Human Response Capability and Customer Relationship Management Advantage: The Direct, Indirect, and Interactive Roles of Information Technology Service Application

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Abstract:

The main purpose of this study intends to study the theoretical interconnection between human response capability and customer relationship management advantage while considering the essential role of service application of information technology as direct, indirect (mediating), and interactive (moderating) influences in the theory. Based on the study sample, the new findings help comprehend the overall interconnected relationship which includes the direct and indirect (mediating) effects of information technology service capability and human response capability as well as their interaction (moderation) on customer relationship management advantage. The new insights interprets the two capabilities (human and information technology) are vital to business because they are the foundation set of service resources significantly to enhance customer relationship management advantage.

Keywords: human response capability, information technology service application, customer relationship management advantage

1. Introduction

When globalization makes economy dynamic, some studies argued that the banking sector has been competitive increasingly around the world (Das, Sen, & Sengupta, 2003; Doving & Gooderham, 2008). Customer relationship management advantage thus plays a significant role in the after-sales relationship marketing because of its requesting the customized services and products (Krasnikov, Jayachandran, & Kumar, 2009; Shum, Bove, & Auh, 2008). For the reasons, service quality is closely correlated to customer relationship management advantage and lead to better business performance. Accordingly, it was the major reasons that some previous literatures highlighted where customer relationship management

advantage can tailor specifically to deal with the relationship marketing challenges through quick response time (Shum et al., 2008), coordinating marketing information and knowledge (Richards & Jones, 2008), and raising sales force (Kumar & Shah, 2009) in the dynamic marketplace.

Customer relationship management advantage heavily depends on the internal resources such as sales personnel's human response capability and information technology response application (Kim, Zhao, & Yang, 2008; Frow & Payne, 2009; Powell & Dent-Micallef, 1997). For example, when a bank is placed on a more intensive information and knowledge, these two roles help integrate a compatible service experience to customer requests (Krasnikov et al., 2009). Accordingly, this study proposes the foundation emergence of human response capability and information technology service application on customer relationship management advantage. This illustrates a clear distinction among sales, service, and marketing are the three touch-points of the banking service implementation enabled by informational technology tool to enhance the after-sales relationship marketing when looking at sales personnel have set some expectation on customer service particularly. Indeed, to gain a better customer relationship management advantage, it might vitally be the set of the two foundation roles in additional to their reinforcement in term of mediating and moderating effects. Thus, these lead the following questions: is whether customer relationship management advantage enhanced differently by the indirect (mediating) influence and/or moderating effect of the information technology role in the theoretical linkage.

With the empirical study, the new findings consistently indicate that customer relationship management advantage results from the mediating and moderating effects which were integrated with the main effects. New insights into these three-construct linkages are attained exploring the understanding for the banking service implementation which needs to build successful human response capability associates with information technology service application to their customers in term of customer relationship management advantage in the relationship marketing (Adamson, Chan, and Handford, 2003; Durkin and Howcroft, 2003). This is necessarily an extension of the studies of Powell and Dent-Micallef's (1997) technology argument that the banks achieve competitive advantages necessarily associating with human response capability. This is confirmed by our empirical evidence for sales personnel's human response capability interconnection with information technology service application to reach customer relationship management advantage.

2. Hypothesis development

Larger literatures argue that mostly banks have shifted its business purpose and mission goal from traditionally concerning on sales-only orientation towards a better focus on the after-sales service as a mean of considering customer relationship management advantage in the after-sales relationship marketing (Shum et al., 2008). Customer relationship management advantage focuses on building relationships with profitable customers longitudinally which can be viewed as a means of having differentiation, customer value, and preference experience during the time of a service quality achieved (LaPlaca, 2004; Richards & Jones, 2008). Customer relationship management advantage is closely linked to customer satisfaction, retention, and loyalty which concerns to be major elements of the relationship marketing profitability and results in financial performance measures such as return on investment and return on assets. Sales personnel's human response capability is closely related to a source of customer service skills, knowledge, and experience which supports the immediate problem-solving regarding their customer inquires. Customer relationship management advantage, thus, can be accomplished by proposing huaman response capability to enhance the relationship marketing.

