

CUSTOMER REACTIONS TO SERVICE SEPARATION

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ABSTRACT

Recent research suggests that inseparability is not a universal distinguishing characteristic of services, and that the consumption of many services is or can be separated from its production. The present research defines service separation as customers' absence from service production, which denotes the spatial separation between service production and consumption. Based on a series of qualitative and quantitative studies across different services, the authors examine customer reactions to service separation. Results indicate that service separation increases customers' perceptions of not only access convenience and benefit convenience, but also performance risk and psychological risk. Furthermore, these effects differ across services. Specifically, relative to experience services, the effects of separation on service convenience are mitigated, while its impacts on perceived risk are magnified, for credence services. Subsequently, the convenience and risk perceptions induced by service separation can influence customers' purchase decision and post-experience evaluations. Customers prefer separation for experience services and when they have an established relationship with the service provider. Finally, the authors discuss the theoretical contributions and managerial implications, and offer directions for future research.

Keywords: Service Separation, Inseparability, Service Convenience, Perceived Risk, Perceived Value.

In distinguishing services from goods, many researchers characterize services on the bases of intangibility, heterogeneity, inseparability, and perishability, which collectively form the IHIP paradigm that has legitimized the field for over two decades (Grove, Fisk, and John 2003; Zeithaml, Parasuraman, and Berry 1985). More recently, however, some scholars have begun to question the validity and relevance of this received wisdom. For example, Vargo and Lusch (2004) contend that IHIP are remnants of the goods-based marketing model and lead to inappropriate normative strategies for service marketers. Based on anecdotal evidence, Lovelock and Gummesson (2004) also demonstrate that IHIP fail to effectively and universally distinguish services from goods.

The present research focuses on one service characteristic — inseparability, which means that production and consumption of a service take place simultaneously, often in the presence of the customer who views and may even take part in the service production process (Zeithaml and Bitner 2003). Despite its importance, service inseparability is not well understood in the literature. Consider the following contrasting examples. When a customer visits a spa, she relaxes and unwinds during the rub-down by the masseuse. This service is unseparated as the customer is physically involved and consumes the service as it is being produced. In contrast, after a customer drops off a malfunctioning laptop computer at a retail repair site, repair is performed in the absence of the customer. Therefore, this service is separated in the sense of the spatial decoupling between its production and consumption.

In line with our observations, Betancourt and Gautschi (2001) claim that production and consumption of a service can be joint or separated along two dimensions: time and space. For instance, “A live prize fight that may be viewed in a specific geographic region only in studios connected to the fight arena by closed circuit TV joins production, consumption, and distribution

of the event in time, and joins consumption and distribution in space while keeping production separate in this dimension” (Betancourt and Gautschi 2001, p. 166). Similarly, Lovelock and Gummesson (2004, p. 29) assert that “there is a large group of separable services that do not involve the customer directly, with the result that production and consumption need not be simultaneous.” Examples include freight transportation, dry cleaning, and routine maintenance on a wide array of equipment and facilities, whereby the customers are absent during service production.

In spite of the separability claim for some services, previous research has neither elaborated on nor empirically examined its implications for customers. Consider the banking service of making an account transfer: customers can obtain the service either at the counter of a bank branch (i.e., unseparated mode), or via telephone banking at home (i.e., separated mode). Will customers react to these two delivery modes differently? Which one will they prefer and why? Unfortunately, the extant literature does not provide explicit answers to these questions, and conflicting views exist on the desirability of service separation for customers (cf. Lovelock and Gummesson 2004; Vargo and Lusch 2004).

In addressing this void, the present research seeks to answer two questions: (1) What are the benefits and downsides of service separation to customers?, and (2) How would customers’ reactions to service separation affect their purchase decision and post-experience evaluations? In this research, we define service separation as customers’ absence from service production. Specifically, our definition of separation hinges on the spatial decoupling between service production and consumption. This conceptualization is consistent with Lovelock and Gummesson’s (2004) observations of separable services and reflects Betancourt and Gautschi’s (2001) spatial dimension of service separation.

To the best of our knowledge, this research is the first to empirically investigate service separation and its effects on customer reactions. The findings will contribute towards a better understanding of how the delivery mode of services can influence customer perceptions and behaviors, and provide empirical evidence on the marketing value of service separation. Beyond their theoretical contributions, the findings can also help service providers to design the appropriate mode of service delivery. Thus, this research has major implications for both the marketing literature and managerial practice.

THEORETICAL BACKGROUND

Inseparability has long been considered an important defining characteristic of services. As opposed to goods that are usually produced first, then sold and consumed, “most services are sold first and then produced and consumed simultaneously” (Zeithaml and Bitner 2003, p. 21). Service inseparability also implies that customers are present while the service is being produced, and often involved in the production process by interacting with the employees and other customers (Bitner et al. 1997; Kelley, Donnelly, and Skinner 1990).

Even though inseparability is typically presented as received wisdom in the literature, its generalizability to all services has not been empirically validated (Lovelock and Gummesson 2004). Given the rapid development and innovation of the service sector in modern economies, it behooves service scholars to reexamine the nature of services and question the tenability of inseparability (Grove, Fisk, and John 2003). In a systematic analysis on the separation between service production, distribution, and consumption, Betancourt and Gautschi (2001) demonstrate that service inseparability is neither a necessary nor a sufficient condition to distinguish services

from tangible products. In the same vein, Lovelock and Gummesson (2004) adopt Lovelock's (1983) classification of services and conclude that only one category of services — physical acts to customers' bodies — is inseparable. In each of the other three categories, consumption can be separated from production, if so desired and designed into the system (see Table 1).

[Insert Table 1 about here]

While the arguments and examples presented here establish that numerous services are indeed separated, in the sense that customers are absent during service production, controversy remains on the value of service separation to customers. The proponents contend that separated services can benefit customers by allowing a professional to do the job better than they could themselves, thus saving time and effort (Lovelock and Gummesson 2004). However, their opponents argue that service separation limits marketability and is undesirable, because offerings produced without customer involvement are at a disadvantage (Vargo and Lusch 2004). To resolve this debate, it is imperative to empirically investigate customer reactions to service separation and their subsequent effects on purchase decision and post-experience evaluations.

Based on the classification of services shown in Table 1, the present research examines separation for two types of services (i.e., nonphysical acts to customers' minds and information processing) for the following reasons. Firstly, services on physical acts to customers' bodies such as hair styling and dental surgery are unseparated by nature, meaning that separation of production and consumption is impossible. Secondly, for services on physical acts to owned objects, such as dry cleaning, automobile repair, and freight transportation, customers purchase them intentionally to avoid involving themselves in these tasks. In other words, these services are inherently separated and would only be produced in the absence of customers. As such, these two types of services (i.e., intrinsically unseparated and intrinsically separated) fall beyond the

scope of our investigation. Finally, services involving nonphysical acts to customers' minds and information processing can be performed both separately and inseparately, which enables us to compare customer reactions across these two modes of service delivery, and allows service providers the flexibility of designing and choosing either or both service delivery modes. Therefore, focusing on these two types of services is both theoretically meaningful and managerially relevant.

HYPOTHESES DEVELOPMENT

A Qualitative Study

To explore customer reactions to service separation, on which relatively little had been documented, we first conducted in-depth interviews. This form of unstructured, direct, and personal method would be particularly helpful in gleaning customer perceptions of service separation (Malhotra 2007). Four well-trained researchers conducted the in-depth interviews in Beijing from September 2006 to February 2007, during which period they collected data over three rounds until no new information of interest was obtained. The first-round interviews yielded 30 responses, the second round 15 responses, and the final round nine responses. Among the 54 interviewees, 66.7% were male. Their ages ranged from 20 to 55 years old, with the mean being 33.15 and the median being 30 years old. In terms of education, 14.81% received high school education or lower, 53.70% had bachelor's degrees, 27.78% had master's degrees, and the rest had doctoral degrees. The interviewees came from a wide range of socioeconomic backgrounds, and their annual incomes ranged from RMB48,000 to RMB600,000.¹

Each interviewer randomly approached strangers in fast-food restaurants, cafes, or airport

¹ US\$1 = RMB6.831 (August 2009).

lounges, and invited them to participate in a face-to-face interview about their service experiences. The whole process comprised three stages. In the first stage, the researcher held an informal conversation with the respondent to break the ice. In the second stage, the researcher gradually transitioned the discussion to service experiences, where he introduced the concept of service separation and asked the respondent to list some separated services based on the definition provided. In the final stage, the respondent was asked to recall a familiar service that could be delivered both separately and inseparately, describe his or her experiences with both delivery modes, compare their pros and cons, and finally indicate the conditions under which he or she would prefer the separated mode. Each interview was recorded and lasted from one to one and a half hours. At the end, the respondents were each given a token of appreciation for their participation, debriefed, and dismissed.

