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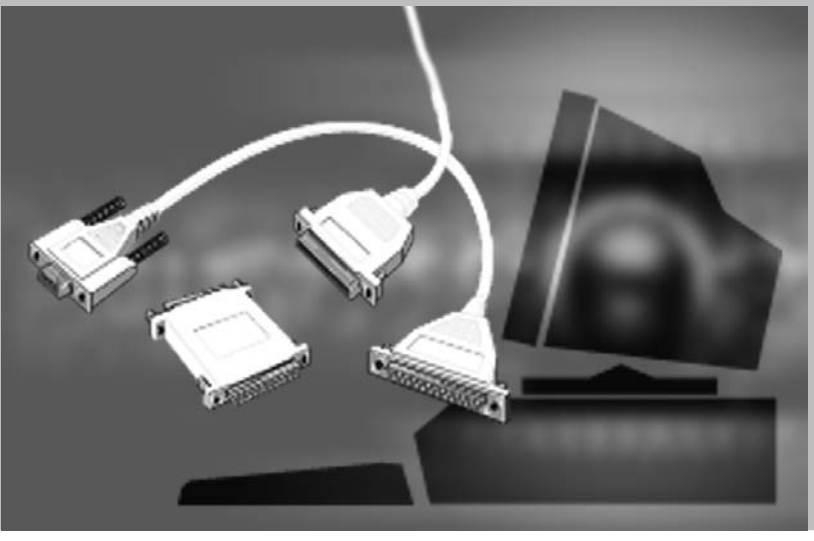


THE IMPACT OF INTERNET BANKING ON SWITCHING TO THE NEW SERVICE PROVIDER

[ABSTRACT]

THIS study explored corporate customers' perceptions toward the benefits and barriers of web-based service in the context of Thai Internet banking, and examined the impact of the benefits and barriers on the overall customer relationship to the bank and switching cost. The survey results from corporate customers show that web benefits do enhance relationships, whereas barriers have no significant impact. Information accessibility, information quality, and transactional benefits can enhance the overall customer relationship. However, while web benefits do enhance the strength of customer relationship, the impact is not big enough to replace the interpersonal relationship of face-to-face service. The results also show that the web benefits of information accessibility and information quality lower switching costs. This is quite different from some prior studies which maintain that the value of information technology creates higher switching cost, but it is consistent with some work arguing that commoditization of information on the Internet would lower switching cost. Moreover, web benefits do have some indirect impact on creating switching costs, through their ability to enhance customer relationships, which increase switching costs. Hence, Thai Internet banking service providers need to integrate web-based service in bank business strategy as a way to supplement and enhance the relationships.

Keywords: web benefits, web barriers, customer relationships, switching cost

Introduction

THE banking sector has been an interesting case for service innovation via the web channel. Internet banking offers some important benefits, allowing customers to have direct access to banks and to undertake financial transactions without leaving their place. However, many bank customers hesitate to conduct financial transactions via the web channel, as they still perceive problems with Internet transactions. Web barriers can be derived from many factors such as lack of trust, and issues relating to lack of legal support. Web-based transactions create new transaction risk for electronic market participants, and security is one of the barriers that discourage the successful implementation of Internet services. These issues are important concerns among corporate customers in Thailand (Rotchanakitumnuai and Speece, 2003).

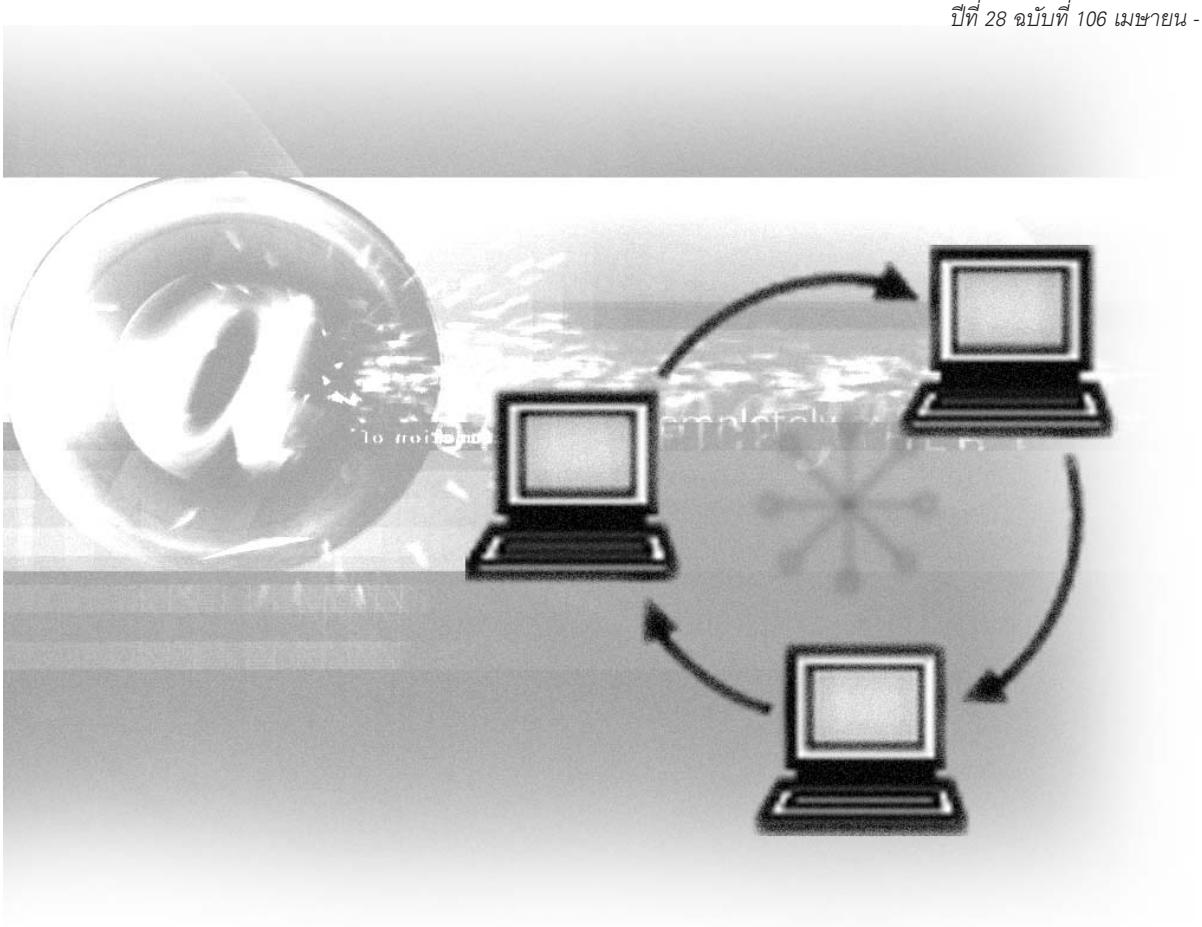
Furthermore, because Asian cultures place much more value on strong interpersonal relationships in business, Internet banking is taking place in a somewhat different environment than in the West. Even in the West, Howcroft and Durkin (2000) commented that technology might not be able to fully substitute for humans in bank-customer relationships and technology may be even less of a viable substitute in Asian culture. Srijumpa et al. (2002) suggested that integrating Internet-based services into interpersonal services would be more attractive and contribute to stronger customer satisfaction in Thailand than relying on self-service options over the Internet channel. Thailand is a good example of a middle-income country where Internet banking is in the early stages of development, and it is representative of the kind of relationship-based business culture common throughout Asia.

