Article Title Page

The Impact of Company Learning and Growth Capabilities on the Customer Related Performance

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Structured Abstract: Purpose- The purpose of this study is to investigate the relationship between a company's customer related performance and its learning and growth capabilities.

Design/methodology/approach- Four banks in Taiwan—Citibank, Chinatrust, Taipei Fubon Bank, and Taiwan HSBC—have recently applied the BSC perspective to their customer service. This research was designed to use the data of these sample banks and analyze it to build the theoretical relationship.

Findings- The results reveal that a company's customer related performance is positively associated with the interactions of its Human Resource Service Capability (HRSC), Information Technology Service Capability (ITSC) and Marketing Service Capability (MKSC).

Originality/value/practical implications- This paper contributes to the literature by providing empirical evidences that when an organization establishes and raises levels of company learning and growth capabilities by using HR-service capability, IT-service capability, and MK-service capability, conjoint effects of these result in a favorable interaction relationship and thus can help achieve a higher level of customer related performance.

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The Impact of Company Learning and Growth Capabilities on Customer-Related Performance

1. Introduction

Most banking systems have come across some degree of inefficiency in their business operations and performance, especially in the management of their learning and growth capabilities. Many studies have concluded that these are the results of circumstances such as those when service in the transaction process is very complex and customized (Levitt, 1983), the external environment is dynamic rather than static, and marketing is uncertain; that is, when sellers are not sure what the buyers want (Zeithaml, 1981). To respond to this challenge, many studies have suggested considering the concept of the BSC. Kaplan and Norton (2001, 2004, and 2006) presented their balanced scorecard (BSC) to measure organizational performance from four perspectives: financial, customer, innovation and learning, and internal business. The traditional financial accounting models were designed, it is argued, to control employees, including sales personnel behaviors, and, therefore, might not be appropriate for providing quality customer service.

In “Customer Perspective,” Kaplan and Norton (2001) suggested that there were three categories for value propositions: (a) product and service attributes, (b) customer relationships, and (c) image and reputation. The purpose of this study is to investigate how a company’s learning and growth capabilities are associated with customer-related performance in after-sales marketing. The BSC perspective (Kaplan and Atkinson, 1998) suggests that each business has its unique set of processes for creating value for customers. By creating value that the customers would be looking for, the company could acquire and retain customers and satisfy their needs. Following the generic value chain model, Kaplan and Norton (1996) suggested that value creation efforts in the internal business process had the greatest impact on customer satisfaction. Kaplan and Norton’s (2001) suggestion for marketing value relationships ties in closely with the core study of organizational performance as viewed under BSC philosophy.

The considerable amount of research concludes that, based on Kaplan and Norton’s (2001) four major perspectives of organizational performance, the BSC is able to measure customer-related performance in after-sales marketing that could include customer loyalty, internal process efficiency, channel management, response to customers, and innovation. A large part of the performance of an organization’s operation now is based on technology; however, viewing performance as a technology-only solution is likely to fail (Chen and Popovich, 2003; Greenberg, 2000; Zablah et al., 2004). Studies suggest that both IT-service and sales personnel–service play important roles in the performance process. Zablah et al.’s (2004) conclusion of performance as being the ongoing interaction of customer relationships is strongly linked to the marketing concept (Hasan and Crawford, 2003), which means that organizational change needs to respond to customer requirements in a dynamic market situation (Kohli and Jaworski, 1990; Narver and Slater, 1990).

The development of the framework, conceptualizations, and theoretical relationships of this paper has been borrowed from the contributions of the previous studies on the BSC (Kaplan and Atkinson, 1998; Kaplan and Norton, 2001). For example, this paper is trying to extend the scope of IT by analyzing sales, service, and marketing, which are the three touch-points of customers supported by IT service. These four pillars (sales, service, marketing, and IT) and their inter-dependence and inter-impact analyses will be of great interest for readers, and

thus, this is the contribution of the paper. The variables under each of these four aspects will, we believe, strengthen the objective of the study. The impacts and their inter-relationships within these four pillars were identified by the earlier literature, and these can be designed into theoretical relationships as follows:

- a) *There is a positive relationship between sales personnel's HR-service capability and customer-related performance in after-sales marketing;*
- b) *There is a positive relationship between sales personnel's IT-service capability and customer-related performance in after-sales marketing;*
- c) *There is a positive relationship between sales personnel's MK-service capability and customer-related performance in after-sales marketing.*

2. Theoretical Development and Hypotheses

The paper has drawn information and references from earlier studies to compare and demonstrate its contribution to the literature. It has provided current exposition from the arguments of the BSC perspectives. Importantly, we are making a case that salespeople, technology, and marketing service elements have an impact on customer-related performance, specifically in the after-sales marketing service. We have tried to show that there exists an inter-dependence among the three elements—sales, service, and marketing—supported by technology and how it has an impact on the customer relationship. We also argue that the three components and their relationship—sales, service and marketing—have strengthened the hypotheses of this paper. To deliver more clarity on the aspect of the integration of all three aspects, a separate section on the interactive effect has been provided. The section also shows the reasons for the choice of the variables underlying these three aspects, which resulted in the 76 items in the questionnaire.