Two marketing doctoral students who were unaware of the research purpose transcribed the recordings and conducted content analysis. Based on the interviewees' responses, we found that customers considered many services to be separated. The most frequently cited separated services included calling for food delivery (e.g., the order is received and the food is produced at the restaurant while the customer enjoys the meal at his residence or workplace) (N = 13), repair services (e.g., restoration of computers, automobiles, and furniture is produced in the absence of the customer) (N = 12), online shopping (e.g., the web design, product assortment, order fulfillment, and payment processing are produced by the online retailer's backoffice while the customer can consume these services from anyplace with an Internet connection) (N = 10), and telephone banking (e.g., the services of balance checking, account transfer, and bill payment are produced without the customer having to visit the bank physically) (N = 9).

In comparing the separated and unseparated service delivery modes, the two raters

categorized respondents' thoughts into four groups along two dimensions: (1) advantages versus disadvantages, and (2) general across services versus specific to certain services. The interrater reliability was .93, and discrepancies were resolved through discussions. Results showed that most of the respondents believed that, for services in general, the separated mode was superior to the unseparated mode in terms of effort and time savings when accessing and completing the service, as well as the flexibility of choosing the service time and place. However, the separated mode increased the risk of service failure and anxiety in using the service.

For some specific services, the favorable aspects of the separated mode included lower price (e.g., online ticket agency) and higher-quality service (e.g., online shopping), while its drawbacks included reduced interaction with the service employee (e.g., online language training), delayed service recovery (e.g., calling for food delivery), and a limited set of service options (e.g., telephone banking). Table 2 summarizes the major advantages and disadvantages of separated services and the representative statements from the in-depth interviews.

[Insert Table 2 about here]

Furthermore, the content analysis revealed that customers' preference for service separation was dependent on time constraint ($N = 50$) (e.g., "When I have little time to spare, I would go shopping online") and length of relationship with the service provider ($N = 21$) (e.g., "If I have an established relationship with the bank and trust its service quality, I will not hesitate to use its telephone banking service"). In conclusion, this qualitative study confirmed the existence of separated services from the customer's perspective and shed preliminary insights into customer reactions to service separation.

Hypotheses Development

Based on the findings of the qualitative study, we abstracted service convenience and perceived risk to reflect customers' positive and negative reactions to service separation, respectively. We next review the relevant literature and develop testable hypotheses.

The effects of separation on service convenience. As shown in Table 2, service convenience is related to customers' time and effort perceptions when buying or using a service, and can influence customer satisfaction and behavioral intentions (Berry, Seiders, and Grewal 2002; Seiders et al. 2007). Building on past research (e.g., Kelley 1958), Berry, Seiders, and Grewal (2002) propose service convenience to be a multi-dimensional construct consisting of decision, access, transaction, benefit, and post-benefit conveniences, which reflect customers' perceived time and effort expenditure in making purchase decisions (e.g., deciding which restaurant to patronize), reaching the service provider and requesting the service (e.g., placing the food order at the restaurant), securing the right to use the service (e.g., paying by cash), experiencing the service's core benefit (i.e., enjoying the food), and reinitiating contact with the service provider after obtaining the benefit (e.g., complaining to the restaurant), respectively.

Berry, Seiders, and Grewal (2002) further suggest that customers' perceived convenience is determined by service characteristics such as consequentiality and inseparability, which can influence customer evaluations of satisfaction, service quality, and fairness. Subsequently, Seiders et al. (2007) develop the SERVCON scale to measure and validate this five-dimensional construct in retailing, and identify its antecedents and effects on customer satisfaction and behavioral intention for each type of convenience.

Along this line, the present research examines how service separation affects access convenience and benefit convenience. Access convenience is critical as nothing will happen until customers get in touch with the service provider. It is determined by the service's physical

location, operating hours, and remote contact options (Berry, Seiders, and Grewal 2002). Service separation has obvious implications on access convenience. For unseparated services, customers have to visit the ‘service factory’ in person, whereas for separated services, customers can gain access remotely through the Internet, telephone, or other means. As such, the different delivery modes entail customers expending varying amounts of time and effort to reach the service provider, which would influence their perceptions of access convenience.

Benefit convenience is related to the time and effort customers expend on the service experience, which plays the most significant role in customer evaluation (Berry, Seiders, and Grewal 2002). Service separation has direct bearing on benefit convenience as it determines the way customers obtain the service benefit, including their participation in service production, as well as their interactions with service employees and other customers. All these activities require the exertion of time and effort. Therefore, customers would perceive different levels of benefit convenience across separated versus unseparated services.

We omit the other three forms of convenience due to the following reasons: (1) decision convenience is salient prior to actual service exchange, and is determined by the availability and quality of information about the service provider and its competitors; (2) transaction convenience focuses strictly on the actions customers must take to pay for the service; and (3) post-benefit convenience is assessed only when the customer is to reestablish contact with the service provider due to service failure and recovery (Berry, Seiders, and Grewal 2002). These three types of convenience do not directly pertain to the activities of service production and consumption, thus we study only the effects of service separation on access and benefit conveniences.

With the exception of hedonic experiential services, in which customers associate higher amounts of time and effort with greater enjoyment (e.g., skiing and using the spa) (Holbrook and

Lehmann 1981), we posit that customers would perceive greater access convenience and benefit convenience from the separated service than from the unseparated service. The rationale is that separation provides customers with the flexibility of buying and consuming the service as and when they wish, which leads to time and effort savings. Customers do not need to visit the physical location of the service provider during its operating hours only, and can thereby allocate time and effort more efficiently and effectively. In addition, separation would also increase benefit convenience as a result of reduced interactions with employees and other customers, and the time and effort savings imply that the customer can experience the service more efficiently. In contrast, service inseparation heightens a customer's time and effort in obtaining the service, particularly when service availability is limited, and thus would lower perceived convenience (Berry, Seiders, and Grewal 2002).

There are many examples indicating the positive impact of separation on service convenience. For instance, a major factor explaining the success of Amazon.com is that customers prefer buying books at their own leisure, and not be constrained by store operating hours (Kannan, Chang, and Whinston 2001). Similarly, increasing numbers of customers prefer online banking as they do not have to visit the bank's retail branch during their precious lunch hours (CFCA 2006). Based on this discussion, we hypothesize that:

H1: Separated services are perceived by customers as having greater access convenience than unseparated services.

H2: Separated services are perceived by customers as having greater benefit convenience than unseparated services.

The effects of separation on perceived risk. Perceived risk is a function of adverse

consequence and uncertainty; adverse consequence refers to the amount of costs involved in attempting to achieve a set of purchase goals in a buying situation, whereas uncertainty is customers' probabilistic beliefs in the occurrence of adverse consequence (Dowling 1986; Peter and Tarpey 1975). Two key components of perceived risk are performance risk and psychological risk (Mitchell and Groatorex 1993; Stone and Gronhaug 1993).

Specifically, performance risk relates to whether the service can perform as expected and thereby satisfy customer needs; and psychological risk pertains to the possible loss of psychological well-being due to using this service. For example, a survey suggests that customers who are reluctant to use online banking tend to be concerned about information security (i.e., performance risk) and their mental uneasiness in using the service (i.e., psychological risk) (CFCA 2006). These two types of risk are directly pertinent to service separation and correspond to the findings in our qualitative study. We argue that service separation, which increases intangibility and decreases customers' perceived control over the service, will lead to higher performance risk and psychological risk.

