



Improving customer outcomes through the implementation of customer relationship management

Evidence from Taiwan

Malcolm Smith

*School of Accounting, Finance and Economics,
Edith Cowan University, Joondalup, Australia, and*

Chen Chang

*School of Public Finance, Jinwen University of Science and Technology,
Hsintien City, Taiwan*

Abstract

Purpose – Owing to the sharp refocus among Taiwanese companies away from a product-centric approach towards a customer-centric approach, many companies have invested heavily in customer relationship management (CRM) systems. The purpose of this paper is to investigate whether such an investment generates the anticipated benefits.

Design/methodology/approach – The paper uses survey methods among public companies in Taiwan to examine the degree to which CRM implementation impacts upon customer satisfaction and customer loyalty.

Findings – Firms which pay more attention to a customer-centric approach can benefit significantly from the implementation of CRM systems. There were no differences in the degree or focus of implementation attributable to industry differences.

Research limitations/implications – The results are subject to the normal limitations associated with survey research, and may not be generalisable outside Taiwan.

Practical implications – The paper has significant implications for management decision making in terms of the disposal of resources to pursue customer-related strategies.

Originality/value – The paper has significant practical implications for companies in Taiwan.

Keywords Taiwan, Customer relations, Customer service management

Paper type Research paper

1. Introduction

Customer relationship management (CRM) is the key competitive strategy that firms need in order to stay focused on the needs of their customers and to integrate a customer-facing approach throughout the organization. A complete CRM consists of two perspectives: management and technology (Kalakota and Robinson, 1999; Reinartz *et al.*, 2004). Moreover, the implementation of customer-related strategies is a critical factor of successful CRM programs (Reinartz *et al.*, 2004). Much evidence indicates that there is a high relationship between the technology perspective of CRM (CRM t) and customer-related strategies (Eckerson and Watson, 2000; Mckim and Hughes, 2001). In addition, customer lifetime value (CLV), customer satisfaction and customer loyalty are



all critical factors in a successful CRM program (Ness *et al.*, 2002). CRM starts with well-established strategies (Reinartz *et al.*, 2004), such that a wrong strategy decision will result in a loss (such as investing limited resources in unprofitable customers), regardless of the adoption of a well-established CRM technology. The customer-centric concept has been cultivated throughout Taiwanese industry, but no study has yet been conducted in Taiwan which explores the relationship among customer-related strategies and measures, and their association with CRM.

This research study will examine, in a Taiwanese context, the links between: a customer-centric approach in the organization; the development of a CRM focus; implementation of customer-related strategies, and their impact on customer loyalty and customer satisfaction programs.

2. Theoretical background

Background of the Taiwanese industry

The standard industry classification in Taiwan designates 16 categories:

- (1) agriculture, forestry, fisheries, and livestock;
- (2) mineral;
- (3) manufacturing;
- (4) hydropower gas sector;
- (5) construction;
- (6) wholesale and retail;
- (7) accommodation and catering;
- (8) transport, storage, and communication;
- (9) financial and insurance;
- (10) real estate and leasing;
- (11) professional, scientific, and technical services;
- (12) education and services;
- (13) medical insurance and social welfare;
- (14) cultural, physical exercise, and leisure services;
- (15) others; and
- (16) public administration.

Based on economic categories, groups (6) to (16) belong to the third level, service industry.

Further aggregation suggests three fundamental levels:

- (1) industries targeting the development of resources derived from agriculture, forestry, fisheries, and minerals;
- (2) industries processing and producing the resources developed by the first-level industries; and
- (3) industries not belonging to the first- or second-level industries, i.e. extractive (groups 1 and 2), manufacturing (groups 3-5), and services (groups 6-16).

Groups 1-5 might traditionally be labeled as the “manufacturing” sector.

However, there are great differences within a service sector specified so widely, suggesting the creation of sub-groups:

- (6) wholesale and retail;
- (7) accommodation and catering;
- (8) transport, storage, and communication might be grouped together and denoted as “service industry” under more traditional assumptions; because of its importance in Taiwan, and accounting complexities; and
- (9) “financial and insurance” is separated off to form a “financial services” sub-group, with the remaining groups (10-16) denoted as “other services”.

This study examines differences between these three industry groupings (manufacturing, service, and finance) in terms of customer focus.

Shifting the focus from a product-centric to a customer-centric approach

The spread of customer-related measures can be attributed to the significant transformation in marketing practice from a transaction-oriented/product-focused era to a relationship-oriented/customer-focused era. The product-centric approach faces certain challenges to success that can be overcome by the customer-centric approach. In the product-centric view, products are treated as assets, and firms focus on selling more products at the highest possible margins, that is, increasing profits from each product. Both product and cost advantages can be replicated by the competition. In contrast, the customer-centric approach treats the customers of the products as assets, and focuses on both acquiring and retaining customers. The increasing importance of the customer-centric approach to marketing is evident in the numerous CRM initiatives prevalent today. To be successful, companies must re-think, how they do business and how they service their customers, so that their business models can evolve from a product-centric to a customer-centric orientation, capable of delivering customer value.

Customer “orientation” has been defined differently in the literature (Webster, 1988; Kohli and Jaworski, 1990; Narver and Slater, 1990) and often associated with terms such as market orientation, marketing concept, and “customer first”. However, defined, its fundamental thrust remains the goal of putting customers at the centre of strategic focus – a major platform of the marketing concept (Felton, 1959). Thus, Kohli and Jaworski (1990) view market orientation as the implementation of the marketing concept, while Narver and Slater (1990) see customer orientation as one of the behavioral components of market orientation. Other practitioners and academics argue that there is no clear distinction between customer orientation and market orientation (Webster, 1988).

Customer-centric organization

Schneider and Bowen (1995) suggest that, if organizations view their customers only as end-users, they may be less competitive than their counterparts who involve their customers in a variety of roles that expand and deepen the relationship. El Sawy *et al.* (1999) suggest that, to survive in demanding business environments, organizations need to innovate and invent new ways of creating value, and require different enterprise architectures and information technology (IT) infrastructures to meet customer demands. As a result of the rapid advancement of IT, enterprises adopt customer-centric information system (IS) applications to transform themselves into customer-centric

organizations. However, to sustain a competitive advantage, firms must go beyond simply applying technological tools and techniques to include a shift in values, assumptions, and premise (Soh *et al.*, 2000), guiding all business activities towards understanding and fulfilling customer requirements. At the core of this orientation is the necessity for developing and establishing long-term relationships with customers, aimed at improving customer service and satisfaction.