Customer relationship management advantage can be strengthened through information technology service application in such cooperation as coordinating and integrating function (Ravichandran & Lertwongsatien, 2005; Shum et al., 2008). By building marketing information flows and knowledge shares,

information technology service application can improves service quality in an effective way to be more understanding and communicating in sales personnel-customer relationship (Payne & Frow, 2004; Ravichandran & Lertwongsatien, 2005; Shum et al., 2008). Based on these discussions, customer relationship management advantage necessarily depends on both sales personnel's human response capability and information technology service capability while concerning with promoting to the quicker transaction service and more favorite product as the customization to customer needs (Frow & Payne, 2009; Ravichandran & Lertwongsatien, 2005; Song, Droge, Hanvanich, & Calantone, 2005). From the perspective of resource complementary (Barney, 1991; Doving & Gooderham, 2008; Powell & Dent-Micallef, 1997), information technology service application is closely inter-connected (mediation and moderation) with human response capability for improving customer relationship management advantage, because both their cooperation strength sales personnel-customer linkage, which can create mutual value and increase effectiveness (Parmigianl & Mitchell, 2009; Song et al., 2005). Therefore, the following hypotheses lead to the particular gaps below on the resource-performance relationships.

3. Mediating Effect

While this study focuses on the main effect of human response capability on customer relationship management advantage, at the same time, Ryals and Payne (2001) argues with customer relationship management advantage is all about implementing relationship marketing using information technology. The literatures remain a study gap, indicating the need of path clarification. Obviously, it is necessary to empirically explore whether sales personnel's information technology service application plays a connecting role as a mediator in order to achieve better conclusions in the main effect of the theoretical relationship. Specifically, whether sales personnel's human response capability can directly influence customer relationship management advantage or whether the influence is only indirect through a mediator (their information technology service application) which enhances the main effect by their information technology service application. The question (gap) to consider overall is to look at hypotheses 1a and 1b with hypothesis 1c, to test the theoretical relationship. The mediator role fits the study relationship because the human response capability helps the sales personnel members use information technology service applications to find more efficient and effective approaches of uplifting customer relationship management advantage. Without the influence of the information technology service application as mediator, the after-sales relationship marketing might not be fully ensured. Marketing promotion aspects connect to the customized sales and then customization service which requires to be specifically considered to sense beneficial customer portfolio management, to pay more attention on customer loyalty or customer retention. Accordingly, the antecedent elements need to be considered in order to enhance customer relationship management advantage.

Without technology solution support, typical human factor only for customer relationship management advantage processes cannot be carried out completely because the customized products and services is relatively to understand diversified customer needs and handle massive communications in such files as marketing strategy, production design, and customer problem-solution. Factors that affect customer relationship management advantage upon sales personnel's information technology service application are related to process and manage the source of customer information characteristics, including the contents of customer information itself, employee capability involvement, and alignment to the inter-external environment fit. With the information technology service application, it steps the enforcement for the theoretical relationship connection because the information technology tool incorporate with the human service capability can give their target customer a reference to sense how their personal requests bas been fully considered in term of customer relationship management advantage for market-oriented culture (Kohli & Jaworski, 1990), market focus (Jayachandran et al., 2005), and market-based learning (Vorhies & Hunt, 2005). Therefore, sales personnel's information technology service application is one of elements for enhance the theoretical linkage effectively because technology-based solutions is in place to collect, store, and analyze customized information designed to satisfy their customers' needs (Ryals & Knox,

2001; Ryals & Payne, 2001), reflecting a positive purchase experience for their customers into the relationship satisfaction (Mithas et al., 2005). While considering the information technology solutions are one of the significant elements sufficiently for handing mass customization, the following hypothesis proposed is consistent with earlier positive hypotheses of the main effects of human service response and information technology service application on customer relationship management advantage. This helps conclude the following hypothesis:

