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How does CRM create better customer outcomes for small educational institutions?

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This study investigates the role of Customer Relationship Management (CRM) in the effective management of parent satisfaction and loyalty in small or medium-sized educational institutions. We developed and tested a two-level model in which the implementation of CRM was related to parent satisfaction and loyalty. A total of 600 parents involving 60 children's English cram schools in Taiwan were analyzed using Hierarchical Linear Modeling (HLM), with results that partially supported the proposed model. More specifically, knowledge management was positively related to parent satisfaction and parent loyalty while key customer focus had no significant relationships with parent satisfaction and parent loyalty. In addition, parent satisfaction was associated with parent loyalty. Both theoretical and practical implications are discussed.

Key words: Customer relationship management, parent satisfaction, parent loyalty, cram school.

INTRODUCTION

In the knowledge-based economy, firms must have full information of their customers so the products and services can be customized to the expectation of customers. Recent trends have also emphasized that companies move from a product centric culture to a customer centric model to sense and meet customer demands for changes in specific features of products and services, distribution channels, and pricing structure. While this is an obvious concern for all businesses, a customer-centric approach is especially important for Small and Medium-sized Enterprises (SMEs). Since SMEs have to shift from being product centric to customer centric, their marketing approach must focus on customization and long-term relationships (Wickramasinghe and Sharma, 2005). Even though the reality of the new economy presents major challenges to SMEs, not many SMEs are geared to cope with the demands of high-speed operations and high demands of customers.

Customer Relationship Management (CRM) is viewed as the management approach that involves identifying, attracting, developing and maintaining successful customer

relationships over time in order to increase retention of profitable customers (Bradshaw and Brash, 2001). Instead of treating all customers equally, companies are now realizing that it is more effective to develop customer-specific strategies. CRM enables firms to deploy such strategies by managing individual customer relationships (Verhoef and Donkers, 2001). Much of CRM-related research has investigated the relationship between CRM and customer satisfaction (Mithas et al., 2005). CRM boosts customer satisfaction and loyalty through establishing better contacts with customers and providing more efficient services. Hence, SMEs are suggested to build CRM solutions to take care of the dynamic needs of customers that will increase SMEs' competitive edge and enable them to compete with bigger firms (Karkoviata, 2001). Consistent with the above discussion, many researchers have supported the effect of CRM in the contexts of large higher educational institutions (Hennig-Thurau et al., 2001). However, most research ignores the potential benefits of CRM for other types of educational institutions. This paper reports research in a specific sector of educational institutions, the children's English cram schools in Taiwan.

Education is important to the economy of Taiwan, being one of the largest industries in Taiwan, and accounting for 1.2% of Taiwan economy and worth approximately

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NT\$50 billion in 2009. The children's English cram schools make a significant contribution to this revenue. In 2009, the turnover was NT\$10 billion. Due to transformation of the social structure such as low birth rate, the prevalence of nuclear families, the emergence of double-pay families and the upgrading of level of education, Taiwanese parents care about the academic achievement of their children and they are trying to improve children's learning performance by means of various ways. For example, Taiwanese parents often rely on "non-compulsory educational institution-cram school" to improve the academic achievements of their children. More than 80% of elementary school students in Taiwan learn English in cram schools. Thus, the number of children's English cram schools has increased with high speed. On the other hand, demand in Taiwan for children's English cram schools has been volatile and difficult to predict in recent years due to low birth rates. The owners of children's English cram schools have found themselves in an environment that is focused on all marketing activities directed toward establishing relationships with parents. In fact, stable, long-term relationships with customers allow service firms to reduce the possibility that customers are not satisfied with the delivered service (Hennig-Thurau et al., 2001). Most of these educational institutions are SMEs with limited resources purchasing expensive equipment or facility to appeal and delight customers. In the situation, they are engaged in adopting CRM to increase student satisfaction and loyalty. Relative to higher education institutions, children's cram schools must pay more attention to the needs and preferences of parents because parents pay for the tuition fee and decide whether to keep their children in the same school. The existing studies have focused on marketing tools necessary for increasing student satisfaction (McCullough and Gremler, 1999). Considering the importance of CRM, children's cram schools are supposed to establish and maintain long-term relationships with parents. In this article, we attempt to extend these previous efforts and borrow from relationship marketing perspective to examine whether children's English cram schools increase parent satisfaction and loyalty by implementing CRM.