Customer relationships can be greatly improved by employing IT (Karimi *et al.*, 2001). IT can facilitate and enhance customer relationships in various ways but mainly by enabling companies to attain customization, the essence of the customer-centric orientation, through the deployment of sophisticated CRM systems (Dewhurst *et al.*, 1999). CRM normally aims to manage the information transfer between an organization and its customers. IT does this by recognizing the customer as more than one component of a transaction, but rather as a unit of interaction. IT aims to collect data on each interaction and use these data to provide additional sales leads and options (Bolton *et al.*, 2004). The challenge for customer-centric organizations is to design and manage customer-centric IT applications that are flexible, easy to maintain, and quickly integrated with existing systems for better customer service (Gefen and Ridings, 2002).

Bolton *et al.* (2004) suggest that the customer-centric organization adopts and continually develops business processes that enable it to move from:

- point-in-time interaction (and transaction) with customers to long-term dialogue;
- a focus on operational efficiency to one on business effectiveness;
- management of lines of business to management of customers and customer groups;
- mass-marketing of standard products to customer-based customization and personalization of products; and
- an emphasis on new customer acquisition to an emphasis on maintaining the loyalty of existing customers.

Customer relationship management (CRM)

CRM has emerged in recent years as the convergence of a number of factors. The impetus for the interest in CRM came from Reichheld (1996), who hypothesized a dramatic increase in profits from small increases in customer retention rates. CLV, along with customer retention rate, customer attrition rate, customer loyalty, customer profitability, and customer satisfaction, have become key measures used to evaluate the effectiveness of CRM implementation among firms.

Some companies view CRM primarily as an investment in technology and software, whereas others treat CRM more expansively and are aggressive in developing productive relationships with customers. These two perspectives of CRM merit separate discussion.

CRM-technology perspective

The IT origins of CRM date from the 1990s and the development of massive and expensive data warehouses to improve company targeting of communications. CRM seeks to identify actionable customer segments and reduce marketing expenses by focusing on those segments (Mckim and Hughes, 2001). Using technology to “optimize

interactions” with customers, companies can create a 360-degree view of customers to learn from past interactions and optimize future ones (Eckerson and Watson, 2000).

McKim and Hughes (2001) suggested that the dual use of CRM be grouped around two major functions: customer acquisition and customer retention, and identified the information sources in CRM for pursuing acquisition and retention strategies and for encouraging add-on sales. These are described in Table I.

Advanced CRM technology involves the use of databases, data warehouses, and data mining to help organizations increase customer retention rates and their own profitability (Ngai, 2005). Technology components of CRM include front office applications that support sales, marketing, and service; a data depository and back office applications that help integrate and analyze the data (Greenberg, 2001). Sales support is designed to help the sales force acquire and retain customers, reduce administrative time, and enable the efficient management of accounts (Speier and Vankatesh, 2002).

These front offices are supported by a customer data depository and software that help to integrate and analyze the data. Firms develop a central database in which all customer-related information is stored, and which should be accessible to relevant functions, such as sales, customer service, and marketing. The data are integrated and analyzed by means of software to understand customer preferences and estimate CLV, retention, and loyalty (Greenberg, 2001). Thus, CRM technology applications can be used to link the front office (e.g. sales, marketing, and customer service) with the back office (e.g. financial, operations, logistics, and human resources) and provide customer “touch points” such as Internet, e-mail, sales, direct mail, telemarketing operations, call centres, advertising, fax, pagers, stores, and kiosks (Fickel, 1999).

CRM application software includes campaign management, customer profiling, churn analysis, propensity scoring, customer profitability analysis, personalization, call centre technology, contact management, channel integration software, general analytical and data warehouse tools, enterprise resource planning systems, and sales force automation (Sigala, 2004).

CRM-management perspective

CRM comprises three major functional areas:

- (1) marketing;
- (2) sales; and
- (3) services and support.

Strategy	Information provided by CRM Tech
Acquisition strategy	Learn about lifestyle, purchasing patterns, and preferences Find prospective groups that match the profile of the customer groups Develop customized communications for each of the prospective groups Measure the results of the acquisition test, comparing the control group with the test groups, to determine ROI
Retention strategy	CRM tech segments customers by categorizing them by different lifestyles and purchasing habits, or by different lifetime value and demographics, and using different strategies in each segment
Add-on selling	CRM tech can help calculate number of offers, response rate, sales quantity per offer, marketing cost per offer, and margin

Table I.
Information from CRM
Tech to facilitate
Customer-related
Strategy

West (2001) and Kincaid (2003) suggest that CRM provides a comprehensive set of strategies for managing those relationships with customers that relate to the overall process of marketing, sales, service, and support within the organization. IT and IS can be used to support and integrate the CRM process to satisfy the needs of the customer (Chen and Popovich, 2003; Ngai, 2005).

Reinartz *et al.* (2004) define the CRM process at the customer-facing level as a systematic process to manage customer relationship initiation, maintenance, and termination across all customer contact points to maximize the value of the relationship portfolio. They emphasize that the successful implementation of CRM requires a strong people-related component; it requires more than just technology, and if firms focus on only this aspect, their efforts are likely to be disappointing. Acquisition and recovery management are used for the initiation stage, retention, up-selling/cross-selling, and referral management for the maintenance stage; and exit management is for the termination stage. The CRM process entails the systematic and proactive management of relationships as they move from beginning (initiation) to end (termination), with execution across the various customer-facing contact channels, and with the strongest effect between the CRM process and maintenance stage (retention, add-on selling, and referral).

Kalakota and Robinson (1999) see CRM implementation as a three stage process: acquisition, enhancement, and retention, while Winder (2001) provides an expanded seven stage process:

- (1) a database of customer activity;
- (2) analyses of the database;
- (3) decisions about which customers to target;
- (4) tools for targeting customers;
- (5) establishment of relationships with targeted customers;
- (6) privacy issues; and
- (7) metrics for measuring the success of the CRM program.

Relationship between technology and management perspectives of CRM

The main objective of CRM is to manage customer relationships as an asset. Treating customers as assets requires managing them, measuring them, and maximizing them. CRM starts with the formulation of a customer strategy. Two strategic goals must be discussed:

- (1) acquire new customers and lost customers with attractive market and resource potential; and
- (2) maintain and improve customer equity (CE) by cross- and up-selling together with retention programs during the customer's lifetime (Kotler, 2002).

