

The Application of Knowledge Management in Customer Relationship Management

Pan Huiming, Guo Yi

School of Management, Wuhan Textile University, Wuhan, P.R. China, 430070

(E-mail: gary5487@126.com, guoyi5487@163.com)

Abstract: Customer relationship management (CRM) and knowledge management (KM) has become a key strategic tool for all companies, especially in the current competitive environment recently. Reviewing the literature, we found many studies that analyze the crucial role played by KM initiatives as determinants of the success of CRM. However, there is still no integrated conceptual framework to guide companies to their successful implementation. In this paper, with data of 100 random consumers, we examine the relationships between KM and CRM success by using the empirical research method, and we draw a conclusion that knowledge transfer, knowledge acquisition, knowledge innovation and knowledge sharing all play a positive role in CRM success.

Keyword: KM; CRM; Knowledge transfer; Knowledge sharing; Knowledge innovation

1 Introduction

Customer relationship management (CRM) and knowledge management (KM) initiatives are directed towards the same goal: the delivery of continuous improvement towards customers. Initiatives stemming from this effort have been labeled 'customer knowledge management' (CKM) or 'knowledge-enabled CRM'. In this contribution, we conceptualize CKM as the utilization of knowledge for (e.g. product information) from (e.g. their ideas about product improvements) and about customers (e.g. their requirements and expectations) in order to enhance the customer-relating capability of organizations. Recent research shows that an organization's KM capabilities are the most significant critical success factor affecting CRM impact. However, due to a history of poor solutions coupled with technology failures, many companies have a hard time integrating KM initiatives in today's business world. Nevertheless, the idea of combining KM initiatives with CRM activities is still alive as it has also proven to bring about considerable benefits when done correctly. Therefore, we want to introduce the actual status quo of CKM initiatives within organizations and shed light on the question how companies successfully utilize the methods of knowledge management to achieve superior performance in CRM processes.

Generally, KM can be defined as the creation, acquisition, sharing, and transfer of knowledge for the promotion of organizational performance. In this study, we examine how KM activities can influence the relationship between customer and companies. In order to find out the extent that KM activities influence CRM, we use customer retention as an intermediate variable, and a questionnaire survey of quantitative method is applied.

2 Literature Review and Hypothesis

2.1 Customer retention

The cost of acquiring new customers usually far exceeds the cost of retaining an existing customer. As a result, customer retention has become a managerial strategy that has spurred interest in understanding and implementing store-loyalty programs^[1]. According to a nationwide Customer Retention Survey, more than half the respondents reported that the percentage of sales from existing customers was 75% or greater. In addition, in spite of the fact that 98% of those surveyed agreed that customer loyalty was very important, only half reported knowledge of any customer satisfaction program implemented at their firm. Even more puzzling is the fact that 73% of firms said that they did not measure customer loyalty. Finally, with regards to retention, 96% of firms reported that their top five customers had purchased from competition during the past three years. Clearly, despite the surge in importance, customer retention remains illusive and more complex than ever before.

2.2 Knowledge transfer

Knowledge transfer is defined as the process through which one firm is affected by the experience of another; it relates to access to, and acquisition of, external sources of knowledge^[2]. The literature on business-to-business relationships treats knowledge as a "soft" resource that is not embedded in physical products. Horan understand knowledge as an actor's ability to carry out the tasks which are the subject

of a contract, as the knowledge that arises between actors about how to do business with each other, or as an actor's ability to draw on the knowledge base of the participants in the relationship. Sharma argue that the main role of relationships (distribution channels) moves from "physical distribution" toward "knowledge delivery". A supplier may possess specific expertise that is not available within the customer's firm. In a relationship firms can cooperate and learn from each other without actually having to make all the investments themselves. Relationships therefore represent an important tool for knowledge transfers between firms in the relationship. The knowledge the customer gains from the supplier should direct the customer towards improvements in their products, processes and procedures.

H1: Knowledge transfers positively influence customer relationship

2.3 Knowledge creation

To explain the growth of the firm, Penrose stipulates a dynamic relationship between the knowledge of the firm and market opportunities^[3]. Following her arguments, competitive advantages and growth do not emerge from merely making decisions in the present but from creating knowledge over periods of time. Correspondingly, the knowledge-based view regards knowledge as the most important resource and firms as superior to individuals in creating knowledge. From this perspective, knowledge creation can develop from the combination of knowledge held by the firm and connected actors in the network and may occur gradually or radically.