Little research has focused on assessing the impact of benefits or barriers of Internet banking services on the strength of corporate customer relationships. It is frequently claimed that the Internet should contribute to stronger customer relationships, but there is not much hard data to demonstrate this. Further, most research on the Internet as a service channel has been done in the West, but may not be completely applicable to business cultures outside the West, such as in Asia. Therefore, this research examines the benefits and barriers of Internet banking from corporate customers' viewpoint, to assess the impact on customer relationships with the bank, and the impact on switching cost. The context is corporate banking in Thailand, which is representative of Asian relationship-oriented business cultures and of developing countries where the technology is not yet as well established as in parts of the developed West.

Literature Review

GRÖNROOS (1994) discussed relationship marketing in terms of marketing to establish, maintain, enhance and commercialize customer relationships, so that the objectives of both parties are met. The strength of relationships can be enhanced with higher levels of interaction, information exchange, and expectations about transaction-specific services from the service providers. Most observers stress that relationship marketing includes elements of partnering-development of a long term and complex relationship between service providers and customers, not simply or only a series of individual transactions (e.g., Berry, 1995; Brodie et al, 1997; Harker, 1999). This relationship depends on such issues as trust, equity, responsibility, and commitment (Gundlach and Murphy, 1993; Morgan and Hunt, 1994). For a strong relationship to exist, it must be mutually beneficial (Czepiel 1990).

In one useful schema, Berry and Parasuraman (1991) proposed three levels of relationship in service marketing. The first level is about price-based relationships or commodity relationships, related to financial bonds. These relationships are frequently dominant in the early phases of supplier-customer interactions, and are based upon financial benefits (e.g., lower price) or upgraded service to the customer. At this level, the service providers or suppliers primarily use pricing incentives to encourage customers to use their service or product. For instance, a bank may offer lower loan interest rates to a large corporation. This focus on pricing incentives, however, does not contribute much to any special relationship between customer and service provider, i.e., there is little long-term commitment if the pricing incentives are discontinued or if competitors offer better price incentives.



Level two of the relationship goes beyond pricing incentives. This level emphasizes on such things as personalized service delivery and the alteration of customers into clients who are served on an individual basis, and social bonds may play an important role in cementing the B2B relationship. The level two relationship contains more customization according to customer needs and wants, and may include creation of longer-term relationships with customer. Person-to-person relationships strengthen the company-to-company relationships, which makes it more difficult for a new competitor to imitate than a level one relationship. For instance, a bank can assign an account rep to take care of a specific customer account in order to create friendship, understand the nature of the customer's business, and provide giveaway services according to the customer's needs. The personal relationship can contribute to building durable B2B relationships which make customers perceive the service as differentiated from other service providers (Berry, 1995). In Asian business environments, these social interactions are an important facilitator of the extensive information exchange necessary for strong relationships (e.g., So and Speece, 2000).

Level three of a customer relationship in this schema is to provide services that are value-adding for clients, sometimes called structural bonds. Structural bonds are created when valuable services are provided to clients which are not available elsewhere. Level three relationships create the services that are designed into the service system to helps clients to operate more efficiently, such as joint technical support assistance, or use of software provided by the service provider. These relationship elements add business value that is difficult or expensive for customers to provide themselves and which is not readily available elsewhere. Thus, it raises the clients' costs to switch to other competitors, and is the most difficult for competitors to imitate. Thus, this level of relationship represents the greatest degree of competitive advantage (Berry, 1995; Berry and Parasuraman, 1991).

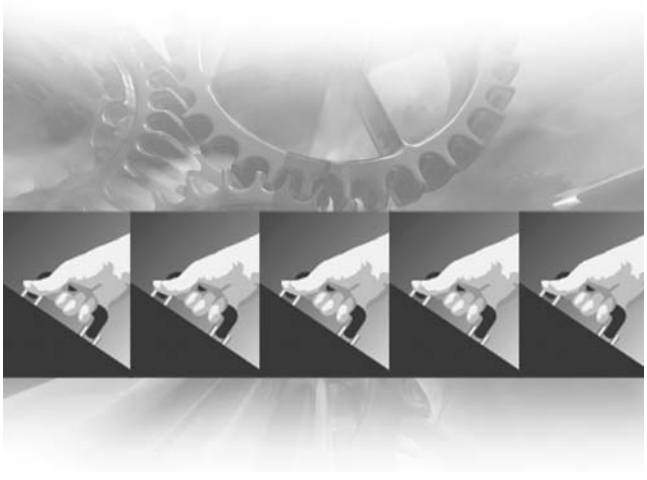
Based on the literature summarized here, the concept of customer relationships has been taken to include several different levels. However, the higher-level relationship is about more value-adding services beyond the transaction for the basic services which the customer buys from the bank. This research uses two

aspects of the higher relationship levels evident in the service marketing literature, which are closely related to the context of this study. Corporate bank customers are mostly concerned about interactions, information exchange, and they expect transaction-specific services from the banks (Tyler and Stanley, 1999). Thus, the two key aspects focused on here to assess the strength of customer relationships are personalized service to the client, and business relationship value to the client.

Benefits: Customers may perceive informational benefits to the Internet channel. Quality is a key element in providing benefits; quality information should be relevant, accurate, and up-to-date (Freiden et al., 1998). Information accessibility refers to easy access to the service provider's website so that customers can use it quickly to find what they need (Daugherty et al., 1995; Lederer et al., 1997). Service providers can also create a virtual community to serve the needs for information sharing among customers who have common interests. This may help attract customers and enhance their involvement with the firm (Cothrel, 2000).