Hypothesis 1: Sales personnel's information technology service application mediates the effect of human service capability on customer relationship management advantage to enhance the after-sales relationship marketing.
Moderating effect

Some empirical studies have been tested relatively to the effect of human response capability on customer relationship management advantage. For example, Powell and Dent-Micallef (1997) and Ray Muhanna, and Barney (2005) found significant regression results for the effect of human factors and service climate on customer related performance (β=.46 and .65, R^2=.32 and .43, p<.01, respective). At the same vein, Coltman (2007) found there to be a moderating influence in results obtained using firm's service capability on customer related performance in a comparison of the reactive and proactive service capability (β=.14 and .47, R^2=.49 and .40, p<.01, respectively). Indeed, Jayachandran et al. (2005) and Ray et al.'s (2005) interactive regression results for information processes with technology (β=.19, R^2=.24, p<.05) and shared knowledge with generic information technology (β=.24, R^2=.37, p<.05) on performance; Ravichandran and Lertwongsatien (2005) information technology system resources with firm's capabilities on performance (β=.55, R^2=.29, p<.01, respectively). Overall, these previous literatures suggested different moderating roles for these interconnections. In terms of resource complementary (Barney, 1991; Newbert, 2008; Parmigianl and Mitchell, 2009), both sales personnel's human response capability and information technology service application are correlated in the banking service implementation. Their cooperation reinforces the sales personnel's ability to offer customized services and products that satisfy their customers' personal desires and preferences (Barney, 1991; Powell & Dent-Micallef, 1997; Song et al., 2005). Accordingly, this paper proposes that sales personnel's information technology service application changes and strengths the effectiveness of human service capability on customer relationship management advantage so that the after-sales relationship marketing can be accomplished.

Customer relationship management advantage has been viewed as the relationship marketing directed toward building, developing, and keeping buyer-seller relationships (Morgan and Hunt, 1994). Alongside, some literatures argued that customer relationship management advantage strongly depends on the antecedents of the relationship marketing such as the human and information technology element interactions (Chen and Popovich, 2003; Richards & Jones, 2008; Rigby et al., 2002). More specific, information technology service application for service systems has been utilized for a long time to automate processes. However, the system by information technology service application process can not manage customer relations effectively and efficiently (Rigby et al., 2002; Chen and Popovich, 2003). For the reasons, marketing knowledge is related to customer needs which are necessarily to be comprehended by the sales personnel's human response capability through the face-to-face communication, front-line operators, and a customer-oriented service climate (Shum et al., 2008; Ray et al., 2005). Under the sales personnel's customer-centric culture with adequate information technology service tool, this study argues that we should specifically consider about developing the complementarily between human response capability and information technology service application to achieve customer relationship management advantage in the banking implementation, which is interaction technology with customer value creation. In short, information technology service application helps collect, recognize, and analyze the essential resources which come from outside the bank's boundaries such as marketing knowledge. At the same time, sales personnel can interact with their customers based on marketing knowledge resulting from information technology service application. Accordingly, it is propose to hypothesize that:

Hypothesis 2: Sales personnel's information technology service application affects the effectiveness of human service capability on customer relationship management advantage for enhanced the after-sales relationship marketing.

4. Methodology

4.1 *Participants*

Based on literature reviews (1994-2006), Das (2009) reported the 22.13%, 22.13%, 7.38%, 6.56%, 5.74%, 4.10%, and 3.28% of relationship marketing study using the samples of United Kingdom, the USA, China, New Zealand, Australia, Finland, and Taiwan (respectively). While studies have been largely concentrated in these countries as United Kingdom, the USA, China, this study proposes the gap which Taiwan, as one of many places, should fully encourage to participate the research activity more. Therefore, a case study of several larger banks in Taiwan was applied to explore the two study gaps. A total of 800 questionnaires were given to the sales personnel of these banks in 2010. Parts of invalid questionnaires, such as ones with incomplete data and missing responses were considered to withdrawn, leaving 597 for data mining and analysis.

