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An Examination of the Effects of CRM Practices on CRM Effectiveness and Business Performance

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ABSTRACT

With the forecasted expansion of electronic marketplaces and the Internet, opportunities for businesses will abound. However, the greatest challenge facing them lies in their ability to sustain their profitability as the competition among them draws keener. To help distinguish themselves, and gain or maintain their competitive advantage, many businesses have turned to customer relationship management (CRM). This study examines the relationships affecting CRM practices and their eventual effect on a business’ performance. The results of a survey suggest that investments in absorptive capacity and a commitment to the strategic between the business and IT strategies contribute to CRM practices, and significant boosts to CRM practices lead to greater CRM effectiveness, which in turn contributes to profitability (business performance). Also CRM effectiveness partially mediates the effects of CRM practices on business performance.

Keywords

Customer relationship management, business performance, information technology, absorptive capacity, strategic alignment

INTRODUCTION

With the forecasted expansion of electronic marketplaces and the Internet, opportunities for business will abound. Forrester Research (2003) expects online retail sales to reach $149.2 billion in 2005 and exceed $229.9 billion and $316 billion by 2008 and 2010, respectively. By 2010, 12 percent of all retail sales will be conducted electronically via the web, up 7 percent from the present. Jupiter Research forecasts for 2010 a significant rise in the average online spending to $780 per buyer from $585 in 2004. Thus, the future of e-commerce appears very promising for businesses that pursue it.

Yet, the greatest challenge facing these businesses will lie in their ability to sustain their profitability as the competition among them draws keener. Continual advances in information technology (IT) have allowed businesses regardless of their size, location, etc. to equalize their presence on the Internet. For the consumer, it is difficult to distinguish a large from a small e-tailer as both can now project similar electronic corporate images, and sell and deliver identical (or very similar) products and services at competitive prices. Thus, to successfully compete, a business must look beyond the traditional approaches of mass marketing and into nurturing one-to-one relationships.

To achieve success, businesses must learn to distinguish themselves from their competitors through marketing strategies that involve the development of long term partnerships with customers in the form of one-to-one relationships. Increasing efforts have been placed on relationship marketing (RM) and methods that familiarize a business with its individual customer’s behavior and habits and integrate this knowledge into the production of products and services that more precisely fit their (customers’) needs and expectations. To adapt to this new marketing paradigm and gain or maintain a competitive advantage, many businesses have turned to customer relationship management (CRM). CRM is often viewed as an information system that assists businesses interact with and learn from their customers. However, the benefits of CRM may depend not only on the technology that embodies it, but on organizational factors that lead to its effective use and increased business performance.

This study examines the relationships affecting CRM practices and their eventual effect on a business’ performance. It proposes that a business’ CRM practices as reflected in its marketing and operational programs impact a business’ performance through its effective use of CRM. CRM effectiveness represents the success a business achieves with CRM, including the customer (i.e., social, psychological, economic, customization) and business benefits (i.e., cost reductions, profitability, efficiencies) that are realized. Increases to its effective use (i.e., greater customer and business benefits realized)
will contribute to increases in business performance. The presence of three antecedent factors, IT investments, absorptive capacity and strategic alignment between IT and business strategies, shape the CRM practices of a business as they represent the foundation upon which CRM practices are determined. Thus, the positive effects of the three antecedents affect a business’ CRM practices and in turn impact its CRM effectiveness and performance.

Customer Relationship Management

CRM provides a business with an enterprise approach to understanding and influencing customer behavior through meaningful communication. It involves targeting the right customer with the right product or service through the right channel at the right time (Swift, 2001), attracting (acquiring), developing and maintaining successful customer relationship over time (Berry and Parasuraman, 1991; Day, 2000), and building customer loyalty (Kohli, Piontek, Elington, Van Osdol, Shepard and Brazel, 2001) through efficient and effective two-way dialogues (Peppers, Rogers and Dorf, 1999). Although not entirely built on IT, CRM extensively employs IT to facilitate and enhance the business’ RM efforts in identifying its most valuable customers, and developing, integrating and focusing its competencies on forging valuable long-term relationships that deliver superior value to them (Plakoyiannaki and Tzokas, 2002). As a result, CRM improves a business’ ability to acquire and retain customers and build their loyalty, a competitive asset (Dekimp, Steenkamp, Mellens and Abeele, 1997). As the relationship flourishes, both the business and customer benefit.