In addition, both Blattberg *et al.* (2001) and Thomas (2001) suggest that there must be a relationship among the customer-related strategies (acquisition, retention, and add-on selling).

Instead of treating all customers equally, companies have to realize that they need to develop more effective customer-specific strategies, and CRM enables firms to deploy such strategies by managing individual customer relationships with the support of customer databases (Verhoef and Donkers, 2001).

Reinartz *et al.* (2004) note that CRM technology acts as a facilitator of CRM activities, and that by playing a complementary role, CRM technology enhances the marginal value of relational information processes, thereby improving CRM. However, they also found that the level of CRM technology did not significantly moderate the links between economic performance and either relationship initiation or relationship maintenance, but suggest that the situation might improve in future when employees are more accustomed to the technology.

Customer-related strategies

Blattberg and Deighton (1996) introduced the term CE, calculated as the net present value of cash flow generated from present and potential customers, to help managers to determine the optimal balance between acquisition and retention strategies for their particular companies. Blattberg *et al.* (2001) suggest that CE management is built around three core strategies: acquisition, retention, and add-on selling. In Blattberg and Deighton' (1996) and Blattberg *et al.*'s (2001) CE model, the authors indicate that there should be an interrelationship among these three strategies, so that the more efficient and effective the acquisition phase, the better are the add-on selling and retention programs. They also indicate that customer retention strategies have implications and influences for acquisition strategies, and that successful add-on selling to current customers can allow a firm to increase investment in new customer acquisition, since the cost of selling additional products to current customers is generally lower and thus profits are higher (Blattberg *et al.*, 2001). Thomas (2001) emphasizes that failure to make correct acquisition and retention decisions will lead to inaccurate forecasts about how long a customer will stay, the expected profitability of customers, and the impact of marketing efforts. She proposes a new methodology that studies customer retention while accounting for the impact of the acquisition process on the retention process, even when data on prospects are not available. Her model shows that failure to account for acquisition will give biased estimates of the duration of a relationship and will, therefore, bias any estimate of CE or CLV. In addition, she provides empirical support for the belief that the customer acquisition process impacts on the customer retention process.

Dewhurst *et al.* (1999) indicated that the essence of the customer orientation is through the deployment of sophisticated customer management systems. CRM can be defined as a 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; Massey *et al.*, 2001). CRM applications help firms manage customer relationships more effectively across the stages of relationship initiation, maintenance, and termination (Reinartz *et al.*, 2004). Best (2002) indicated that market-based marketing strategies are designed to deliver customer satisfaction and retention. The degree to which a marketing strategy is successful will be detected first by market metrics that track customer satisfaction, retention, and perceptions of value; only subsequently will success or failure be observed in financial performance in the form of gains in revenue, total contribution, net profit, and cash flow. Verhoef and Donker (2005) found that acquisition channels had some effect on customer loyalty. In addition, however, effective management of the customer relationship is the key to managing customer satisfaction and customer loyalty (Mithas *et al.*, 2005). According to the concept of the service profit chain, once

customer satisfaction increases, customer loyalty must increase accordingly, and then profitability increases (Heskett *et al.*, 1994; Cronin and Taylor, 1992; Bolton and Drew, 1991). Customer satisfaction and retention have been labeled as defensive strategies, and defensive marketing is becoming more attractive and popular, a trend magnified by the rapid development of CRM systems and the adoption of the customer-centric orientation (Stefanou *et al.*, 2003). The literature suggests that the existence of relationships among customer-orientation, and CRM will enhance the implementation of customer-related strategies, and of customer loyalty and satisfaction programs, as well as impacting positively on their success.

3. Hypothesis development

The basic model for this research is provided by the theoretical framework shown in Figure 1.

The following null hypotheses are posited:

- H1. There is no relationship between customer-centric activity and the technology perspective of CRM.
- H2. There is no relationship between customer-centric activity and the management perspective of CRM.
- H3. There is no relationship between customer-centric activity and customer-related strategies.
- H4. There is no relationship between customer-centric activity and satisfaction and loyalty programs.
- H5. There is no relationship between the technology perspective of CRM and customer-related strategies.

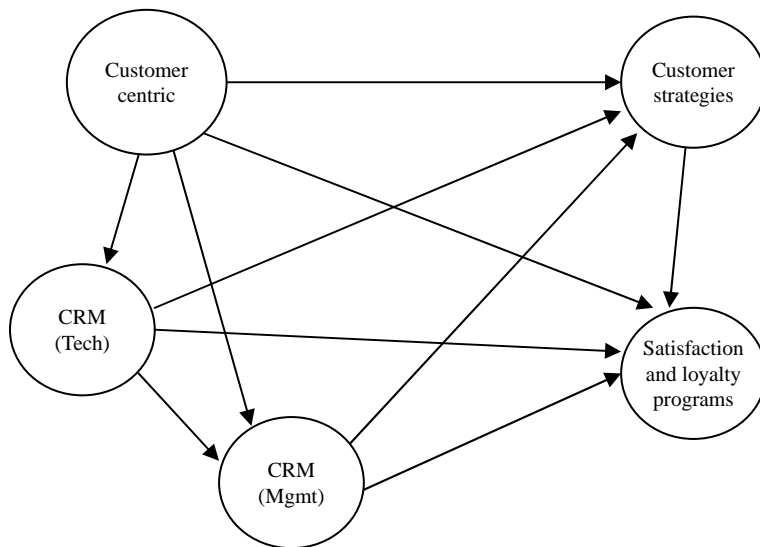


Figure 1.
Research framework

H6. There is no relationship between the technology perspective of CRM and customer satisfaction and loyalty programs.

H7. There is no relationship between the technology perspective of CRM and the management perspective of CRM.

H8. There is no relationship between the management perspective of CRM and customer-related strategies.

H9. There is no relationship between the management perspective of CRM and customer satisfaction and loyalty programs.

H10. There is no relationship between customer-related strategies and customer satisfaction and loyalty programs.

Owing to the different characteristics among industries, the extent of customer-orientation, the implementation of customer-related strategies, the degree of devotion to customer satisfaction and loyalty programs, and the implementation of CRM, may differ between industries. Hypotheses are developed to test for industry differences. The following null hypotheses are posited:

H11. There is no difference in the trend of customer-centric activity among Taiwanese industries.

H12. There is no difference in the degree of focus on customer-related strategies among Taiwanese industries.

H13. There is no difference in the degree of implementation of customer loyalty programs among Taiwanese industries.

