (here regarded as the agent) is doing on their behalf, or that it is being done appropriately, unless they are prepared to commit personal time and effort to do so. This is a main characteristic of the principal-agent relationship (Mills and Moberg, 1990).

In practice, it can be just as difficult for the provider to assess the customer's crucial contributions to the production of a service, at least beforehand (Rothschild and Stiglitz, 1976; Arrow, 1985). These have been classified as: 'hidden characteristics', 'hidden

intentions' and 'hidden actions'. The first of these terms concerns absent information, and describes those customer characteristics that are unknown to the service provider before the contract is signed, but are important for achieving the intended service outcome and for the efficiency of its production. Mainly, they are related to the customer's capabilities, qualifications or talents in so far as those are relevant to performance of the service. Moreover, any characteristics that contribute to a customer's ability and willingness to make the necessary or expected contributions to service production belong in this category. These characteristics are known, but the service provider assimilates them only during the process. This time lag can cause planning problems concerned with the required timing, staffing and facilities, and will affect the countermeasures that may need to be taken if problems do arise. The existence of hidden characteristics furthermore makes it difficult for a service provider to target customers according to their participation potential.

'Hidden intentions' (Schmitz, 2001) are a distinctive kind of hidden characteristic. The term describes customers' intentions that are not transparent to the provider beforehand, but become apparent during production and delivery of the service, in the form of unexpected or unplanned actions. Those might be, for example, a customer's readiness to cooperate or reliability in keeping to agreements. They pose a particularly high risk for any provider who has to make large investments in the potential transaction in advance. Likewise, if some service production capacity has to be kept in reserve, there is the risk of sunk costs when a transaction fails to happen or is terminated because of incompatibilities between the contractual partners. Hidden intentions are a major uncertainty problem especially when service production is highly customized or is dependent to a high degree on the customer's pre-agreed contributions.

'Hidden actions', described as the 'moral hazard' in the transaction by Arrow (1985), are aspects of customer behaviour that are undetected before and after completion of the service contract. The provider notices their results, but cannot attribute them to a clear cause

because of the effects of other potential determinants. Such hidden actions are mainly concerned with the ‘due diligence’ with which customers fulfil their part of the bargain: how conscientiously and responsibly they discharge their role in the service encounter. This consideration is of particular strategic relevance when a customer’s contributions to the production of the service take place outside the delivery system and thus beyond the provider’s radar, as it were, because it is not possible to check whether or not that customer’s actions are as diligent as they should be. For instance, in the context of health service delivery, it cannot necessarily be assumed that slow post-operative recovery is the result of inadequate or incorrect hidden behaviour on the part of the patient, even though that may indeed be the case. Hidden actions can furthermore have significant economic consequences for a service provider if the contract with the customer provides for results-related or performance-based payment. In such cases, eventual failure of the service delivery process can be caused by the customer, but the link cannot be proven.

Agency theory thus gives an important insight into uncertainty in customer-supplier relationships. However, the relative causal contributions of different hidden aspects of the relationship customer cannot be clearly established. The level of uncertainty in the production and delivery process depends on the extent to which the service provider can or cannot assess the customers’ characteristics, intentions and actions before and during it. In other words, the ‘performance’ of the customer as recipient of the service is a key feature of the production and delivery of the service.

The discipline of ‘information economics’ may hold the key to an enhanced understanding of these aspects of uncertainty.

3.2 Information Economics

In the conceptual framework of information economics, a service provider’s uncertainty is attributable to the number of non-assessable or almost non-assessable customer ‘qualities’.

Generally, it distinguishes among 'search qualities' and 'experience qualities' (Nelson, 1970) plus 'credence qualities' (Darby and Karni, 1973) of products or services as subjects of exchange. Here, these attributes are applied instead to one of the partners in the exchange: the customers.

Search qualities can be fully evaluated prior to purchase by simple inspection. For example, in the normal retailing context, they might be the style of a piece of clothing. Experience qualities can be evaluated only after purchase and consumption: the durability of the item, for instance. Credence qualities must typically be taken on trust, even after search and experience, because they cannot be objectively pre-evaluated or post-evaluated by the purchaser, or at least not at an acceptable personal cost (Nelson, 1970; Darby and Karni, 1973; Zeithaml and Bitner, 2003). A clear example would be the assumption that the garment in question had not been put together by child labour or in a sweatshop. In the services context, search qualities would include the nature of the offering and its price, experience qualities the perceived quality of the service delivered, and credence qualities such difficult customer judgments as the accuracy of legal advice or the superiority of a chosen type of therapy.

A consumer's decision to enter into a service transaction will be characterised by a particularly high level of uncertainty when pre-purchase examination is possible only to a very limited extent. For a service provider, customer-related uncertainty is especially strong if customers are mainly characterised by credence qualities and experience qualities. First, it will be necessary to check whether or not the information economics 'qualities' are applicable to customer participation at all. This presupposes that all will apply to evaluation of the probable quality of participation, and will differ with respect to the service provider's ability to assess them.