The insights a business gains through CRM lead to customized products and services that more precisely match its customers’ needs and impede its competitors from duplicating, imitating or substituting them (Peppard, 2000; Winer, 2001). With these refined and appealing offerings, a business can expect not only greater satisfaction and continued patronage from its customers, but other benefits in the form of reduced costs and sustained profitability. For example, acquiring a new customer can cost five times more than retaining an existing customer and a five percent increase to the customer retention effort can generate a sixty percent boost in profits (Mercer Market Survey, 2000). A recent US survey suggests that businesses need to maintain good customer relationships with their existing customers to sustain profitability (Li, McLeod and Rogers, 2001).

CRM draws upon the business’ IT resources and investments for its capabilities and strengths. Through advanced computing power and high-speed communication networks over the Internet, CRM allows businesses to continually learn about and monitor their customers’ needs and expectations, and innovatively respond to them (Peppers and Rogers, 1999). As a result, businesses can adopt more customer-centric marketing strategies (as opposed to mass marketing strategies). IT also allows a business to quickly collect and disseminate information throughout its operations and with its business partners to increase its organizational knowledge and improve its operational efficiencies. IT-based knowledge discovery techniques (i.e., marketing intelligence) provide the means for building organizational knowledge and further leveraging it for a competitive advantage or profitable gain. Operational benefits involve activities and programs that target efficiency and profitability.

CRM embodies many of the concepts of RM, a marketing paradigm that focuses on developing close personal relationships, interactions and social exchange between a business and its customers and other business parties over time to enhance the business’ competitive response to continually changing markets (Zineldin, 2000). CRM expands upon this concept through its emphasis on information management (Peppard, 2000). Thus, CRM helps focus the business to achieve personal long-term relationships. As a management tool, it directs enterprise resources towards the fulfillment of the business’ goals and objectives.

A business’ success with CRM also lies with its execution and practices. CRM practices refer to the actions a business takes to retain its current customers and attract potential customers through personal touches in fulfilling and satisfying their individual needs. Expanding upon the seminal studies of Applegate, McFarlan and McKenney (1996) and Karimi, Somers and Gupta (2001), CRM practices can be divided into two categories: CRM marketing programs and CRM operational programs. CRM marketing programs include practices that enhance customer interactions, including marketing automation to collect and analyze customer information, market analysis to gain greater insights into customer needs, preferences and expectations, customization to better serve the customers’ particular needs, and customer service and support to ensure customer value and properly targeted promotions. In contrast, CRM operational programs focus on efficiency gains and profitability, and involve activities, such as order management, field management, logistics and supply chain management.

A business’ success with CRM will contribute to its business performance. However, this depends on the presence of factors and a sequence of relationships that represent different aspects of CRM. This study examines the interactions tied to achieving success with CRM.
Research Model and Hypotheses

Figure 1 illustrates the research model of this study. It proposes that three antecedent factors, IT investments, absorptive capacity and strategic alignment (between the business and IT strategies) have positive effects on a business’ CRM practices. In turn, the CRM practices will affect CRM effectiveness and subsequently business performance. CRM effectiveness will mediate the relationship between CRM practices and a business’ performance, such that increases to CRM effectiveness attributed to CRM practices will increase business performance.

![Research model](image)

**Figure 1. Research model**

IT investments have an impact on the extent to which CRM’s capabilities support a business’ endeavors. Although CRM involves more than technology, it relies upon IT for its functionality. Sophisticated intelligence methods have allowed businesses to develop their intelligence gathering abilities and discover new information and knowledge of their markets and customers. Advances in database technologies have given businesses the opportunity to retain and manipulate a broader range of data for their analyses. Information and communication technologies (ICT) have also allowed the business to efficiently disseminate knowledge and share information across organizational boundaries, thereby empowering employees to render decisions that are consistent with the business’ goals and objectives, and benefit both the business and customer. Moreover, ICT facilitates the coordination of activities and collaboration between business units. Many businesses have directed their IT investment toward helping distinguish themselves with new products and services, and improving their decision making (Marchand, Kettinger and Rollins, 2000). Thus, IT investments play a major role in shaping CRM practices.