4.2 measures

There are several perspectives for the after-sales relationship marketing to measure customer relationship management advantage. For example, using the balanced scorecard approach, Kim, et al., (2003) proposed the balanced scorecard to reflect the customer-centric interaction approach to customer relationship management advantage evaluation. Mithas et al. (2005) measured customer relationship management advantage by using the customer-oriented technology service systems. Customer relationship management advantage was measured using the customer-centric approach (11 items, overall α= .71) in the previous studies. Exploratory factor analysis was utilized to determine the measurement of reliability and validity; overall cumulative value explained (%) = 56.35; KMO=.71; Bartlettχ2=347.67, p< .01 (2-tailed); overall Eigen-value >1. Byrd and Tuner's (2000) measures service system quality by human factor capability from the touch-points of personnel service skills and competencies, technological usage, service experience, and management knowledge; Delone and McLean (1992) measured service system quality by multiple factors such as response time, system reliability and system accessibility.

In short, human response capability was measured using the quality service approach (16 items, overall α= .77) in the previous studies. The measurement of reliability and validity was: overall cumulative value explained (%) = 54.55; KMO=.79; Bartlettχ2=796.77, p< .01 (2-tailed); overall Eigen-value >1. Powell and Dent-Micallef (1997) measured the information technology application skill by systems analysis and integration, database design, and operating systems. The justification is considered to the data mining tools and data warehousing techniques which includes Internet service as well as the integration of marketing information, technology and data. Information technology service application was measured using the quality service approach (19 items, overall α= .76) in the previous studies. The measurement of reliability and validity was: overall cumulative value explained (%) = 50.83; KMO=.75; Bartlettχ2=836.56, p< .01 (2-tailed); overall eigenvalue >1.

5. Analysis

Multiple interaction regression by Powell and Dent-Micallef (1993) used statistical regression analysis with multiplicative terms to test the moderation effect on customer satisfaction. Multiple interaction

regression was also used as a tool for modeling interaction constructs representing service resource interconnection in structural equation modeling (Baron & Kenny, 1986). Multiple mediated regression by Baron and Kenny (1986) utilized three path-way regression analysis in earlier mediation studies, as is follows: the effect of human response capability on customer relationship management advantage; the effect of mediator (information technology service application) on customer relationship management advantage; and how information technology service application performs in mediating role to help to reinforce the effect of human response capability on customer relationship management advantage. Common method variance (CMV) could bias the results when both independent and dependent measures are obtained from the same source (Podsakoff, MacKenzie, Podsakoff, & Lee, 2003). Thus, Harman's single-factor testing was used to assess the degree to which data is subject to CMV. Regarding to collinerity diagnostics, it is vital to examine whether there is a major issue with collinearity in the Variance Inflation Factor (VIF) scores.

6.Results

Table 1 shows that the scores for means, standard deviations and significant correlation coefficients. This study utilized unrotated-factor analysis of all the 47 questionnaire items with eigen-value greater than 1.00. The findings indicated that the first factor accounted for 16.92 % of the variance. Because no single factor emerged from the empirical analysis as accounting for an actual majority of the variance (50% or less), it suggested to be concluded that common method variance was not a significant consideration on the regression findings. The empirical result for the mediation suggested that information technology service application significantly plays a mediator to enforce human response capability→ customer relationship management advantage. This was based on Steps 1 and 2 by the three-path-way analysis as follows: 1) the significant main effect of human response capability→ customer relationship management advantage ($\beta2=.370$, $R^2 2=.516$, $F2=280.05$, $p<.01$); 2) the significant effect of information technology service application→ customer relationship management advantage ($\beta1=.423$, $R^2 1=.436$, $F1=230.74$, $p<.01$); 3) Step 2 suggests that human response capability can help enhance the main effect of human response capability→ customer relationship management advantage.

