Key attributes of Customer Relationship Management (CRM) Application in Macau: An Empirical Review

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Abstract:

Customer Relationship Management (CRM) is gaining popularity among organizations operating in competitive business environments. The success or failure of a CRM launch depends on a variety of elements. This empirical study uses conjoint analysis to explore 15 attributes related to customer relationship management. A total of 466 respondents participated. The survey results can help organizations launch their CRM programs more successfully. The orthodox conjoint analysis limits the number of attributes. Fifteen Critical Success Factors (CSFs) is too large a number for a conjoint analysis, so a modified approach was adopted to tackle this problem. A focus group categorized the 15 CSFs into five groups. An orthogonal design was then used to generate a set of 49 profiles (excluding three holdout cases) to represent the possible 7,776 combinations of 30 attributes (bipolar descriptions of the 15 CSFs). The correlation analyses and scatter plots were deployed to examine the predictive power of the model. The conjoint analysis revealed that Orientation had the highest importance. Three factors were identified in the exploratory factor analysis: Commitment and Support, Implementation, and Culture. Through independent samples T-tests and one-way ANOVA analyses, the following demographic variables were found to have some discerning influence over perspectives of the CSFs of CRM: gender, age, education standard, and monthly income.

Key words: Customer Relationship Management (CRM); Critical Success Factors (CSFs); Conjoint analysis; Orthogonal design

Definition of Customer Relationship Management (CRM)

CRM falls on the information technology (IT) side of business processes in that it aims to establish enduring and mutually beneficial relationships with customers to improve customer retention, value, and profitability. Achieving this requires that pertinent data about prospective and current customers' buying

patterns, shopping practices, and usage habits be collected in relation to the target products and services. This information is then used to engage in a two-way dialogue with them (Agrawal, 2004). CRM can help organizations predict customer behavior and select actions that influence it through the deployment of IT- and database-related tools (Chye and Leong, 2002). CRM is a technology-enabled business management tool for developing and leveraging customer knowledge to nurture, maintain, and strengthen profitable relationships (Raman and Wittmann, 2006). Jain (2005) claims that CRM is an integrated effort to identify, maintain, and build a network of individual consumers with the intention of continuously strengthening it for the mutual benefit of both sides by maintaining interactive, individualized, and value-added contacts over a long period of time. CRM integrates internal processes and functions with external networks to create and deliver value to targeted customers, at a profit (Ang and Buttle, 2006). CRM is a customer-focused philosophy that can be translated into a business strategy by harnessing the IT within an organization that has already imbibed a customer-oriented culture. CRM's main goal is to provide valued customers with a seamless, consistent, outstanding customer experience across different contact points. Delivering such an experience allows CRM to maximize an organization's relationship capital (Kale, 2005). Zablah and Bellenger (2004) advocate that CRM is an ongoing process involving the development and leveraging of market intelligence for the purpose of building and maintaining a profit-maximizing portfolio of customer relationships. It establishes, develops, maintains, and optimizes long-term, mutually valuable relationships between consumers and organizations. Successful CRM focuses on understanding the needs and desires of the customers, and is achieved by placing these needs at the heart of the business by integrating them into the organization's strategy, staff, technology, and business processes (Panda, 2003).

CRM enables an organization to take a comprehensive view of its customers to maximize their relationships and profitability. It is an integrated approach to capturing a disproportionately high share of value from current and potential customers by effectively deploying proprietary customer information. CRM comprises a set of processes and systems supporting a business strategy to build long-term, profitable relationships with targeted customers. Enabled by IT, CRM helps identify ways to turn occasional customers into more valued, profitable clients. It can also help identify those who do not fit the

profile of potentially profitable customers, which enables organizations to essentially screen them out. CRM helps deliver services and products consistently across an entire customer relationship, rather than just within a particular product or business unit. The key objective of CRM is to improve customer value through a better understanding of customers' individual needs and preferences. The most vital aspects of CRM are customer value, a holistic approach, and technology empowerment. CRM involves a set of processes and enabling systems that support a business strategy to build long-term, profitable relationships with targeted customers. The customer-centric focus is the essential theoretical foundation of CRM implementation. Therefore, CRM is not just the responsibility of the marketing department, rather it should be a fundamental business strategy adopted by the whole organization and practiced across business functions. CRM begins with an in-depth analysis of customer behavior and attributes to gain comprehensive knowledge of customers' habits, desires, and needs. Managing these relationships also implies customer interaction. The major components of a CRM implementation include (Ling and Yen, 2001):