LITERATURE REVIEW

Customer relationship management

The relationship marketing perspective emphasizes the benefits of long-term relationships with customers and highlights the importance of CRM. In some organizations, CRM is simply a technology application to bridge sales and marketing functions in order to improve targeting efforts. Other organizations, however, consider CRM a cross-functional, customer-driven management strategy that maximizes relationships and encompasses the entire organization. Hence, more and more researchers argue

that CRM is not just technology, but an integrated and balanced approach to technology, processes, and people (Chen and Popovich, 2003).

The idea of CRM not being simply a technology can be further demonstrated as most CRM descriptions do not mention any particular computer programs, tools, or specific technology (Bradshaw and Brash, 2001). Instead, CRM is commonly viewed as a strategy and perceived as the application of marketing models focusing on understanding and relating to the customer to improve customer satisfaction, loyalty, and profits. Therefore, the concept of CRM can be broadened to the activities involving the creation, development, and maintenance of individualized customer relationships with targeted customers, which build up and maximize total customer lifetime value. Consistent with the view, CRM should be considered as an enterprise strategy aimed at maximizing firm value. Such relationship marketing strategy is especially suitable for service companies, which have more intensive and continued relationships with their customers (Gronroos, 1997). The service offered by the educational institutions is comparable to the term services as used within the economic context. Furthermore, due to the increased competition in the market of the educational institutions, students and their parents are increasingly able to require excellent service delivery. The main advantage for these educational institutions, arising from the adoption of CRM, is the consideration of their interests (Hilbert et al., 2007). Therefore, the principles of an efficient CRM can be applied to educational institutions.

Customer relationship management in SMEs

A variety of studies derive varied conceptualizations of CRM and its practices (Payne and Frow, 2005). Sin et al. (2005) further developed a reliable and valid measuring scale for CRM. CRM is comprised key customer focus, knowledge management, CRM organization, and technology-based CRM so as to maximize the connection with the customers. Key customer focus emphasizes on delivering superior services and adding value to selected key customers through customized offerings. Knowledge management is concerned with the creation, transfer, and application of knowledge to serve customers. CRM organization refers to the changes of organizational structure, resource allocation, and human resource management around CRM. Technology-based CRM focuses on the computer technology in building relationships.

Although, some researchers argue that all these components are crucial to superior customer-relating capability (Day, 2003), not every firms can have abundant resources to implement CRM. In particular, SMEs have very limited resources, including human resources, finance, and technology (Knight et al., 2004). The majority of SMEs are lack of human resource planning, so they have difficulty in recruiting necessary manpower and the

technical expertise required for CRM adoption (Karkoviata, 2001). In addition, the insufficiency of financial resources may make SMEs conservative in investing in new technology. Taking the characteristics of SMEs into consideration, we focus on the components of key customer focus and knowledge management and discuss whether the two components are positively associated with patients' satisfaction and loyalty.

Parent satisfaction and parent loyalty

Customer satisfaction is a powerful key to profitability and has been widely applied to many service industries, such as banking, retailing, and so on. In addition to customer satisfaction, customer loyalty seems to be more directly related to profitability because it is very difficult to gain lost customers back and they spread negative word of mouth about the company. Customer loyalty can be viewed as a deeply held commitment to repurchase a preferred product or/service consistently in the future, thereby causing repeated consumption of the same-brand or the same brand-set (Oliver, 1999). Thus, firms can achieve competitive advantages in such a way as to retain their current customers as well as satisfy them.

Parents play a significant role in the educational process (Plevyak and Heaston, 2001). Prior research has demonstrated that children whose parents are engaged in school events have fewer behavior problems and greater academic success (Aronson, 1996). In order to work with students more efficiently, schools need to have tight connections with parents. One of the most important factors influencing the connections between schools and parents is the parents' satisfaction with their children's school (Ostroff, 1992). If parents are satisfied with their children's present school, they are less likely to search for alternative school or learning programs (Goldring and Shapira, 1993). This is often the case with cram schools facing fierce competition and swiftly changing marketing tools, such as promotion and advertising. In the context of cram school, children play the role of service receiver while parents play the role of decision maker during the service delivery and purchasing process. Parents tend to switch to other cram schools when they decide on a cram school for their children. Therefore, parent satisfaction may help cram schools know more about the desires and needs of the parents, and parent loyalty can help cram schools retain current students and attract new students.