H14. There is no difference in the degree of implementation of customer satisfaction programs among Taiwanese industries.

H15. There is no difference in the focus of the implementation of the management perspective of CRM among Taiwanese industries.

H16. There is no difference in the focus of the implementation of the technology perspective of CRM among Taiwanese industries.

4. Method

4.1 Sample

Stratified random sampling was used with firms belonging to manufacturing, service, and financial industries. A total of 400 survey questionnaires were distributed to the marketing managers of companies randomly selected from within each category, with a 21 percent return rate. The outcomes of the responses were evenly distributed across the three industry groupings. The content of responses from early and late returns was compared, in order to test for non-response bias, but there were no significant differences in the nature of the responses between these two groupings.

4.2 Measures

In designing the questionnaire, a five-point Likert scale was used. Degree of customer focus, customer-related strategies, customer loyalty program, customer satisfaction

program, CRM (m (management)), and CRM (t (technology)) were designed to tap into five constructs, summarized in Table II, together with the measures used and variable sources. The questionnaire is detailed in the Appendix.

5. Data analysis

The Cronbach alpha is the most commonly used measure for evaluating the reliability of survey instruments, and is adopted here. A Cronbach's alpha of around 0.70 is normally deemed acceptable in exploratory research; Roberts and Wortzel (1979) suggest that a Cronbach alpha of between 0.7 and 0.98 is deemed "highly reliable", and that anything below 0.35 should be rejected.

Table III details the Cronbach alpha for each of the question sets in this research. They range in value from 0.69 to 0.92, so that the questions in this research instrument have achieved high levels of reliability.

5.1 Customer-centric activity

Customer-centric marketing emphasizes the analysis of the wants, needs, and resources of individual customers and consumers rather than those of mass markets or market segments. The objective of customer-centric marketing is to maximize both efficiency and effectiveness simultaneously at a customer level. In our findings, making efforts on improving product quality and customer service in order to increase customer retention

Variables	Measures	Sources
Degree of customer focus	(1) product quality and customer service, (2) advertising, (3) promotion (4) new product development, (5) ways to segment, (6) ways to delivery (7) customer affinity	Blattberg <i>et al.</i> (2001)
Customer-related strategies	(1) targeting, (2) awareness generation (3) positioning, (4) acquisition and retention pricing, (5) trial, (6) usage experience and satisfaction, (7) customer expectations and delivered quality, (8) value, (9) product uniqueness and suitability, (10) loyalty mechanisms, (11) ease of exit, (12) customer service, (13) ease of purchase, (14) products (services) identified, (15) targeting (with products, services and prices)	Blattberg <i>et al.</i> (2001)
Customer satisfaction program	(1) product quality, (2) service quality, (3) innovation on products (services), (4) firm image	Jones <i>et al.</i> (1995)
Customer loyalty program	(1) advertising, (2) service quality, (3) reward, (4) evaluation scales.	Dick and Basu (1994) and Oliver (1999)
CRM	(1) reliability (2) assurance (3) responsiveness (4) empathy and (5) technology items	Parasuraman <i>et al.</i> (1988), Greenberg (2001), Speier and Vankatesh (2002), and Ngai (2005)

Table II.
Measures and sources
for variables

is ranked No. 1 by respondents (mean = 4.46; Table IV). Moreover, creating affinity in the customer service is ranked No. 2 (mean = 4.41).

5.2 CRM

CRM should be the marketing philosophy for high contact with customers, rather than just focusing on high technology. However, “CRM tech” actually plays a role in providing information which can be used to implement further customer-related strategies. Therefore, we address here issues associated with the separation of “management” and “technology” perspectives of CRM in the survey.

Table V shows that management is more focused on the “management” perspective of CRM (mean = 3.73) than the “technology” perspective (mean = 3.77). It seems that adoption of technology is more common than the implementation of the management philosophy of CRM in Taiwanese firms. This is not consistent with the core spirit of CRM, in that the focus should be on the management perspective of CRM rather than the technology perspective. However, the survey results suggest that most firms believe that the efficient use of CRM-related IT will add value to their firms (mean = 4.21). Reinartz *et al.* (2004) note that CRM technology is a facilitator of CRM activities, and this would appear to represent a future opportunity for Taiwanese firms. The lowest ranking in the management philosophy section of the survey is accorded the statement: “our firm is reliable enough not to need to be guaranteed or offer after-sale service” (mean = 3.13).

As for the results from the technology perspective, the Management Information System (MIS) is ranked No. 1 (mean = 4.27), implying that the importance of a system which integrates the customer database and the firm’s IS is well established among Taiwanese firms. Customer support and service is ranked No. 2 (mean = 4.03), suggesting that Taiwanese firms appreciate the importance of being able to provide online services for their customers. The building of personalized web storefronts,

Table III.
Results of Cronbach
alpha analysis

Item	Cronbach alpha	No. of questions
Customer-centric activity	0.69	7
Customer-related strategies	0.87	20
Customer loyalty	0.75	4
Customer satisfaction	0.82	4
CRM	0.92	29

Table IV.
Results of
customer-centric
evaluation

Items	Mean	SD	Ranking
Product quality and customer service	4.46	0.618	1
Advertising	3.11	0.863	6
Promotion	3.86	0.737	4
New product development	4.22	0.683	3
Ways to segment	3.60	1.040	5
Ways to deliver	2.94	0.982	7
Customer affinity	4.41	0.638	2
Total customer centric activity	3.80		

	Mean	SD	Ranking	Improving customer outcomes
<i>Management perspective</i>				271
Quick delivery speed	3.71	0.658	12	
Quick response time	3.98	0.609	4	
Low complaint frequency	3.54	0.643	15	
Low return rate	3.86	0.759	8	
Employees with high professional knowledge	4.03	0.595	3	
Degree of referral	3.57	0.777	14	
Better competitive status than the competition	3.52	0.759	16	
Market information offered by customers	3.43	0.797	18	
Products recommended by customers to other firms	3.49	0.801	17	
Our product purchased continuously by customers	3.35	0.845	19	
Preference to buy high-quality product	3.95	0.705	6	
More confidence about our products than with others	3.81	0.644	9	
Less guaranteed is needed by customers	3.13	1.039	20	
High confidence in our firm's product management system	3.87	0.635	7	
High trusts on commitment promised by our firm	4.06	0.669	2	
Understanding the quality of our products	3.78	0.771	10	
Understanding the services provided by our firm	3.67	0.696	13	
Making efforts to care about and satisfy customers' needs	3.98	0.582	4	
Sharing profits with customers	3.73	0.766	11	
Using IT to increase firm's added value	4.21	0.722	1	
Total – CRM management	3.73	0.476		
<i>Technology perspective</i>				
Computer and telephone integration system	3.81	1.060	5	
SFA	3.19	1.306	9	
Internet interacting	3.98	.959	3	
Data warehousing	3.94	1.148	4	
Data mining	3.54	1.202	8	
MIS	4.27	1.003	1	
Executive IS, strategic IS, or decision support system	3.56	1.202	7	
Analysis on firm's Website	3.62	1.211	6	
Customer support and service	4.03	0.967	2	
Total – CRM technology	3.77	0.743		
Total – CRM	3.75	0.522		