\[H1:\text{IT investments have a positive relationship with CRM practices}\]
\[H1a:\text{IT investments have a positive relationship with CRM marketing programs}\]
\[H1b:\text{IT investments have a positive relationship with CRM operational programs}\]

Organizational absorptive capacity forms the basis for organizational knowledge and the ability to innovate. It results from the cumulative knowledge activities of the organization’s individuals and the transfer of knowledge within the organization through a common language (Cohen and Levinthal, 1990). The accumulation of knowledge enhances the organization’s ability to recognize and assimilate new information into its existing body of knowledge. Hence, the more information that can be absorbed in the organization and shared among its members, the greater its knowledge, and potentially, the more it can absorb in the future. Organizations that have amassed knowledge of their market requirements and customers’ needs are more inclined to practice marketing intelligence and information sharing to produce knowledge, and innovatively leverage information and knowledge to satisfy their customers with the goal of gaining their loyalty. Essentially, absorptive capacity will affect the extent to which a business appropriately focuses its marketing and operational programs.

\[H2:\text{Absorptive capacity has a positive relationship with CRM practices}\]
\[H2a:\text{Absorptive capacity has a positive relationship with CRM marketing programs}\]
\[H2b:\text{Absorptive capacity has a positive relationship with CRM operational programs}\]

Because IT enables CRM and extends its capabilities, the strategic alignment between a business’ IT and business strategies will impact its CRM practices. The business strategy specifies the target markets and the image the business wishes to project to those markets, and sets the pace and tactics for penetrating the markets (Bullen and Rockart, 1986). Similarly, IT strategy specifies the technologies that the business must acquire, deploy and configure to support the business’ present and future endeavors. CRM’s reliance on IT and instrumental role in supporting strategy places it in a precarious position, such that strategies that oppose one another leave CRM without sufficient or proper IT resources to carry out the business strategy. In contrast, strategic alignment suggests that the effect of IT on a business’ performance depends on the fit between the IT and business strategies, and aligning them leads to greater effectiveness (Palmer and Markus, 2000), optimized performance (Ryals and Knox, 2001), a prioritization of IT plans (Pant and Ravichandran, 2001), achievement of business goals (Min, Suh...
and Kim, 1999) and a competitive advantage (Langdon, 2003). The alignment reinforces the success of CRM practices. Therefore, the degree to which strategies align (i.e., strategic alignment) will impact CRM practices, with greater alignment resulting in better practices.

H3: Strategic alignment has a positive relationship with CRM practices
H3a: Strategic alignment has a positive relationship with CRM marketing programs
H3b: Strategic alignment has a positive relationship with CRM operational programs

CRM effectiveness results from the success of CRM practices. It (CRM effectiveness) embodies the outcomes of the business’ practices in achieving customer benefits, including social, psychological, economic and customization (Gwinner, Gremler and Bitner, 1998), and business benefits (i.e., reductions, profitability and efficiencies). Strong CRM practices in marketing and operational programs should ensure customer needs and expectations are understood and satisfied, which consequently lead to their satisfaction and loyalty over time (i.e., customer retention). For example, CRM marketing programs that enhance the interactions between the customer and business and allow the business to learn about its customers’ preferences and habits will contribute to the benefits the business receives from its CRM use (i.e., CRM effectiveness). Measures of CRM effectiveness could include market share, customer retention rate, cost reductions associated with maintaining the customer base and others. Thus, greater achievements in CRM practices will be associated with greater heights of CRM effectiveness.

H4: CRM practices have a positive relationship with CRM effectiveness
H4a: CRM marketing programs have a positive relationship with CRM effectiveness
H4b: CRM operational programs have a positive relationship with CRM effectiveness

Prior studies have found a positive link between customer satisfaction and business performance (Anderson, Fornell and Lehmann, 1994; Anderson, Fornell and Rust, 1997). Customer loyalty can increase business performance through the reduction of acquisition and operating costs, and increases in (customer) price tolerance and referrals (Kalwani and Narayandas, 1995; Loveman, 1998; Reichheld and Sasser, 1990). Yet, most profit improvements stem from the growth in customer retention (Reichheld and Sasser, 1990) as customer acquisition costs may outweigh retention costs by six times (Blattberg and Deighton, 1996) and repeated transactions occur more frequently (Kalakota, 1999). Thus, greater levels of CRM effectiveness should have a positive impact on business performance.