Relationships between CRM, parent satisfaction, and parent loyalty

Despite most research focuses on parent satisfaction and loyalty, analyses of parent satisfaction with their children's school are necessary to understand why some parents are satisfied with the cram school and some

parents are loyal to the school without transferring their children to other cram schools. Much research highlights the importance of school-related information to influence parent attitude and behavior toward the educational institution (Tatar, 1998; West et al., 1995). School staff can build positive relationship with parents by conveying learning information about the children and updating school-related information inclusive class schedule, policy for student advancement, and school facilities (Tatar, 1998). These findings suggest that schools utilize the concept of CRM to enhance the relationships between cram schools and parents so as to increase parent satisfaction and parent loyalty. Key customer focus enhances firms to customize their offering for each customer. By accumulating information across customer interactions and by processing such information to discover hidden patterns, CRM helps firms to customize their offerings to suit individual tastes of key customers. Such customized offerings have the effect of enhancing the perceived quality of products and services from a customer viewpoint (Anderson et al., 1997). In addition, key customer focus also allows firms to improve the reliability of the consumption experiences by providing a consistent experience every time a customer interacts with the firm. Therefore, key customer focus has a positive effect on customer satisfaction. Only those service employees who have sufficient knowledge about customer typology and customer needs can provide fast, convenient, dependable, and consistent service. Such customer-related knowledge enables employees to provide the appropriate type and amount of information that will satisfy customers' immediate needs and increase long-term satisfaction (Román and Iacobucci, 2010). We believe that knowledge management encourages the employees to do a better job of solving problems and meeting customer needs, thereby increasing the customers' evaluation of service. Thus, knowledge management may increase the likelihood that customers will feel satisfied with their service.

Key customer focus helps the firm know and value that key customer, and then make customers generate "stickiness" or commitment to the firm (Gustafsson et al., 2005). The relationship marketing literature argues that commitment results from the relationship between the firm and customers, and recognizes such relationship commitment keeps customers loyal to the firm (Bendapudi and Berry, 1997). This personalization also locks customers into long-term relationships by adding to customer switching costs (Vandermerewe, 2004). As for knowledge management, creation and transfer of customer knowledge can help the firm more effectively respond to the changing needs of customers. Through effective knowledge management, employees can provide transparent and abundant information to customers. This reasoning is especially true in settings in which the service is complex, customized, and delivered over a continuous stream of transactions (Crosby et al., 1990).

In Taiwan, parents highly value the learning performance of their own children. In order to achieve efficient and effective learning performance, parents may favor those children's language cram schools, which provide qualified staff and a well-established curriculum. If a cram school provides personalized English learning programs, learning materials and facilities and conveys school-related information to parents by means of effective CRM, the parents would feel satisfied with the cram school and probably have children stay in the cram school. Therefore, we posit that the implementation of CRM has the potential to increase parent satisfaction as well as parent loyalty. Based on this discussion, the following hypotheses are thus proposed:

H₁: CRM is positively related to parent satisfaction.

H_{1a}: Key customer focus is positively related to parent satisfaction.

H_{1b}: Knowledge management is positively related to parent satisfaction.

H₂: CRM is positively related to parent loyalty.

H_{2a}: Key customer focus is positively related to parent loyalty.

H_{2b}: Knowledge management is positively related to parent loyalty.

As a general rule, customer satisfaction and customer loyalty are very closely related. Customer satisfaction is generally viewed as an antecedent of customer loyalty. However, the link between customer satisfaction and customer loyalty is found to be different under varying conditions of competition (Jones and Sasser, 1995). Applied to cram school, parents tend to be affected and decide on a new cram school when they have a variety of alternatives, which provide multiple advertisements and other promotions. In the current study, we would examine whether parent satisfaction makes contribution to parent loyalty, and the following hypothesis is proposed:

H₃: Parent satisfaction is positively related to parent loyalty.

Figure 1 illustrates the relationships specified in these hypotheses. The model involves the relationships between variables from two different levels: the cram school level (CRM) and the parent level (parent satisfaction and parent loyalty). We used hierarchical linear modeling (HLM) to press and relate from different levels when conducting analyses.