Table V.
CRM – management and technology perspectives

CRM (sales force automation system (SFA)) (mean = 3.19), and tracking information for customers to facilitate entry into e-commerce sites, is the least established tool of all the CRM technologies.

5.3 Customer-related strategies

Table VI shows that deciding to provide a post-purchase service for the customer is given the most consideration when firms implement customer acquisition strategies (mean = 4.08). The second-ranked aspect of the acquisition perspective is on product design and the provision of specified benefits (mean = 4.02). The results show these two critical activities receive significant emphasis from firms when they plan their acquisition program. However, the use of an aggressive pricing strategy to attract customers (mean = 2.10, ranked No. 10) seems not to be common among Taiwanese companies.

Among retention-related strategies a balance between customer expectations and delivered quality to retain their customers is the highest ranked attribute (mean = 3.84).

	Mean	SD	Ranking
<i>Acquisition-related strategies</i>			
Population statistics data	3.56	0.947	6
Behavior data	3.81	0.780	5
Segment rather than individual	3.54	0.877	7
Wants to attract: low price or promotion	3.49	0.821	8
Ability to confirm the understanding	3.87	0.751	3
Ability to confirm the competitive status	3.78	0.792	5
Pricing strategy: low price first, then increase price	2.1	0.797	10
Price discount or rewards	2.63	0.848	9
Design product or service	4.02	0.729	2
Focus on after-sale service	4.08	0.768	1
Total – Acquisition related strategies	3.49	0.432	
<i>Retention-related strategies</i>			
Balance customer anticipation and product quality	3.84	0.723	1
Same price but higher quality than competitive companies	3.68	0.779	2
Same quality but lower price than competitive companies	2.89	0.918	6
Product differentiation	2.89	0.721	6
Loyalty plans	3.54	0.692	4
Channels easily for customers to find our products	3.67	0.823	3
Product unique	3.17	0.943	5
High switching costs	2.62	0.831	8
Total – Retention related strategies	3.29	0.526	
<i>Add-on selling related strategies</i>			
Analyze the customer need routinely	3.60	0.871	2
Specific price for focused customers	3.78	0.832	1
Total – add-on selling related strategies	3.69	0.726	

Table VI.
Results of
customer-related
strategies

This result suggests that firms are aware that while raising expectation levels among customers will generate product trials, overly high expectations will contribute to low rates of customer retention. In addition, firms seek to provide greater value by offering higher quality and by providing appropriate prices to compete in the market (mean = 3.68).

Customer switching costs are generally defined as those that deter customers from switching to a competitor's product or service. These costs include elements such as the customers' time, effort, and knowledge invested in products, services, or relationships. Surprisingly, firms appear to neglect the importance of switching costs in achieving competitive advantage (mean = 2.62). For add-on selling-related strategies a focus on specific customers is the highest ranked attribute (mean = 3.78).

5.4 Customer satisfaction and customer loyalty

Table VII shows how improving product quality seems to be the most important mission for Taiwanese firms in their pursuit of increased customer satisfaction (mean = 4.27), while improving corporate image (mean = 3.92) is considered the least important factor. Table VI also shows that Taiwanese firms believe that improving service quality is the most important mission for increasing customer loyalty (mean = 4.05), while firms pay least attention to the use of reward strategies to induce repeat purchases (mean = 3.35).

	Mean	SD	Ranking	
<i>Satisfaction</i>				Improving customer outcomes 273
Product quality	4.27	0.723	1	
Service quality	4.06	0.780	3	
Innovation on products (services)	4.14	0.820	2	
Image	3.92	0.789	4	
Total-customer satisfaction	4.10	0.623	–	
<i>Loyalty</i>				
Advertising	3.43	1.043	3	
Service quality	4.05	0.728	1	
Reward	3.35	0.883	4	
Loyalty survey	3.60	0.908	2	
Total – customer loyalty	3.61	0.681	–	

Table VII.
Customer satisfaction and loyalty

Overall, the customer satisfaction program (mean = 4.10) is perceived to be more important than the customer loyalty program (mean = 3.61), so that we would anticipate Taiwanese firms making more effort to enhance customer satisfaction rather than customer loyalty, with associated expenditures.

6. Hypothesis testing

There are two approaches to estimating the parameters of structural equation modeling: the covariance-based and the variance-based (or components-based) approach (Haenlein and Kaplan, 2004). The term LISREL is a synonym for the covariance-based approach, while partial least squares (PLS) analysis is one variance-based approach. The circumstances of this research make the PLS approach preferable to LISREL: first, PLS does not create problems with respect to analyzing formative indicators and can, therefore, be used for models with reflective, formative, or both types of indicators, while LISREL is a reflective indicator; second, PLS is typically recommended where the sample size is relatively small (i.e. < 100). A PLS path model is described by:

- a measurement model relating the manifest variables (MVs) to their own latent variables (LV); and
- a structural model relating some endogenous LVs to other LVs. Figure 2 shows the model analyzed using the PLS approach.

Detailed information about variables in the research model is presented in Table VIII.