- enabling technology to support the activity;

- a data warehouse with customer, account, transaction, and channel data;

- analysis tools to analyze the customer database;

- campaign management tools to define the communications to be undertaken and automatically generate them; and

- interfaces with the operational environment (to maintain the marketing database) and communications channels (to deliver the messages).

CRM covers the activities an organization performs to identify, select, acquire, develop, and retain increasingly loyal and profitable customers. It is also a term for the methodologies, software, and Internet capabilities that enable the effective management of customer relationships. An organization can build a database on its customers that describes the relationships in sufficient detail, so that management, salespeople, service personnel, and perhaps the customer can directly access information that supports activities such as matching customer needs with product plans and offerings, reminding customers of service requirements, and knowing what other products a customer has purchased (Cuthbertson and Laine,

2003).

According to Arnett and Badrinarayanan (2005), a customer-needs-driven CRM strategy is focused on improving customer relationships through:

(1) IT used to uncover insights regarding customer needs, and

(2) special programs developed to meet the discovered needs.

CRM can be operational or analytical (Foss and Stone, 2008; Raman and Wittmann, 2006). Operational CRM aims to reduce operating costs while enabling these functional areas to provide a higher level of value to customers. It involves Sales Force Automation (SFA), marketing, and customer support with the goal of making these functions more efficient and effective. Operational CRM involves the automation of sales, marketing, and customer support to make them more efficient and effective. However, analytical CRM uses technologies that aggregate customer information and provide analyses of the customer data to improve managerial decision making and actions. Such technologies include data warehousing and data mining. Organizations develop a data warehouse, in which all customer-related information is stored. Ideally, it should be accessible from all relevant departments. The stored data are often analyzed using data mining techniques. Analytical CRM refers to the firm-level processes involved in analyzing customer- and market-level information to provide the intelligence and insights that guide the organization's strategic marketing, CRM, services, and go-to-market choices (Tanner and Ahearne, 2005).

A CRM approach can be tactical or strategic (Coltman, 2007). Tactical CRM comprises isolated functions such as sales force automation (SFA) or online campaign management. These applications provide a lot of customer information through a particular contact channel. Strategic CRM involves an intricate organizational system of interrelated and interdependent resources used to generate competitive advantages. As a strategic initiative, CRM is best conceptualized as a higher-order capability that includes a combination of human-, technical-, and business-related activities. At the core of an organization's strategic CRM model, and its long-term competitive advantage and success, is the ability to define and implement a right customer → right strategy → right organization → right channel → right people →

right rewards success model (Tanner and Ahearne, 2005). Croteau and Li (2003) suggest that CRM is a concept that enables an organization to tailor specific products or services to individual customers. CRM can create a personalized, one-to-one experience that will give the individual customer a sense of care, thus opening up new business opportunities.

CRM combines an explicit knowledge base, sophisticated analytical skills, and domain knowledge to uncover hidden trends and patterns used to form the bases of predictive models that enable analysts to produce new observations from existing data. Meaningful new correlations, patterns, and trends can be discovered by sifting through large amounts of stored data with pattern recognition technologies and statistical techniques. Data mining should be performed on very large or raw datasets using either supervised or unsupervised data mining algorithms (Luan, 2008).

Why do organizations invest in CRM?