MATERIALS AND METHODS

Procedures

We drew the sample from the population of children's English cram schools in Taiwan. In 2009, the year this study was conducted, there were approximately 13,000 children's English cram schools in Taiwan. We generated a random sample of 100 cram schools from

the database of cram school unions. Then, we mailed letters describing the study and requesting participation to the executive manager of each cram school. To limit problems associated with common method variance, measures of the variables were collected from different data sources by distributing two separate questionnaires. The first questionnaire, completed by the executive manager of the cram schools, included school-level CRM and demographics. The second questionnaire collected data on the parent-level variables in the study, include parent satisfaction, parent loyalty, and their demographics. We asked the executive managers to fill out a questionnaire that collected data about their implementation of CRM and demographics. The executive managers were also instructed to organize the distribution, collection, and return of parent surveys in a way to preserve the anonymity of participants. To avoid self-selection bias, the parent survey was contained in a booklet with an opaque cover sheet on the front and back. Parents stapled their survey closed inside the cover sheet so that their responses were completely hidden.

Sample

Cram school sample

Of the 100 cram schools contacted, 60 returned all of the survey for a response rate of 60%. Participating cram schools varied by firm age (2 to 15 with a mean of 7.60), number of staff (4 to 40 with a mean of 17.2), and invested capital (NT\$1.5 million to \$18 million with a mean of NT\$8.3 million).

Parent sample

Corresponding to the number of cram schools, the parent sample consisted of 600 parents of the cram schools. This final sample of parent-level subjects averaged 39.05 years in age (SD = 5.04). Females represented 79% of the parent sample, while 64% of the respondents graduated from college.

Measures

CRM

Integrating with prior studies and the characteristics of cram schools in Taiwan, we adopted and modified the CRM scale (Sin et al. 2005) to assess the implementation of CRM within each cram school. The executive managers of cram schools were asked to apply a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Overall, the 8 items represent two sub-dimensions of CRM: key customer focus and knowledge management. While key customer focus involves an overwhelming customer-centric focus and continuously delivering superior and added value to selected customers through customized offerings, knowledge management is concerned with the creation, transfer, and application of customer-related knowledge to serve customers. As Table 1 shows, the initial confirmatory factor analysis (CFA) indicates that all of the items used to assess the two sub-dimensions of CRM had significant and substantial loadings on their factors ($\chi^2=28.29$, CFI = .90, NNFI = .89, RMSEA = .04) providing evidence of convergent validity. Thus, within each dimension, the averaged item responses form a scale score. Cronbach's coefficients for key customer focus and knowledge management were 0.82 and 0.85. These two sub-dimensions represent indicators of CRM construct in subsequent analyses.

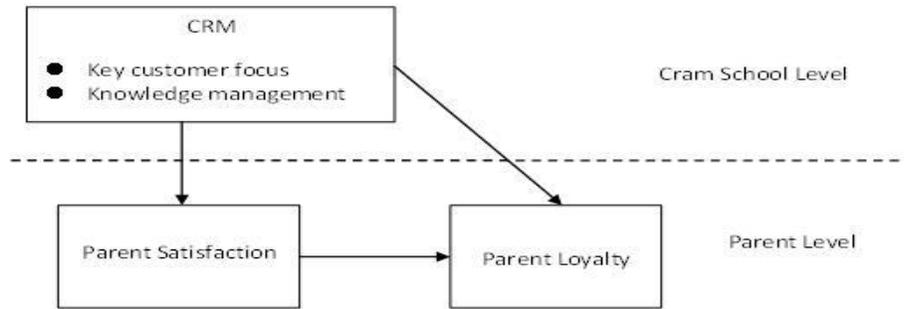


Figure 1. Hypothesized model.

Table 1. Results of confirmatory factor analysis.