2.1 Customer-Related Performance

In this study we evaluate customer-related performance using the BSC approach developed by Kaplan and Norton (1992). This approach looks at an after-sales marketing evaluation from the major perspective of customer-centric interaction. In their study, Payne and Frow (2005) used the customer-centric perspective, where sales service organizations focus more on emphasizing customer needs. Managing customer relationships in this way can create value for both the buyers and the sellers (Singh and Agrawal, 2003). Nonfinancial service productivity, such as service/product innovation, is linked with how sales personnel's service channels meet customer needs. The BSC also emphasizes service quality and customer interaction. These aspects are as important as financial ones. The literature shows that some nonfinancial factors contribute very significantly to sales-customer interaction in marketing and, therefore, this has become a part of a customer-related performance study in the sales, service, and marketing industry. Based on this, this study proposes customer-related performance in respect to the BSC perspective, which includes customer loyalty, internal process efficiency, channel management, and innovation.

In customer-related performance, the organization is required to make use of resources—human resource (HR) capability, information technology (IT) capability, and marketing service (MK) capability. HR capability refers to well-trained, well-rewarded, and skilled employees with professional expertise (Byrd and Turner, 2000). IT capability comprises both technological systems and the managerial expertise required to provide reliable services (McKay and Brockway, 1989). For MK

capability, organizations have to realize the importance of better communication, faster delivery, and more personalized products and services. This implies that the interaction between buyers and sellers is a two-way process and better supports and builds the marketing service relationship (Chen and Popovich, 2003).

2.2 Hypotheses

Customer-related performance in after-sales marketing depends heavily on the sales personnel's IT-service capability, along with HR- and MK-service capability (Kim, Zhao, and Yang, 2008; Frow and Payne, 2009; Shum, Bove, and Auh, 2008). For example, when information is requested, sales personnel's MK- and IT-service capability can provide marketing service that increases, in its turn, HR-service capability so that each customer's request can be responded to (Chopra and Meindl, 2003; Krasnikov, Jayachandran, and Kumar, 2009). This literature has highlighted the emergence of these service capabilities in relation to customer-related performance. This emergence is similar to studies on the BSC, which combines people, technology, and marketing elements to achieve a better understanding of the buyer-seller relationship. Thus, it can be said that the BSC has also evolved with advances in information technology and organizational changes in customer-focused processes. It is an integrated approach to managing customer relationships and customer-related performance, focusing especially on customer retention and relationship development.

Two-Way Interaction Effects

The first hypothesis (H1) is concerned with the two-way interaction effect of each of these constructs—sales personnel's HR-, IT-, and MK-service capabilities; more particularly, how these effects can contribute to customer-related performance in after-sales marketing. For example, it is true that no sales personnel can remember every customer's preferences and needs, so a large amount of collected information relies heavily on e-technology (Chen and Popovich, 2003; Ray, Muhanna and Barney, 2005; Shum et al., 2008), meaning that a large percentage of customer interactions will take place over the Internet rather than directly with sales personnel (Payne and Frow, 2004; Ravichandran and Lertwongsatien, 2005).

When customer service plays a large role in an organization, electronic media are used to enhance sales personnel–customer interaction (Harris, Mowen, and Brown, 2005; Rivard, Raymond, and Verreault, 2006). This study, therefore, argues that both sales personnel and IT-service capability are keys to predicting customer-related performance in after-sales marketing. Technology plays an important role in a business's success, while at the same time, sales personnel can provide enhanced services to the target customers of the company, thus raising performance quality. Based on these arguments, it is relevant to investigate whether interaction effects exist in the BSC process, because excluding the interaction effects of the three service assets—HR-, IT-, and MK-service capabilities—will lead to inaccurate predictions of customer-related performance. This leads to the following hypothesis:

Hypothesis 1a: The two-way interaction between sales personnel's HR-service capability and IT-service capability will increase customer-related performance in after-sales marketing.

The effect of the interaction between sales personnel's HR- and MK-service capabilities on raising customer-related performance in after-sales marketing should be considered. For example, sales personnel's MK-service capability is outside

organizational boundaries (Doz and Hamel, 1998), and the capability allows sales personnel to understand customer data, identify valuable customers, and strengthen customer relationships by giving customized products and services (Rigby, Reichheld, and Schefter, 2002). Sales personnel's HR-service capability largely relies on the MK-service capability to promote better quality service to their customers, because the MK-service capability enhances the marketing knowledge flows and conversation between the sales personnel and the customers. Thus, sales personnel can provide customized service. Therefore, this study proposes a combination of these two service capabilities when an organization is considering a customized products/services design (Homburg, Wieseke and Bornemann, 2009). Indeed, sales personnel's HR-service capability should be combined with MK-service capability as a value-creation marketing approach to create mutual value, which would help to strengthen customer-related performance. Accordingly, it is hypothesized that:

Hypothesis 1b: The two-way interaction between sales personnel's HR-service capability and MK-service capability will increase customer-related performance in after-sales marketing.