In that case, the relevant search qualities might be the quality of a hairdressing customer's hair or the body-mass index of a weight-watcher. They could also include such

demographic or socio-economic characteristics as age, gender or educational level, all of which have the potential to influence the quality of customer participation in particular kinds of service. These characteristics can be easily assessed by the service provider before production and delivery, and hence they do not constitute a substantial cause of uncertainty in practice.

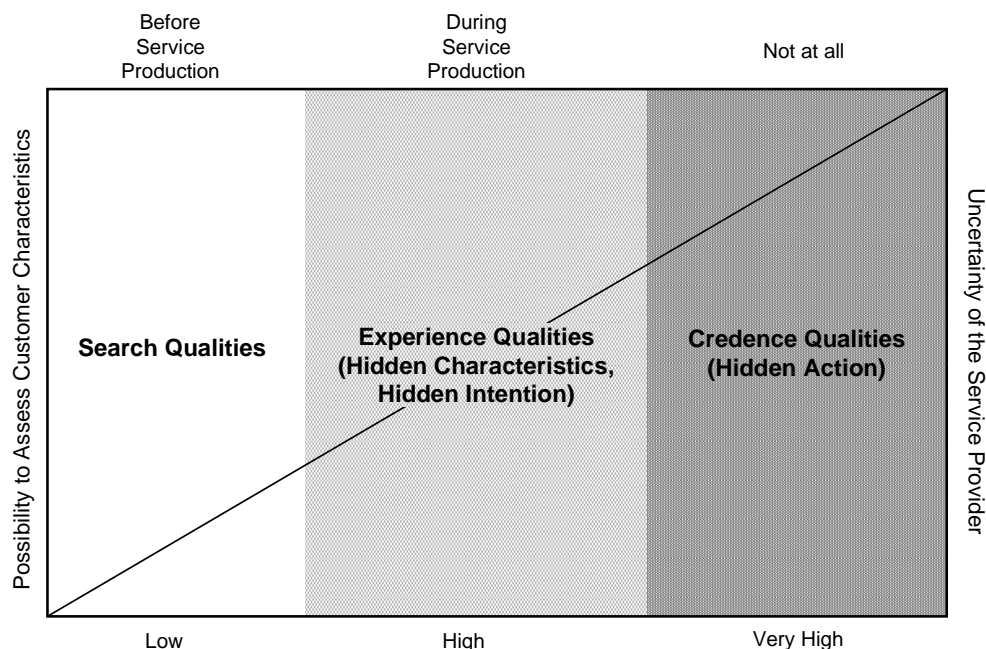
Examples of experience qualities might be the care with which a customer compiles the necessary documents for a tax adviser, the aptitude of a language student, the self-reliance of a home learner, or the comportment of the client of a dating agency. Such characteristics are not normally evident before delivery of the service and would be difficult to assess in advance. As a result, they are a cause of uncertainty in planning a service. Typical credence qualities would be the trustworthiness of a lawyer's client, the creditworthiness of a private healthcare subscriber, or the diligence of a slimmer in following a dieting regime. A service provider is unlikely to be able to check such behavioural characteristics either before or during production and delivery of the service. Therefore, they represent the most difficult uncertainty factor of the three categories.

Thus, search, experience and credence qualities are all relevant factors in determining a customer's participation performance, and the typology is useful in tackling the issue of uncertainty. From the information-economics standpoint, the ability to assess the participation quality of customers depends on how their relevant attributes are distributed among the three categories discussed above. If the production and delivery of a service depends on experience and credence qualities that can be assessed only with difficulty if at all, then the provider's uncertainty will be very high.

3.3 General Conclusions: service provider's uncertainty

Figure 2 illustrates the clear parallels between the conceptual frameworks of customer participation based on information economics and agency theory.

Figure 2
Customer participation explained by Information Economics and Agency Theory



Being in possession of characteristics, intentions and behaviours that cannot be controlled by the provider, customers are in a position to exploit the situation in their own interest (for a discussion of ‘opportunistic exploitation’ in general, see Williamson, 1985). Depending on the nature and level of these uncontrollable aspects the efficiency of service performance may be reduced, and the basic outcome could even be endangered. In the same way that performance is affected detrimentally by shortcomings in employee behaviour, it can be compromised by insufficient or inappropriate customer participation. This is a significant threat in practice, because service providers have much more limited scope for influencing the behaviour of their customers during the service encounter than that of their own staff (Mills, 1986; Lengnick-Hall, 1996).

As a first step towards a conceptual framework of the nature and consequences of customer participation, it can be concluded from the preceding discussion that the less the

service provider can pre-evaluate the quality of a customer's characteristics and behaviour, the weaker will be the relevant information for planning and controlling service production and delivery.