CRM fulfills many objectives, one of which is to get closer to the customer by using the data "hidden" among scattered databases. Examination and analysis can turn raw data into useful information about customers' needs. By predicting customers' needs in advance, organizations can market the right products to the right segments at the right time through the right delivery channels. Customer satisfaction can also be improved through more effective marketing. Another objective of CRM is to create customer-centric organizations with a greater focus on customer profitability. The insights gained from CRM facilitate the prediction of the profitability of individual accounts. Organizations can correctly segment their customers with respect to their profitability and build predictive models to gain and retain ideal customers. Regarding less profitable accounts, efforts can be made to switch them to lower cost/service delivery channels (Chye and Leong, 2002). If implemented successfully, CRM offers tremendous benefits to the organization in terms of improved sales, market share profitability, and customer satisfaction, along with reduced customer turnover, service costs, and time (Jain and Jain, 2003).

CRM enhances organizations' ability to leverage customer data creatively, effectively, and efficiently to design and implement customer-focused strategies. Customer knowledge is deployed to connect closely

with customers by anticipating their needs and communicating intelligently with relevant offers and messages while increasing the breadth, depth, and length of their relationships with the firm (Hansotia, 2002). The ideal environment in which to launch CRM initiatives will have:

— a centralized marketing department,

— frequent customer interactions/purchases,

— multiple products and services purchased by customers,

— products that provide convenience, create simplicity, or reduce risk,

— products that require substantial customer service and support after sale, and

— high level of expertise to guide purchasing and problem resolutions.

Croteau and Li (2003) suggest the following strategic perceived benefits of CRM:

(a) it increases profitability,

(b) it delivers a competitive edge, and

(c) it increases customer loyalty.

The operational perceived benefits of CMR include:

(a) shorter sales and marketing cycle, and

(b) reduction in the customer support and service cycle.

Jackson (2007) claims that CRM offers the following benefits:

● increased customer loyalty,

● increased brand awareness,

● increased customer shares,

● increased number of referrals,

● increased customer satisfaction scores,

● increased switching costs/effort involved in choosing a competitor's offerings, and

● the quantitative association of personalization with improving the bottom line.

Raman and Wittmann (2006) argue that CRM can provide the needed customer knowledge to:

(1) effectively segment customers,

(2) determine how to handle unprofitable customers,

(3) customize market offerings and promotional efforts, and

(4) develop and maintain long-term relationships with profitable customers.

Database-driven CRM has claimed significant improvements in identifying profitable customers, increasing the efficiency and effectiveness of target marketing, and increasing customer satisfaction (Dowling, 2002). CRM can help organizations understand how to derive economic benefit from better managing customer relationships (Jain, 2005) by:

- monitoring and measuring business results;

- increasing profitability by improving its time to channel effectiveness;

- increasing the effectiveness of contacts with its most valuable customers;

- driving revenue generation by cross-selling, up-selling, and customer loyalty;

- using privacy as an avenue to develop customer loyalty and increased wallet sharing; and

- gathering/using data to anticipate changing customer priorities and market dynamics.

CRM data must be aggregated, managed, synthesized, and delivered in the proper context to provide relationship intelligence. According to Lipsey (2002), the process that a CRM solution must undergo to create relationship intelligence is complex and involves four essential components:

- relationship discovery, which encompasses uncovering contact information, deriving relationships from data, and incorporating information into a database;

- relationship management, which creates a single instance of a contact within the database and provides adequate security to permit or restrict data sharing;

- marketing automation, which provides the tools that enable users to analyze and synthesize information; and

- knowledge delivery, which delivers relationship intelligence to the professional.

Misconceptions and realities of CRM

Agrawal (2004) succinctly compares the misconceptions and realities of CRM:

Table 1: Misconceptions and realities of CRM

Misconceptions	Realities
CRM is primarily about IT software packages.	CRM is primarily about relationships in which IT software packages can be beneficial tools.
CRM is primarily to automate sales and marketing.	CRM is primarily to automate customer support.
Once we approach the known CRM software developers and vendors, they will supply a CRM solution that will fit our organization.	We need to develop an intellectual infrastructure and actively get involved before we approach CRM software vendors.
CRM, once bought and implemented, takes care of itself.	The life of an organization is dynamic and CRM solutions must be in 'scalable and modifiable' forms.
CRM is highly expensive.	CRM is highly cost effective.
CRM is best suited for Business-to-Business (B2B) situations and in dealing with large customers.	CRM is just as useful in business-to-consumer (B2C) situations, or for any key customers.
CRM only works well for high value-high anxiety products	CRM is good for all products, even commodities.