Some literature suggests that the results of utilizing IT-service applications have raised a concern about disappointing productivity resulting from the lack of another resource combination, such as sales personnel's MK-service capability (Powell and Dent-Micallef, 1997; Ray et al., 2005; Shum et al., 2008). This leads to the argument that the automatic IT tool in the service system cannot manage sales personnel–customer relationships well (Boulding, Staelin, Ehret, and Johnston, 2005; Rigby et al., 2002; Chen and Popovich, 2003). Indeed, MK-service capability is viewed as the capturing, storing, and sharing of each salesperson's service skills and know-how in relation to customer affairs. Combined with sales personnel's MK-service capability, the IT service capability can better contribute to customer-related performance. Therefore, while the “IT productivity paradox” (Powell and Dent-Micallef, 1997) raises concerns because IT alone is non-competitive for organizations, this study proposes that the IT-service usage should be combined with the MK-service capability. To gain a better customer-related performance, it would be well to have sales personnel who have IT-service capability and MK-service capability. These leads to the following hypothesis:

Hypothesis 1c: The two-way interaction between sales personnel's IT-service capability and MK-service capability will increase customer-related performance in after-sales marketing.

Three-Way Interaction Effect

Studies were done where sales personnel's HR-service capability was considered, specifically in the context of customer-related performance in after-sales marketing (Zhou, Li, Zhou, and Su, 2008). They have argued that IT-service capability can lead to better service, based on customer needs (Harris, Mowen, and Brown, 2005; Shum et al., 2008), and also that MK-service capability helps banks to enhance service-marketing relationships, because it facilitates knowledge sharing and information flow between both the sales personnel and the customers (Ahearne, Bhattacharya, and Gruen, 2005; Homburg et al., 2009). However, customer-related performance can be thought of as having all three initiatives working together to

enable an organization to more effectively respond to its customers' needs. Therefore, there remains a study gap in regards to looking simultaneously at these three constructs and their interrelationships.

To discover the three-way interaction effects, empirical testing could examine whether combinations of these three constructs (sales personnel's HR-, IT-, and MK-Service capabilities) could increase customer-related performance in after-sales marketing. Stated differently, customer-related performance is not merely an IT tool application, but rather, a cross-department, customer-oriented, IT-integrated management strategy that maximizes relationships and includes the whole organization (Chen and Popovich, 2003; Shum et al., 2008). We, thus, hypothesize as follows:

Hypothesis 2: The three-way interaction among sales personnel's HR-service capability, IT-service capability, and MK-service capability will increase their customer-related performance in after-sales marketing.

3. Methodology and Research Design

The paper is built on underpinnings of theoretical basis, concepts, arguments, or other ideas. For example, this research has been designed considering the following: it has a robust base as far as sample size is concerned, and the theory-grounding includes sales, services, and marketing, the three touch points of customers, enabled by IT. Now, the four pillars—sales, service, marketing, and IT components—have been brought into the hypotheses, and the inter-dependence and inter-impact of those four pillars have been analyzed. Particularly, the paper firmly includes the significant “after-sales” impact in the hypotheses and others showing a distinction between sales and marketing.

3.1 Sampling

Four banks in Taiwan—Citibank, Chinatrust, Taipei Fubon Bank, and Taiwan HSBC—have recently applied the BSC perspective to their customer service. The questionnaire was distributed to 400 customers served by the banks. Three hundred satisfactorily completed questionnaires are used in the sample analyses. The sample participants were 182 women and 118 men. These four banks have performed internationally by issuing financial products such as global exquisite articles, international stock funds, and European market funds. This research was designed to use the data of these sample banks and analyze it to build the theoretical relationship.

These banks also issue many diversified products, including traditional financial merchandise such as stocks, bonds, deposits, and financial bills; popular financial merchandise such as real estate investment trusts (REITS), cash cards, and credit cards; and new financial merchandise such as high-tech industry funds, emerging market stocks, and global exquisite articles. Data from these sample banks were used to show how BSC perspectives play an important role in the integration of management processes. Specifically, the BSC emphasizes raising the level of the buyer-seller relationship and satisfaction by creating value for customers, and sellers use the BSC model to understand the preferences and needs of their customers and increase the value of services offered.

3.2 Statistical Analysis and Tools

Statistical tests using SPSS for data analysis included:

- 1) correlation analysis to study the relationship between variables;
- 2) multiple hierarchical regressions to test and analyze the effect of the interaction among these three independent variables on the dependent one (Baron and Kenny, 1986; Stone-Romero and Anderson, 1994; Yousef, 2000; Parker, 2003);
- 3) descriptive statistics (e.g., mean and S.D.), factor analysis, reliability analysis, and relevant charts, graphs, and tables.

3.3 Control Variables

Regarding service failure and negative outcomes, research has suggested that a high quality relationship, when institutions meet customers' expectations and needs such as satisfaction and trust, is one of the effective ways to reduce uncertainty (Roloff and Miller 1987; Zeithaml, 1981). A successful marketing approach has been defined as the customers' psychological contract for a higher level of satisfaction and trust. These two matters make an organization profitable, because, as a result of these two qualitative attributes, the organization can retain its customers (Chen and Popovich, 2003). Some studies have also concluded that a strong buyer-seller relationship results in a higher level of customer satisfaction (Crosby and Stephens, 1987; Parasuraman, Zeithaml, and Berry, 1985). Moreover, levels of satisfaction and trust in the BSC can act as measures of a relationship (Crosby, Evans, and Cowles, 1990). A good buyer-seller relationship can reduce uncertainty and negative outcomes (Roloff and Miller, 1987; Zeithaml, 1981). Based on these studies and Zablah et al.'s (2004) understanding of the second ordinal "process," our study applied these two potential roles, service quality satisfaction and service information trust, to the control variables of this research.