We have seen that the concept of customer participation can be operationalised by measures of customers' search, experience and credence qualities as they relate to the production and delivery of a service. Figure 3 shows schematically that the relative ease or difficulty of evaluating probable participation on by these measures depends on the strength of the three qualities, especially credence.

Figure 3

Service provider's ability to assess customer participation quality



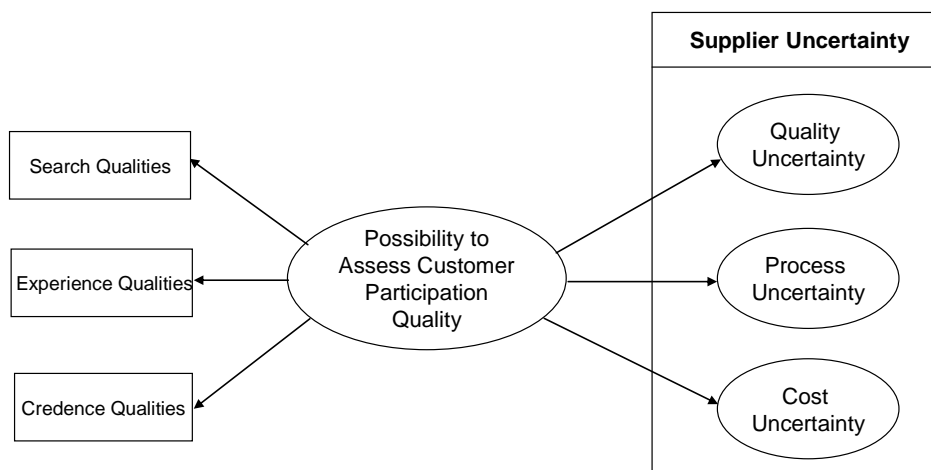
Up to this point, the uncertainty that results from customer participation has been deduced and explained at the basic level by reference to agency theory and information economics.

To gain a closer insight into the economic consequences for the service provider, its outcomes need to be specified.

4. Consequences for the service provider

According to the literature, these manifest themselves most significantly as uncertainties about service quality, process flow and service costs (Mills, 1986; Bowen, 1986; Faranda, 1994; Bitner et al., 1997; Gummesson, 1995 and 1998; Zeithaml and Bitner, 2003). Figure 4 summarises the relationships among the concepts discussed so far, and each of the three consequences will be discussed in turn in the following three sub-sections.

Figure 4
Consequences for the service provider



4.1 Quality Uncertainty

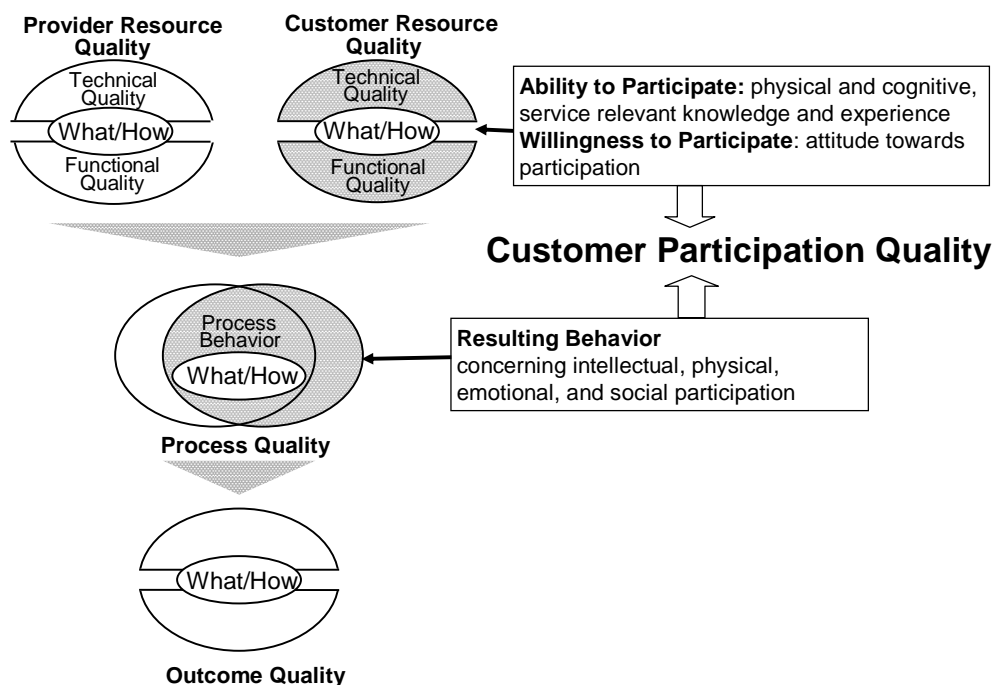
As customers participate in the service process, they influence the quality of the service received. The more they are involved and the more contributions they make, the more they will affect the ultimate service outcome, positively or negatively according to the quality of their participation. For example: “Think about services such as health care, education, personal fitness, and weight loss, where the service outcome is highly dependent on customer participation” (Zeithaml and Bitner, 2003, p. 358). Although the customer’s influence on

service quality is widely stressed in the literature (Faranda, 1994; Ennew and Binks, 1996; Bettencourt, 1997; Bitner et al., 1997; Lovelock and Wright, 1999), it is virtually ignored in service quality modelling.