The mediation existed in the statistical regression result because when human response capability (as the dependent variable) was entered after the mediator (information technology service application), it resulted in a significant change in R^2 of close to zero ($\Delta R^2=.080$, by $R^2 2- R^2 1$, $p<.01$). Hypothesis 1 was supported for the significant mediation. Step 3 illustrates the overall study of the full model with significant findings for human response capability, information technology service application and their interaction (in terms of moderation)→ customer relationship management advantage ($\beta=.370$, .432, and .040; $R^2=.517$; $F=105.47$; $p<.01$, respectively). These regression findings indicate that hypothesis 2 is supported for the significant moderator.

Hypothesis 1 was supported (mediation). Human service capability has an indirect influence on customer relationship management advantage through the mediator of information technology service application. During information technology service applications sales personnel deploy their human response capability in provision of customer service specificity and reliability of improving customer relationship management advantage while still considering bank benefits linked to the after-sales relationship marketing. Customer relationship management advantage can enhance the use of information technology service application as a mediator to

reinforce the theoretical relationship. Accordingly, our mediation study specifically extends the earlier insights of individual cause-and-effect study while many literatures have addressed the single-path way for the set of human-technology-relationship management relationship (Pavlou and Sawy, 2006; Ravichandran & Lertwongsatien, 2005). More particular, our mediation interprets the necessity of technology solution support so that sales personnel's human response capability can be carried out completely for customer relationship management advantage processes. Indeed, while customer relationship management advantage are relatively to understand diversified customer needs and handle massive communications, information technology service application incorporates with human service capability help meet their customer's requests through the way of processing customer information characteristics, managing employee capability involvement, and aligning the inter-external environment.

6.Discussion

Hypothesis 2 was supported (moderation). Earlier insights argued that customer-related performance is affected by both human factors and information technology tool (Frow & Payne, 2009; Ravichandran & Lertwongsatien, 2005; Shum et al., 2008). These literatures lead the essentiality of moderator analysis in order to take one step ahead for understanding human response capability together with information technology service application. These two form a dyadic interaction that positively re-enforces the main effects leading to better customer relationship management advantage. The synthesis of internal resources designed by human response capability with information technology service applications can make bank raise their after-sales relationship marketing for customized service/product, customer-oriented interaction, creating dual value (for bank and customer), and mutual common benefits (Das, 2009; Payne & Frow, 2005). Beyond the dyadic interaction, we explore Powell & Dent-Micallef's (1997) information technology argument with the perspective of resource complementary (Barney, 1991; Doving & Gooderham, 2008; Parmigianl & Mitchell, 2009), which the combination of human element with information technology tool is necessary in order to ensure the customized service and product achieved. Without information technology service application, the varied preferences and requests of individuals make it difficult for sales personnel's human response capability to classify customers into a large homogenous population for creating relationship marketing strategies. On the other hands, without human response capability, the customer service system only by information technology service application possibly results in the relationship marketing ineffectively and inefficiently (Chen and Popovich, 2003; Ray et al., 2005; Rigby et al., 2002). Indeed, utilizing marketing knowledge for deal with customization is necessarily to simultaneously synthesize with sales personnel's human response capability through the face-to-face conversation, front-line help, and a customer-oriented climate.

6.1 Contributions

Over the last two decades, customer satisfaction has become a common approach for banks to better business performance (Fornell et al, 2010). Many studies have been carried out highlighting theoretical relationships. For example, information technology application is an important resource leading to improving customer satisfaction (Mithas et al., 2005; Shum et al., 2008) and to better customer relationship management advantage (Chen & Popovich, 2003; Shum et al., 2008). Customer relationship management advantage helps increase customer satisfaction (Krasnikov & Jayachandran, 2008; Jayachandran et al., 2004). However, there remain gaps in tracing the paths of the cause-and-effect relationships among these three constructs. Thus, the present study explores the mediating-moderating roles of customer relationship

management advantage in the process of information technology service application for strengthening customer satisfaction. As noted above, statistically significant findings were obtained for the main, mediating and moderating effects. All these findings can lead to a better understanding of the incorporation of information technology service application with human resource response on customer relationship management advantage in the service context.