Measurement model results: reliability and validity

The first step in PLS analysis is to analyze the measurement model (or outer model) to determine how well the indicators (specific questions) load on the theoretically defined constructs. Examining the outer model ensures that the survey items are measuring the constructs they were designed to measure, thus ensuring that the survey instrument is reliable. To determine individual item reliabilities, the loadings are viewed relative to their respective constructs. According to Chin (1998), standardized loadings are suggested to be > 0.707 to confirm that independent variables identified a priori are represented by a particular factor. However, Raubenheimer (2004) suggests that the 0.7 standard is a high one and that real-life data may well not meet this criterion, which is

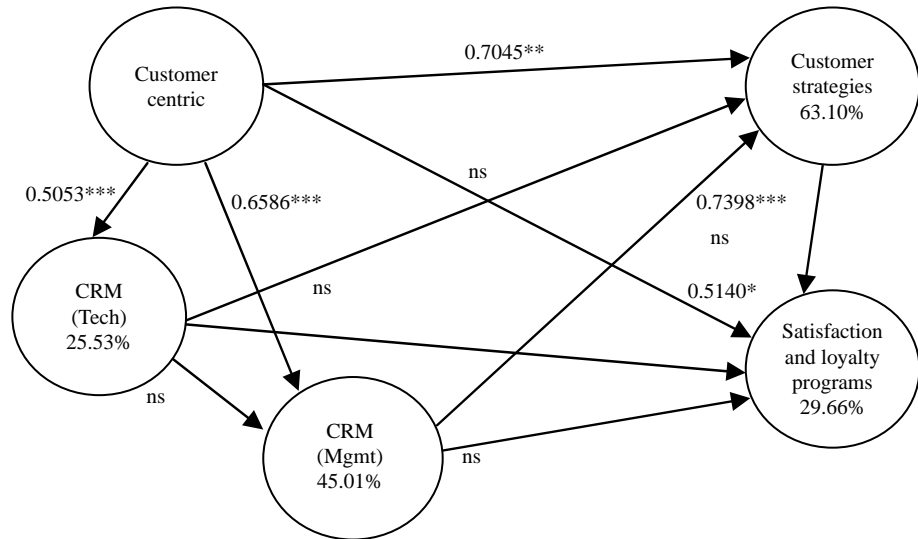


Figure 2.
Research model

Note: Significance at: * $0.01 < p\text{-value} < 0.05$, ** $0.001 < p\text{-value} < 0.01$, and *** $p\text{-value} < 0.001$

LV	MVs
Customer centric	(adv) Advertising (aff) Affinity (del) Delivery (dev) Development (pro) Promotion (qua) Quality (seg) Segment
CRM (Tech)	(tcrm) Technology perspective of CRM
CRM (Mgmt)	(mcrm) Management perspective of CRM
Strategies	(acq) Acquisition (add) Add-on selling (ret) Retention
Programs	(sat) Satisfaction program (loy) Loyalty program

Table VIII.
Model variables

why some researchers, particularly for exploratory purposes, will use a lower level such as 0.4 for the central factor and 0.25 for other factors.

To determine if the items loaded on the other constructs equally as well as on their theorized construct, cross-loadings were computed and are presented in Table IX. For cross-validated items to be included in the finalized data set, the loading must be larger on the intended construct than on any other construct. All items were larger on the intended construct and therefore all were retained in the model. The factor loadings are shown in Table IX.

Using the loadings from the constructs in Table X, composite reliabilities were created for the variables in the model. Table X shows the number of items in each scale and the composite reliabilities for each construct. Chin (1998) recommends that all

Construct	Factor	Loading
Customer centric	adv	0.5975
	aff	0.6495
	del	0.4749
	dev	0.7848
	pro	0.5429
	qua	0.5651
	seg	0.6136
CRM (Tech)	tcrm	1.0000
CRM (Mgmt)	mcrm	1.0000
Strategies	acq	0.8875
	add	0.8066
	ret	0.8500
Programs	sat	0.8178
	loy	0.8807

Table IX.
Factor loading for model

Construct	Number of items	Composite reliability
Customer centric	7	0.8029
CRM (Tech)	1	1.0000
CRM (Mgmt)	1	1.0000
Strategies	3	0.8852
Programs	2	0.8385

Table X.
Composite reliabilities of constructs in model

the variables be at least 0.80 to be considered reliable. The results indicate that all the variables met the recommended value of 0.80 and thus are considered reliable.

Finally, as a means of evaluating discriminant validity, the average variance extracted for each construct should be greater than the squares of the correlations between the construct and all other constructs (Fornell and Larker, 1981). Equally important, the correlations between the constructs should be lower than the square root of the average variance extracted. As shown in Table XI, all of the average variances extracted (AVE) are greater than the recommended 0.50 level, with the exception of that for customer centric activity.

Structural model results

After analyzing the measurement model, the next step in a PLS analysis is to create a structural model, by analyzing the inner model. As recommended (Chin, 1998), bootstrapping (with 300 sub-samples) was performed to test the statistical significance

Construct	AVE
Customer centric	0.3730
CRM (Tech)	1.0000
CRM (Mgmt)	1.0000
Strategies	0.7202
Programs	0.7222

Table XI.
Discriminant validity for model (AVE)

of each path coefficient using *t*-tests. The significance levels shown next to the path coefficients in parentheses are from PLS-bootstrap with Individual sign change option. Table XII presents the path coefficients (β) and significance for the structural model. Not all relationships were found to be significant. The importance of these findings is discussed in detail in the following sections. As shown in Table XI, five of the ten hypotheses are supported based on our analysis, the findings demonstrate that these five hypotheses fit our theorized model.

Table XIII provides a representation of the model with R^2 values. The R^2 values are for the endogenous variables (customer centric, CRM (Tech), CRM (Mgmt), strategies, and programs).

Hypothesis testing

The results shown in Figure 2 facilitate the testing of the null hypotheses.

The results show that the customer-centric activity had a positive impact on CRM (Tech) ($\beta = 0.5053, p < 0.001$), CRM (Mgmt) ($\beta = 0.6586, p < 0.001$), customer related strategies ($\beta = 0.7045, p < 0.01$) and satisfaction and loyalty programs ($\beta = 0.5140, p < 0.05$). And 25.53 percent of the variance of CRM (Tech) was explained by the customer-centric activity. About 45.01 percent of the variance of CRM (Mgmt) was explained by the customer-centric activity and 63.10 percent of the variance of customer-related strategies was explained by the customer-centric activity. The results imply that in the customer centric era, the philosophy and technology perspectives of CRM play an important role in these firms. When firms focus more on customer-centric

Predictor constructs	Predicted constructs	Path (β)	<i>t</i> -statistic (bootstrap)
Customer centric →	CRM (Tech)	0.5053***	5.7568
Customer centric →	CRM (Mgmt)	0.6586***	7.2211
Customer centric →	Strategies	0.7045**	3.1781
Customer centric →	Programs	0.5140*	2.3590
CRM (Tech) →	Strategies	0.4254	0.3926
CRM (Tech) →	Programs	0.3265	1.0986
CRM (Tech) →	CRM (Mgmt)	0.4431	1.8415
CRM (Mgmt) →	Strategies	0.7398***	4.6322
CRM (Mgmt) →	Programs	0.3054	1.2612
Strategies →	Programs	0.4397	1.3564

Table XII.
Path coefficients for the structural model

Notes: Significance at: *0.01 < *p*-value < 0.05, **0.001 < *p*-value < 0.01, and ****p*-value < 0.001; *t*(0.001;499) = 3.310; *t*(0.01;499) = 2.586; *t*(0.05;499) = 1.965; ns = not significant (based on *t*(499), two-tailed test)

Construct	R^2 (%)
Customer centric	–
CRM (Tech)	25.53
CRM (Mgmt)	45.01
Strategies	63.10
Programs	29.66

Table XIII.
 R^2 for the structural model

activity, the implementation of CRM, customer-related strategies and satisfaction and loyalty programs have been emphasized.