The very few exceptions are the models of Meyer and Mattmüller (1987) and Kelley, Donnelly, and Skinner (1990). Drawing on a model of quality proposed by Grönroos (1983), the latter differentiates between technical (“what”) and a functional (“how”) quality, and adds the customer side of the transaction. Customer quality of the technical type includes the work performed or information provided by a customer during the service encounter, and has been measured objectively by Grönroos (1990), with respect to the service provider. The functional type relates to the customer’s behaviour during acquisition of the service, and focuses on measuring such interpersonal aspects of the encounter as courtesy, friendliness and respect.

To analyze the customer’s influence on service quality in a systematic way, it will be useful to further differentiate the generation of service quality into individual phases. In a model proposed by Meyer and Mattmüller (1987), reproduced as Figure 5, ultimate service quality (outcome quality) results from the combined effect of resource quality and process quality. Those two variables themselves are each split into the contributions of the service provider and the customer. The concept of resource quality includes, on the customer side, according to Meyer and Mattmüller, basic attitudes concerning physical, intellectual and emotional participation and – to the extent that they have any influence on the service quality – interactions between different service customers. In addition, customers’ mental and physical capabilities, and their service-specific knowledge and experience, should be included in the resource quality component of the model, because they will have an effect on the outcome quality in the majority of cases. Capabilities and motivations on both sides of the customer-provider transaction result in concrete behaviour that is reflected in the process quality component, and the resulting interactions determine the third stage in the model: outcome quality.

Figure 5
Service Quality Model



Source: Adapted from Meyer and Mattmüller (1987, p. 191)

Here again is evidence from the literature that quality management is highly dependent on the customer's influence, which is difficult to predict and control. Personal variations in the quality of this input, both as between customers and within one customer over time, often lead to instability in service quality (Eiglier et al., 1977). For the service provider, this causes uncertainty with regard to quality planning and quality assurance (Ennew and Binks, 1996). With a high involvement and a qualified input, the customer can improve the outcome for both parties, but can equally disrupt or destroy it by means of uncooperative behaviour (Zeithaml and Bitner, 2003). If an outcome is indeed negative, the service provider will very often need to make follow-up adjustments, pay compensation, provide gestures of goodwill, or perform service-recovery activities. There is a concomitant negative effect on the efficiency of service production and delivery.

Empirical research into problematic customer behaviour is scarce. Quality-oriented or satisfaction-oriented surveys are normally answered by customers themselves, who are hardly likely to classify themselves as a problem for the provider of a product or service. Exceptions are the studies of Kelley, Skinner and Donnelly (1992) and Ennew and Binks (1996), which attempt to measure customer participation quality at a general level. Research by Bitner, Booms and Mohr (1999), using Critical Incident Technique in a study of service employees found that just under a quarter of all critical incidents resulting in customer dissatisfaction originated in generally problematic behaviour, and that as many as half specifically uncooperative customers. Even though respondent bias can be presumed, the general relevance of such negative customer behaviour is clear. It can range from simply being uninformed or careless, through a lack of willingness to cooperate, self-centeredness, a lack of politeness, aggression, disruption of the service processes and disturbance of other customers, up to immoral or fraudulent behaviour (Hoffman and Bateson, 1997; Lovelock, Vandermerwe and Lewis, 1999; Lovelock and Wright, 1999).

Linking the findings of agency theory and information economics to the relevant service quality models, it can be concluded that ‘resource quality’ is a given condition even before service production begins. If the service provider is able to assess it in advance, it is characterised by search qualities; otherwise, it is a matter of experience or credence qualities. Final service quality results from the combined effects of resource quality and process quality, so the less accessible customer qualities are to the provider, the higher the uncertainty about the quality of the eventual outcome.

4.2 Process uncertainty

Service production processes can be classified as autonomous or participative. Autonomous processes are fulfilled by the service provider in a largely independent way, usually in the back-office, beyond the “line of visibility” (Shostack, 1992). They take place in

the absence of the customer, whose influence on such processes is an indirect one at best. For the provider, the uncertainty concerning process planning and controlling is thus only moderate. A similar classification by Wemmerlöv (1990) differentiates processes on the basis of direct, indirect, and nil customer contact. In contrast, customers do contribute to participative processes, and hence directly influence their general kind, amount, duration, and execution. From the service provider's point of view these processes are therefore indeterminate, which means that at least one of the main process components is characterized by uncertainty, according to Brass (1985). Those are process input, conversion, and process output. Participative service processes often suffer from a shortage of information concerning all three, which leads to process design and control problems (Larsson and Bowen, 1989).