Intangibility means that services cannot be seen, felt, tasted, touched or smelled before purchase (Zeithaml, Parasuraman, and Berry 1985), which gives rise to prepurchase uncertainty for customers (Zeithaml 1981). Although services are intangible performances by nature, tangible attributes in service production play an important role in signaling service quality and reducing risk perception (Bitner 1990, 1992; Rapoport 1982). For example, Rapoport (1982) finds that customers often use the tangible environment to judge a service provider's capability and quality before purchase. Similarly, Bitner (1992) proposes that servicescape would influence customers' cognitive, affective, and physiological responses during the service encounter.

For separated services, customers' absence from production means that they sense fewer

tangible attributes of the service encounter, compared to their presence during production for unseparated services. To illustrate, a customer can choose to dine in a restaurant or call for delivery. At the restaurant, the customer can observe its physical environment (e.g., lighting and atmosphere), facilities (e.g., kitchen, dinnerware, and furniture) and symbols (e.g., brand logo and sign) to evaluate the trustworthiness of the restaurant (Bitner 1992). However, in the case of having the food delivered, the tangible cues that the customer can rely on to make judgment are significantly decreased, resulting in higher risk perception.

In addition, separating consumption from production would decrease customers' perceived control over the service and thereby increase risk perception. As one of the basic motivations of human activities, perceived control refers to the need to demonstrate human competency, superiority and mastery over the environment (White 1959). According to Averill (1973), perceived control includes (1) behavioral control, which indicates to what extent a person's responses to an uncertain event could directly influence or modify the objective characteristics of the event; and (2) cognitive control, which involves a person's prediction and explanation for the uncertain event. Previous research in services marketing indicates a negative association between customers' perceived control and perceived risk (Hui and Bateson 1991).

For unseparated services, customers are present at the service encounter and even become a co-producer by closely interacting with the service employee (Bendapudi and Leone 2003; Bitner et al. 1997). Consequently, it is easier for them to influence the service process and predict its outcome. For separated services, however, customers would perceive lower control because of their absence from service production and reduced interface with the service employee. To illustrate, consider again the case of food delivery. When dining in the restaurant, customers can communicate with the waitstaff whenever they have questions about the food;

however, such interactions and control are reduced for food delivery. Therefore, separation between service production and consumption leads customers to perceive lower control, which in turn results in higher performance risk and psychological risk. Accordingly, we hypothesize that:

H3: Separated services are perceived by customers as having greater performance risk than unseparated services.

H4: Separated services are perceived by customers as having greater psychological risk than unseparated services.

The differential effects of separation across services. While the qualitative study revealed that service separation would lead customers to perceive greater service convenience and higher risk, it did not address if the magnitude of these effects would vary across different services. For example, would service convenience and perceived risk brought about by separation be greater for online education than for food delivery? Investigating this issue will enable us to have a more nuanced understanding on the customer implications of separation for a range of services. Toward this end, in this section we compare the impacts of separation on service convenience and perceived risk across experience and credence services.

The experience-credence typology is based on the way customers collect information for evaluation (Darby and Karni 1973; Zeithaml 1981). For experience services, such as having a haircut or visiting a restaurant, customers can obtain the relevant information by way of experience and form their judgment accordingly. For credence services, such as education and consulting, however, customers are not able to gather enough information from personal experience and therefore have difficulty in making confident evaluations even after purchasing or experiencing the service (Ostrom and Iacobucci 1995; Zeithaml 1981).

We postulate that separation will lead to less perceived benefit convenience for credence services than for experience services. Relative to experience services, services endowed with credence attributes tend to be more difficult to assess (Zeithaml 1981). If the hurdle is raised by having the credence service delivered separately, customers would need to spend even more time and effort to search for information on the service in order to compensate for the reduced information due to their absence from service production. Consequently, the favorable effect of service separation on benefit convenience may, to some extent, be offset by the additional burden of information search. As for access convenience, we posit that the impact of separation will not vary across experience and credence services. This is because the resultant time and effort savings in not having to be present during service production would be equally applicable for both service types. Based on this discussion, we hypothesize that:

H5: The positive effect of service separation on customers' access convenience does not vary for credence services and experience services.

H6: The positive effect of service separation on customers' benefit convenience is weaker for credence services than for experience services.

In contrast, we predict that the effects of separation on performance risk and psychological risk are more profound for credence services than for experience services. The reason is that customers' intrinsic uncertainty about credence services would exacerbate the perceived risk caused by separation, as their absence from service production would not only mean sensing fewer tangible cues and perceiving less control, but also reduce their confidence in perceptions and evaluations of the service. Therefore, we hypothesize that:

H7: The positive effect of service separation on customers' performance risk is stronger

for credence services than for experience services.

H8: The positive effect of service separation on customers' psychological risk is stronger for credence services than for experience services.

STUDY 1

The purpose of study 1 is to examine the effects of service separation on perceived convenience and risk for experience and credence services. Following previous research (e.g., Bitner 1990; Ostrom and Iacobucci 1995), we used a scenario-based experiment to compare customer reactions to the separated versus the unseparated service delivery modes.

Experimental Design

Study 1 used a 2 (service separation) \times 2 (service category) mixed factorial design. Service separation was a within-subject variable, and was operationalized as either a separated or unseparated mode of delivery for the same service. Service category was a between-subjects variable, comprising experience and credence services.

To identify the representative service for each category, we conducted a pretest in which 70 respondents, consisting of 32 MBA, 20 postgraduate, and 18 undergraduate students, were asked to classify a list of 36 services into one of the two categories, based on the definitions that we provided. Specifically, experience services are defined as those for which customers can collect service information by way of experience and make judgment after purchase or experience. Credence services are defined as those for which customers have difficulties in collecting service information by way of experience, and cannot make confident evaluations

even after purchase or experience. We used three criteria to select the representative services: (1) the services can be delivered both separately and inseparately; (2) the services are familiar to the respondents (i.e., college students); and (3) frequency analysis reflected consistent views on service categorization. Subsequently, we selected Chinese-style fast-food and a training program on interview skills to represent experience and credence services, respectively.

We manipulated service separation by having two modes of delivery for each service. Specifically, the fast-food service was operationalized as in-restaurant dining (i.e., unseparated mode) or calling for delivery (i.e., separated mode), and the training program was in the form of in-class instruction (i.e., unseparated mode) or watching a webcast of the session (i.e., separated mode) (see Appendix A). These manipulations were based on our definition of service separation, and reflected the typical separated and unseparated services mentioned by the participants in our qualitative study. For each service, the order of the two modes was randomized. To rule out the noise of service brand, we used fictitious brands for each service.

Experimental Procedure and Measures

Sample. The experiment was conducted in a large public university in Beijing. Participants were recruited by an online advertisement on the bulletin board system of the university, which invited students to participate in a marketing experiment with a compensation of RMB20. The final sample had 100 subjects, of whom 45% were male; 47% were undergraduates, 49% were masters by research or doctoral students, and the remaining 4% were MBA students. In terms of age, 16% were below 20 years old, 69% were between 21 and 29 years old, and 15% were over 30 years old. During the experiment, they were randomly assigned into two groups, each with 50 subjects.

Procedure. The booklet consisted of experiment instructions, a service scenario, and measures for hypotheses testing. The participants were asked to evaluate access convenience, benefit convenience, performance risk, and psychological risk for both separated and unseparated modes. Finally, they were asked to write down any thoughts they had during the experiment. The whole experiment lasted about half an hour.

Measures. The measures for access and benefit convenience were adopted from Berry, Seiders and Grewal (2002) as well as Seiders et al. (2007); each construct had a three-item 7-point agree/disagree scale. We used three items to measure performance risk and four items to assess psychological risk (Dowling 1986; Stone and Gronhaug 1993) (see Appendix B).