Measures	Factor loading
School data (N=60)	
Fit indices CFA: $\chi^2=28.29$; CFI = .90; NNFI = .89; RMSEA = .04	
Key customer focus (n=4, Cronbach's = .82)	
Through ongoing dialogue, we work with customers individually to customize their needs.	0.76
We provide customized services and programs to key customers.	0.70
We make an effort to find out key customers' needs.	0.64
When we find that customers would like to modify a learning program or related service, we make coordinated efforts to do so.	0.68
Knowledge management (n=4, Cronbach's = .85)	
We are willing to help customers in a responsive manner.	0.78
We fully understand customer needs via our knowledge learning.	0.72
We provide channels to enable ongoing, two-way communication with customers.	0.70
We can provide prompt service to customers.	0.73
Parent data (N=600)	
Fit indices CFA: $\chi^2=518.764$; CFI = .93; NNFI = .90; RMSEA = .03	
Parent satisfaction (n=4, Cronbach's = .87)	
I am very satisfied with the service provided by the cram school.	0.84
The service provided by the cram school is very satisfactory.	0.86
I believe that choosing the cram school for my child is a very satisfying experience.	0.71
I made the right decision to let my child enter the cram school.	0.89
Parent loyalty (n=4, Cronbach's = .91)	
I would say positive things about the cram school to other people.	0.89
I would recommend the cram school to someone who seeks my advice.	0.83
I would consider the cram school my first choice to buy services for my child.	0.80
I would keep having my child learn English in the cram school for the next few years.	0.71

Note: All t-values are significant at $p < .01$.

Parent satisfaction

Based on the measure used by Levesque and McDougall (1996), we adapted four items to assess parent satisfaction. The parents responded to a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree) on the basis of their assessment, with high scores

representing a higher parent satisfaction (Cronbach's = .91).

Parent loyalty

We adapted four items from the scale developed by Zeithaml et al. (1996) to measure the parent loyalty toward the cram school. The

Table 2. Means, standard deviations and intercorrelations for all study variables.

Variable	M	SD	1	2	3	4	5	6	7
Key customer focus	3.90	0.44	-	0.42**	0.05	0.12*	0.09*	-0.13	-0.10
Knowledge management	4.22	0.34	0.39**	-	0.13	0.10*	0.18*	0.09	-0.19
Firm age	7.60	3.96	0.13	0.05	-	-0.03	-0.06	0.07	-0.02*
Parent satisfaction	3.85	0.49	0.09*	0.10**	-0.05	-	0.48**	0.17	-0.01
Parent loyalty	3.94	0.53	0.09*	0.11**	-0.04	0.43**	-	0.04	0.15
Parent gender	0.21	0.41	-0.05	-0.01	0.04	0.21**	-0.01	-	0.01
Parent age	39.05	5.04	-0.05	0.05	-0.02	-0.24**	-0.19**	0.06	-

Note: values below the diagonal, parent level (level 1; N = 600); values above the diagonal, school level (level 2; N = 60). * $p < .05$; ** $p < .01$.

parents responded to a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree) on the basis of their assessment, with high scores representing a higher parent loyalty (Cronbach's = .87). To examine the convergent validity, we specified a two-construct measurement model at the parent level that consisted of a five-item parent satisfaction and a four-item parent loyalty. As shown in Table 1, the results of CFA provided a reasonable fit to the data, although the χ^2 value is statistically significant ($\chi^2 = 518.76$, CFI = .93, NNFI = .90, RMSEA = .03). All the standardized factor loadings exceeded .71 and were significant ($p < .01$), providing evidence of convergent validity. Based on these results, we concluded that the measures are both unidimensional and reliable. As for discriminant validity, we calculated the 95% confidence interval to determine whether the cross-construct, plus or minus two standard errors, included the value of 1.00 (Anderson and Gerbing, 1988). According to the results, no confidence interval contained the value 1.00, so the assessment indicated that the study achieved a reasonable level of discriminant validity.

Control variables

Several control variables of parent-level were included in this statistical analysis to reduce the possibility of spurious relationships based on unmeasured variables. Prior research has shown that the influences of CRM vary with the firm age; younger firms are more likely to adopt CRM (Kuada and Serles, 2006). To rule out alternative explanations for our results, we used the firm age as a control variable in the cram school level analysis. On the parent level, gender difference also influences customer satisfaction. Compared to men, women pay more attention to the consulting services of the sales personnel (Gilbert and Warren, 1995). Age is another demographic characteristic that has attracted considerable research attention. Older people have restricted information-processing capabilities; therefore their reactions to satisfaction shifts might also change (Homburg and Giering, 2001). Thus, parent gender and parent age were controlled on the parent level.