Process-related uncertainty caused by the customer manifests itself in two ways: variance in service production processes, and division of service production activities between provider and customer. The first of these expresses the fact that both single activities and the whole course of the service production, with its interdependent participative and autonomous activities, can vary according to the characteristics and behaviour of customers (Shostack, 1987; Bitran and Lojo, 1993; Canziani, 1997). A main determinant of customer-induced variation in the process is the level of a customer's knowledge and experience with regard to the production process, its different activities, and required contributions to it. A higher level of familiarity reduces the likelihood of unpredictable customer behaviour, and vice versa. Process-related uncertainty is especially relevant in the case of highly customized services. The more heterogeneous customer demand is, and the more the provider takes specific customer requests into account, the more the possible processes and included activities vary (Davenport, 1993). Because actual customer expectations and behaviour become clear only during service production and delivery, an anticipatory design of the process is only conditionally possible.

Division of service production activities between provider and customer relates to the provider's externalisation and internalisation decisions: that is, the balance of activities within the production and delivery process transferred to the customer and those retained in-house. Since it reduces the activities performed by the service provider and thereby, as a rule, cuts operating costs, externalisation has special economic relevance in the context of cost management. If it furthermore delivers a more customised service, externalisation can also be to the customers' advantage as well as the provider's. Heskett (1986) cited the examples of self-service buffets in hotels and information services, where the customer can select the favoured information independently. Externalisation decisions have substantial effects on the design of the whole process and on the coordination of the different activities within it. As long as customers are directly involved in the production process, they cannot be disregarded in these decisions. Since the service provider does not generally have any indication of the customers' readiness to take over some part of some activities or their capabilities with regard to those activities, planning uncertainty is high.

That readiness can be influenced by a number of factors, such as price advantages, increased transparency or control, enjoyment of the task (intrinsic motivation), individual effort (dependent on personal capabilities) or the freedom to make use of a service at a time of one's own choosing (Dabholkar, 1996; Blumberg, 1994; Bitner et al., 1997). In this connection, Ennew and Binks (1996) point out that it is an essential duty of the provider to motivate a customer to agree to perform the role of a "partial employee", and to understand the value of active participation. To increase efficiency through externalisation, the service provider needs to assess customers' basic predisposition to participate, and also their objective capabilities with respect to the activity in question. Otherwise, the need for strategic amendments could in fact increase costs. For this reason, even if a service provider can positively influence customer's contributions with useful initiatives, it should select for externalisation those activities that the customers are willing and mostly able to carry out. But

because these aptitudes are usually unknown before the event, there will be a high degree of uncertainty surrounding the choice of the most suitable activities to transfer to them.

Regardless of the degree of uncertainty involved, externalisation of service activities will place specific coordination demands on the provider (Mills, 1986; Larsson and Bowen, 1989). As in every instance of the division of labour, there is the need to coordinate the different components of the service. The provider's aim in this context is to integrate the sub-processes in which customers are involved, or which have been transferred to them completely, in a trouble-free and smooth manner into the overall process. In comparison with internalisation, this coordination of participation is more difficult because the provider has less influence on the behaviour of customers than on that of employees (Swartz, Bowen and Brown, 1992; Marion, 1997).

It may be possible to check the process-related capabilities of customers to some extent before production and delivery of the service, but seldom completely. Hence, these can be related to search, experience and credence qualities. However, actual behaviour cannot be observed until the service production process has started. If the customer then acts beyond the service provider's 'line of visibility', for example in carrying out processes at home, it will not be evident to the provider at all. Therefore, experience and credence qualities will be the participation issues.

4.3 Cost Uncertainty: transaction costs

As well as its effects on service quality and the management of the service process, customer participation has an impact on the costs incurred in service delivery. These can be divided into transaction costs and production costs.

The *transaction* category consists mainly of the information and communication costs arising from coordination activities in the negotiating, monitoring, enforcing, and adapting of exchanges between the parties to the transaction (Jones, 1983; Bowen and Jones, 1986).