H5: CRM effectiveness has a positive relationship with a business’ performance

Reichheld and Sasser (1990) cite a high correlation between customer retention and profitability, such that a five percent increase in customer retention yields improvements in long-term profitability (as stated in terms of net present value) between 20 and 85 percent. Thus, improved CRM practices should have a positive effect on business performance.

H6: CRM practices have a positive relationship with a business’ performance
H6a: CRM marketing programs have a positive relationship with a business’ performance
H6b: CRM operational programs have a positive relationship with a business’ performance

Businesses will eventually derive benefits from their CRM practices but through CRM effectiveness. Although CRM practices reflect a business’ proficiency in leveraging its IT resources, absorptive capacity and strategic alignment between IT and business strategies, a business will directly benefit from the effectiveness of its CRM (i.e., performance attributed to CRM). Yet, effectiveness exists because of practice. Boosts to practices will lead to greater effectiveness and consequently greater performance. Given this relationship, CRM effectiveness will mediate the effects of CRM practices on firm performance.

H7: CRM effectiveness mediates the relationship between CRM practices and a business’ performance
H7a: CRM effectiveness mediates the relationship between CRM marketing programs and a business’ performance
H7b: CRM effectiveness mediates the relationship between CRM operational programs and a business’ performance

The operational definitions to measure the variables (constructs) were taken from prior studies to test the hypotheses (Table 1).
Methodology and Analysis

A survey was conducted on a stratified sampling of 598 randomly selected companies listed in the Taiwan Stock Exchange (TSE) (438 companies) and on over-the-counter (OTC securities) markets (160). The businesses belonged to the high technology, manufacturing and service industries. Questionnaires were sent to the businesses’ marketing managers and senior executives. Items were adopted from prior studies (Table 1) and stated on five-point Likert-type scales (1 = strongly disagree, 5 = strongly disagree). The survey instrument was pre-tested on experts and managers with extensive practical CRM experience for their comments and opinions. Subsequent adjustments to improve the questionnaire’s clarity were made.

The questionnaires were mailed with a cover letter explaining the purpose of this National Science Council of Taiwan-sponsored survey and instructions on its completion. After three weeks, 98 responses were received. Follow-up telephone calls increased the number to 161 for a response rate of 26.9 percent. However, nine questionnaires were returned incomplete and subsequently discarded. This reduced the sample size to 153 responses (25.6 percent response rate). A test for sampling bias showed no significant differences among the composition of the sample, the surveyed groups and industry (TSE and OTC). Also, no significant differences were found in a test for non-response bias that compared early and late responses.

A confirmatory factor analysis (CFA) was conducted to assess the discriminant and convergent validity of the items. Discriminant validity examines the measures of a construct and can be demonstrated when the average variance extracted exceeds the square correlations between all pairs of constructs. In contrast, convergent validity is supported if the analysis indicates that the existence of a construct (i.e., latent trait) underlies the set of measures (Anderson, Gerbing and Hunter, 1987). The values obtained for the measures assess their (measures’) validity which is inferred if a measure’s factor loading meet or exceed a criterion value of .40. The results indicate an acceptable level of convergent and discriminant validity (Table 2).