In addition, web technology investment can provide transactional benefit. According to Polatoglu and Ekin (2001), time and cost savings are the key factors affecting Internet banking adoption. Further, the web channel allows service providers to be more responsive to their customers (Klein and Quelch, 1997), more quickly, and by customizing services or products according to customer needs (Greaves et al., 1999). Moreover, self-control over the service is one major factor that customers perceive as a benefit from using Internet banking (Polatoglu and Ekin, 2001).

Online companies providing informational and transactional benefits to customers can use them to enhance customer relationships with their customers. For instance, a virtual community for online information sharing can facilitate a stronger relationship between buyer and service provider / supplier, and effective analysis of the information can allow the firm to provide better customization of service to customers (Klein and Quelch, 1997; Wilson and Vlosky, 1998). Moreover, interactive communication and responsiveness of service and support via the web are



considered important for building relationships with customers (Damanpour, 2001; McGowan et al., 2001). Hence, the first hypothesis of this study is:

H_1: The more customers perceive benefits provided by the web, the stronger they will perceive their relationship with the bank to be.

Barriers: On the other hand, perceived barriers may work in the opposite direction. One major barrier that affects customer acceptance of Internet usage is related to trust (Lee and Turban, 2001; Ratnasingham, 1998). Partly this is about trust of the web security (Gerrard and Cunningham, 2003). In addition, the reputation of the service provider (experience in business functions, policy promises, and support to customers) is a major factor affecting customer trust. For instance, bank reputation is one of the major factors that affect customer adoption of new technology-based service delivery implemented by banks (e.g., Aladwani,2001; Daniel, 1999).

Lack of legal support refers to responsibility must be set when financial losses occur in Internet transactions (Attaran, 2000). Many businesses are still cautious of making web-based transactions and accepting web documentation as sufficient legal evidence (Farhoomand et al., 2000). Further, privacy protection of customer

data has become a critical legal issue in many countries, as customers demand that information on them remain confidential (Attaran 2000). Negative management attitudes also cause resistance to change. This causes a low level of management commitment to use the technology. Lack of organizational ability and resources can be major barriers in utilizing web technology more efficiently (Chircu and Kauffman, 2000).

Although there is some work on how such barriers inhibit adoption (in Thailand, e.g., Rotchanakitumnuai and Speece, 2004), their impact on customer relationships has not received very much direct attention. Electronic channels do create problems for enhancing and maintaining relationships because of the lack personal touch or loss of human interactions with customers (Mulligan and Gordon, 2002). Lack of trust can make customers perceive higher risk and have less confidence to get involved in online commerce or interact with service providers, which leads to lower customer relationships. Therefore, the second hypothesis examines the linkage between web barriers and customer relationships strength:

H_2: The greater the level of barriers perceived, the lower will be the perceived strength of customer relationships with the bank.

Switching cost: Switching cost can be conceptualized as **"**the investment actions taken by a customer (supplier) that inhibit changing suppliers (or customer)**"** (Jackson, 1985, p.35). Switching costs have also been defined as the costs involved in changing from one service provider to another (Morgan and Hunt, 1994; Porter, 1980). Dick and Basu (1994) and Sengupta et al. (1997) discussed switching costs related to time, monetary and psychological effort involved in confronting the uncertainty of dealing with a new service provider. For instance, when the customer or service provider create personal relationships and trust which have built up over a period of time, there is likely to be a psychological exit cost, even if performance of the service is less than satisfactory.

In banking, customers tend to switch mainly because of service failure (Colgate and Hedge, 2001). Bank customers perceive negative consequences if they switch service providers, related to psychological issues (such as uncertainty and feeling locked-in) and financial consequences (Colgate and Lang, 2001). Selection of a new financial service provider requires time and thought, information search cost, or perceived new risk in relying on an untested supplier (Lee and Cunningham, 2001; Sharma and Patterson, 2000). This research applies both such economic and psychological aspects in measuring the level of switching costs. The framework appropriate for the online service internet banking system includes three aspects of switching costs from the customer perception: information search costs, perceived risk, and substitutability of the new service provider.

One frequently mentioned benefit for business of information technology is that it creates higher switching costs to customers. Bakos (1991) suggested that electronic market systems can impose significant switching costs on their participants. When customers connect to information technology and perceive large benefits, they will have substantial technical and organizational costs if they switch to another system because of new investment in hardware, software, training, process adaptation, and trust in other suppliers or long-term contracts (Bakos and Treacy, 1986; Jackson, 1985; McFarlan, 1984). When a service provider proposes customized service to a specific customer, provides lower transaction costs, real-time financial information, and more responsive customer support, customers will lock-in that service provider or supplier. This will have higher positive impact on switching cost in both financial terms and process readjustment if the customer decides to change to another service provider (Colgate and Lang, 2001; Doney and Cannon, 1997; Jackson, 1985).

Conversely, some observers argue that the power of customers tends to rise because many customers are now familiar with Internet technology, which makes information search much easier and reduces the costs of obtaining information. This can make the cost of switching lower (De et al., 2001; Porter, 2001). However, much of this discussion about lowered switching cost is conceptual so far, without much evidence from the customer viewpoint. In fact, to date, the literature paints a fragmented and conflicting view about the impacts of information quality, information accessibility, information sharing, and transactional benefits on switching costs. This study aims to examine whether web benefits have negative association with switching cost because of easy information accessibility and commoditization of services over the web channel (De et al., 2001; Porter, 2001). Hence the next hypothesis for this study is:

H_3: The higher corporate customers perceive benefits provided by the web to be, the lower the perceived switching costs to change to the new service provider.