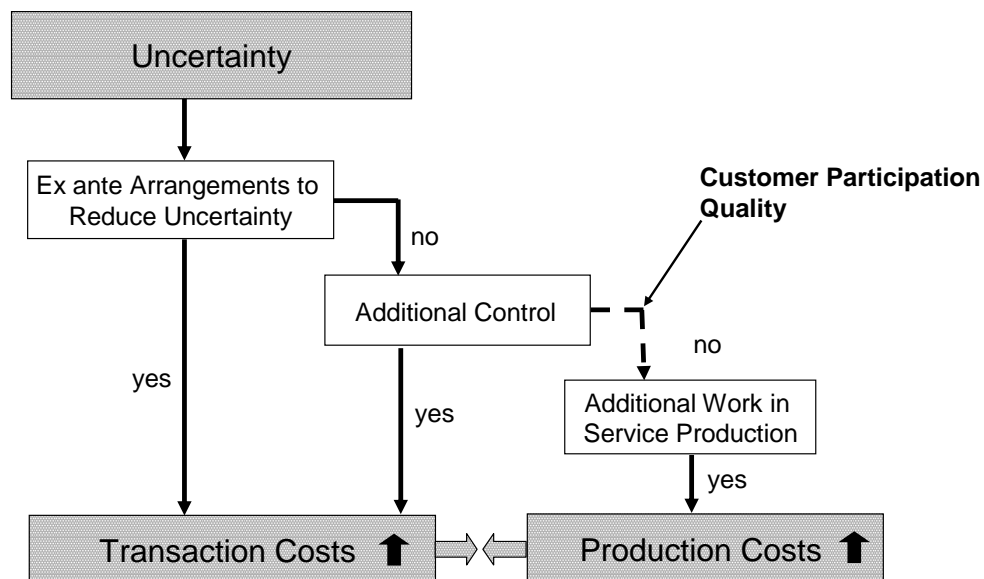
Because of their considerable importance in service production and delivery, these require special attention. Even if the level of transaction cost depends on different factors in specific service settings (Bowen and Jones, 1986), the following general relationships can be determined for the kind of services considered in this paper.

Initially, customers have an impact on transaction costs because their behaviour in the negotiation and production of a service determines the extent of the necessary coordination. If a particular customer has a high need for explanations, has expectations that are unrealistic or change during the course of the transaction, or turns out to be unwilling or unable to provide the necessary input, the service provider is faced with considerable additional expenditure for negotiation and perhaps for necessary adaptations of the service contract.

Uncertainty in general is deemed to be one of the essential determinants of transaction costs (Williamson, 1975 and 1990). To reduce “performance ambiguity” (Bowen and Jones, 1986) with respect to customer participation, a service provider can undertake prior initiatives, by devising tests of a customer’s predisposition and capability or providing them with familiarisation aids (Burton, 2002; Gouthier and Schmid, 2003), and thereby reduce the cost risks of potentially negative customer participation. On the other hand, such preventative measures carry different transaction-related costs themselves. Yet, without them, the need for increased control activities during service production and delivery again incurs costs. If neither kind of activity is undertaken before or during the process, the customer’s participation quality and performance prove to be poor, and the actions taken to remedy these problems fail to achieve the desired result, then costs will rise. In other words, a chain of conditional causes and effects exists, as shown in Figure 6. At its final stage, there is even a trade-off between transaction costs and production costs, to be discussed in more detail shortly.

Figure 6

Uncertainty, Transaction Costs and Production Costs



A central assumption of transaction cost theory (Coase, 1937; Williamson, 1985) further raises the risk of opportunism on the part of a customer. Active participation offers scope for behaving in a variety of ways, including opportunistically. Information economics, as explained and discussed in Section 3.2, suggests that the greater a customer's experience and credence qualities the wider the scope for this kind of exploitation of the service relationship. Indeed, the tendency to behave in this way could itself be regarded as an experience, or perhaps credence, quality. Once again, this risk demands a higher level of control during the service process, and so leads to higher transaction costs.

On the whole, participation of customers in the service transaction is an imperfect kind of collaboration, and the differences in customer performance cannot normally be predicted with any accuracy, so that there will always be some uncertainty concerning the negotiation, monitoring, enforcing, and adjusting of the process, and an uncertain level of consequent transaction cost.

4.4 Cost Uncertainty: production costs

The impact of customer participation on production costs, and hence productivity, has been widely discussed in the literature (Gartner and Riessman, 1974; Chase, 1978 and 1981; Lovelock and Young, 1979; Mills, Chase and Margulies, 1983; Goodwin, 1988). However, an essential problem of analyzing this effect is that the accepted definition requires output has to be measured against input, while the intangibility of services makes it difficult quantify inputs and, especially, outputs (Mills, Chase and Margulies, 1983; Kendrick, 1985; Grönroos, 1990; Grönroos and Ojasalo, 2004). For this reason, productivity effects are better measured by some such quantitative indicator as production cost (Ojasalo, 1997; Grönroos and Ojasalo, 2004).

Though it is beyond doubt that the customer has a fundamental and economically relevant influence on the efficiency of a service system, disagreement nevertheless exists as to whether customer participation increases or decreases productivity. Chase (1978, 1981) is firmly of the opinion that a high level of contact between provider and customer reduces the possibility of using efficient service production methods, and hence decreases productivity. Consequently, he recommends the reduction of customer contact to a minimum and its removal as far from the technical core of the service production as possible (Chase, 1978; Chase, Northcraft and Wolf, 1984). Others hold to exactly the opposite opinion (Gartner and Riessman, 1974; Bowen, 1986; Bowen and Jones, 1986). As Lovelock and Young (1979) put it: "If customers assume a more active role in the service production and delivery process, they effectively remove some of the labour tasks from the service organisation" (p. 177). The input-output ratio thus improves, and the costs of production decrease.