It may be argued that these two could be perceived as an interface for the better relationship that customers derive value from. Using conclusions from prior studies to add these two roles in the BSC study, our research findings could interpret customer-related phenomena and performance measures. When an organization uses BSC measures with web-based applications to create and raise the levels of service quality and service information, the effect of these results in a favorable customer relationship and trust, which could help the organization raise customer-related performance.

3.4 Measurements, Reliability, and Validity

Responses were analyzed using a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). A principal-component factor analysis (Rotated Varimax Solution) was used to ensure adequate measures of validity and reliability. These research scales were also analyzed: sales personnel's HR-service capability, IT-service capability, marketing knowledge asset, quality service satisfaction, information service trust, and customer-related performance in after-sales marketing. Following the customer-related performance arguments from the literature, this study surrogated the customer-related performance for the BSC. The customer-related performance was measured using five factors with 14 items based on the following:

- 1) each scale's KMO (Kaiser-Meyer-Olkin Measuring of Sampling Adequacy) exceeded Rice's (1974) recommendation level of 0.5;
- 2) each scale's Bartlett's χ^2 was statistically significant;
- 3) each scale's reliability (Cronbach's α) exceeded Nunnally's (1978) recommendation level of 0.7 ;
- 4) each scale's "cumulative explained (%)" exceeded the level of 50.00%, except for the scale "marketing knowledge asset," which was at the level of 49.294%;
- 5) each factor's Eigenvalue

exceeded earlier recommended level of 1.000, and each item's factor component exceeded the level of .500, except the item "marketing segment service," which was at the level of .480. (Customer-related performance for the internal process (factors 1 and 5) and customer perspective (factors 2, 3 and 4-IP and CPBSC) variables are a proxy for the customer-related performance.)

4. Results and Analysis

This section presents the analysis of the results using adequate statistical perspectives (Baron and Kenny, 1986; Stone-Romero and Anderson, 1994; Yousef, 2000; Parker, 2003).

4.1 Mean Score, Standard Deviation, Reliability, and Correlations

Table 1 shows that the two highest mean scores were on the "Trust in BSC" (3.37) scale and the "Organizational Support for BSC Marketing Relationships" scale (3.36). The lowest mean score was on the "e-Service Quality" scale (3.30). The two highest standard deviation scores were on the "People-Service Quality" scale (.37) and "Trust in BSC" scale (.40). The lowest standard deviation score was on the "customer-related performance" scale (.31). Table 1 also shows that the two highest reliabilities were on the "customer-related performance" (.84) and "e-Service Quality" (.84) scales. The three lowest reliabilities were on the "Satisfaction with BSC" (.82), "Organizational Support for BSC Marketing Relationship" (.82), and "People-Service Quality" (.83) scales. The overall reliability alpha for this study was .8585. All reliabilities on this table exceed Nunnally's (1978) recommended level of .70. Table 1 also shows the correlation coefficients for all variables. It shows that hypotheses 1a, 1b, and 1c were all supported, because all the correlation coefficients were statistically significant and in the hypothesized direction (.45, .52, and .47, respectively).

Table 1 Overall Correlation

	Mean	S.D.	α	VIF	1	2	3	4	5	6
1	3.32	.37	.83	1.8	1					
2	3.30	.36	.84	1.5	.47**	1				
3	3.34	.31	.82	1.8	.57**	.45**	1			
4	3.37	.40	.83	2.0	.53**	.45**	.59**	1		
5	3.36	.35	.82	1.7	.55**	.49**	.58**	.48**	1	
6	3.32	.31	.84	1.0	.45**	.52**	.47**	.43**	.52**	1

** Correlation is statistically significant at the 0.01 level (2-tailed)

1. HR-Service Capability; 2. IT-Service Capability; 3. Service Quality Satisfaction; 4. Service Information Trust; 5. MK-Service Capability; 6. Customer-Related Performance

4.2 Results of Multiple Hierarchical Regression Test

The examination of variance inflation factor (VIF) scores did not show a major issue of multicollinearity in this study, based on the VIF scores range from 1.503 to 2.020 (Cohen et al. 2003). The first model showed the statistically significant result of the positive correlation effect of the three independent variables, that is, HR-service capability ($\beta=.027$, $p<.01$), IT-service capability ($\beta=.275$, $p<.01$), and MK-service capability ($\beta=.254$, $p<.01$), on customer-related performance. The

statistically significant result of this model also explains the 38.1% ($R^2 = .381$, $p < .01$) of the variance in customer-related performance. Adding the control variables into the second model resulted in the statistically significant positive correlation effect of the two independent variables and one control variable, such as IT-service capability ($\beta = .248$, $p < .01$), MK-service capability ($\beta = .201$, $p < .01$), and service quality satisfaction ($\beta = .125$, $p < .10$), on customer-related performance. The statistically significant result of this model also explained the 39.7% ($R^2 = .381$, $p < .01$) of the variance in customer-related performance. The statistically significant result of F change ($\Delta F = 3.885$, $p < .05$) in this model showed that adding a control variable, such as service quality satisfaction, had a statistically significant influence on customer-related performance.