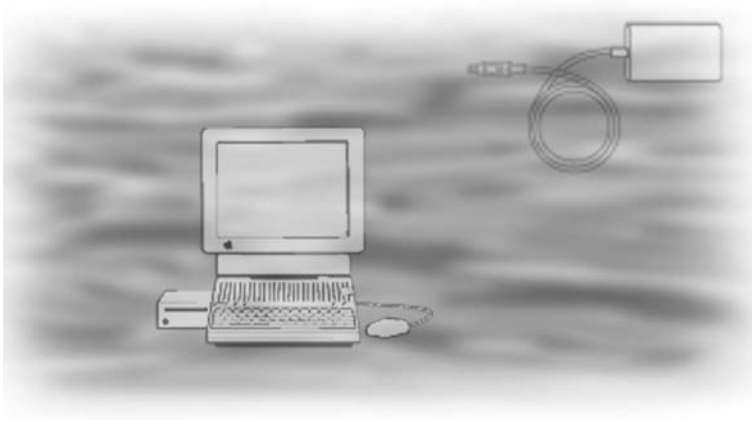
Maintaining long-term relationships requires a service firm to provide business value or benefits to its customers. According to Jackson (1985), customers invest in their relationship with a specific supplier not only with money but also through some mixture of people, lasting assets, and procedures. Nielson (1996) found that if there is a higher level of relationships between buyer and suppliers, then there is a higher level of investment, which leads to higher switching costs if a customer changes suppliers. Further, strong relationships can contribute to higher exit barriers (e.g. financial risk, time, and effort) that can constitute higher switching costs (Storbacka et al., 1994). In an Asian culture like Thailand, Patterson and Smith (2001a) indicate that psychological switching costs are positively, strongly, associated with relationship strength across many service types (e.g., travel, automobile service, medical, hairdressing, and banking). Therefore, the next hypothesis of this study is:

H_4: The greater the strength of customer relationships to the bank, the higher level of switching costs perceived by customers.

Survey Methodology

A QUESTIONNAIRE using five-point scales was employed to collect data for the concepts of the research model. The questionnaire items were developed from the literature and adapted to context based on the results of qualitative pilot work, which consisted of in-depth interviews with 5 senior managers in charge of e-banking in 5 banks, and 15 corporate financial managers who deal with these banks. The draft questionnaire was discussed in a Delphi process with 12 experts to make sure that the items actually corresponded with the concepts they were intended to measure. These experts consisted of 4 managing directors of software development firms or Internet service providers who have helped implement e-banking, 4 financial managers in customer firms which had adopted e-banking for some of their transactions, and 4 academic faculty who are active in research and consulting on e-banking. A small-sample pretest among corporate customers was conducted with 50 financial / accounting managers / officers who oversee financial relations with the bank to check the reliability of the items.

The sampling frame was constructed based on judgment sampling from the bank customer lists, choosing from among customers who appear in the Thailand Company Information directory and are listed n the Stock Exchange of Thailand. The specific respondents are the financial / accounting managers in the large and medium sized companies who deal with the banks, and bank managers were consulted in forming judgment about companies who were representative, and capable of using Internet banking if they choose, although they did not have to be using it to respond. Data collection proceeded by calling the targeted respondents in order to inform them about the study and to encourage them to respond. A total of 350 questionnaires were then sent by fax or e-mail to the specific people in the targeted customer companies. Subsequently, 147 questionnaires of Internet banking users and 103 questionnaires of non-Internet banking users were faxed or emailed back, for a total number of respondents at 250, or a 71.4 percent response rate.



Characteristics of the sample: Table I shows that about 59 percent of the sample companies are Internet banking users and about 41 percent are non-users. The respondents consisted of more women than men. The respondents were fairly senior, with slightly more than 40 percent in the age category of 40 and above, and another one-third between 36 to 40 years old. Nearly all had university education, and about 43 percent held a graduate degree. Overall, this sample represents the targeted population of senior level financial officers. The Internet banking users and non-users were compared on several characteristics, such as age, gender, and education profile. Overall, the comparison of sub-samples showed no significant difference between Internet banking users and non-users based on demographic data (at p = .05).

Table I : Respondent Profile

Characteristics	N	Percent[1]	Sig.[2]
Type			
Users	147	58.8	
Non-users	103	41.2	
Gender			.320
Male	77	30.8	
Female	173	69.2	
Age			.142
< 20-30	23	9.2	
31-35	53	21.3	
36-40	76	30.5	
41-50	82	32.9	
> 50	15	6.0	
Education			.678
Less than bachelor	8	3.2	
Bachelor	134	53.6	
Masters	107	42.8	
PhD	1	.4	

Notes: 1. *Valid percents are presented because of occasional missing data.*
2. *No difference in frequency distribution between Internet banking users and nonusers in Chi-square tests.*

Results

The results showed that the four items about strength of customer relationship could be grouped into a single dimension, which accounted for 49.80 percent of the total variance (Table II). There was no second dimension that had an Eigenvalue very close to 1 (all were less than 0.90). This implies that there was adequate correlation among the chosen variables. No items were dropped from the analysis because factor loading scores were high for all of them.

Table II : Single diimension of strength of customer relationship

Items (α = .683)	Loading for Factors
There is an easy exchange of information between you and the bank.	.682
This bank has a high level of personal contact in service delivery.	.714
This bank has the customer's broad interests at heart.	.787
This bank is crucial to our business performance.	.631
Eigenvalue	1.992
% variance	49.800
Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .686 Bartlett's Test of Sphericity: Approx. Chi-Square = 142.280 df 6 Sig. .000	

Table III also shows that the four items representing the switching cost concept could be grouped into one dimension, which accounted for 53.01 percent of the total variance. Again, the second Eigenvalue was less than 0.90, so not very close to 1. This implies that there was adequate correlation among the chosen variables. Again, no items were dropped from the analysis because factor loading scores were high for each item.

Table III : Dimension of switching cost

Items(α = .825)	Loading for Factors
This bank provides services that cannot be easily replaced by other banks.	.772
My company may increase the risk of receiving bad services if we change to another bank.	.790
It would be extremely costly to search for information about other good banks.	.700
It would be a major inconvenience to change the bank.	.642
Eigenvalues	2.120
% variance	53.010
Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .663 Bartlett's Test of Sphericity: Approx. Chi-Square = 196.118 df 6 Sig. .000	

The dimensionality of bank corporate customer perceptions analysis of the thirteen benefit items. As seen in Table IV, the results showed that the thirteen questionnaire items were grouped into four factors, which explained 68.56 percent of the total variance. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy score (.804) was well above the recommended 0.5 level (Malhotra, 1999).