These two views are contradictory only at first glance. Whether service productivity is influenced in a positive or negative way by customer participation does not in fact depend primarily on whether or not customers participate, or even on the extent to which they do, but rather on the form that the participation takes. Closer examination shows that Chase (1981)

mainly pleads only for a reduction in direct personal contacts between service provider and customer, supporting automated or media-based interactions because they do not disrupt or prevent efficient service production methods (Chase, Northcraft and Wolf, 1984). However, his argument is strongly influenced by the context of industrial mass production, and may well not be transferable to the modern, interactive production and delivery of services.

Generally, customer participation can reduce service production costs and increase productivity in two ways: either the customer takes over additional service activities or carries out given activities in a more efficient way (Grönroos, 1990; Faranda, 1994).

The first of these has already been defined as the 'externalisation' of service activities. Its particular relevance to production costs is a customer's choice of the self-service alternative among different options, which reduces the provider's personnel commitments and very often permits faster handling (Mills, Chase and Margulies, 1983). Differentiated cost analysis in the banking sector, for example, shows that cost savings can be realised not only by reduction of the number of staff involved in direct customer contact but also through rationalisation of such back-office activities as data acquisition and processing. Furthermore, space and facility requirements and consequent occupancy costs are usually lower in self-service operations, and those cost savings usually exceed the additional long-run costs of investment in technology, marketing initiatives to modify customer behaviour, and staff training. Increases in customer participation through self-service have been shown to increase productivity significantly not only in banking but also in telecommunications, and the hotel and catering sector (Eiglier, Langeard and Lovelock, 1977; Lovelock and Young, 1979).

The second way in which customer participation in service delivery can reduce production costs and thereby increase productivity requires a customer to be reliable and accurate in giving necessary information, dependable in keeping appointments and other agreements, clear-sighted and realistic ideas about the expected service, familiar with the tasks and processes involved, and able to contribute to the process autonomously.

Fully 40 years ago, Fuchs (1968) pointed out that “productivity in many service industries is dependent in part on the knowledge, experience, and motivation of the customer” (p. 195). Customer behaviour affects transaction time and so influences the personnel and facilities costs incurred in delivering the service. This is especially true for complex services with high levels of personal interaction and little scope for self-service. In such cases, production costs are mainly determined by the working hours of employees who are often highly qualified and hence cost-intensive (Mills, Chase and Margulies, 1983). Just as constructive customer behaviour can lower such costs, however, ineffective customer participation can increase them (Kelley, Donnelly and Skinner, 1990; Lovelock and Young, 1979). On the one hand, it often leads to more complex and time-consuming interactions, and can result in employees having to reclaim aspects of the delivery process normally performed by the customer. On the other, such behaviour increases the likelihood of process errors or coordination problems, which demand uneconomic remedial actions (Heskett, Sasser and Hart, 1990). According to Grönroos (1990), as much as 35% of operating costs may be attributable to rectification of mistakes, which increase input without yielding higher output.

Thus, the service provider must pay close attention to customer participation, in that it not only influences the level of production cost, but also because the actual costs depend on individual behaviour and are thus unknown before the event. Consequently, cost estimation is in practice very difficult, and correct pricing therefore a challenge.

5. Conclusions and future research

This aim of this article has been to analyze customer participation in service production and delivery in a theoretically grounded way, in order to demonstrate the economically important effects that it can have on the efficiency and effectiveness of the service provider.

Discussion of institutional economics approaches has shown that, first of all, customer participation generates uncertainty. The extent of this customer-induced planning challenge

depends on the provider's ability to gather intelligence about its customers and their expected participation behaviour; or rather the level of uncertainty depends on how much information is simply unobtainable before the production and delivery process is in progress. To make this phenomenon as amenable to empirical examination and economic evaluation as practically possible, a framework of specified uncertainty effects on service production and management has been constructed. Existing research studies in this context suggest that the economically most relevant uncertainty generating factors are quality effects, process effects, and cost effects. Working assumptions have been generated about the relationship between the service provider's ability to assess the quality of customer participation quality and the resulting kinds of uncertainty effect.

The next step for future research on this topic should be to test the model proposed in Figure 5, empirically. It might be particularly worthwhile to examine the relevance and validity of the proposed constructs and relationships in service industries characterised by a high degree of customer participation in the production and delivery process and of interaction between customer and provider: not only the consumer services mentioned as case examples in this article, but also business-to-business services, which often depend on a degree of collaboration in the process. Comparison across industry categories would permit meaningful conclusions about the robustness of the model.