Perfect CRM systems

Perfect CRM is unattainable and, from a practical perspective, should never be pursued. If a system is perfect then, by definition, it should not be changed. In ever-changing business environments, reviews of and appropriate changes to systems will always be needed. A good CRM system is likely to have the following 12 characteristics (Corner and Rogers, 2005):

— the top management sees it as a core business system that provides information that is essential to the management of the organization;

— more customers are retained for longer periods, revenues per customer increase, and the numbers are known, monitored, and reviewed;

— more new customers and identified prospects are attracted and the numbers are known, monitored, and reviewed;

— employees at the interface between the organization and its prospects and customers like using the CRM system because it makes their jobs easier and they benefit from its use;

— staff turnover within the functions that use CRM decreases;

— managers and staff members generally regard the system as enabling them to do their job better, rather than as a means of controlling their behavior;

— the system implementation may overrun by up to 25% on time and cost because the specifications change, but contingency funding is available and it is important to get it right;

— customer data are probably more accurate and meaningful;

— the system might have some minor flaws, for which staff members quickly develop effective 'work-arounds' until they can be changed;

— the organization is looking for potential benefits from extending aspects of the system and exploiting the data being generated;

— when there is a problem in the system, the staff are more likely to focus on solving it rather than complaining about it; and

— the system's faults are recognized, but staff are proud of it and pleased with their related roles.

Corner and Rogers (ibid.) suggest that a CRM system that demonstrates fewer than eight or nine of those characteristics will, in one way or another, prove inadequate. The above checklist can be used as a crude diagnostic tool to see if the CRM system is performing well in any organization.

Why would CRM fail?

Foss and Stone, (2008) outline the following seven 'deadly sins' of unsatisfactory CRM outcomes:

(1) lacking customer-centric vision,

(2) failing to re-engineer business processes,

(3) having inadequate support from top management,

(4) treating the CRM initiative as a technology initiative,

(5) underestimating the importance of change management,

(6) lacking sufficient appreciation of customer lifetime value, and

(7) underestimating the difficulties involved in data mining and integration.

Data-driven CRM requires robust databases and analytic systems, plus the ability to deliver information to users as required (Roberts et al., 2005). CRM would have difficulty meeting its intended objectives if the data are not clean. In this respect, Reid and Catterall (2005) outline the following sources of dirty data:

1 poor data entry (e.g. misspellings, typographical errors and transpositions, and variations in spelling or naming),

2 data missing from database fields,

3 lack of organization- or industry-wide data coding standards,

4 older systems that contain poorly documented or obsolete data, and

5 multiple databases scattered throughout different departments or organizations.

Rigby and Reichheld (2002) suggest that there are four perils of CRM:

Peril 1: stalking rather than wooing customers,

Peril 2: assuming that more CRM technology is better,

Peril 3: implementing CRM before creating a customer strategy, and

Peril 4: rolling out CRM before changing the organization to match.

The success criteria for launching CRM

According to Foss and Stone (2008), successful implementation of CRM depends on four critical factors:

    (1) CRM readiness assessment,

    (2) CRM change management,

    (3) CRM project management, and

    (4) employee engagement in CRM.

To successfully launch CRM, the senior management team must handle the following challenges (Hansotia, 2002):

— ensure all senior managers fully buy into and understand the CRM strategy;

— create a learning organization in which CRM becomes the core competency;

— create a culture that willingly accepts change and an organization that is willing to adapt to new processes;

— ensure that marketing provides analytic leadership for the organization by identifying and designing key CRM initiatives based on customer knowledge and insights;

— ensure that marketing and technology work closely together in developing a customer database that provides a complete view of all customer interactions; and

— ensure that marketing, technology, and customer service work together so that customer service can flawlessly execute the customer interaction strategy and business rules of customer engagement designed by marketing and installed by the technologists.