Table IV : Dimensions of web benefits

Items	Loading for Factors			
Factor 1: Transactional benefit (α = 0.836)				
Internet banking transactions save more time.	.835	.129	.010	.213
Internet banking provides more responsive service.	.700	.206	.172	.052
Internet banking transactions have lower cost.	.697	.124	.087	.411
Internet banking can make me feel enjoyable.	.691	.178	.356	.104
Internet banking provides customized services.	.679	.075	.289	.117
Factor 2: Information sharing (α = 0.768)				
Internet banking provides systems to assist me to share my experiences with other customers.	.077	.909	.032	.031
Internet banking provides systems to assist me to share my experiences with my bank.	.193	.818	.101	.105
Internet banking provides link to other websites.	.213	.660	-.065	.290
Factor 3: Information quality (α = 0.743)				
Internet banking provides accurate information.	.196	.041	.830	.137
Internet banking provides relevant information.	.373	-.061	.756	.110
Internet banking provides up-to-date information.	.031	.141	.588	.350
Factor 4: Information accessibility (α = 0.709)				
Internet banking is easy to access at my convenience.	.235	.194	.068	.803
Internet banking has more flexible ways to search information.	.227	.101	.247	.750
Eigenvalues	5.034	1.761	1.195	.992
% variance	22.945	16.276	14.880	14.454
Cumulative variance	22.945	39.221	54.101	68.555
Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .804				
Bartlett's Test of Sphericity: Approx. Chi-Square = 1358.224 df 78 Sig. .000				

The first factor, transactional benefits, displayed the highest Eigenvalue (5.034) and accounted for 22.95 percent of the variance (after Varimax rotation). It had strong loadings for all five of the items relating to corporate customers perceptions towards web-based transaction service benefits. This factor includes saving time and cost, responsiveness of service, customization, and self-service. The second factor, the information sharing benefit, deals with sharing information between bank and customer, sharing among customers, and links to other websites. This factor accounted for 16.28 percent of the variance (after rotation). The next factor is information quality of Internet banking, focusing on accuracy of transaction, up-to-date information, and relevant information provided to bank customers. This third factor identified accounted for 14.99 percent of variance. The last factor, the information accessibility benefit, had an Eigenvalue slightly under 1.0, but this factor is included because it is very near to 1.0, several of the communalities were quite low without it, using it gets the variance accounted for up to slightly over two-thirds, the three factor solution was difficult to interpret, and the four factor solution makes results consistent with the key benefits known from the literature and pilot work. According to Hair et al. (1995), these conditions all suggest that the fourth factor should be included.

The barrier factor results showed that the eleven barrier items could be grouped into three factors (Table V), which account for 74.65 percent of the total variance. While the first factor accounts for 26.95 percent of this variance (after rotation), the second and third factor contribute 24.47 and 23.22 percent of the variance respectively. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy score (.778) was also well above the recommended 0.5 level (Malhotra, 1999). In addition, the Barlett's test of sphericity indicated that there was adequate correlation among the chosen variables ($p < .05$).

Table V : Dimensions of web barriers

Items	Loading for Factors		
Factor 1: Organizational barrier (α = 0.878)			
Lack experience in information technology	.887	.079	.086
Lack knowledge to extensively adopt Internet banking.	.864	.024	.138
Lack know-how in information technology to fully use Internet banking.	.837	.006	.092
Lack human resource to fully use Internet banking.	.809	.035	.085
Factor 2: Lack of legal support barrier (α = 0.935)			
Thai law cannot sufficiently protect bank customers with fair liability in the case of financial loss via Internet banking.	.048	.932	.172
Thai law cannot protect customer privacy sufficiently.	.038	.923	.238
Thai courts lack the ability to trace for evidence and to resolve fraudulent electronic transaction cases efficiently.	.038	.917	.079
Factor 3: Trust barrier (α = 0.810)			
Do not trust business practices of bank privacy policy.	.147	.235	.852
Does not trust web security.	.090	.236	.843
Management has negative attitudes toward Internet banking.	.204	.016	.718
Internet transactions cannot be accurately transmitted.	.012	.102	.684
Eigenvalues	4.018	2.587	1.606
% variance	26.953	24.471	23.222
Cumulative variance	26.953	51.424	74.646
Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .778			
Bartlett's Test of Sphericity: Approx. Chi-Square = 1710.823 df 55 Sig. .000			

According to the items loaded on each factor, the first factor was labeled as the "organizational barrier". It consists of the barrier items about lack experience in information technology usage to fully use Internet banking, lack knowledge to extensively adopt Internet banking, and lack know-how in information technology hardware / software to fully use Internet banking. The second factor, named the legal support barrier, consists of the negative perceptions about Thai law cannot sufficiently protect bank customers with fair liability in the case of financial loss via Internet banking, Thai law cannot protect customer privacy sufficiently, Thai courts lack the ability to trace evidence and to resolve fraudulent electronic transaction cases efficiently. The last factor, called trust barrier, included distrust of business practice of this bank via the internet regarding privacy policy, distrust of the web security, negative attitudes toward internet banking adoption, and low reliability of transactions to be transmitted via the web accurately.

Impacts on Strength of Customer Relationships

FACTOR scores on each factor for each respondent served as input to further regression analysis. The regression was significant with an R^2 of 0.146, and the results showed that three of the four benefit dimensions were significant: information quality, information accessibility, and transactional benefit. Each of these showed positive effects on the strength of customer relationships (Table VI). These results indicated that the benefits of Internet banking can enhance the strength of customer relationships. Hence, hypothesis one was confirmed. The regression results showed that set of barrier factors did not show any significant power to explain variance in customer relationship strength. As shown in Table VI, the results indicated that the strength of customer relationship was not influenced by any of the three barrier factors: legal support, trust, and organizational barriers. Therefore, hypothesis two was rejected.

Table VI : Impact of web benefits and barriers on strength of customer relationship

Independent variable	Coefficients	Sig.
Information quality	.151	.027
Information accessibility	.283	.000
Information sharing	.052	.396
Transactional benefit	.177	.006
Organizational barrier	-.013	.836
Distrust	.038	.586
Legal support barrier	-.010	.871

R^2 = 0.146, F = 4.961

Further univariate analysis of covariance was conducted to find out the impact of user types (user vs. non-user) on strength of customer relationships. The ANCOVA is simply a more convenient mechanism for examining a dichotomous independent variable interacting with the metric independent variables benefits and barriers. The results did not change for any benefit or barrier, and the results showed that user type has no significant direct impact on the strength of customer relationships (Table VII). However, a two-way interaction between user type and transactional benefit was found (Table VII). This result indicates that among non-user customers, the impact of transactional benefit on strength of customer relationships is much weaker than among user customers (the coefficient of this interaction = -.309). It can be interpreted that user customers believed that the ability to conduct transactions via web-based channels would give extra value to customer relationships with the bank, e.g., so that they could save time or get more responsive service from the bank. The information benefits contribute to relationships equally among non-users and users (except for information sharing), and the barriers make no impact for either category of customer. Non-users, however, apparently do not connect the transactional benefits to relationship strength very strongly. Overall, these ANCOVA results simply demonstrate that users and non-users essentially view things very similarly, except for the transaction aspect of web banking services, so that combining them in the main regression analysis does not introduce any serious problems.