Analytical approach

Since the proposed relationships are comprised variables on two different levels, we opted to analyze the data with hierarchical linear modeling (HLM; Bryk and Raudenbush, 1992). To reflect these two levels, we used a hierarchically nested design; that is, we investigated multiple parents for each cram school. In our study, the level of theory for CRM practices on the school level (level 2) without aggregation of data. On the other hand, the level of theory and the treatment of parent satisfaction and parent loyalty were on the parent level (level 1). In line with the procedure proposed by Hofmann (1997), we included a preliminary step for all HLM models. We tested a null model with no predictor variable in order

to test whether there is systematic between-school variance in the dependent variables, which is a necessary condition to be met in HLM models. The analyses indicated that the χ^2 values for parent satisfaction and parent loyalty were significant ($p < .001$). Moreover, ICC (1) scores indicated that a considerable amount of the variance in patient variables (ICC[1] = 0.16 for patient satisfaction; ICC[1] = 0.15 for patient loyalty) can be attributed to between-school variance. Reliability scores (ICC[2] = 0.68 for parent satisfaction; ICC[2] = 0.62 for parent loyalty) provided evidence that these measures differentiate cram schools in a reliable way (Bryk and Raudenbush, 1992). Therefore, we could further investigate the cross-level relationships among variables with HLM since HLM provides an appropriate analysis, when multiple levels of data are involved, by maintaining the requirements of independence for the group-level data (Hofmann, 1997).

RESULTS

Correlations between the variables on both the school level and the parent level are presented in Table 2. The pattern of correlations was consistent with the hypothesized relationships. CRM practices were positively related to parent satisfaction and parent loyalty. In addition, parent satisfaction had a statistically significant positive relationship with parent loyalty. We used HLM (Bryk and Raudenbush, 1992; Hofmann, 1997) to assess the degree to which CRM practices relate to parent satisfaction and parent loyalty. HLM allows the integration of hypothesized influences of one level of organizational hierarchy with another level (CRM practices on parent satisfaction) with influences within a given level of organizational hierarchy (parent satisfaction on parent loyalty). Table 3 shows the regression models used to test our predictions. As expected, younger parents have more information-processing capability to influence their evaluation of service delivery and intention to continue the relationship with cram school. However, parent gender had different influences on satisfaction and loyalty. Fathers were more satisfied with the cram schools than mothers. While knowledge management had significant positive relationships with parent satisfaction ($\beta = .208$, $p < .01$), key customer focus did not have significant relationships with parent satisfaction. Only H_{1b} was supported. As for hypothesis 2, there was still a positive relationship between knowledge management and

Table 3. Results of the HLM analysis.

	Hypothesis 1	Hypothesis 2	Hypothesis 3
Dependent variable	Parent satisfaction	Parent loyalty	Parent loyalty
	Gama coefficient (SE)	Gama coefficient (SE)	Gama coefficient (SE)
Parent variable (Level 1)			
Parent satisfaction			0.414** (.023)
Parent gender	0.323** (.032)	0.015 (.055)	-.319** (.048)
Parent age	-0.028** (.001)	-0.021** (.003)	0.003(.002)
School variable (Level 2)			
Key customer focus	0.028 (.057)	0.017 (.070)	
Knowledge management	0.208** (.095)	0.219** (.113)	
Firm age	0.006 (.005)	-0.004 (.006)	-0.002 (.003)

Note: *N* for level 1 variable is 600, and *N* for level 2 variables is 60. **p* < .05; ***p* < .01.

and parent loyalty ($\beta = .219, p < .05$), but these were not significant relationships between key customer focus and parent loyalty. Only H_{2b} was supported. Hypothesis 3 predicted that parent satisfaction would be positively related to parent loyalty. Once again, the results of the analysis provided support for Hypothesis 3 ($\beta = .414, p < .01$).

Sobel's test (1982) was conducted to further approximate the significance of the indirect effect of parent satisfaction. Krull and MacKinnon (2001) showed that the test can be used to test mediation in multilevel models. The results of the Sobel's test ($z = 3.926, p < .01$) further supported these proposed hypotheses for partial mediation. Hence, parent satisfaction partially mediated the relationship between knowledge management and parent loyalty.

DISCUSSION

The main objective of this study is to test a two-level model that links CRM practices to parent satisfaction and parent loyalty. We found that (a) only knowledge management was positively related to parent satisfaction, (b) only key management was positively related to parent loyalty, and (c) parent satisfaction was positively related to parent loyalty. In contrast to the view that CRM creates competitive advantages for businesses, our findings indicate that some CRM practices predict the degree to which parents feel satisfied and loyal while some CRM practices do not improve parent evaluations toward the educational institutions.