6.2 Limitations and suggestions for future studies

Banks were considered in this study because, overall, they have greater need of information technology service application and human resource response to integrate customer information and knowledge processes in order to fulfill customer needs leading to better customer relationship management advantage. It would be of much interest to compare the findings obtained with those found in other contexts in future studies. For example, it would be of assistance to make comparisons between large and small banks. Small banks may also use technology as a major customer service capability but the effects of these two factors in relation to customer relationship management advantage may be different. Also, possible causes for differences between contexts could be considered. For example, mediation and moderation are explored based on the argument that strong information technology service capabilities with human resource response strengthen each other to give better customer relationship management advantage. Future studies could investigate the direction of causality and clarify possible arguments as to the antecedent construct of these two elements.

References

[1]Adamson, I., Chan, K. M. and Handford, D. (2003).Relationship Marketing: Customer Commitment and Trust as a Strategy for the Smaller Hong Kong Corporate Banking.*International Journal of Bank Marketing*.21(6/7): 347-58.

[2]Barney, J.B. (1991).Firm Resources and Sustained Competitive Advantage.*Journal of Management.* 17(1): 99-120.

[3]Baron, R.M. and Kenny, D. A. (1986).The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations', *Journal of Personality and Social Psychology*.51(6):1173-1182.

[4]Byrd, T.A. and Turner, D.E. (2000).Measuring the Flexibility of Information Technology Infrastructure.*Journal of Management Information Systems*.17(1): 167-208.

[5]Chen, I.J., and Popovich, K. (2003).Understanding Customer Relationship Management (CRM). *Business Process Management Journal*. 9(5): 672-688.

[6]Coltman, T.R. (2007).Why Build a Customer Relationship Management Capability?.*Journal of Strategic Information Systems*.16 (3): 301-320.

[7]Das, K. (2009).Relationship Marketing Research (1994-2006): an Academic Literature Review and Classification. *Marketing Intelligence & Planning*.27(3): 326-363.

[8]Das, S., Sen, P.K. and Sengupta, S. (2003).Strategic Alliances: a Valuable Way to Manage Intellectual Capital?. *Journal of Intellectual Capital*.4(1): 10-19.

[9]DeLone, W. and McLean, E. (1992).Information Systems Success: the Quest for the Dependent Variable.*Information Systems Research*. 3(1): 60-95.

[10]Durkin, M. and Howcroft, B. (2003).Relationship Marketing in the Banking Sector: the Impact of New Technologies.*Marketing Intelligence & Planning*.21(1): 61-71.

[11]Doving, E., & Gooderham, P. N. (2008).Dynamic Capabilities as Antecedents of the Scope of Related Diversification: the Case of Small Firm Accountancy Practices.*Strategic Management Journal*.29(8). 841-857.

[12]Fornell, C. (1992).A National Customer Satisfaction Barometer: The Swedish Experience.*Journal of Marketing*.56(1): 6-21.

[13]Frow, P. and Payne, A. (2009).Customer Relationship Management: A Strategic Perspective.*Journal of Business Market Management*.3(1): 7-27.

[14]Kim, J., Suh, E., and Hwang, H. (2003).A Model for Evaluating the Effectiveness of CRM Using the Balance Scorecard. *Journal of Interactive Marketing*.17(2):5-19

[15]Kim, C., Zhao, W., and Yang, K. H. (2008) .An Empirical Study on the Integrated Framework of e-CRM in Online Shopping: Evaluating the Relationships Among Perceived Value, Satisfaction, and Trust Based on Customers' Perspectives.*Journal of Electronic Commerce in Organizations*.6(3): 1-19

[16]Kohli, A.K. and Jaworski B.J. (1990).Market Orientation: The Construct, Research Propositions, and Managerial Implications.*Journal of Marketing*,.5 (April).1–18.

[17]Krasnikov, A. and Jayachandran, S. (2008).The relative Impact of Marketing, R&D, and Operations Capabilities on Firm Performance. *Journal of Marketing*.72(4): 1-11.