On the one hand, knowledge creation that is gradual may involve the mere extension of competences, that is, by imitating knowledge that preexists in the external environment. This type of knowledge creation may be driven by the pragmatic incentive to keep up with forerunners in the industry to increase chances of survival in the short run. On the other hand, knowledge creation may involve the drastic shift of competences, that is, by the experimentation of alternatives leading to cognitive and/or behavioral change. Knowledge creation may serve to cultivate sustained competitive advantage because of unique features that establish an uncertainty about a firm's grounds for efficiency, which prevents presumptive imitators from knowing exactly what to imitate and how to do it.

H2: Knowledge creation has a positive effect on CRM

2.4 Knowledge acquisition

Knowledge acquisition is understood as the process used by an organization to obtain knowledge^[4]. This process takes place through the organization's external and internal relationships. The relationships that provide knowledge vary in nature, and include both formal and informal daily activities, among others. Some authors have systematized the processes through which organizations acquire knowledge. Huber (1991) and Grant (2000) provide a categorization of the sources of knowledge generation and acquisition, respectively. These are integrated in the present research: first, the internal creation of knowledge, obtained through internal R&D, together with the learning that derives from mechanisms such as the inheritance of knowledge possessed by the founders, or additional knowledge that was acquired before the organization was created. Second, experimental learning, based on action, and acquired through direct experiences; this learning includes processes such as organizational experiments, training in work, and simulations. Third, external knowledge; these processes include a great variety of actions from the attendance of conferences, courses, workshops, benchmarking with other organizations, interaction with other actors, or establishing strategic alliances. Search learning is also included, namely, the information acquired by exploring the firm's external environment.

H3: Knowledge acquisition has a positive effect on CRM

2.5 Knowledge sharing

Knowledge sharing has been defined as 'the provision or receipt of task information, know-how and feedback regarding a product or procedure', and has been tied to various desirable managerial outcomes including productivity, task completion time, organizational learning, and innovativeness^[5]. The presence of knowledge sharing is evident from researchers starting to connect knowledge-related elements to CRM systems, such as knowledge-enabled CRM, integrating knowledge management and CRM, and the impact of CRM on a firm's performance. Customer knowledge sharing can be regarded as a key resource that enables a firm to strengthen its customer relationships to produce a sustained competitive advantage. Bialogorsky et al. (2006) remarked that future CRM research needs to examine how CRM is connected to a company's innovation patterns, and the sales and customer-service personnel who play the boundary role in CRM.

The importance of knowledge sharing in collaborative work has been established. Increased knowledge sharing has led to organizational benefits such as greater back-office efficiency, greater customer intimacy, improved strategic planning, flexible adaptation to market changes, improved decision making and more rapid and flexible supply chain management processes.

Knowledge sharing involves the exchange of knowledge or assistance to others. It involves domain-knowledge specificity (both of the supplier and adopter) to focus on the unique context of the interaction, these contexts – including new product planning, product conception and design, and pricing (Subramani, 2004) – reflect a supplier’s understanding and knowledge of market positioning and customer expectations.

H4: Knowledge sharing is positively associated with CRM profitability.

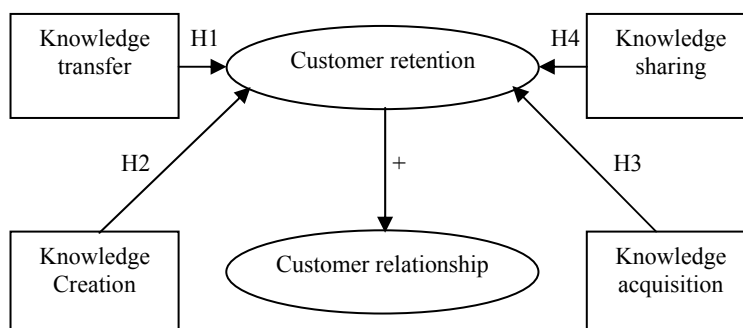


Figure 1 Theoretical Model

3 Data and Methodology

3.1 Questionnaire design

The aim of this questionnaire is to measure 4 influence factor variables and 1 compared variable. In the field of knowledge management, lots of domestic and foreign scholars have studied these variables such as knowledge sharing, knowledge innovation and so forth. This study is based on the previous research, and designing a questionnaire to measure each variable in the above model. The questionnaire use the general 7-point Likert scale, from 1 to 7 represents the lowest to the highest degree, and use multiple questions to measure each variable, the mean value of these questions is regarded as the measurement of variables.