The third interaction model showed that the statistically significant result of the negative interaction relationship between HR-service capability and IT-service capability ($\beta = -.319$, $p < .05$) decreased customer-related performance. However, this model showed that the statistically significant result of the positive interaction relationship between IT-service capability and MK-service capability ($\beta = .206$, $p < .1$) and between service quality satisfaction and service information trust ($\beta = .149$, $p < .1$) all increased customer-related performance. The statistically significant result of this interaction model also explained the 41.6% ($R^2 = .416$, $p < .1$) of the variance in customer-related performance. The significant F change ($\Delta F = 2.346$, $p < .1$) in this model showed that adding a two-way interaction term, such as HR-service capability*IT-service capability, IT-service capability*MK-service capability, or service quality satisfaction*service information trust, had all a statistically significant influence on customer-related performance. Based on this two-way interaction model, therefore, hypothesis 1c was supported, because the coefficient was statistically significant in the hypothesized direction. However, hypothesis 1a was not supported, as the sign of the coefficient ($\beta = -.319$, $p < .05$) was not as predicated in a one-tailed hypothesis. There was no support for hypothesis 1b, because the coefficient was not statistically significant in the hypothesized direction.

Table 2 Result of Multiple Hierarchical Regressions for All the Hypotheses

Customer-related Performance				
Model 1	Step1	Step2	Step3	Step4
Independent Variables :				
X1.1 : HR-service capability	.027***	.072	.754*	3.227**
X1.2 : IT-service capability	.275***	.248***	.632	2.995**
X4.1 : MK-service capability	.254***	.201***	-.766*	1.764
Model 2				
Control Variables :				
X2.1 : Service quality satisfaction		.125*	-.380	-.394
X2.2 : Service information trust		.058	-.428	-.433
Model 3:				
Two-way Interaction:				
X1.1*X1.2			-.319**	-1.053**
X1.1*X4.1			.099	-.684
X1.2*X4.1			.206*	-.545
X2.1*X2.2			.149*	.153*

Model4:**Three-way Interaction:****X1.1*X1.2*X4.1**

				.231*
ΔR^2	.381***	.016**	.019*	.005*
R^2	.381***	.397**	.416*	.421*
ΔF	60.764***	3.885**	2.346*	2.747*
F	60.764***	38.723***	2.949***	21.053***

***p< .01 (2-tailed), ** p< .05 level (2-tailed), *p< .1 level (2-tailed)

The fourth model showed a positive, statistically significant relationship ($\beta=.231$, $p<.1$) between the three-way interaction term of HR-service capability, IT-service capability, and MK-service capability and customer-related performance. This three-way interaction model also showed that the statistically significant result of the negative interaction between HR-service capability and IT-service capability ($\beta= -1.053$, $p<.05$) decreased customer-related performance. However, this model showed that the statistically significant result of the positive relationship between service quality satisfaction and service information trust ($\beta=.153$, $p<.1$) all increased customer-related performance. The statistically significant result of this three-way interaction model explained the 42.1% ($R^2= .421$, $p<.1$) of the variance in customer-related performance. The statistically significant F change ($\Delta F = 2.747$, $p<.1$) in this model showed that adding the three-way interaction term had a significantly positive influence on customer-related performance. Based on this three-way interaction model analysis, therefore, hypothesis 2 was supported, because the coefficient was statistically significant and in the hypothesized direction ($\beta=.231$, $p<.1$). All the results for these hypotheses are summed up in Table 3.

Table 3 Overall Summary of All Hypotheses Testing

Theoretical Relationship	Hypothesis Relationship	Coefficient	Results
1a: HR-service capability * IT-service capability	+	-.319**	Not Supported
1b: HR-service capability * MK-service capability	+	.099	Not Supported
1c: IT-service capability * MK-service capability	+	.206*	Supported
2: HR-service capability * IT-service capability * MK-service capability	+	.231*	Supported

***p< .01 (2-tailed), ** p< .05 level (2-tailed), *p< .1 level (2-tailed)

5. Discussion and Conclusion

The paper identifies implications for practice and further research consistent with the findings and conclusions of the paper. This paper presents the variables level and the degree of emphasis of these variables on the three-way impact on customer relationship performance. Specifically, the sales aspect has been brought into the paper based on a strong bearing on customer expectations. Overall, this paper makes its case and contributes to the body of literature in this area.

5.1 Overall View of Findings

Our empirical testing indicated that sales personnel's IT-service capability had the highest effect ($\beta=.275$, $p<.01$) on customer-related performance in after-sales marketing and the MK-service capability had the second highest effect ($\beta=.254$, $p<.01$). Sales personnel's HR-service capability had a positive correlation effect ($\beta=.027$, $p<.01$) on customer-related performance in after-sales marketing even though its correction coefficient was the lowest of these three independent variables. Regarding two-way interaction effects, our testing supported the two-way interaction term of hypothesis 1c (.206*). The result indicates that the two-way interaction effect of the combination of sales personnel's IT-service capability and MK-service capability increases customer-related performance in after-sales marketing. The three-way interaction effect of the combination of the HR-service capability, IT-service capability, and MK-service capability also increases customer-related performance. In other words, the customer-related performance process integrates HR-service capability, IT-service capability, and MK-service capability to maximize the relationship of an organization with its customers. It can be argued that the customer-related performance process is the result of all these three initiatives working together to enable an organization to more effectively respond to its customers' needs.