[18]Krasnikov, A., Jayachandran, S., Kumar, V. (2009).The Impact of Customer Relationship Management Implementation on Cost and Profit Efficiencies: Evidence from the U.S. Commercial Banking Industry. *Journal of Marketing*.73(6): 61-76.

[19]Kumar, V. and Shah, D. (2009) .Expanding the Role of Marketing: From Customer Equity to Market Capitalization.*Journal of Marketing*.73(6): 119-136.

[20]LaPlaca, P. J. (2004).Letter from the Editor: Special Issue on Customer Relationship Management.*Industrial Marketing Management*.33(6): 463−464.

[21]Mithas, S., Krishnan, M.S. and Fornell, C. (2005).Why do Customer Relationship Management Applications Affect Customer Satisfaction?.*Journal of Marketing*.69(4): 201-209.

[22]Morgan, R.M. and Hunt S.D. (1994).The Commitment Trust Theory of Relationship Marketing.*Journal of Marketing*, 58 (July): 20–38.

[23]Newbert, S. L. (2008).Value, Rareness, Competitive Advantage, and Performance: a Conceptual-Level Empirical Investigation of the Resource-based View of the Firm. *Strategic management journal*. 29(7): 683-791.

[24]Parmigianl, A. and Mitchell, W. (2009) .Complementarity, Capabilities, and the Boundary of the Firm: the Impact of Within-firm and Interfirm Expertise on Concurrent Sourcing of Complementary Components. *Strategic Management Journal*. 30(10): 1065-1091.

[25]Pavlou, P.A. and Sawy, O.A. (2006). From IT Leveraging Competence to Competitive Advantage in Turbulent Environments: the Case of New Product Development. *Information Systems Research*, 17(3): 198-227.

[26]Payne, A. and Frow, P. (2005).A Strategic Framework for Customer Relationship Management. *Journal of Marketing*, 69 (October). 167–76.

[27]Payne, A. and Frow, P. (2004).The Role of Multi-Channel Integration in Customer Relationship Management. *Industrial Marketing Management*.33 (6). 527-38.

[28]Powell, T.C. and Dent-Micallef, A. (1997).Information Technology as Competitive Advantage: the Role of Human, Business, and Technology Resources. *Strategic Management Journal*.18(5): 375-405.

[29]Podsakoff, P. M., MacKenzie, S. B., Podsakoff, N. P., and Lee, J. Y. (2003).Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies.*Journal of Applied Psychology,* 88(5): 879–903.

[30]Ray, G., Muhanna, A., and Barney, J.B. (2005).Information Technology and the Performance of the Customer Service Process: a Resource-Based Analysis.*MIS Quarterly*.29(4): 625-652.

[31]Ravichandran, T, and Lertwongsatien, C. (2005).Effect of Information System Resources and Capabilities on Firm Performance: a Resource-Based Perspective. *Journal of Management Information Systems*.21(4): 237-276.

[32]Richards, K. A. and Jones, E. (2008).Customer Relationship Management: Finding Value Drivers.*Industrial Marketing Management*. 37(2008): 120–130.

[33]Ryals, L. and Knox, S. (2001).Cross-functional Issues in the Implementation of Relationship Marketing through Customer Relationship Management. *European Management Journal*.19(5): 534-42.

[34]Ryals, L. and Payne, A., (2001).Customer Relationship Management in Financial Services: towards Information-Enabled Relationship Marketing.*Journal of Strategic Marketing*. 9(1): 3-27.

[35]Shum, P., Bove, L., and Auh, S. (2008). 'Employees'Affective Commitment to Change: The key to Successful CRM Implementation,*European Journal of Marketing*.42(11/12): 1346-1371

[36]Song, M., Droge, C., Hanvanich, S., and Calantone, R. (2005).Marketing and Technology Resource Complementarity: an Analysis of their Interaction Effect in two Environmental Contexts.*Strategic Management Journal*.26(3): 259–276.

[37]Vorhies, D.W. and Morgan, N.A. (2005).Benchmarking Marketing Capabilities for Sustainable Competitive Advantage.*Journal of Marketing*, 69(January): 80–94.