However, the results suggest that the greater the effort devoted to the management perspective of CRM, the greater the effort also devoted to customer-related strategies ($\beta = 0.7398$, $p < 0.001$). However, no significant results were found between the variables CRM (Tech) and customer-related strategies, nor between CRM (Tech) and satisfaction and loyalty programs. CRM technology seems not to be as effective as anticipated in implementing customer-related strategies and satisfaction and loyalty programs. Furthermore, the result shows that the increased implementation of customer-related strategies does not have a corresponding effect on satisfaction and loyalty programs among Taiwanese firms.

One-way analysis of variance (ANOVA) can be used to test hypotheses *H7-H12* regarding the impact of industry differences on customer-related outcomes. The one-way ANOVA establishes the existence of any significant difference in these variables for the three industry groupings of the study (manufacturing, service, and financial).

The results, summarized in Table XIV, indicate that there is no significant difference between the variables which is attributable to industry membership.

Table XV summarizes the results of the hypothesis testing conducted.

7. Conclusions

Regardless of the different attributes among industry groupings, there is no difference in the degree or focus of implementing customer-related items among Taiwanese industries.

The management perspective of CRM leads to the implementation of customer-related strategies ($\beta = 0.7398$; $p < 0.001$). However, our findings are contrary to the suggestion by McKim and Hughes (2001), who argue that CRM technology alone is efficient for firms pursuing customer-related strategies. Our findings are also inconsistent with those of Ness *et al.* (2002) who suggest that customer satisfaction and loyalty are critical factors of a CRM program. Further, our findings conflict with those of Reinartz *et al.* (2004), who suggest that there is a close relationship between the technology and management perspective of CRM and management perspectives of CRM.

Each of these suggests that despite the apparent homogeneity of Taiwan industries, Taiwan itself differs from Western countries in its attitudes towards CRM. Thus, while most of Taiwanese firms believe that the efficient use of CRM-related IT will add value to their firms (mean = 4.21), management is more focused on the "technology" perspective (mean = 3.77) than the "management" perspective of CRM (mean = 3.73). The IT component of CRM is perceived as being the prominent source of added value.

	<i>F</i> -test	Sig.
<i>H9</i> . Customer-centric activity	0.371	0.692
<i>H10</i> . Customer-related strategies	0.990	0.814
<i>H11</i> . Customer loyalty	0.206	0.814
<i>H12</i> . Customer satisfaction	0.756	0.474
<i>H13</i> . CRM (management perspective)	0.742	0.480
<i>H14</i> . CRM (technology)	0.233	0.793

Table XIV.
ANOVA industry
analysis

Hypothesis	Outcome	
H1. There is no relationship between customer-centric activity and technology perspective of CRM	Reject	$\beta = 0.5053; p < 0.001$
H2. There is no relationship between customer-centric activity and management perspective of CRM	Reject	$\beta = 0.6586; p < 0.001$
H3. There is no relationship between customer-centric activity and strategies	Reject	$\beta = 0.7045; p < 0.01$
H4. There is no relationship between customer-centric activity and satisfaction and loyalty program	Reject	$\beta = 0.5140; p < 0.05$
H5. There is no relationship between technology perspective of CRM and customer-related strategies	Accept	$\beta = 0.4254; p > 0.05$
H6. There is no relationship between technology perspective of CRM and customer satisfaction and loyalty programs	Accept	$\beta = 0.3265; p > 0.05$
H7. There is no relationship between technology perspective of CRM and management perspective of CRM	Accept	$\beta = 0.4431; p > 0.05$
H8. There is no relationship between management perspective of CRM and customer-related strategies	Reject	$\beta = 0.7398; p < 0.001$
H9. There is no relationship between management perspective of CRM and satisfaction and loyalty programs	Accept	$\beta = 0.3054; p > 0.05$
H10. There is no relationship between customer-related strategies and customer satisfaction and loyalty programs	Accept	$\beta = 0.4397; p > 0.05$
H11. There is no difference in the trend of customer-centric among Taiwanese industries	Accept	$F = 0.371; p > 0.05$
H12. There is no difference in the degree of focusing on customer-related strategies among Taiwanese industries	Accept	$F = 0.990; p > 0.05$
H13. There is no difference in the degree of implementing customer loyalty programs among Taiwanese industries	Accept	$F = 0.206; p > 0.05$
H14. There is no difference in the degree of implementing a customer satisfaction program among Taiwanese industries.	Accept	$F = 0.756; p > 0.05$
H15. There is no difference in the focus of implementing the management perspective of CRM among Taiwanese industries	Accept	$F = 0.742; p > 0.05$
H16. There is no difference the focus of implementing a technology perspective of CRM among Taiwanese industries	Accept	$F = 0.233; p > 0.05$

Table XV.
Summarizes the results of the hypothesis testing conducted

The findings show that there is no impact of implementing CRM technology on customer-related strategies, satisfaction, and loyalty program, which might imply that the benefits derived from CRM technology are not well implemented and developed by Taiwanese firms. Individual items suggest that while product and service quality are deemed important in delivering customer satisfaction and loyalty, customer loyalty analysis itself is not seen to be important.

The degree of customer orientation appears to have grown among Taiwanese firm, but may still be too narrowly focused around the analysis of current major customers. Interestingly, pricing strategies were not considered appropriate means of attracting new customers or retaining existing ones; instead product design, after-sales service and higher quality generally, were all seen to be more important than price. Although the need to understand and satisfy the needs and wants of individual customers has

been deeply ingrained in Taiwanese firms in the customer-centric era, our research findings relating the variables of strategy, customer satisfaction and loyalty programs are not sufficiently significant for the rejection of null hypotheses. These findings imply that Taiwanese industries need to pay more attention to satisfying and retaining their customers when they make efforts on developing CRM and customer-related strategies during the business process, since, customers are important tangible assets of the firm that should be well-managed and treated.