5.2 Primary Effects

Consistent with earlier studies (Chen and Popovich, 2003; Pan and Lee, 2003; and Zablah, et al., 2004), the first model supported the fact that the effects of the three independent variables were statistically significant and had a positive correlation effect on customer-related performance. Empirical evidence indicated that, of these three variables, sales personnel's IT-service capability had the highest effect ($\beta=.275$, $p<.01$) on customer-related performance in after-sales marketing, which suggests that an organization should develop and maintain its IT-service capability in areas such as Internet service, marketing information integration, technology integration, and data integration. Our empirical evidence also showed that sales personnel's MK-service capability had the second highest effect ($\beta=.254$, $p<.01$) on customer-related performance in after-sales marketing, which suggests that an organization should learn and sense the marketing relationship, share professional knowledge, and encourage sales personnel to be team players. Our empirical study also showed that sales personnel's HR-service capability had a positive correlation effect ($\beta=.027$, $p<.01$) on customer-related performance in after-sales marketing; therefore, an organization should understand the importance of response time, service and information support for customers, accurate and efficient service, and others.

One among many factors that could help to explain our finding of the independent effects of HR-service capability, IT-service capability, and MK-service capability on customer-related performance is that of defining HR-service capability

as including well-trained, well-skilled, and well-rewarded sales personnel with professional expertise (Byrd and Turner, 2000; Lee et al., 1995). Their attitude, appearance, and capability directly affect customers' viewpoints and contribute to customers' impressions (Kim, Suh, and Hwang, 2003). Thus, an organization's support of its sales personnel in acquiring knowledge and skills, cross-training them to fully support customer-related affairs, and rewarding them based on performance would improve customer-related performance. Other advantages for the organization in having a BSC approach to its marketing interaction include quick service and response time, two-way interactive service relationships, and the ability to provide service for customers from anywhere at any time (Pan and Lee, 2003).

5.3 Two-way Interaction Effects

The third model (Table 2) of two-way interaction terms supported hypothesis 1c (.206*), because the coefficient was statistically significant in the hypothesized direction. The result indicated that the two-way interaction effect between sales personnel's IT-service capability and MK-service capability increased customer-related performance in after-sales marketing. Therefore, organizations that experience some degree of change in the market should use their IT-service capability to search, store, analyze, and update current customer information in order to respond to their customer needs. Providing support for an efficient response would result in an increase in customer-related performance. However, this third model did not support hypothesis 1a (-.319**), because the coefficient was not statistically significant in the hypothesized direction. We found that the two-way interaction effect of HR-service capability and IT-service capability decreased the customer-related performance, which is an indication of the importance of the need for managers to integrate sales personnel's service assets, such as improving their other skills and IT-service capability.

When an organization trains its sales personnel to provide overall internal support to its IT service so that customers receive complete and correct information, would this two-way interaction effect increase customer-related performance in after-sale marketing? Model 3 did not support hypothesis 1b (.099), because the coefficient was not statistically significant. This indicated that the two-way interaction effect between HR-service capability and MK-service capability did not influence the performance. In other words, this model showed an insignificant relationship among HR-service capability (.754*), MK-service capability (-.766*), and performance, though theoretically, we expected that these two would positively affect customer-related performance. Our empirical evidence in the two-way interaction model suggests the important need for integration of both sales personnel's HR- and IT-service capability, because these two are major factors in predicting customer-related performance. The IT service plays an important role in enhancing customer-related performance, while at the same time, individual sales personnel are necessary to provide the customer service. Thus, when we consider that the IT functionality refers to online services and functions, which provide information, transactions, interaction, and customer services, our interaction model helps us to better understand that the IT service should comprise both technological systems and managerial expertise.

In short, customer service has evolved from advances in information technology and organizational changes in customer-focused processes. It is now an integrated approach using both sales personnel's HR and IT service to manage their customer relationships, focusing especially on customer retention and relationship

development. Perhaps some of the negative or insignificant results were caused by combining all of the selected variables into a single dependent variable and only testing their direct relationship, not their indirect relationship. Also, an organization should support and build customer service into the after-sales marketing relationship, and it is especially important that top management shows leadership and commitment to developing the marketing relationship (Chen and Popovich, 2003). Therefore, an organization's growth and health is likely to be enhanced when an organization learns how to apply marketing knowledge to its available IT service as a tool to acquire customers in the target market.

5.4 Three-Way Interaction Effect

The last model (Model 4) of the three-way interaction supported hypothesis 2 (.231*), because the coefficient was statistically significant. The empirical result indicated that the three-way interaction effect among sales personnel's HR-service capability, IT-service capability, and MK-service capability increased customer-related performance in after-sales marketing. In other words, the process integrated HR-service capability, IT-service capability, and MK-service capability to maximize the relationship of an organization with all of its customers. Our study supported the understanding that customer-related performance is a combination of sales personnel, technology, and marketing service factors and achieved a better understanding of the buyer-seller relationship.