Results and Discussion

Results. We performed repeated measures ANOVA to test for the main and interactive effects of service separation. Results showed that separation had main effects on access convenience ($F(1, 98) = 45.169, p < .001$), benefit convenience ($F(1, 98) = 35.098, p < .001$), performance risk ($F(1, 98) = 93.394, p < .001$), and psychological risk ($F(1, 98) = 51.635, p < .001$). The respondents considered it more convenient to access separated services ($M = 5.03, SD = 1.29$) than unseparated services ($M = 3.95, SD = 1.38$), supporting H1. Similarly, they perceived greater benefit convenience for separated services ($M = 4.98, SD = .96$) than for unseparated services ($M = 4.07, SD = .96$), which supported H2.

Consistent with H3, respondents perceived higher performance risk for separated services ($M = 4.39, SD = 1.23$) than for unseparated services ($M = 2.99, SD = 1.12$). We also found higher psychological risk for separated services ($M = 4.00, SD = 1.29$) than for unseparated services ($M = 2.85, SD = .96$), thus H4 was supported.

Furthermore, our results showed that except for access convenience ($F(1, 98) = 3.642, p = .059$), the interactions between service category and separation were significant for all the other three variables (for benefit convenience, $F(1, 98) = 5.657, p = .019$; for performance risk, $F(1, 98) = 15.301, p < .001$; and for psychological risk, $F(1, 98) = 17.062, p < .001$), which implied that separation leads to varying magnitudes of benefit convenience, performance risk, and psychological risk across experience and credence services. As shown in Figure 1a, there was no significant difference in the favorable effect of separation on access convenience across fast-food and training program, which supported H5. However, Figure 1b indicated that separation resulted in greater benefit convenience for fast-food than for training program, thus supporting H6. As shown in Figure 2a and Figure 2b, the effect patterns for performance risk and psychological risk were quite similar; the impacts of separation were more salient for training program than for fast-food. Therefore, H7 and H8 were supported.

[Insert Figure 1 and Figure 2 about here]

Discussion. Study 1 indicates that service separation can be a double-edged sword. On the one hand, it is able to increase service convenience, and allows customers the flexibility of choosing when and where to consume the service. On the other hand, customers who are absent from service production will perceive higher risk. Furthermore, the effects of separation depend on service category. While separation leads to similar access convenience across experience (i.e., fast-food) and credence (i.e., training program) services, the favorable effect of separation on benefit convenience is less salient for credence services. Conversely, the unfavorable consequences of separation in terms of performance and psychological risks are magnified for credence services. Taken together, study 1 provides initial empirical evidence that service separation has significant effects on service convenience and perceived risk, and that its effect

magnitudes are contingent on the experience versus credence qualities of services.

STUDY 2

Even though study 1 reveals the favorable and unfavorable aspects of service separation, it leaves several issues unaddressed. Firstly, given the effect of separation on perceived risk, a managerially important question for service firms is, what can they do to reduce customers' risk perceptions? In this regard, the qualitative data from our interviews and study 1 offered some interesting clues. In the qualitative study, 21 interviewees mentioned that their preference for separated services depended on their previous interactions with the service provider. Similarly, from the thought listing task in study 1, several subjects wrote that their relationships with the service provider might influence their perceptions (e.g., "I think whether this service is risky or not depends on how long I have been using this service, ... and how satisfied I am with past interactions"). These findings imply that the undesirable impact of separation on perceived risk may be counteracted by effective customer relationship management.

Secondly, while study 1 indicates that customers perceive separated versus unseparated modes of service delivery differently, little is known about how these perceptions will influence their purchase decision when both modes are available. Knowing this can help service firms to better predict customers' heterogeneous preferences for service separation and accordingly customize delivery to increase their purchase intention (Franke, Keinz, and Steger 2009). Finally, study 1 examines only two services (i.e., fast-food and training program), and additional services are needed to show the robustness of our findings. We conduct study 2 to address these issues.

Hypotheses Development

Customer-service provider relationship. Customer-service provider relationship is the accumulation of experiences and reflects customers' confidence in the service provider's future performance (Crosby and Stephens 1987). Prior studies indicate the negative effect of customer-service provider relationship on perceived risk (Gwinner, Gremler, and Bitner 1998; Zeithaml 1981). In this vein, we propose that customer-service provider relationship would lower the effect of service separation on perceived risk. This is because even when customers are absent from service production, an established relationship based on the track record of the service provider can allow customers to make confident predictions of service quality and consequently offset their risk perceptions (Desai, Kalra, and Murthi 2008). Hence, we hypothesize that:

H9: An established customer-service provider relationship mitigates the positive effect of service separation on performance risk.

H10: An established customer-service provider relationship mitigates the positive effect of service separation on psychological risk.

Customers' purchase decision for separated services. When customers are faced with service alternatives, they would consider both the expected utility and costs associated with them. Peter and Tarpey (1975) show that when selecting among brands, customers recognize the expected utility and perceived risk of each brand and make decisions on their differences, or the 'net return.' Such trading-off between the service benefits and the sacrifices expended to acquire the service is known as the 'perceived value' (Sirdeshmukh, Singh, and Sabol 2002; Zeithaml 1988). In our case, perceived value is positively related to service convenience, which enables

customers to conserve their limited resources of time and effort (Berry, Seiders, and Grewal 2002), and negatively related to perceived risk, as it highlights the costs associated with purchasing a service that has uncertain outcomes (Agarwal and Teas 2001).

Study 1 indicates that the desirable effect of service separation on benefit convenience is attenuated, while its undesirable effect on risk perceptions is heightened, for credence services. Conversely, separation for experience services is appealing as customers can enjoy the advantage of service convenience at low risks. This implies that customers will have lower purchase probability of separated credence services as they have to bear greater perceived risks but receive less convenience benefit. Along this line, we also argue that customers in an established relationship with the service provider are more likely to purchase the separated mode than new customers, as their previous interactions can mitigate the negative consequence of separation and thus increase its perceived value.

H11: Customers are more likely to purchase the separated mode of experience services than the separated mode of credence services.

H12: Customers in an established relationship with the service provider are more likely to purchase the separated mode of both experience and credence services than new customers.

Experimental Design

Study 2 used a 2 (service separation) \times 2 (service category) \times 2 (customer-service provider relationship) mixed experimental design. Service separation served as a within-subject factor, while service category and customer relationship were between-subject factors. Based on the same pretest described in study 1, we selected ticket agency and student counseling service to represent new experience and credence categories, respectively. Each service came in two

modes—customers could purchase air tickets by going to the ticket office or buy them over the telephone, and they could visit the counselor’s office or seek online counseling by communicating with the counselor via an instant messaging system.

Following Hui et al. (2004), we manipulated customer-service provider relationship by specifying either a long-term relationship (i.e., a five-year customer) or a new relationship (i.e., a new customer). To rule out the effects of service price and quality on the subjects’ choices, the scenarios stated that both service modes charged the same price and promised the same quality (see Appendix A).

Experimental Procedure and Measures

Sample. Study 2 was also conducted at a large public university in Beijing. We recruited 68 university students via the bulletin board system, of whom 70.6% were undergraduates, 18.6% were masters by research or doctoral students, and the remaining 11.8% were MBA students. Among them, 41.2% were male; 17.6% were below 20 years old, 69.1% were between 21 and 29 years old, and 13.3% were above 30 years old. The subjects were compensated RMB20 for their participation.

Procedure. During the experiment, the subjects were randomly assigned into the four cells, each with 17 subjects. Study 2 followed the same procedure as in study 1, except that the subjects were asked to make a purchase decision after rating service convenience and perceived risk. Finally, the subjects were asked to answer some questions as manipulation checks (detailed below) and provided demographic information. The whole experiment lasted about half an hour.

Measures. Due to the methodological problems associated with using difference scores (Peter, Churchill, and Brown 1993), we used the direct comparison approach to assess subjects’

attitudes towards the separated and unseparated service modes. Specifically, the subjects were asked to evaluate service convenience and perceived risk of the separated mode using 7-point Likert scales, where 1 indicated “much less ... than the unseparated mode,” 4 indicated “no difference,” and 7 indicated “much more ... than the unseparated mode” (Brown, Churchill, and Peter 1993).