In addition to the empirical application of the model, further research could aim at contributing to reduction of uncertainty about the individual participative behaviour of customers, by gaining insights into the determinants operating on both the customer and provider sides of the equation. The former are generally taken to be such social-psychological factors as involvement in the service and commitment to the provider, and such cognitive and ability-related factors as experience of the service and knowledge about the expected participation in the process. On the provider side, organisational socialisation of customers can be assumed to influence their behaviour during service production and delivery. Closer

investigation of these phenomena would contribute to the identification of effective initiatives for influencing customer behaviour in a positive way. Given that most of the above factors are at least partly dependent on the length of a service relationship, according to Gummesson (1998) and Grönroos and Ojasalo (2004), that should be built into future studies as a moderating variable.

6. Managerial implications

This article has shown that a service provider's uncertainty reveals itself in various aspects of service production and delivery, with important implied managerial consequences.

Because uncertainty derogates the provider's autonomy and efficiency, managers need conceptual frameworks and practical measures to handle it more effectively, or better still reduce it, by making customers more predictable and more reliable co-producers. The logical conclusion is that, in a service industry, it is not simply the *market or customer orientation* of a company that determines success but also the *company orientation* of the customer. This means in turn that the provider of a service should seek to identify potentially 'good' co-producers, give priority to them, likewise identify 'poor' co-producers, and either reject them by appropriate de-marketing activities or train them to perform better in that role.

From an institution economics point of view, uncertainty is linked to the customer's 'experience' and 'credence' qualities and to the relevance of 'hidden' characteristics, intentions and actions. Even if uncertainty about the particularities of customer participation cannot be completely eliminated, service providers can take an active part in handling it. They can on the one hand reduce it, with respect to customer performance in the participative process, by appropriate acquisition of information, and on the other hand directly influence the quality of the outcome.

Eight key implications can be identified, for strategists, planners, managers and advisers in the service industries:

- The service provider should always seek to gather the best possible intelligence about customers and their expected behaviour, so as to minimise negative consequences and maximise the utility of customers as participative performers in a joint activity. The first step will be to establish which customer characteristics and behaviour patterns are expected to be beneficial, and hence desirable.
- The provider needs next to decide whether or not the required intelligence will be available before the service contract is concluded and implemented. Some customer characteristics will be readily accessible before the event by routine market research procedures (their 'search qualities'). Others will not (their 'experience' and 'credence' qualities), and will have to be sought via extensive interviewing or specific tests to assess predispositions and capabilities.
- Customer intelligence is also obtainable from a company's own financial records, which should be designed according to activity-based costing practice so as to deliver relevant information about customer-induced costs to decision makers. That will serve also to make customers' usage of processes traceable. This procedure is most relevant to classification of existing customers, but can give hints on expected costs of new customers in as far as they are comparable to existing ones.
- The provider must then make a selection of potentially productive and useful customers, or at least segment them by reference to their predicted utility as 'partial employees'. Customers thus identified as being of unhelpfully low participation potential will pose a process risk, and should therefore be excluded as far as realistically possible. The remainder should be segmented by their characteristics and behaviour patterns, as a basis for optimum preparation of input resources, timing and processes.

- The provider should continuously monitor participation quality, throughout the service production and delivery process, so as to minimise the likelihood of its going off course, and to signal the need for reaction with appropriate countermeasures if it does.
- The provider should not think of the participation behaviour of a customer as a given, and unchangeable, but as a factor that can be proactively influenced by quality oriented and economic service production and delivery. In this context, differentiated approaches are sensible, based on detailed information about the content and process of the service and the consequent customer requirements and expectations. If deficits in customer knowledge or abilities are predicted, the provider can provide relevant familiarisation inputs and undertake motivational initiatives. In general, appropriate initiatives can be taken to exert a positive influence on the customer motivation and to explain the value of active participation in the service delivery process.
- The provider should organise service production and delivery with enough built-in flexibility that they can respond and adapt in the face of different customer needs. 'Process modules' can be designed for both full-service and self-service options, depending on whether or not customers are either willing or able to undertake the autonomous activities themselves. The higher a customer's assessed participation quality, the wider the scope to hand over such modules.
- An important response to customer participation quality is the price of the service. Variation in the level of costs generated by customers should be reflected in the pricing strategy. For example, some insurance companies adapt the price of health cover to policyholders' lifestyles, and that causality principle can potentially be extended to many other types of service.

Of course, it is the service provider's overall, final responsibility to check that the cost-benefit ratio for all such actions and efforts focused on customer participation will in fact be positive. With that proviso, extensive customer participation management is generally

recommended. In the those cases in service industry in which the answer is likely to be that potential benefits outweigh predicted costs, which we believe to be quite common, systematic management of customer participation can make a large contribution to the improvement of service quality, the reduction of service-delivery costs, and consequent profitability.

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