There were some factors that could explain our findings of the three-way interaction effects of HR-service capability, IT-service capability, and MK-service capability on customer-related performance. Linking to the BSC perspective helps achieve a better understanding by using the service technology and web-based applications as important tools to connect the "front office"—sales, marketing, and customer service—with the "back office"—finance, operations, logistics, and human resources. A large percentage of customer activity will take place with sales personnel's IT service and MK service, and directly with HR-service capability. When an organization offers a large amount of customer service, sales personnel use IT electronic media and marketing knowledge to enhance the interaction with the organization's customers (Chen and Popovich, 2003). Therefore, viewing customer-related performance from a technology-only perspective is likely to fail, even though a large part of market learning and growth might involve technology (Chen and Popovich, 2003; Greenberg, 2000; Zablah et al., 2004). The customer-related performance measures enhance the integration of data, information, and knowledge from e-commerce to support services in marketing and sales over a single, customized web interface (Pan and Lee, 2003).

5.5 Conclusion

The major theoretical grounds for this study include (a) the conceptual underpinnings of customer-related performance in after-sales marketing to develop and build this theoretical model; (b) the application of sales personnel's human resource, information technology, and marketing knowledge service assets; (c) viewing customer resource management as a tool to help organizations adapt to marketing needs; and (d) illustration of the importance of MK-service capability. Among these theoretical studies, we find that, when an organization establishes and raises levels of company learning and growth capabilities by using the HR-service capability, IT-service capability, and MK-service capability, the interactive effects of these result in a favorable relationship and thus can help achieve a higher level of

customer-related performance in after-sales marketing.

5.6 Limitations and Future Study

With regard to external validity, our research design allowed for data collection from only four representative banks in Taiwan in 2006. Even though it would be beneficial to enhance the validity of the findings by studying bank services in the future, we believe that our current research still achieved satisfactory levels of accuracy and precision, because these four banks have applied BSC perspectives to their customer marketing service. Data collection by mail may result in a low response rate, because participants may ignore the questionnaires, be too busy to complete them, or just not be interested in answering the questionnaire. All the questionnaires were distributed and then collected after completion. Because the length of the questionnaire (76 questions) may have introduced a problem of “time stress,” we did not collect information on demographic variables, such as gender, age, and educational background.

Finally, some earlier studies had suggestions on the issue of research validity. One of these was that a scale’s “cumulative explained (%)” should exceed the level of 50.00%, and each item’s factor component should exceed the level of .500. In our study, the scale “marketing knowledge asset” was at the level of 49.294%, and the item “marketing segment service” was at the level of .480. Even though the scale “marketing knowledge asset” was at the level of 49.294%, it came very close to the suggested level of .500. Moreover, the scale’s overall reliability (Cronbach’s α) was .7306 and exceeded Nunnally’s (1978) recommendation level of 0.7. The item “marketing segment service” was at the level of .480; however, it was very close to the factor component suggestion level of .500. In addition, the scale’s overall reliability (Cronbach’s α) was .7019, and the scale’s KMO was .754, which exceeded Rice’s (1974) recommended level of 0.5. The scale’s Bartlett’s χ^2 was 436.275, with statistical significance, and the factor’s Eigenvalue exceeded earlier (1974) recommended level of 1.000.

The customer-related performance measured by the BSC tool enables organizations to respond to complex performance evaluations of their operations. Zablah et al. (2004) suggested the development of conceptual models and the extension of their measurement to enable a better understanding of the process of customer-related performance. Their suggestion leads us to define customer-related performance success as an organization’s capability to build a “profit-maximizing portfolio” of customer relationships. In other words, efficient customer-related performance perspective use is likely to enhance its success. This leads to two major research questions for future study. For example, it has been argued that a company’s learning and growth capabilities could have an impact on the internal business process and customer perspective of the BSC. Therefore, a company’s resource capabilities would be “directly” needed to improve the internal business process to produce innovative, quality, on-time, value-for-money products or services.

It is possible that trust, satisfaction, and loyalty play roles as mediators in enhancing the influence of company learning and growth capabilities on the internal business process and the customer-related performance. Using early conceptual “integration” theory—the combining of internal (organization) and external (marketing) factors in a high-performing organization—Christensen and Overdorf (2000) suggested that organizations should be good at responding to changes in their markets. A study could examine whether the variable of the MK-service capability

in customer expectation moderates the relationship between and among the independent variables of HR-service capability, IT-service capability, mediators satisfaction and trust, and the dependent variable of performance.

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Appendix 1. Factor Analysis to all Constructs

HR-Service Capability

Factor 1	Loading	Factor 2	Loading
Speed to service.	.722	Providing right information.	.597
Efficiency to service.	.791	Providing believable information.	.772
Waiting time to service.	.749	Providing completed information.	.780

Factor 3	Loading	Factor 4	Loading
Accuracy service to customer need	.700	Sales personnel service training	.788
Efficiency service to deal with complaint	.637	Sales personnel service capability trust	.762
Overall service to support internal need	.723		

Factor 1: Sales Personnel Response Time; **Factor 2:** Sales Personnel Service to Information Support; **Factor 3:** Sales Personnel Asset; **Factor 4:** Sales Personnel Capability.

Overall $\alpha = .7284$; Cumulative explained (%) = 59.027; KMO = .750; Bartlett's $\chi^2 = 504.227^{**}$; Overall Eigenvalue > 1; **Sig. = .000.

Resources: factors/ items were derived from DeLone and McLean (1992).