<table>
<thead>
<tr>
<th>Variables</th>
<th>Operational definitions</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT investment</td>
<td>IT infrastructure</td>
<td>Sacha (1996); Michael (1996); Kalakota &amp; Whinston (1996); Peffers &amp; Saarinen (2002); Ryan et al. (2002)</td>
</tr>
<tr>
<td>Absorptive capacity</td>
<td>Individual cumulative learning</td>
<td>Cohen &amp; Levinthal (1990); Boynton et al. (1994); Bower &amp; Hilgrad (1981); Massey et al. (2001); Zahra &amp; George (2002)</td>
</tr>
<tr>
<td>Strategic alignment</td>
<td>Strategic fit</td>
<td>Ven de Ven and Drazin (1985); Venkatraman (1989); Palmer &amp; Maarkus (2000); Chan et al. (2001)</td>
</tr>
<tr>
<td>Marketing programs</td>
<td>Customer service</td>
<td>Karimi et al. (2001); Applegate, L.M. et al. (1996)</td>
</tr>
<tr>
<td>Operational programs</td>
<td>Supply chain management</td>
<td>Karimi et al. (2001)</td>
</tr>
<tr>
<td>CRM effectiveness</td>
<td>Marketing performance for enterprises</td>
<td>Aaker (1996); Assael (1998); Oliver (1999); Kaplan &amp; Norton (1992, 1996)</td>
</tr>
<tr>
<td>Business performance</td>
<td>Cost reductions</td>
<td>Storey &amp; Easingwood (1999); Swift (2001); Winer (2001)</td>
</tr>
</tbody>
</table>

The results indicate an acceptable level of convergent and discriminant validity (Table 2).

<table>
<thead>
<tr>
<th>Degrees of Freedom</th>
<th>1253</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>444.96</td>
</tr>
<tr>
<td>Root mean square residual (RMR)</td>
<td>0.08</td>
</tr>
<tr>
<td>Standardized RMR (SRMR)</td>
<td>0.04</td>
</tr>
<tr>
<td>Root mean square error of approximation (RMSEA)</td>
<td>0.00</td>
</tr>
<tr>
<td>Goodness of fit index (GFI)</td>
<td>0.90</td>
</tr>
<tr>
<td>Adjusted goodness of fit index (AGFI)</td>
<td>0.89</td>
</tr>
<tr>
<td>Parsimony goodness of fit index (PGFI)</td>
<td>0.82</td>
</tr>
<tr>
<td>Normed fit index (NFI)</td>
<td>0.86</td>
</tr>
<tr>
<td>Comparative fit index (CFI)</td>
<td>1.00</td>
</tr>
<tr>
<td>Incremental fit index (IFI)</td>
<td>1.62</td>
</tr>
</tbody>
</table>
The maximum likelihood estimation method was used to estimate the structural equation model (SEM) in LISREL 8.3. Figure 2 shows the path loadings and coefficient alphas of the constructs. Residuals between -3.5 and 3.5, and path loadings greater than 0.5 are considered ideal (Jöreskog and Sörbom, 1993). The model’s residuals vary between 1.07 and 1.79, and the path loadings between 0.53 and 0.97. The LISREL estimates of the latent variables lie between 0.02 and 0.71 and their t-values between 0.18 and 7.11 (Table 3). The Cronbach alphas of the constructs range from .787 to .961 and suggest good reliability of the measurement scale.

The analysis of the results generally supports the research model, although not all the hypotheses are supported (Table 3). Of the three factors leading to CRM practices, two appear to have positive relationships. The effects of IT investments on CRM marketing and operational practices were not significant (H1 not supported). In contrast, the effects of absorptive capacity and strategic alignment on both CRM practices variables were found significant (H2 and H3 supported). This suggests that organizational factors consistently influence CRM practices, more often than IT investments. Knowledge and organizational planning are essential for CRM. Furthermore, the success of CRM hinges on its use within the context of a strategic vision. Although IT investments are important to businesses, they may not be a primary consideration to a business’ intended use of CRM. Also, it may be assumed from a practical viewpoint that IT is an integral part of CRM, such that CRM does not exist without IT. This lends further support to CRM as an RM solution and not one of IT.