To measure subjects’ purchase decision, we asked them to allocate 100 points between the separated and unseparated modes to indicate their purchase probability of each. Reliability tests showed that all measures had high internal consistency (see Appendix B). As manipulation checks, we asked subjects to recall the duration of their relationships with the service provider (i.e., a five-year customer/a new customer/not sure) and whether they were offered the same price (i.e., “For these two different modes of services, the service provider charged the same price/different prices”) and service quality (i.e., “For these two different modes of services, the service provider promised/did not promise the same service quality”) for both the separated and unseparated modes.

Results and Discussion

Results. Manipulation check results showed that all subjects could correctly recall the duration of customer-service provider relationship and indicated that the service provider offered the same price and quality assurance for the separated and unseparated service modes. As the comparative scores reflected differences between the separated and unseparated modes in terms of service convenience and perceived risk, the main effects of service category and customer-service provider relationship implied that the differences varied across service categories and customer relationships. In other words, service category and customer-service

provider relationship moderated the effects of service separation. As we had multiple dependent variables, we used MANOVA to test the hypotheses.

Results showed that service category would influence the perceived differences in benefit convenience ($F(1, 64) = 22.039, p < .001$, for ticket agency, $M = 5.412, SD = .939$; for student counseling, $M = 4.353, SD = .967$), performance risk ($F(1, 64) = 10.751, p = .002$, for ticket agency, $M = 4.029, SD = 1.304$; for student counseling, $M = 4.843, SD = .744$), and psychological risk ($F(1, 64) = 7.548, p = .008$, for ticket agency, $M = 3.441, SD = 1.442$; for student counseling, $M = 4.316, SD = 1.296$). These findings were consistent with study 1 and thereby provided additional evidence for H6, H7, and H8. As predicted, the effect of service category on access convenience was not significant ($F(1, 64) = 2.991, p = .089$, for ticket agency, $M = 5.628, SD = .942$; for student counseling, $M = 5.206, SD = 1.068$), hence supporting H5.

In addition, subjects having long-term relationships with the service provider reported less difference in performance risk ($F(1, 64) = 7.006, p = .010$, for long-term relationships, $M = 4.108, SD = 1.011$; for new relationships, $M = 4.765, SD = 1.126$) and psychological risk ($F(1, 64) = 7.548, p = .008$, for long-term relationships, $M = 3.441, SD = 1.264$; for new relationships, $M = 4.316, SD = 1.470$) between the separated and unseparated modes, implying that the relationship could diminish the negative consequences of separation. Thus, H9 and H10 were supported. Interestingly, the results indicated that customer-service provider relationship could magnify the effect of separation on benefit convenience ($F(1, 64) = 5.109, p = .027$), but not on access convenience ($F(1, 64) = 1.982, p = .164$). No interaction effects were significant.

Recall that H11 predicted differential customer preferences for separation across experience and credence services. To test this hypothesis, we computed an index using the logarithmic ratio of the purchase probabilities of the separated and unseparated modes. The

advantages of this index were that it was a monotonic increasing function of the purchase probability of the separated mode and had a normal distribution. As two subjects did not report their purchase probabilities as requested, we conducted ANOVA on the remaining 66 responses to compare subjects' purchase probabilities of the separated mode across service categories and customer-service provider relationships.

Results showed that both service category ($F(1, 62) = 19.563, p < .001$) and customer-service provider relationship ($F(1, 62) = 10.696, p = .002$) had main effects, and no significant interaction was found ($F(1, 62) = .068, p = .795$). In particular, subjects were more likely to purchase the separated mode for the ticket agency service ($M = 65.32\%$, $SD = 23.60\%$) than for the online student counseling service ($M = 42.65\%$, $SD = 22.74\%$). Therefore, H11 was supported. We also found that subjects had higher purchase probability of the separated mode when they had a five-year relationship with the service provider ($M = 62.35\%$, $SD = 26.52\%$), than when they were new customers ($M = 45.62\%$, $SD = 22.16\%$), which supported H12.

Discussion. Study 2 confirms that customer relationship management can effectively reduce the unfavorable consequences (i.e., perceived risks) of separation for both experience and credence services. Furthermore, when both separated and unseparated modes are available, customers' preference for separation varies across service categories and customer-service provider relationships. Specifically, customers are more likely to purchase the separated mode for experience services and when they have an established relationship with the service provider. More importantly, using new measures and different services from study 1, study 2 provides consistent results pertaining to the moderating role of service category on customer reactions to service separation. Thus, it bolsters the generalizability and robustness of our findings.

STUDY 3

We conducted study 3 for three reasons. Firstly, thus far the separated services in our experiments were all delivered by machine (i.e., telephone and computer), and a potentially valid concern is whether service separation is essentially an issue of machine versus person delivered services. In other words, our findings that customers considered separated services more convenient and risky may also be explained by the fact that they have to use technology-based machines to complete these services. Secondly, studies 1 and 2 relied on scenario-based experiments and student samples, and the external validity of our findings requires substantiation. Finally, H11 and H12 in study 2 were based on the tradeoffs between service convenience and perceived risk in influencing perceived value, but we did not measure these effects directly. Study 3 aims to overcome these limitations.

Experimental Design

We used a quasi-experiment design to investigate customers' actual experiences with separated and unseparated services. We selected three services whose separated and unseparated modes were familiar to urban Chinese consumers. Two were typical experience services: counter banking versus telephone banking, and in-store shopping versus online shopping, and the third was a credence service: in-class education versus online education.

In order to control for the effect of service brands, we specified a particular service provider for each service category (i.e., ICBC Bank, Gome Electrical Appliances, and the New Oriental School).² The final sample consisted of 47 banking services, 42 retailer services and 44

² ICBC or the Industrial and Commercial Bank of China is the most valuable bank in the world in terms of market capitalization (US\$254 billion in July 2007). Gome is one of the largest electrical appliance retailers in China, the

education services, of which 65 were delivered inseparately and 68 were delivered separately.

Experimental Procedure and Measures

Sample. We recruited participants in executive development and executive MBA programs (all full-time employees or entrepreneurs) at a major university in Beijing to complete the survey. After the removal of incomplete surveys, a total of 133 questionnaires were coded for final analysis. Among the respondents, 58.6% were male; 47.4% were between 24 and 30 years old, 44.4% were between 31 and 40 years old, and the rest was above 41 years old. The sample was well educated, 36.1% had a bachelor's degree and 62.4% had a master's degree, with the remaining having finished high school.

Procedure. We prepared two versions of questionnaire for each service. The survey began with a filter question that was used to identify qualified respondents who had experienced a separated or unseparated banking, shopping or education service over the past three months. Then respondents were asked to recall and describe details of the service, including its time, location, usage frequency, and duration. They were asked to evaluate service convenience, perceived risk, and perceived value using a set of 7-point Likert scales. To control for the effect of technology, we measured the respondents' technology anxiety, which reflected individual differences in perceived role clarity, motivation level, and perceptions of ability when using technology-based services (Meuter et al. 2005). Finally, we asked some questions on demographic information.

Measures. The measures of service convenience and perceived risk were the same as those in studies 1 and 2. We assessed perceived value using three items adopted from

Sirdeshmukh, Singh, and Sabol (2002), and technology anxiety using four items developed by Meuter et al. (2005) (see Appendix B). To test measurement validity, we followed Gerbing and Anderson's (1988) approach and ran confirmatory factor analysis. Specifically, we tested their convergent validity by estimating a six-factor confirmatory measurement model where all the constructs were allowed to be related while the items and errors were not. Results showed that all items loaded onto the expected factors only, with highly significant factor loadings (see Appendix B), which verified the unidimensionality of the measures. In addition, the model provided an acceptable fit to the data: $\chi^2 = 342.217$ ($df = 155$, $\chi^2/df = 2.208$), CFI = .906, NFI = .844, IFI = .908, TLI = .872, RMSEA = .096), indicating that the measures demonstrated adequate convergent validity and reliability. To assess discriminant validity, we ran chi-square difference tests for all the constructs in pairs (15 tests) to determine whether the restricted model (correlation fixed as one) was significantly worse than the unrestricted model (correlation estimated freely). All chi-square differences were highly significant ($p < .001$), providing evidence of discriminant validity.