IT-Service Capability

Factor 1	Loading	Factor 2	Loading
Website service	.761	Searching potential customer	.624
Online safety service	.757	Assisting decision-making	.656
Marketing segment service	.480	Enhancing marketing promotion	.520
		Searching overall service information	.549

Factor 3	Loading	Factor 4	Loading
Internal and external system integration	.825	Searching customer information	.548
Access integration	.818	Storing customer information	.798
		Analyzing customer information	.606

Factor 1: Internet Service; **Factor 2:** Marketing Information Integration; **Factor 3:** Technology Integration; **Factor 4:** Data Integration; Overall $\alpha = .7019$.

Cumulative explained (%) = 53.131; KMO=.754; Bartlett χ^2 =436.275**; Overall Eigenvalue >1; **Sig. = .000.

Resource: factors/ items were derived from Byrd and Turner (2000), Kim et al. (2003), Weill and Vitale (2002), Pan and Lee (2003), Plakoyiannaki and Tzokas (2002), and Storey (2000).

MK-Service Capability

Factor 1	Loading	Factor 2	Loading
Leadership support to learning	.655	Department information flow	.657
Awareness of market changes	.612	Knowledge and experience storage	.732
Understanding of customer needs	.592	Professional knowledge sharing	.599
Collection of marketing information	.589	Institute knowledge protection	.625
Application of marketing knowledge	.625		
Factor 3	Loading		
Sales personnel training opportunities	.826		
Sales personnel team-player opportunities	.680		

Factor 1: Learning and Sensing Marketing Relationship; **Factor 2:** Customer Knowledge Management; **Factor 3:** Training; Overall α =.7306;

Cumulative explained (%) = 49.294; KMO=.754; Bartlett χ^2 =488.237**; Overall Eigenvalue >1; **Sig. = .000

Resources : factors/ items were derived from Byrd and Turner (2000), Lee, Trauth, and Farwell (1995); Kim et al. (2003); Wright (2003); Ellinger, Ellinger, Yang, and Howton (2002); Gold, Malhotra, and Segars (2001).

Service Quality Satisfaction

Factor 1	Loading	Factor 2	Loading
Inform about customer rights and obligations	.593	ATMs transaction safety	.658
Providing information about related products	.612	Customer service line available	.621
Social obligations	.618	Overall satisfaction with prods & service	.645
Institute trust	.502	Satisfaction with handling of customer complaint	.535
Customer consideration	.652		
Factor 3	Loading	Factor 4	Loading
Institute professional service	.804	First option to the institute	.591
Institute problem solution	.824	Recommendations to the institute	.544

		Repurchase intention	.600
		Willingness to choose the institute	.600
		Intercourse with the institute	.643
Factor 5	Loading		
Response while complaining	.789		
Continuance to intercourse with the institute	.676		

Factor 1: Perceived Quality; **Factor 2:** Quality Satisfaction; **Factor 3:** Professional Satisfaction; **Factor 4:** Customer Support; **Factor 5:** Interaction Communication.

Overall $\alpha = .7245$; Cumulative explained (%) = 50.444; KMO = .734; Bartlett's $\chi^2 = 814.782^{**}$; Overall Eigenvalue > 1; $**\text{Sig.} = .000$.

Resources: Factors/ Items were derived from: Formell, Mithas, Morgeson, and Krishnan's (2006) American Customer Satisfaction Index (ASCI); Brussels and Belgium's (1999) European Customer Satisfaction Index (ESCI); Fornell's (1992) Customer Satisfaction Barometer (CSB); and Parasuraman's et al., (1985) Service Quality (SERVQUAL).

Information Trust			
Factor 1	Loading	Factor 2	Loading
Product information trust	.689	Institute information belief	.575
Product information reliability	.796	Institute information reference	.512
Product information belief	.787	Institute information sharing	.769
		Institute knowledge sharing	.684
Factor 3	Loading		
Sales personnel information value	.511		
Sales personnel information viewpoint	.809		
Sales personnel information assistant	.657		

Factor 1: Institute Information Trust; **Factor 2:** Institute Trust; **Factor 3:** Institute Sales Personnel Trust.

Overall $\alpha = .7284$; Cumulative explained (%) = 53.589; KMO = .788; Bartlett's $\chi^2 = 497.536^{**}$; Overall Eigenvalue > 1; $**\text{Sig.} = .000$.

Resources: Factors/ Items were derived from: McCauley and Kuhnert (1992), Crosby et al. (1990).

Customer-related Performance		
Factor 1	Factor 2	Loading
Purchase of relevant product/service	Provision of channel interaction	.622
Recommend from old customer to new customer	Customer information consistency	.766
Provision of new product/service	Provision of channel communication	.659
Creation of new patent	Dealing with channel conflict	.430
Factor 3	Factor 4	Loading
Less time to respond	Customer continuance commitment	.745
More efficiency in response	Customer repurchase	.761
Factor 5		Loading
Fit to reasonable need		.635
Provision of service in time		.786

Factor 1: Innovation; **Factor 2:** Channel Management; **Factor 3:** Response to Customer; **Factor 4:** Customer Loyalty; **Factor 5:** Internal Process Efficiency; Overall $\alpha = .7098$.

Cumulative explained (%) = 54.336; KMO = .747; Bartlett's $\chi^2 = 468.192^{**}$; Overall Eigenvalue > 1; **Sig. = .000.

Resources: factors/ items were derived from: Kim et al. (2003), Gunasekaran et al. (2001), Kaplan and Norton (1992, 2001), and Sivakumar (2002).