**Table 3. Summary of test hypotheses**

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Variables</th>
<th>LISREL Estimates</th>
<th>t-value</th>
<th>Alpha</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a</td>
<td>IT investments and CRM marketing programs</td>
<td>0.02</td>
<td>0.18</td>
<td>0.957 (IT investments)</td>
<td>Not supported</td>
</tr>
<tr>
<td>H1b</td>
<td>IT investments and CRM operational programs</td>
<td>0.18</td>
<td>1.78</td>
<td></td>
<td>Not supported</td>
</tr>
<tr>
<td>H2a</td>
<td>Absorptive capacity and CRM marketing programs</td>
<td>0.37</td>
<td>4.37</td>
<td>0.922 (Absorptive capacity)</td>
<td>Supported</td>
</tr>
<tr>
<td>H2b</td>
<td>Absorptive capacity and CRM operational programs</td>
<td>0.27</td>
<td>3.58</td>
<td></td>
<td>Supported</td>
</tr>
<tr>
<td>H3a</td>
<td>Strategic alignment and CRM marketing programs</td>
<td>0.41</td>
<td>3.49</td>
<td>0.941 (Strategic alignment)</td>
<td>Supported</td>
</tr>
<tr>
<td>H3b</td>
<td>Strategic alignment and CRM operational programs</td>
<td>0.65</td>
<td>5.44</td>
<td></td>
<td>Supported</td>
</tr>
<tr>
<td>H4a</td>
<td>CRM marketing programs and CRM effectiveness</td>
<td>0.51</td>
<td>7.11</td>
<td>0.787 (Marketing programs)</td>
<td>Supported</td>
</tr>
<tr>
<td>H4b</td>
<td>CRM operational programs and CRM effectiveness</td>
<td>0.46</td>
<td>7.00</td>
<td>0.854 (Operational programs)</td>
<td>Supported</td>
</tr>
<tr>
<td>H5</td>
<td>CRM effectiveness and firm performance</td>
<td>0.27</td>
<td>2.26</td>
<td>0.961 (CRM effectiveness)</td>
<td>Supported</td>
</tr>
<tr>
<td>H6a</td>
<td>CRM marketing programs and firm performance</td>
<td>0.17</td>
<td>1.75</td>
<td>0.927 (Firm performance)</td>
<td>Not supported</td>
</tr>
<tr>
<td>H6b</td>
<td>CRM operational programs and firm performance</td>
<td>0.22</td>
<td>2.49</td>
<td></td>
<td>Supported</td>
</tr>
<tr>
<td>H7a</td>
<td>CRM effectiveness mediates CRM marketing programs on firm performance</td>
<td>-</td>
<td>-</td>
<td></td>
<td>Supported</td>
</tr>
<tr>
<td>H7b</td>
<td>CRM effectiveness mediates CRM operational programs on firm performance</td>
<td>-</td>
<td>-</td>
<td>Partially Supported</td>
<td></td>
</tr>
</tbody>
</table>

*H4b, H5b and 6b are supported, therefore there is a partial mediating effect.*

The data support the positive relationships between CRM practices and CRM effectiveness (H4 supported), and CRM effectiveness and business performance (H5 supported). Both marketing and operational programs play vital roles in achieving CRM effectiveness. Marketing programs focus resources on customer sales, service support, and essential interface elements for ensuring continued patronage. They strive to gain the trust and confidence of the customer. With operational programs, activities center on the logistics of product and service delivery, ensuring their timely and satisfactory delivery. Both programs are important to the longevity of a business’ relationship with its customers, particularly in maintaining their satisfaction. Support of H5 suggests that maintaining customer satisfaction and loyalty (CRM effectiveness) are important aspects of a business that are attended through CRM. Because CRM practices enhance CRM effectiveness and CRM effectiveness in turn increases a business’ performance, improving the practices will have an eventual impact on
performance.

In the relationship between CRM practices and business performance, only CRM operational programs has a positive relationship (H6b supported); CRM marketing programs is not significant (H6a not supported). Unlike operational programs, the outcomes of marketing programs tend to be intangible and measured in non-monetary terms (i.e., customer satisfaction, loyalty, etc.). Because operational programs objectives and business performance are gauged monetarily (i.e., costs, profits, etc.), both are compatible for measurement under the same terms and share a consequential relationship (i.e., one leading to the other).

The results of H4, H5 and H6 (Table 3), and the significant correlations between CRM marketing programs and business performance, and CRM operational programs and business performance suggest that CRM effectiveness mediates the relationship between marketing programs and business performance (H7a supported) but only partially mediates the relationship between operational programs and business performance (H7b partially supported). A mediating effect occurs when variations in the independent variables account for variations in the mediator, variations in the mediator account for variations in the dependent variable, and when controlled the independent variables have no effect on the dependent variable. The absence of a direct impact of marketing programs on business performance (H6a) and the presence of relationships between marketing programs and CRM effectiveness and business performance indicates the effects have been mediated by CRM effectiveness. However, the presence of positive relationships revealed by H4b, H5 and H6b suggests CRM effectiveness only partially mediates the relationship between operational programs and business performance.