Table VII : ANCOVA for the effects of user type on strength of customer relationship

Source	Coefficients	Sig.
Corrected Model		.000 ***
Intercept	-.234	.067
[Usertype = non user]	.114	.555
[Usertype = user]	0	
Inf_quality benefit	.268	.006 ***
Inf_access benefit	.246	.000 ***
Inf_sharing benefit	.087	.491
Transactional benefit	.334	.004 ***
Org_barrier	-.027	.879
Trust barrier	.058	.830
Lack of legal support barrier	.063	.563
[Usertype = non user] * Transactional benefit	-.309	.013 ***
[Usertype = user] * Transactional benefit	0	
[Usertype = non user] * Inf_sharing benefit	-.092	.442
[Usertype = user] * Inf_sharing benefit	0	
[Usertype = non user] * Inf_quality benefit	-.167	.212
[Usertype = user] * Inf_quality benefit	0	
[Usertype = non user] * Inf_access benefit	.034	.773
[Usertype = user] * Inf_access benefit	0	
Usertype = non user] * Org_barrier	.037	.752
[Usertype = user] * Org_barrier	0	
Usertype = non user] * Trust_barrier	-.143	.226
[Usertype = user] * Trust _barrier	0	
[Usertype = non user] * Legal support_barrier	.012	.931
[Usertype = user] * Legal support _barrier	0	

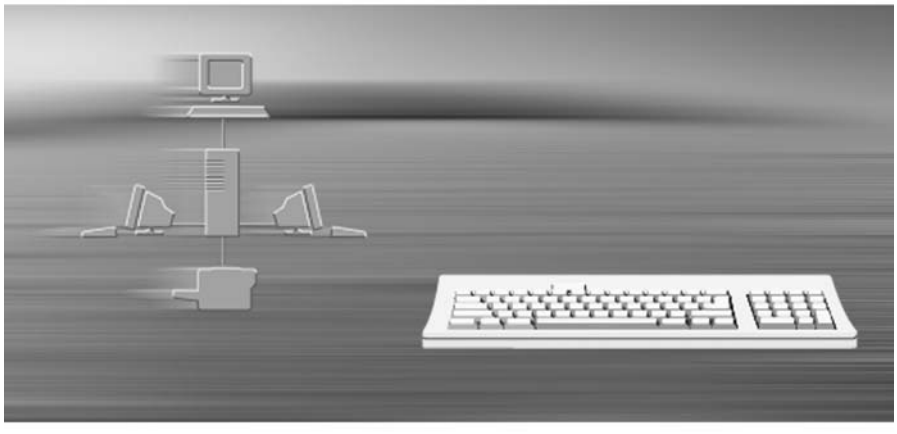
Impacts on Switching Cost

THE next analysis was conducted to determine the effect of web benefits and strength of customer relationships on switching costs to test hypotheses 3 and 4. The regression result was statistically significant with an R^2 of 0.165. Information accessibility and information quality have negative impacts on switching cost (Table VIII). These survey results confirm that higher information accessibility and information quality on the Internet do in fact lead to lower switching costs, at least in the context of Thai Internet banking. However, information sharing and transactional benefit have no association with switching cost. In addition, as hypothesized, the strength of customer relationships has a positive impact, raising switching costs.

Table VIII : Impacts of web benefits and strength of customer relationship on switching cost

Independent	Coefficients	Sig.
Information quality	-.165	.004
Information accessibility	-.174	.004
Information sharing	.064	.271
Transactional benefit	-.083	.150
Strength of customer relationship	.359	.000

R^2 = 0.165, F = 9.476



Further univariate analysis of covariance was used to examine the impact of user type on the switching cost and the relationship of the independent variables to switching cost (Table IX). The impact of information quality and information access remain negative, while the other two benefits still have no impact on switching cost. Relationship strength still raises switching cost. In this case, the direct impact of user type on switching cost is significant. The results showed that non-user customers perceive higher switching costs than user customers (coefficient of non-users relative to users = .341). In addition, the two-way interaction between user type and the strength of customer relationships is significant. The coefficient indicates that among non-user customers, stronger customer relationships have an even greater impact on raising switching costs than among user customers. This may be a further indication that non-user customers who have not adopted web-based service are more dependent on other service channels of their banks and tend to rely on relationships more strongly, and thus have higher switching costs if they change service provider.

Table IX : ANCOVA for the effects of user type on strength of customer relationship

Source	Coefficients	Sig.
Corrected Model		.000
Intercept	-.141	.653
[Usertype = non user]	.341	.011
[Usertype = user]	0	
Info_quality benefit	-.114	.017
Info_access benefit	-.107	.002
Info_sharing benefit	.059	.271
Transactional benefit	.052	.737
Strength of customer relationship	.212	.000
[Usertype = non user] * Transactional benefit	-.144	.233
[Usertype = user] * Transactional benefit	0	
[Usertype = non user] * Inf_sharing benefit	.014	.906
[Usertype = user] * Inf_sharing benefit	0	
[Usertype = non user] * Inf_quality benefit	.072	.564
[Usertype = user] * Inf_quality benefit	0	
[Usertype = non user] * Inf_access benefit	-.168	.161
[Usertype = user] * Inf_access benefit	0	
Usertype = non user] * Strength of customer relationship	.327	.000
[Usertype = user] * Strength of customer relationship	0	

Implications and Conclusion

CURRENTLY, corporate customers perceive that web benefits do improve customer relationships with their banks. The test results support that information quality, information accessibility, and transactional benefits of web-based service have positive effects on the strength of customer relationships with the bank. One detail of hypothesis one was not supported, i.e., information sharing showed no significant power to explain and predict the strength of customer relationships. Apparently, corporate customers do not perceive information sharing as a benefit that contributes to the strength of their relationships with their banks. On this element, corporate customers seem to have more concern about financial information secrecy, especially the typical financial officer respondents who are somewhat conservative regarding their responsibility in accounting and financial positions.

In this case, web barriers show no impact on strength of customer relationships, which can imply that negative aspects of Internet banking do not damage the relationships between corporate customers and their banks. Thus, in terms of customer relationships, banks apparently do not need to worry that barrier issues may not have been completely solved before they implement Internet banking. The barriers do, though, inhibit adoption, so they must still be solved if banks want more customers on the Internet (Rotchanakitumnuai and Speece, 2004).