Results and Discussion

Results. We used structural equation modeling to test the hypotheses. Results showed that technology anxiety had positive effects on performance risk ($\beta = .273$, $p = .003$) and access convenience ($\beta = -.194$, $p = .039$), but had no effect on either psychological risk ($\beta = .058$, $p = .429$) or benefit convenience ($\beta = -.100$, $p = .264$). More importantly, even after controlling for the effect of technology as well as respondents' usage frequency and demographic characteristics, we found that service separation still generated favorable effects on access convenience ($\beta = .279$, $p = .002$) and benefit convenience ($\beta = .325$, $p < .001$), both of which increased perceived value

(for access convenience, $\beta = .243, p < .001$; for benefit convenience, $\beta = .642, p < .001$).

The results for perceived risk were more complex. Separation had no direct effect on psychological risk ($\beta = -.106, p = .120$), but significantly increased performance risk ($\beta = .182, p = .036$), which was closely related to psychological risk ($\beta = .800, p < .001$). Interestingly, we found gender differences in risk perception; female respondents gave much lower judgments of both performance risk ($\beta = -.210, p = .016$) and psychological risk ($\beta = -.272, p = .002$) than male respondents for separated services. Furthermore, psychological risk had a negative impact on perceived value ($\beta = -.308, p = .029$), and also bridged the effect of performance risk on perceived value. Together, service convenience and perceived risk could explain 63.1% of the variance of perceived value. We summarized all significant results in Figure 3.

[Insert Figure 3 about here]

Discussion. Overall, the results of study 3 were consistent with the preceding studies except for the nonsignificant effect of separation on psychological risk. This discrepancy is probably due to the causality between psychological risk and performance risk. In the literature, some researchers suggest that psychological risk reflects customers' overall mental uncertainties, and performance risk can be considered to be an antecedent of psychological risk (Mitchell and Grotorex 1993; Stone and Gronhaug 1993). In study 3, performance risk acted as a mediator in linking service separation and psychological risk.

GENERAL DISCUSSION

The present research provides the first empirical examination on customer reactions to service separation. Based on in-depth interviews and the literature, we conduct three quantitative

studies to investigate the effects of service separation on service convenience (i.e., access convenience and benefit convenience) and perceived risk (i.e., performance risk and psychological risk), which subsequently influence customers' purchase decision and post-experience evaluations.

Specifically, study 1 demonstrates that service separation can increase access and benefit convenience, but also leads to higher performance and psychological risks. Moreover, its favorable effects are diminished while its unfavorable effects are augmented for credence services. Study 2 shows that when both separated and unseparated service modes are available, customers will make trade-offs between the benefits and shortcomings of service separation. We find that customers are more likely to purchase the separated mode of experience services, and from the service provider with whom they have established long-term relationships. In study 3, we retest our hypotheses using a quasi-experiment on non-student customers and obtain consistent findings.

Theoretical Contributions

Even though recent research acknowledges the existence of separated services (Betancourt and Gautschi 2001; Lovelock and Gummesson 2004), until now little is known about the implications of service separation for customers. As noted earlier, there are conflicting views on the marketing value of service separation. Lovelock and Gummesson (2004) contend that customers can benefit from separated services by saving time and effort, and enjoying a higher quality of work done by professionals. However, Vargo and Lusch (2004, p. 330) assert that, "The characteristic of separability is primarily important only from the manufacturer's perspective. From a consumer perspective, and thus what should be the marketing perspective,

separability is not only undesirable; it is also impossible.” Much as the logical reasonings of both sides are compelling, the lack of corroborating empirical evidence meant that the dispute on the desirability of service separation could not be effectively resolved.

The present research empirically investigates service separation from the customer’s perspective. Our findings support Lovelock and Gummesson’s (2004) contention and demonstrate the positive impact of separation on service convenience for both experience and credence services. At the same time, we observe the undesirable effect of service separation in raising risk perceptions. Furthermore, we examine how the advantages and disadvantages of service separation influence customers’ purchase decision and post-experience evaluations. Overall, the three studies in this research, using various samples, methodologies, and contexts, provide a set of consistent evidence indicating the robustness and generalizability of our findings. As such, our empirical results contribute to a clearer understanding of service separation and its implications on customer perceptions and behaviors.

The findings also suggest a link between service separation and technology-delivered services. Technologies such as pay-at-the-pump, mobile banking, and the Internet can facilitate service separation by dramatically changing the traditional ways of service delivery (Hoffman and Novak 1996; Meuter et al. 2005). When service separation is actualized by using technologies, customer reactions to service separation may be confounded by their attitude toward technologies.³ Bearing this caveat in mind, in study 3 we control for customers’ technology anxiety, and still find the significant impacts of separation on service convenience and perceived risk. This leads us to conclude that separated services are not synonymous with technology-delivered services. In addition, while some services may benefit from technologies to create a separated delivery mode, service separation does not necessarily depend on technology

³ We thank the reviewers for this observation.

or machine. This is illustrated by intrinsically separated services such as freight transportation, dry cleaning, and repair services, where the service separation is less reliant on high-tech machines or the Internet.

Managerial Implications

We note that some services do not lend themselves to separation, which means that firms are not always able to provide a separated version of services such as haircut, massage, and other physical acts to customers' bodies (Lovelock and Gummesson 2004). However, for services that can be delivered both separately and inseparately, that is, services involving nonphysical acts to customers' minds and information processing, it is imperative to deliberate on the appropriate delivery mode.

For experience services, our results indicate a higher purchase probability (65.32%) for the separated mode, suggesting that the advantages of separation outweigh its shortcomings. Interestingly, a survey reports that 40% of Generation Y (i.e., the demographic of 18-to-25 year olds) in the U.S. claims that the provision of mobile financial services is an important factor in their choice of bank (*Teller Vision* 2007). Moreover, separation can at the same time improve service efficiency and reduce service variability, in that customers are not intimately involved in the production system (Chase 1978). Therefore, in these cases, separation may be a win-win strategy for both firms and customers.

In fact, the consulting firm Celent observes that customer service inquiry via mobile banking has become an impetus for American banks to embrace this new channel (*Tellervision* 2007). In the area of online grocery shopping, the British retailer Tesco claims it has one million regular online customers who "love our unrivalled delivery area, ... convenient delivery times

and efficient service” (Skapinker 2009, p. 15). Tesco’s experience is reflective of the positive effects of service separation on access and benefit convenience. In order to offset the unfavorable consequences of separation, we suggest building strong brands, offering service guarantees, and instituting service recovery as effective strategies to lower perceived risk.

For providers of credence services, however, they should carefully weigh which delivery mode to offer. Our findings show that the downside of separation is magnified while its advantage is mitigated for credence services. Not surprisingly, our data indicate that a lower proportion (42.65%) of customers chooses unseparated services to satisfy their desire for participation and interpersonal interactions. Evidence suggests that the limitation of separation for credence services is recognized by service providers. For instance, in relating his experiences with patients, a psychiatrist notes that, “Internet-based therapy, whether by e-mail or live chat, seems like a poor substitute for a real human bond with all its nonverbal cues and face-to-face exchanges ... So here is what e-mail with my patients has taught me: if you need to reschedule an appointment or need a routine medication refill, please push ‘send’; if you have something on your mind you want to talk about, please call me — the old-fashioned way” (Friedman 2008). This example implies that providers of credence services may use different delivery modes, depending on the criticality of the task. To illustrate, for reservation, appointment, payment, or other routine activities, firms can provide a separated option to increase convenience and flexibility for customers; for delivering the core benefit, the unseparated mode may be more effective to convey personal interaction and care.