To successfully implement CRM, firms must combine physical resources (e.g. computers and technological infrastructure), informational resources (e.g. customer databases, salespeople's call records, customer service interactions), and organizational resources (e.g. customer-oriented culture, information-sharing routines) to enhance relational resources (i.e. relationships with customers) in a manner that

improves an organization's competitive position (Raman and Wittmann, 2006).

For successful CRM implementation, organizations must (Stone et al., 2003):

— identify the specific data and target use and timeliness for customer management activities;

— assess the data available from internal and external sources including their structure, content, and quality;

— identify the gap between the required, available, and source data;

— determine how to close this gap in stages; and

— build data into an overall plan that enables reuse, the acceleration of later stage developments, and supports consistency in customer management practices.

As the literature review of CRM reveals, Zablah and Bellenger (2004) summarize 15 CSFs of CRM implementation efforts:

1. Customer Orientation
2. Long-Term Orientation
3. Cross-Functional Integration
4. Organization-Wide Commitment
5. Specification of Customer Data Ownership
6. CRM Training/Specialized Skill Development
7. Presence of CRM Champion
8. Top Management Buy-In
9. Compensation Structure Congruent with CRM Philosophy
10. Focus on Change Management
11. Phased Technology/Strategy Implementation
12. Failure to Understand Benefits
13. Poor Data Quality/Quantity
14. Adequate Performance Metrics (i.e. ROI for CRM)
15. Adequate Financial Commitment

These 15 CSFs of CRM are used in this study as the key attributes or criteria in launching a CRM initiative in an organization.

Research Methodology - Conjoint analysis

The 15 CSFs for CRM implementation, as revealed by Zablah and Bellenger (2004), are used to ascertain

the perceived importance of each factor. A sample of 466 respondents comprising of mainly university students from various institutes attending marketing courses at degree level in Macau participated in this survey. Although the sample was a judgmental sample, it is useful for representing the views of the educated regarding CRM application. The respondents were Chinese individuals from Hong Kong, Macau, and China, along with some Portuguese, and the majority work in large, multi-national corporations with varied national ownerships. The research findings from this empirical study should be relevant for organizations from any nationality. Since the liberalization of the gaming industry in 2002, Macau has gradually become an international city hosting increasing foreign investments. The bulk of the respondents work in large service organizations, such as casinos, hotels, and retail shops for branded products, with various cultural settings and characteristics. Many of these organizations have been deploying CRM technologies in one way or another.

Traditional research tools used in assessing respondent preference tend to treat each attribute independently. However, conjoint analysis assesses the aggregate utilities of various attributes in totality, which more closely reflects reality. In daily purchases, consumers seldom consider each attribute of a product singly and independently when making a purchase decision. Instead, they consider the complete range of product attributes in aggregation. The same is true for making any decision. People tend to select a choice whose perceived aggregate attribute utility is the highest. The conjoint-based approach helps clarify how people trade one attribute for another in decision making. Conjoint analysis is a statistical technique for measuring people's preferences for the attributes of a product or service. It engages the respondents in a more realistic judgment stance than other research methods, and can better estimate the overall consumer preference by combining the utility scores of all of the individual product attributes (Levy, 1995).

Conjoint analysis is a popular method of identifying and understanding the combined effects of product attributes on preferences for a product/service, and it is used frequently in studying consumer purchase decisions (Hobbs, 1996). It enables not only the assessment of product attributes in a multi-facet setting, but also the quantification of the effect in terms of dollar-metric (utility) values. The incorporation of a

customized set of attributes for specific respondents enables the effects of different product attributes to be analyzed in the context of cues directly relevant to particular market segments (Diamantopoulos, Schlegelmilch, and Du Preez, 1995).