While the Internet channel does contribute to relationships, the R^2 is not exceptionally high, indicating that the Internet is not the main factor in building them. Apparently, the other, usually interpersonal interactions with the bank remain most important in building relationships. As Patterson and Smith (2001b) point out, special treatment and social benefits are important for the typical customer in Thai service industries. Further, the impact of web benefits is not unambiguously positive. Investigation of switching costs indicated that higher levels of information accessibility and information quality benefits can create lower switching cost. Non-user customers perceive higher switching cost than user customers. These results imply that web benefits can reduce corporate customer efforts and resources needed to search for information about new service providers.

This finding does not support the argument by some observers that information technology creates higher switching cost (Colgate and Lang, 2001; Doney and Cannon, 1997; Jackson, 1985). Probably, this would only be true if a bank was the only one offering the technology, but in Thai Internet banking, as in most countries, many banks offer essentially the same Internet banking services. This result does confirm the new ideas expressed in some current studies that Internet technology shifts the paradigm for business by providing of lower switching cost to users (De et al., 2001; Porter, 2001).

The strength of customer relationships can also contribute to higher switching costs. In other words, web benefits do have some indirect impact on creating switching costs, through their ability to enhance customer relationships. However, non-user customers have stronger customer relationships than user customers, and the relationship contributes to higher switching costs more strongly among them. This may be an indication that non-user customers are more dependent on other service channels of their banks and have higher switching cost. It is also likely that as customers learn to use the Internet more extensively for banking services, they become more aware that the on-line services are essentially commodities, available from many banks.

This research indicates that current users feel Internet banking is a good channel to interact with the bank faster. Moreover, if it is well integrated into the overall business, the web channel can enable banks to provide more responsive service, and stronger customer relationships. However, the web-based services contribute only a small part of overall relationship strength. Customers do not seem to see the web as a channel to replace traditional relationships, but rather as a way to supplement and enhance the relationships. Thus, Thai Internet banking service providers need to integrate web-based service in bank business strategy as a way to supplement and enhance the relationships because web-based service delivery channels cannot replace the traditional face-to-face service.

Hence, for the majority of banking customers, it is particularly important for banks to modify their standard business plans away

from stand-alone interpersonal or online channels if they seek stronger usage of the internet. Providing services with only human interaction for customers who are human oriented and technology averse is not necessarily a good long-term competitive strategy. Many of them may not particularly like the technology, but they seem willing to use it occasionally because it is useful in limited specific situations. Especially when service providers are very busy, they may not be able to respond to customer needs and requests or to service failures, thus sometimes suddenly disappointing customers. The integration of web services can help resolve these sources of dissatisfaction with service from the brick-and-mortar branch. More broadly, while Internet services do contribute to customer relationships, it is not enough to replace the role of personal contact in building relationships, and strong relationships are essential to counteract the tendency of the Internet to reduce switching costs.

This is consistent with the discussion in Howcroft and Durkin (2000), who advise that customer - bank relationships cannot be ignored when implementing Internet banking. Banks have to work on other relationship elements simultaneously to develop ways to explicitly get customers to perceive high switching costs from the service they are rendering. For instance, good service with a range of supporting services through many channels increases benefits for the customer (e.g., training, after-transaction call back service). Customer support with training to use new technology is also crucial at the early stage of web-based service implementation (e.g., Larsen and Bloniarz, 2000). Research on other financial services in Thailand has shown that customers also want integration (e.g., Srijumpa et al 2002; Larpsiri and Speece 2004), and it seems evident from qualitative work in the banking industry also (Rotchanakitumnui and Speece 2003). Thus, a key element in strengthening relationships is about careful integration of Internet services into the other service channels, so that customers can move among service channels at will. This will allow banks to deliver value to all segments and strengthen customer relationships via the web channel while simultaneously enhancing interpersonal relationships. Integration can take the Internet channel out of the category of commodity services, so that the benefits do little to lower switching costs and the contribution to relationships helps create higher switching costs to bank customers.

REFERENCES:

Aladwani, A.M. (2001). "Online banking: A field study of drivers, development and expectation". International Journal Of Information Management, 21, 213-225.

Attaran, M. (2000). "Managing legal liability of the Net: A ten steps guide for IT managers". Information Management & Computer Security, 8(2), 98-100.

Bakos, J.Y. (1991). "A Strategic Analysis of Electronic Marketplaces". MIS Quarterly, September, 295-310.

Bakos, J.Y. and M.E. Treacy (1986). "Information technology and corporate strategy: A research perspectives". MIS Quarterly, 10(2), 107-119.

Berry, L.L. (1995). "Relationship marketing of services - growing interest, emerging perspectives". Journal of the Academy of Marketing Science, 23(4), 236-245.

Berry, L.L. and Parasuraman, A. (1991), Marketing Services: Competing Through Quality. The Free Press, New York.

Brodie, R.J., N.E. Coviello, R.W. Brookes and V. Little (1997). "Towards a paradigm shift in marketing? An examination of current marketing practices". Journal of Marketing Management, 13(5), 383-406.

Chircu, A.M., and R.J. Kauffman (2000). "Limits to value in electronic commerce-related IT investments". Journal of Management Information Systems, 17(2), 59-80.

Colgate, M. and R. Hedge (2001). "An investigation into the switching process in retail banking service". International Journal of Bank Marketing, 19(5), 201-212.

Colgate, M. and B. Lang. (2001). "Switching barriers in consumers markets: an investigation of the financial services industry". Journal of Consumer Marketing, 18(4), 332-347.

Cothrel, J. P. (2000). "Measuring the success of an online community". Strategy & Leadership, 28(2), 17-21.

Czepiel, J.A. (1990). "Service encounters and service relationships: Implications for research". Journal of Business Research, 20, 13-22.

Damanpour, F. (2001). "E-business E-commerce Evolution: Perspective and Strategy". Managerial Finance, 27(7), 16-33.

Daugherty, J.P., Ellinger, A.E., and , D.S. Rogers (1995). "Information accessibility: Customer responsiveness and enhanced performance". International Journal of Physical Distribution & Logistics. 25(1), 4-17.

Daniel, E. (1999). "Provision of electronic banking in the UK and the republic of Ireland". International Journal Of Bank Marketing, 17(2), 72-82.

De, R. and B. Mathew and D.A. Abraham (2001). "Critical constructs for analyzing e-businesses: investment, user experience and revenue models". Logistics Information Management, 1(2), 137-148.

Dick, A. and K. Basu (1994). "Customer Loyalty: toward an integrated conceptual framework". Journal of Marketing Science, 22(2), 99-113.