Finally, we suggest that regardless of service category, firms can reduce the perceived risk attributable to separation by instituting customer relationship management. Our results indicate that customers having long-term relationships with the service provider are more likely

to use the separated option because of greater trust in the provider's service quality and/or recovery. As such, when both separated and unseparated modes of the same service are available, the firm may target different segments. In order to attract new customers, for example, the firm may offer the unseparated mode to prospective customers to diminish their perceived risk and thereby increase purchase probability. For long-standing customers, however, the firm can encourage them to use the separated mode by emphasizing its greater convenience.

Future Research Directions

Even though most of our hypotheses are supported, there are several limitations in the current research that present opportunities for further research. First of all, the present research defines service separation as customers' absence from service production, focusing on the spatial decoupling of service production and consumption. While this conceptualization is consistent with recent views on service separability and can clearly distinguish separated services from unseparated ones, it overlooks the possibility of service separation in terms of time (Betancourt and Gautschi 2001). To illustrate, for certain services, consumption of benefits can only take place either before (e.g., using the credit card) or after (e.g., cleaning and repair) production has been completed (Lovelock and Gummesson 2004). The concept of temporal separation merits further examination as it would be useful to know in what ways temporal separation are different from spatial separation.

Secondly, this research focuses on service convenience and perceived risk as the main consequences of separation. It is conceivable that service separation may lead to other customer outcomes as well. For example, separation may exert varying effects on the five dimensions of service quality (Parasuraman, Zeithaml, and Berry 1988). Specifically, separation may

negatively influence tangibles, as customers would miss tangible cues such as the ambience and service facilities when they are absent from service production. Customers would also perceive less empathy and responsiveness for separated services than for unseparated services because of the reduced personal interactions. The effects of separation on reliability and assurance would be more complex as they may depend on service characteristics and other contextual factors.

Thirdly, the services examined in this research are utilitarian or functional in nature, whereby customers are inclined to save time and effort. However, for hedonic experiential services, such as going to the spa and skiing, customers actually prefer spending more time and effort to better enjoy the experience (Berry, Seiders, and Grewal 2002; Holbrook and Lehmann 1981). Yet, such hedonic services tend to involve physical acts to customers' bodies, which are largely unseparated in nature and therefore excluded from our analysis. Nonetheless, it would be worthwhile to examine if and under what conditions hedonic services can be separated, as there may be differences in the consequences of separation for utilitarian and hedonic services.

Finally, it is possible that service separation has varying implications across cultures. Research reveals that consumers from diverse cultural backgrounds hold different values (e.g., Chiu et al. 2009), which include perceptions of time and risk. For example, the idea that certain times can be allocated for specific tasks in a way that maximizes utility seems natural to European Americans, but it is unnatural or even impenetrable to others, such as Hispanics and American Indians (Graham 1981). Cross-culturally, Weber and Hsee (1998) show that people from collectivist cultures have different risk perceptions from those who are individualistic. Specifically, for the same options, Chinese consumers tend to perceive lower risk than American consumers. As such, the effects of service separation on service convenience and perceived risk may benefit from cross-cultural validation (Keh and Sun 2008).

REFERENCES

- Agarwal, Sanjeev and R. Kenneth Teas (2001), "Perceived Value: Mediating Role of Perceived Risk," *Journal of Marketing Theory and Practice*, 9 (4), 1-14.
- Averill, James R. (1973), "Personal Control over Aversive Stimuli and Its Relationship to Stress," *Psychological Bulletin*, 80 (4), 286-303.
- Bendapudi, Neeli and Robert P. Leone (2003), "Psychological Implications of Customer Participation in Co-Production," *Journal of Marketing*, 67 (January), 14-28.
- Berry, Leonard L., Kathleen Seiders, and Dhruv Grewal (2002), "Understanding Service Convenience," *Journal of Marketing*, 66 (July), 1-18.
- Betancourt, Roger and David Gautschi (2001), "Product Innovation in Services: A Framework for Analysis," in *Advertising and Differentiated Products*, Vol. 10, M. R. Baye and J. P. Nelson, eds. Greenwich, CT: JAI Press, 155-183.
- Bitner, Mary Jo (1990), "Evaluating Service Encounters: The Effects of Physical Surroundings and Employee Responses," *Journal of Marketing*, 54 (April), 69-82.
- (1992), "Servicescape: The Impact of Physical Surroundings on Customers and Employees," *Journal of Marketing*, 56 (2), 57-71.
- , William T. Faranda, Amy R. Hubbert, and Valarie A. Zeithaml (1997), "Customer Contributions and Roles in Service Delivery," *International Journal of Service Industry Management*, 8 (3), 193-205.
- Brown, Tom J., Gilbert A. Churchill Jr., Paul J. Peter (1993), "Improving the Measurement of Service Quality," *Journal of Retailing*, 69 (1), 127-139.
- Chase, Richard B. (1978), "Where Does the Customer Fit in a Service Operation?," *Harvard Business Review*, 56 (November-December), 137-142.

-
- China Financial Certification Authority (2006), *2006 CFCA Online Banking Report* (accessed September 2, 2007), [available at www.cfca.com.cn].
- Chiu, Chi-yue, LeeAnn Mallorie, Hean Tat Keh, and Wilbert Law (2009), "Perceptions of Culture in Multicultural Space," *Journal of Cross-Cultural Psychology*, 40 (2), 282-300.
- Crosby, Lawrence A. and Nancy Stephens (1987), "Effects of Relationship Marketing on Satisfaction, Retention, and Prices in the Life Insurance Industry," *Journal of Marketing Research*, 24 (November), 404-411.
- Darby, Michael R. and Edi Karni (1973), "Free Competition and the Optimal Amount of Fraud," *Journal of Law and Economics*, 16 (April), 67-88.
- Desai, Preyas S., Ajay Kalra, and B.P.S. Murthi (2008), "When Old is Gold: The Role of Business Longevity in Risky Situations," *Journal of Marketing*, 72 (1), 95-107.
- Dowling, Grahame R. (1986), "Perceived Risk: The Concept and Its Measurement," *Psychology and Marketing*, 3 (Fall), 193-210.
- Friedman, Richard A. (2008), "Take Two Prozac and E-Mail Me in the Morning," (accessed July 17, 2008), [available at <http://www.nytimes.com/2008/07/15/health/views/15mind.html>].
- Franke, Nikolaus, Peter Keinz, and Christoph J. Steger (2009), "Testing the Value of Customization: When Do Customers Really Prefer Products Tailored to Their Preferences?," *Journal of Marketing*, forthcoming.
- Gerbing, David W. and James C. Anderson (1988), "An Updated Paradigm for Scale Development Incorporating Unidimensionality and Its Assessment," *Journal of Marketing Research*, 25 (2), 186-192.
- Graham, Robert J. (1981), "The Role of Perception of Time in Consumer Research," *Journal of Consumer Research*, 7 (March), 335-342.

-
- Grove, Stephen J., Raymond P. Fisk, and Joby John (2003), "The Future of Services Marketing: Forecasts from Ten Services Experts," *Journal of Services Marketing*, 17 (2/3), 107-121.
- Gwinner, Kevin P, Dwayne D. Gremler, and Mary Jo Bitner (1998), "Relational Benefits in Services Industries: The Customer's Perspective," *Journal of the Academy of Marketing Science*, 26 (2), 101-114.
- Hoffman, Donna L. and Thomas Novak (1996), "Marketing in Hypermedia Computer-Mediated Environments: Conceptual Foundations," *Journal of Marketing*, 60 (3), 50-68.
- Holbrook, Morris B. and Donald R. Lehmann (1981), "Allocating Discretionary Time: Complementarity among Activities," *Journal of Consumer Research*, 7 (March), 395-406.
- Hui, Michael and John Bateson (1991), "Perceived Control and the Effects of Crowding and Consumer Choice on the Service Experience," *Journal of Consumer Research*, 18 (2), 174-184.
- , Xiande Zhao, Xiucheng Fan, and Kevin Au (2004), "When Does the Service Process Matter? A Test of Two Competing Theories," *Journal of Consumer Research*, 31 (2), 465-475.
- Kannan, P.K., Ai-Mei Chang, and Andrew B. Whinston (2001), "Wireless Commerce: Marketing Issues and Possibilities," *Proceedings of the 34th Hawaii International Conference on System Sciences*, Maui, Hawaii: IEEE Computer Society, 1-6.
- Keh, Hean Tat and Jin Sun (2008), "The Complexities of Perceived Risk in Cross-Cultural Services Marketing," *Journal of International Marketing*, 16 (1), 120-146.
- Kelley, Eugene J. (1958), "The Importance of Convenience in Consumer Purchasing," *Journal of Marketing*, 22 (July), 32-38.
- Kelley, Scott, James H. Donnelly Jr., and Steven J. Skinner (1990), "Customer Participation in Service Production and Delivery," *Journal of Retailing*, 66 (Fall), 315-334.