Two basic assumptions are made in conjoint analysis. First, a product/service can be described as a set of attributes on a combination of levels. Second, these attribute levels determine consumers' overall judgments of the product/service (Gil and Sanchez, 1997). Conjoint analysis requires the respondents to make choices among products defined by a unique set of product attributes in a way that resembles the real-world trading of features, one against the other. This can establish the relative values of particular attributes and identify which tradeoffs the customers are likely to make when choosing a product/service, and the price they are willing to pay (Toombs and Bailey, 1995). The relative importance of each attribute can be calculated as the utility range (i.e. difference between the highest and the lowest utility for that attribute) divided by the sum of the utility ranges of all of the attributes (Okechuku, 1993). Conjoint analysis produces two important results (Levy, 1995):

1. Utility of attribute – a numerical expression of the value consumers place in an attribute level. It represents the attribute's relative "worth". Low utility indicates less value while high utility indicates more value.
2. Importance of attribute – can be calculated by examining the difference between the lowest and highest utilities across the levels of attributes.

There are two general approaches to data collection in a conjoint analysis, i.e. the two-factor-at-a-time trade-off method and the multiple factor full-concept method. The former is seldom used. The full-concept method is more realistic because all of the factors are considered and evaluated simultaneously. In the full-concept (or full-profile), the respondents are asked to rank or score a set of profiles according to their preferences. In each profile, all of the factors of interest are represented and a different combination of factor levels (i.e. features) appears. The factors are the general attribute categories of the product/service, such as color, size, or price. The factor levels (i.e. product/service features) are the specific values of the factors, such as red, blue, or green for color; small, medium, or large for size; and

$1000, $1500, or $2000 for price. The possible combinations of all of the factor levels can become too large for respondents to rank or score in a meaningful way. The full-concept approach in the SPSS categories conjoint procedure uses fractional factorial designs, which yield a smaller fraction of all of the possible alternatives. This reduced size subset (orthogonal array) considers only the main effects and the interactions are assumed to be negligible. The factor levels can be specified as DISCRETE (when factor levels are categorical), LINEAR (when data are expected to be linearly related to the factor), IDEAL, or ANTI-IDEAL (for quadratic function models). The SPSS conjoint procedure can calculate utility scores (or part-worths) for each individual respondent and for the entire sample. These utility scores, analogous to regression coefficients, can be used to find the relative importance of each factor. SPSS allows the use of simulation profiles to represent actual or prospective products to estimate or predict market shares of preferences.

To generate an orthogonal design for the appropriate CRM critical success factors and factor levels, three rounds of focus group discussions were held among five management consultants. The focus group members discussed the 15 CRM success factors in detail and subjectively categorized them into the following five groups. Each of the 15 critical success factors are segregated into two dichotomous variables, resulting in 30 factors with three pairs grouped under each factor.

Factor 1 (Orientation):

    Customer Orientation, No Customer Orientation;

    Long Term Orientation, No Long Term Orientation;

    Cross Functional Integration, No Cross Functional Integration.

Factor 2 (Support):

    CRM Training, Having No CRM Training;

    CRM Champion, No CRM Champion;

    Compensation Congruent with CRM, Compensation Not Congruent with CRM.

Factor 3 (Commitment):

    Organization-wide Commitment, No Organization-wide Commitment;

    Top Mgt Buy-In, No Top Mgt Buy-In;

Adequate Financial Commitment, No Adequate Financial Commitment.

Factor 4 (Readiness):

Specification of Data Ownership, No Specification of Data Ownership;

Understand CRM Benefits, Don't Understand CRM Benefits;

Good Data Quality/Quantity, Poor Data Quality/Quantity.

Factor 5 (Execution):

Focus on Change Management, Cannot focus on Change Management;

Phased Strategy Implementation, No Phased Strategy Implementation;

Adequate Performance Metrics, Inadequate Performance Metrics.