Doney, P.M. and J.P. Cannon (1997). "An examination of the nature of trust in buyer-seller relationships". Journal of Marketing, 61(April), 35-51.

Farhoomand, A.F., V.K. Tuunainen and L.W. Yee (2000). "Barriers to global electronic commerce: A cross-country study of Hong-Kong and Finland". Journal of Organizational Computing and Electronic Commerce, 10(1), 23-48.

Freiden, J., Goldsmith, R., Takacs, S., and C. Hofacker (1998). "Information as a product: Not goods, not services". Marketing Intelligence & Planning, 16(3), 210-220.

Gerrard, P., and J.B. Cunningham (2003). "The diffusion of Internet banking among Singapore consumers". International Journal of Bank Marketing. 21(1), 16-28.

Greaves, C., Kipling, P. and T.D. Wilson (1999). "Business use of the World Wide Web with particular reference to UK companies". International Journal of Information Management. 19, 449-470.

Grönroos, C. (1994). "From marketing mix to relationship marketing: Towards a paradigm shift in marketing". Management Decision, 32(2), 4-20.

Gundlach, G.T. and P.E. Murphy (1993). "Ethical and legal foundations of relational marketing exchanges". **Journal of Marketing,** 57, 35-46.

Hair, J. F., R .E. Anderson, R.L. Tatham and W.C. Black (1995). **Multivariate Data Analysis with Readings,** Fourth Edition, Prentice-Hall, Upper Saddle River, NJ.

Harker, M.J. (1999). "Relationship marketing defined? An examination of current relationship marketing definitions". **Marketing Intelligence & Planning,** 17(1), 13-20.

Howcroft, B. and M. Durkin (2000). "Reflections on bank-customer interactions in the new millennium". **Journal of Financial Services Marketing,** 5(1), 9-20.

Jackson, B.B. (1985). "Building customer relationships that last". **Harvard Business Review,** November-December, 120-128.

Klein, L.R., and J.A. Quelch (1997). "Business-to-business market making on the Internet". **International Marketing Review.** 14(5), 345-361.

Larpsiri, R., and M. Speece (2004). "Technology integration: Perceptions of sales force automation in Thailand's life assurance industry". **Marketing Intelligence & Planning,** 22(4), 392-406.

Lederer, A.L., D.A. Mirchandani and K. Sims (1997). "The link between information strategy and electronic commerce". **Journal of Organizational Computing and Electronic Commerce,** 7(1), 17-34.

Lee, M.K.O and E. Turban (2001). "A trust model for consumer Internet shopping". **International Journal of Electronic Commerce,** 6(1), 75-91.

Lee, M. and L.F. Cunningham (2001). "A cost/benefit approach to understanding service loyalty". **Journal of Service Marketing,** 15(2), 113-130.

Malhotra, N.K., J. Agarwal and M. Peterson (1996). "Methodological issues in cross-cultural marketing research: A state-of-the-art review". **International Marketing Review,** 13(5), 7-43.

McFarlan, F.W. (1984). "Information technology changes the way you complete". **Harvard Business Review,** 62(3), May-June, 98-103.

McGowan, P., M.G. Durkin, L. Allen, C. Dougan and S. Nixon (2001). "Developing competencies in the entrepreneurial small firm for use of the Internet in the management of customer relationships". **Journal of European Industrial Training,** 25/2, 3(4), 126-136.

Morgan, R. and S. Hunt (1994). "The commitment-trust theory of relationship marketing". **Journal of Marketing,** 58(July), 20-38.

Mulligan, P. and S. R. Gordon (2002). "The impact of information technology on customer and supplier relationships in the financial services". **International Journal of Service Industry Management,** 13(1), 29-46.

Nielson, C.C. (1996). "An empirical examination of switching cost investments in business-to-business marketing relationships". **Journal of Business & Industrial Marketing,** 11(6), 38-60.

Patterson, P.G. and T. Smith (2001a). "Modeling relationship strength across service types in an Eastern culture". **International Journal of Service Industry Management,** 12(2), 90-113.

Patterson, P.G. and T. Smith (2001b). "Relationship benefits in service industries: a replication in a Southeast Asian context". Journal of Services Marketing, 15(6), 425-443.

Polatoglu, V.N., and. S. Ekin (2001). "An empirical investigation of the Turkish consumers acceptance of Internet banking services". **International Journal of Bank Marketing,** 19(4), 156-165.

Porter, M.E. (2001). "Strategy and the Internet". **Harvard Business Review,** March, 63-78.

Porter, M.E. (1980). **Competitive Strategy.** The Free Press, New York.

Ratnasingham, P. (1998). "The importance of trust in electronic commerce". Internet Research: **lectronic Networking Applications and Policy,** 8(4), 313-321.

Rotchanakitumnuai, S., and M. Speece (2003). "Barriers to Internet banking adoption: A qualitative study among corporate customers in Thailand". **International Journal of Bank Marketing,** 21(6/7), 312-323.

Rotchanakitumnuai, S., and M. Speece (2004). "Corporate customer perspectives on business value of Thai Internet banking". **Journal of Electronic Commerce Research,** 5(4), November, 270-286.

Sengupta, S., R.E. Krapfel and M.A. Pusateri (1997). "Switching costs in key account relationships". **Journal of Personnel Selling & Sales Management,** 17(4), 9-16.

Sharma, N. and P.G. Patterson (2000). "Switching costs, alternative attractiveness and experience as moderators of relationship commitment in professional consumer services". **International Journal of Service Management,** 11(5), 470-490.

So, S.L.M. and M. Speece (2000). "Perceptions of relationship marketing among account managers of commercial banks in a Chinese environment". **International Journal of Bank Marketing,** 18(7), 315-327.

Srijumpa, R., M. Speece, and H. Paul (2002). "Satisfaction drivers for Internet service technology among stock brokerage customers in Thailand". **Journal of Financial Services Marketing,** 6(3), 240-253.

Storbacka, K., T. Strandvik and C. Grönroos (1994). "Managing customer relationships for profit: The dynamics of relationship quality". **International Journal of Service Industry Management,** 5(5), 21-38.

Tyler, K. and E. Stanley (1999). "UK bank-corporate relationships: large corporations' expectations of service". **International Journal of Bank Marketing,** 17(4), 158-170.

Wilson, D.T. and R.R. Vlosky (1998). "Interorganizational information system technology and buyer-seller relationships". **Journal of Business & Industrial Marketing,** 13(3), 215-234.