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(The Appendix follows overleaf.)

Degree of Customer Focus

Please tick one response box. Make 1 = Disagree and 5 = Strongly Agree

	Degree of agreement				
	Disagree		Strongly agree		
	1	2	3	4	5
1. Our firm focuses on product quality and customer service to aid customer retention	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Our firm advertises to build affinity between the customer and the company.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Our firm regards the promotions function as strategic events designed to drive customer repeat buying and increase customer lifetime relationship value.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The product development of our firm focuses on line extensions to increase the opportunity of cross-selling to existing customers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. The way our firm segments customers is based on behavioural segmentation (such as frequency of purchase, recency of purchase, amount of purchase).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. The way we deliver our product (service) is by multistage distribution system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. The creation of customer affinity is at the heart of the customer service we provide.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Customer Related Strategies

Please tick one response box. Make 1 = Disagree and 5 = Strongly Agree

Acquisition	Degree of agreement				
	Disagree		Strongly agree		
	1	2	3	4	5
1. Our firm uses the availability of information about demographic traits of potential individual customers to profile or score potential customers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Our firm uses the availability of information about the behaviour of potential individual customers to profile or score potential customers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Our firm uses the segment data rather than individual data to target potential customers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Our firm uses a marketing offer (introductory pricing or a promotional incentive) to induce certain desirable types of customer to respond.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Our firm always makes sure that target customers are aware of our product or service after we have identified them as target customers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Our firm can design the company's offering and image so that we occupy a meaningful and distinct competitive position in the target customer's mind.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Our firm always likes to lower price to acquire customers and to raise prices later.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Our firm always uses price discounts or free offers as mechanisms to induce trial.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Our firm is focused on product design and the provision of specified benefits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Our firm is focused on post purchasing service for the customer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(continued)

Retention

- | | | | | | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. Our firm always tries to strike a balance between customer expectations and delivered quality. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Our firm provides greater value by offering higher quality and by matching the competition on price. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Our firm provides greater value by offering the same quality at a lower price. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Our products or services are different (or less substitutable) from competing products (services). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Our firm has a loyalty mechanism which can generate high retention rates even though the competing products (services) are almost identical. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Our products (services) are very easy for customers to find or purchase. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Our products (services) have unique product-design characteristics which make it difficult for customers to change suppliers. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Our products or services have characteristics which make it costly for customers to switch to competing products. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Add-on Selling

- | | | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. Our firm always identifies the products or services which can offer specific benefits to our customer base. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Our firm always targets our customers with products, offers, and prices, which result in a purchase or no -purchase response. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Customer Loyalty

Please tick one response box. Make 1 = Disagree and 5 = Strongly Agree

- | | Degree of agreement | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | Disagree | | | Strongly agree | |
| | 1 | 2 | 3 | 4 | 5 |
| 1. We routinely use advertising expenditure to increase repeat-purchase from customers. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. We improve service quality to induce customers to make repeat-purchases. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. We have an identifiable package of benefits offered to reward customers who make repeat-purchases. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. We use a behavioural approach (such as repeat buying) or attitudinal approaches (such as customer satisfaction) to define and evaluate the loyalty we get from our customers. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Customer Satisfaction

Please tick one response box. Make 1 = Disagree and 5 = Strongly Agree

- | | Degree of agreement | | | | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | Disagree | | | Strongly agree | |
| | 1 | 2 | 3 | 4 | 5 |
| 1. We are focused on enhancing the firm's product quality to satisfy our customer expectations. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. We are focused on enhancing service quality to satisfy our customers' expectations. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(continued)

- | | |
|--|--|
| 3. We emphasize innovation in our products or services to satisfy our customers' expectations. | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 4. Our company is trying to improve company image to attract and satisfy customer expectation. | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

Customer Relationship Management (CRM)

Please tick one response box. Make 1 = Disagree and 5 = Strongly Agree

	Degree of agreement				
	Disagree		Strongly agree		
	1	2	3	4	5
1. Customers are satisfied with the on-time delivery provided by our firm.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. We can answer the questions posed by customers very quickly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. The rate of complaint about our products (services) is very low.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The rate of returned products (services) is very low.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. The professional knowledge offered by employees is good enough to resolve customers' problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Customers often recommend our products (services) to other people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Customers always use our firm's products (services) rather than competing products (services).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. The firm can always obtain independent market information offered voluntarily by customers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Customers always recommend our products (services) to related firms.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Customers always insist on using our products (services).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Customers prefer to purchase those products where product quality has been examined in advance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Customers always feel the products (services) of our firm are more trustworthy than other competing products (services) in the same industry.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Products (services) of our firm are reliable enough not to need to be guaranteed or offered after-sale service.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Customers trust our firm's quality management system and this system has been examined by suppliers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Customers believe that we will maintain and implement the commitments we promise them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Customers always understand the related products and knowledge of service offered by our firm.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Customers always understand the special service offered by our firm.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Our firm always cares about and tries to satisfy our customers' needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Information technology is applied to increase the added value of our firm.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. The benefits acquired from decreasing product costs and sales prices through innovation and improvement have been shared with the customer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please tick the response box at the front of the following items to indicate that they have been implemented in your firm.

Do you agree that the ones you choose have been totally implemented in your firm? Please tick the response box after each statement. Make 1 = disagree and 5 = Strongly agree.

(continued)

	Degree of agreement				
	Disagree			Strongly agree	
	1	2	3	4	5
<input type="checkbox"/> Computer and Telephone Integration System (CTI)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Sales Force Automation System (SFA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Web-based Customer Interaction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Data Warehousing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Data Mining	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Management Information System (MIS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Executive Information System, SIS or DSS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Firm Web-Site Analysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Customer support and service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Others (please indicated) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Basic Information

1. Which sector would your company best be described as belonging to?
 Service Financial Manufacturing
2. Your firm was established on _____ year _____ month
3. What is your occupation title? _____
4. What is your firm's title? _____
5. Do you wish to receive summary findings of the final report of our research?
 Yes No

Corresponding author

Malcolm smith can be contacted at: malcolm.smith@ecu.edu.au

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