The possible combinations of these 30 factor attributes amount to (6 x 6 x 6 x 6 x 6 = 7,776) possible profiles for the respondents to rate from. SPSS generated a parsimonious orthogonal array of 49 profiles. Three test cases were added as holdout cases at the end of the profile list. Holdout cases are judged by the respondents, but not used by the conjoint analysis to estimate utilities. They are used to check the validity of the estimated utilities. These 52 combinations of CRM attributes are used as the input forms (see Appendix 1) for the respondents to rate on a scale of 0 to 100. Pearson correlation coefficients are computed for the input scores with the estimated scores for all 52 profiles, with profile 6 having the highest Pearson correlation coefficient (0.929) and profile 31 having the lowest (0.709). The three holdout cases (i.e. profiles 50, 51, and 52) had lower Pearson correlation coefficients (i.e. 0.570, 0.546, and 0.462, respectively). Despite a lower correlation coefficient, the correlations for the three holdout cases are still significant at the 0.01 level.

Figure 1: Scatter plot of profile 6 – actual versus estimated (highest Pearson correlation coefficient = 0.929)

CARD6
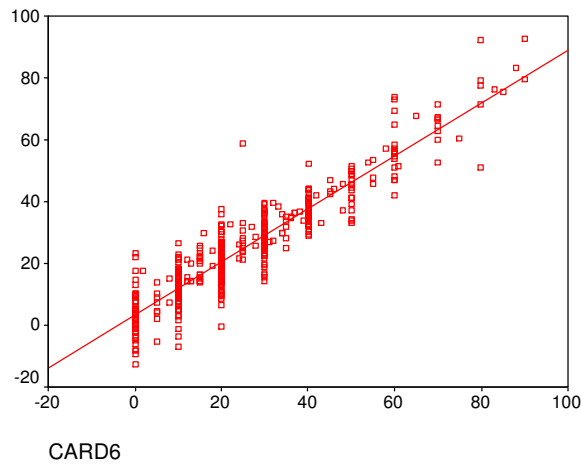
Figure 2: Scatter plot of profile 31 – actual versus estimated (lowest Pearson correlation coefficient = 0.709)

CARD31
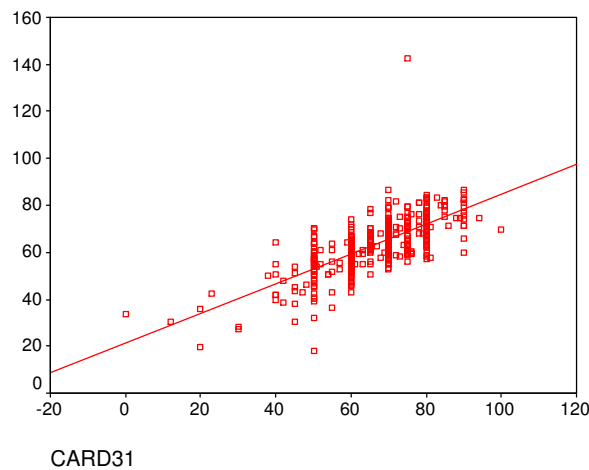
Figure 3: Scatter plot of holdout case 50 – actual versus estimated (Pearson correlation coefficient = 0.570)
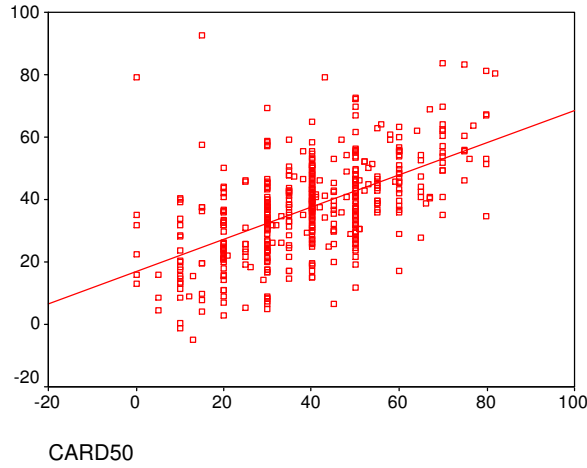
Figure 4: Scatter plot of holdout case 51 – actual versus estimated (Pearson correlation coefficient =