Theoretical implications

Following the strategic view of CRM, this study considered the characteristics of SMEs and proposed that key customer focus and knowledge management be positively related to customer satisfaction and loyalty in

the context of cram schools. This study reached very similar conclusions in our review of literature focused on linkages of knowledge management to parent satisfaction and loyalty (Alexandropoulou et al., 2009). When parents perceive that the staff has enough knowledge to solve problems and provide information about children's learning programs, they would feel satisfied and intend to keep their children study in the cram school.

On the other hand, we found no significant relationship between key customer focus and parent satisfaction and loyalty, suggesting that focus on selected customers may increase the satisfaction and loyalty of these selected customers, but may negatively influence other customers' evaluation with the service. In the context of cram schools with fewer students than other formal educational institutions, parents have frequent interactions with each other when they send to the cram school or pick up their children. They also have many chances to observe the service delivery process occurring to other parents. By observation and experience sharing, they may perceive the unfairness of service provision among parents and feel uncomfortable with the unfair treatment. According to justice theory, customer perceptions regarding the fairness of service delivery efforts influence customer satisfaction and future behavioral intentions (Ha and Jang, 2009). Thus, the practice of key customer focus in SMEs may lead to customers' perception of unfair service provision, and then decrease customer satisfaction or loyalty.

Practical implications

Our research has several practical applications regarding the adoption of CRM in small or medium-sized educational institutions. First, our research demonstrates the relevance of knowledge management in influencing customers' evaluation of service, and the results suggest the necessity of emphasizing the development of knowledge

management. Besides conveying the value of customer knowledge to the staff, the managers of educational institutions should make extensive efforts to provide role-modeling behaviors and practices related to creation and sharing of knowledge, and should design and provide opportunities and incentives to encourage their staff to increase their knowledge about customers and skills to solve customer problems.

Second, key customer focus does not seem to be significant in predicting parent satisfaction or loyalty. This finding suggests that the small or medium-sized educational institutions should not over-emphasize the value of specific customer groups when they make decisions about relationship initiation and maintenance, but should instead work to provide all students and parents can obtain superior and personalized service. The suggestion is particularly feasible for those educational institutions with a small number of students. Even though these educational institutions are lack of financial resources and expertise to launch CRM technology, they are supposed to understand individual customer needs and provide customized service to these customers.

Limitations and directions for further research

Although the study has several useful implications, it also has several limitations. First, a possibility of common method bias exists, even though the research data were drawn from executive managers and customers. Parents provided the ratings about satisfaction and loyalty. To address this concern, we conducted Harman's single-factor test, performed an exploratory factor analysis on parent-level variables. The result revealed that no single factor accounted for the majority of covariance among the measures, suggesting that common method variance is not likely to be a problem in our study on the parent level. However, future longitudinal work is necessary to minimize common method bias (Vigoda and Cohen, 2002).

A second limitation concerns the need to explore the possible moderating effect between the implementation of CRM and parent satisfaction or loyalty, even though our results partially supported the positive relationships, because other individual or contextual variables may affect parents' evaluation of service. For example, academic achievement of students or competition intensity in the area may influence a parent's perception of the salesperson's knowledge more than the specific encounter. Future studies may include these possible moderators in order to develop further the implications of customers' perception of the salesperson's knowledge and customer satisfaction.

In addition to those already mentioned, this research leads to suggestions for future studies. Our model involves relationships between variables from two different levels: the school level and the parent level. However, other

However, other employee variables (that is personality, customer orientation) may affect employees' attitude toward CRM and service behavior, so future studies should also examine the influence of other employee variables between CRM and customer evaluation by collecting employee data.

Conclusion

This research empirically tested the effect of CRM on parent satisfaction and parent loyalty in small educational institutions. Using cross-level data of cram school managers and parents, only knowledge management affected parent evaluation of service provided by cram schools. Our findings provide empirical support for the conjecture that the launches of CRM help the firm focus on the practices of knowledge management and improve their customer satisfaction and loyalty. Our research contributes to an empirically valid theory by synthesizing insights from the CRM research and education literature. Overall, our results suggest that cram schools undertake efforts to implement knowledge management and focus on all customers to reap significant intangible benefits, such as improved parent satisfaction and loyalty.

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