We sent out questionnaires to 120 random customers through the website, and regained 109 questionnaires after rejecting invalid questionnaires. Finally the number of valid questionnaires is 100; the effective response rate is 83.3 percent.

3.2 Research method

For our research purpose, we adopted a quantitative-empirical research method based on a survey on random consumers. We used data derived from a survey of 120 random consumers in order to identify the status quo of knowledge-enabled CRM initiatives within organizations. It covers aspects referring to “which” and “how much”. Therefore, the survey represents the exploratory part of our research, providing us with data and propositions for further inquiry. In this context, we were especially interested in ascertaining whether these knowledge management methods influence CRM, and the extent of these KM initiatives influence CRM.

4 Results

Firstly, this study respectively does correlation analysis and overall regression analysis between 4 influence factors and object variable (customer retention). The result of correlation analysis shows in figure 2. Knowledge transfer, knowledge Creation, knowledge acquisition and knowledge sharing are all signally correlated to object variable (the correlation coefficient are all greater than 0.5). We continue to do stepwise regression analysis, the result shows in figure 3 indicates that when synthetically consider the influence that 4 variables have on the object variable, the impact are all effective while significance lever $\alpha = 0.05$, so we take the above 4 variables as the critical factors to customer retention. The influence factor model shows in figure 4.

Correlations

		KT	KC	KA	KS	CR
KT	Pearson Correlation					
	Sig. (2-tailed)					
	N					
KC	Pearson Correlation	.520**				
	Sig. (2-tailed)	.000				
	N	101				
KA	Pearson Correlation	.359**	.618**			
	Sig. (2-tailed)	.000	.000			
	N	101	101			
KS	Pearson Correlation	.374**	.384**	.465**		
	Sig. (2-tailed)	.000	.000	.000		
	N	101	101	101		
CR	Pearson Correlation	.586**	.667**	.604**	.542**	
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	101	101	101	101	

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

Figure 2 Correlation Analysis

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.909	.406		2.237	.028
	KT	.211	.061	.263	3.452	.001
	KC	.274	.078	.313	3.533	.001
	KA	.182	.073	.212	2.486	.015
	KS	.194	.064	.226	3.043	.003

a. Dependent Variable: CR

Figure 3 Overall Regression Analysis

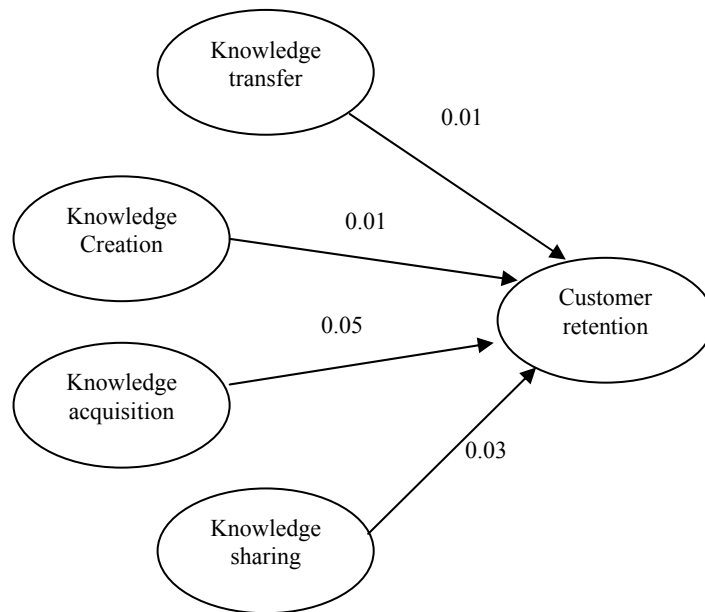


Figure 4 Impact Factor Model

5 Conclusions

This study takes an empirical Analysis to the data collected from 120 random consumers, we find that knowledge transfer, knowledge creation, knowledge acquisition and knowledge sharing are all significant correlation to CRM, and the impact of knowledge transfer, knowledge creation, knowledge sharing to CRM are extremely notable. Therefore, we can say that KM has positive impact on CRM at some extent, and companies can improve the customer relationship by using KM tools, exploring potential customers and retaining loyal customers. Then companies will achieve maximum benefit.

In order to make the research more convenient, the samples of this study are mainly network consumers, and the number of samples is limited, so the study has limitation at some extent. In addition, the mutual influence among 4 variables should be taken into account. We plan to choose more samples in the future study, combining case study method, and examine the interaction among influencing factors, and then make the study more valuable.

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