-
- Lovelock, Christopher H. (1983), "Classifying Services to Gain Strategic Marketing Insights," *Journal of Marketing*, 47 (3), 9-20.
- and Evert Gummesson (2004), "Whither Services Marketing? In Search of a New Paradigm and Fresh Perspectives," *Journal of Service Research*, 7 (August), 20-41.
- Malhotra, Naresh K. (2007), *Marketing Research: An Applied Orientation*, 5th ed., Upper Saddle River, NJ: Prentice Hall.
- Meuter, Matthew L., Mary Jo Bitner, Amy L. Ostrom, and Stephen W. Brown (2005), "Choosing Among Alternative Service Delivery Modes: An Investigation of Customer Trial of Self-Service Technologies," *Journal of Marketing*, 69 (April), 61-83.
- Mitchell, Vincent-Wayne and Mike Greatorex (1993), "Risk Perception and Reduction in the Purchase of Consumer Services," *Service Industries Journal*, 13 (4), 179-200.
- Ostrom, Amy and Dawn Iacobucci (1995), "Consumer Trade-Offs and the Evaluation of Services," *Journal of Marketing*, 59 (1), 17-28.
- Parasuraman, A., Valarie A. Zeithaml, and Leonard L. Berry (1988), "SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality," *Journal of Retailing*, 64 (1), 12-40.
- Peter, J. Paul and Lawrence X. Tarpey Sr. (1975), "A Comparative Analysis of Three Consumer Decision Strategies," *Journal of Consumer Research*, 2 (June), 29-37.
- , Gilbert A. Churchill Jr., and Tom J. Brown (1993), "Caution in the Use of Difference Scores in Consumer Research," *Journal of Consumer Research*, 19 (4), 655-662.
- Rapoport, Amos (1982), *The Meaning of the Built Environment*. Beverly Hills, CA: Sage.

-
- Seiders, Kathleen, Glenn B. Voss, Andrea L. Godfrey, and Dhruv Grewal (2007), "SERVCON: Development and Validation of a Multidimensional Service Convenience Scale," *Journal of the Academy of Marketing Science*, 35, 144-156.
- Sirdeshmukh, Deepak, Jagdip Singh, and Barry Sabol (2002), "Consumer Trust, Value and Loyalty in Relational Exchanges," *Journal of Marketing*, 66 (January), 15-37.
- Skapinker, Michael (2009), "It is Competition that Delivers the Goods," *Financial Times*, June 2, 15.
- Stone, Robert N. and Kjell Gronhaug (1993), "Perceived Risk: Further Considerations for the Marketing Discipline," *European Journal of Marketing*, 27 (3), 39-50.
- Teller Vision* (2007), "Mobile Banking Will Become a Significant Channel," 1360 (August), 4.
- Vargo, Stephen L. and Robert F. Lusch (2004), "The Four Service Marketing Myths: Remnants of a Goods-Based, Manufacturing Model," *Journal of Service Research*, 7 (May), 324-335.
- Weber, Elke U. and Christopher Hsee (1998), "Cross-Cultural Differences in Risk Perception, but Cross-Cultural Similarities in Attitudes towards Perceived Risk," *Management Science*, 44 (9), 1205-1217.
- White, Robert W. (1959), "Motivation Reconsidered: The Concept of Competence," *Psychological Review*, 66 (9), 297-333.
- Zeithaml, Valarie A. (1981), "How Consumer Evaluation Processes Differ Between Goods and Services," in *Marketing of Services*, James H. Donnelly and William R. George, eds. Chicago: American Marketing Association, 186-190.
- (1988), "Consumer Perceptions of Price, Quality and Value: A Means-End Model and Synthesis of Evidence," *Journal of Marketing*, 52 (July), 2-22.
- and Mary Jo Bitner (2003), *Services Marketing: Integrating Customer Focus Across the Firm*,

3rd^{ed}. New York, NY: McGraw-Hill.

---, A. Parasuraman, and Leonard L. Berry (1985), "Problems and Strategies in Services Marketing," *Journal of Marketing*, 49 (Spring), 33-46.

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Table 1
Service Separation in Different Service Categories

	Physical Acts to Customers' Bodies	Physical Acts to Owned Objects	Nonphysical Acts to Customers' Minds	Processing of Information
Exemplars	Passenger transport Lodging Health care Beauty salons	Freight transport Repair/maintenance Warehousing Laundry and cleaning	Entertainment News Education Consulting	Internet banking Accounting Insurance Research
Inseparation	Yes	No—customer usually absent during production	Only when performance is delivered “live”	Many exceptions—customers often absent during production

Note: Adapted from Lovelock and Gummesson (2004).

Table 2
The Advantages and Disadvantages of Separated Services
(Qualitative Study, N = 54)

General vs. Specific	Advantages vs. Disadvantages	Respondents' Thoughts (no. of statements)	Definitions	Typical Statements
General	Advantages	Saving Time or Effort (52)	Customers can spend less time and effort to access the service provider and complete the service process.	"I do my securities investment online ... Compared with visiting the brokerage, it saves me a lot of time and effort on both commuting and talking to a broker."
		Flexibility (22)	Customers perceive it flexible to use the separated services whenever and wherever they need.	"I like buying drinks from a vending machine. It is convenient and is available 24 hours a day, 7 days a week. Therefore, I can buy drinks whenever I want."
	Disadvantages	High Risk (47)	Customers are uncertain if the separated services can perform as promised, which means high possibility of service failure.	"Paying bills by telephone banking is cool ... But, it does not work well all the time. Sometimes my bills were not processed on time and I ended up paying extra for the delay."
		Anxiety (29)	Customers feel worried and less confident when choosing and using separated services.	"I always feel anxious when buying cosmetics online. As I cannot have a trial, I am concerned that the color may be not look good on me, or my skin may be allergic to certain products ..."
Specific	Advantages	Lower Price (8)	Customers can get some discounts and pay less for the separated services.	"I usually buy movie tickets from the theater's website to get discounts ... They charge the full price if I buy the tickets from the box office."
		Higher Quality (4)	Customers can enjoy higher quality of the separated services because they can obtain certain beneficial features that cannot be had from unseparated services.	"Many online stores enable product comparison ... It means I can easily compare alternatives in terms of their brands, models, prices, and other features ... This could be really difficult if I shop in an offline store."

Table 2
Continued

General vs. Specific	Favorable vs. Unfavorable	Respondents' Thoughts (no. of statements)	Definitions	Typical Statements
		Reduced Interactions (9)	Customers have few interactions with the service employee and other customers.	"I have used online education before, but it was really bad ... Whenever I had a problem, I could not ask questions or discuss with the instructor."
Specific	Disadvantages	Delayed Recovery (8)	Following service failures, customers cannot obtain service recovery immediately, and may have to wait for recovery or compensation long after service completion.	"I often call a restaurant close to my apartment for delivery ... Sometimes, the receptionist makes mistakes when writing down my orders. The problem is that I only realize the mistake when I get the food, and it's too much of a hassle to get a replacement order. This will not happen if I go to the restaurant and place the order on the spot."
		Fewer Services (6)	Customers cannot get certain services which are not suited for separated delivery.	"Telephone banking can only deal with some simple activities, such as checking balance or making a transfer ... It cannot provide services like opening an account or applying for loans."

Figure 1
Interaction of Service Separation and Service Category on Service Convenience
(Study 1, N = 100)