The maximum likelihood estimation method was used to measure the overall fit of the model (in LISREL 8.3). Hoelter (1983) suggests that the data are supportive of the model when the Critical N (CN) exceeds 200. The sample’s CN of 519.16 indicates the data appropriately fit the model. The goodness of fit indicators summarized in Table 4 also indicate a good fit.

<table>
<thead>
<tr>
<th>Table 4. Goodness of fit statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degrees of Freedom</td>
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<tr>
<td>Chi-square</td>
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<tr>
<td>Parsimony goodness of fit index (PGFI)</td>
</tr>
<tr>
<td>Normed fit index (NFI)</td>
</tr>
<tr>
<td>Non-normed fit index (NNFI)</td>
</tr>
<tr>
<td>Comparative fit index (CFI)</td>
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<tr>
<td>Incremental fit index (IFI)</td>
</tr>
<tr>
<td>Parsimony normed fit index (PNFI)</td>
</tr>
<tr>
<td>Critical N (CN)</td>
</tr>
</tbody>
</table>

A limitation of this study lies in the generalization of the results. Because the data represent a narrow spectrum of industries in Taiwan, corroboration with other industries and countries is needed. For example, CRM use occurs more frequently among financial institutions. Intense competitive pressures have motivated its adoption. Also, as mature CRM users, these companies may have evolved their practices to a higher level from those surveyed. Futures might concentrate on identifying differences based on national culture, industries, competitive intensity and length of experience.

Implications to Business Practice

For those businesses that have successfully implemented CRM, the implications of this study are threefold: the investments in IT are presumed as a necessary but not sufficient condition for successful CRM practices, CRM practices hinges on a smart-workforce backing it, and an IT strategy that is supportive of the business strategy helps ensure resources are properly directed toward maximizing the benefits a business derives from its CRM use. Although CRM requires sizable investments in IT, particularly with the technology infrastructure, they by themselves do not guarantee a business will benefit from its CRM. Businesses will realize a value on their IT investments with the alignment between business and IT strategies (Henderson and Venkatraman, 1999). Thus, the alignment adds to the effective practices of CRM. A clear understanding of the targeted market segments and IT’s role in achieving those targets helps ensure (1) resources are effectively deployed toward supporting CRM initiatives, (2) the business is committed to a comprehensiveness long-term plan that recognizes CRM as a key success factor, and (3) CRM is focused as an innovator (i.e., marketing intelligence) or integrator (i.e.,
organizational enabler). Thus, the strategic plan defines IT’s role in the organization, how the business values its customers and the technological means it will use to leverage its customer relationships.

Also important is a smart-workforce that contributes to the advancement of organizational knowledge and its innovativeness. Knowledgeable people, who can apply their expertise toward better understanding changing markets and customer needs, possess skills in various IT-based research tools and can develop innovative solutions, will play a major role in determining a business’ use of CRM. Continuously investments to boost organizational absorptive capacity, such as the education and training of people and the business’ commitment to research and development, have an impact on a business’ ability to profitably fulfill its customers’ needs.

Conclusions

As more businesses enter the global electronic marketplace, competition among them will intensify. To better serve their customers and gain their loyalty, many will turn to CRM. Understanding the relationships among the elements and components that comprise CRM will lead to its more effective use and a greater contribution to profitability. This study has shown that a business’ investments in absorptive capacity and commitment to aligning its IT and business strategies play largely in forming CRM practices (marketing and operational programs). Significant boosts to CRM practices will lead to greater CRM effectiveness, which in turn contribute to profitability. Thus, businesses entering e-commerce and investing in CRM should understand the organizational commitments and activities surrounding a CRM implementation. Although IT enables many aspects of e-commerce and integrates activities across organizational boundaries, its role in CRM other than an enabler and integrator may not be assumed as an essential part of CRM beyond them. Thus, achieving CRM effectiveness lies in how the business leverages and exploits its knowledge and itself.

Figure 2. Path loadings
References