0.546)
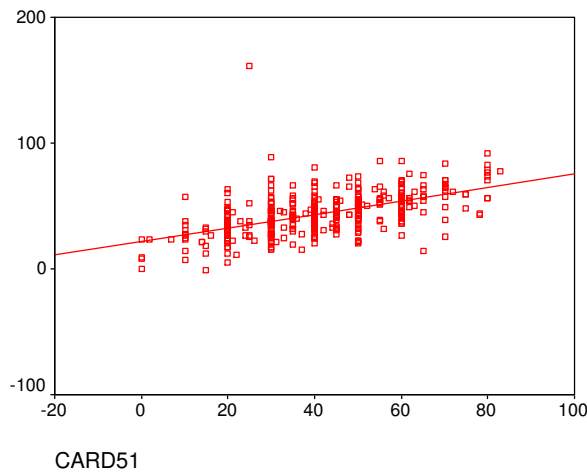
Figure 5: Scatter plot of holdout case 52 – actual versus estimated (Pearson correlation coefficient = 0.

462)

CARD52
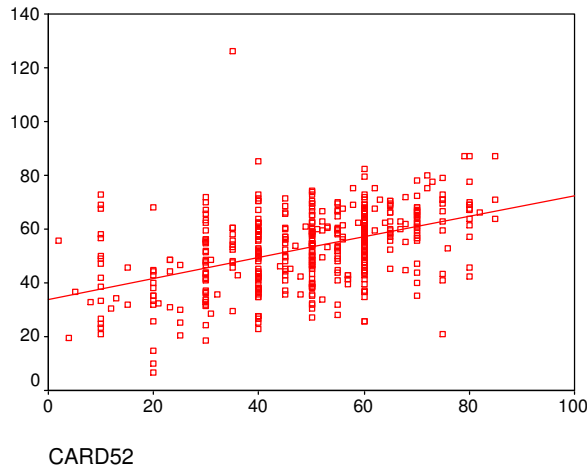
Results of conjoint analysis

The demographic patterns for the 466 respondents are as follows:

- ■   **Gender:** 197 male; 265 female; 4 missing.
- ■   **Age:** 45 (less than 21 years); 389 (21-30 years); 21 (31-40 years); 7 (over 40 years); 4. missing.
- ■   **Education level:** 31 secondary; 376 university; 51 postgraduate; 8 missing.
- ■   **Monthly income:** 287 (under $10,000); 107 ($10,001-20,000); 20 ($20,001-30,000); 6 (over $30,000); 46 missing.
- ■   **Job nature:** 173 frontline staff; 36 marketing; 30 sales; 12 IT; 16 production/operations; 23 personnel; 122 others; 54 missing.
- ■   **No. of subordinates:** 298 (nil); 59 (1-10 subordinates); 33 (11-50 subordinates); 5 (51-100 subordinates); 6 (over 100 subordinates); 65 (missing).
- ■   **Industry:** 18 financial; 38 retail; 8 manufacturing; 43 hotel; 22 government; 17 food and beverage; 24 education; 126 entertainment; 107 others; 63 missing.
- ■   **No. of customers:** 158 (under 1,000); 58 (1,001-5,000); 25 (5,001-10,000); 132 (over 10,000); 93 (missing).
- ■   **Having Discount Card:** 209 yes; 185 no; 72 missing.
- ■   **Having CRM:** 255 yes; 148 no; 63 missing.

In the analysis of the industry in which the respondents are employed, the valid percentages (i.e.

excluding the missing values and those for others) of respondents are as follows:

- ● Entertainment (i.e. casino)   42.6%
- ● Hotel   14.5%
- ● Retail   12.8%
- ● Education   8.1%
- ● Government   7.4%
- ● Financial   6.1%
- ● Food and Beverage   5.8%

● Manufacturing   2.7%

Each industry reflects the products/services that the respondents are evaluating in this study.

Table 2: The conjoint profile of 466 respondents

Utilities

		Utility Estimate	Std. Error
Orientation	Customer Orientation	7.456	.645
	LongTerm Orientation	6.151	.837
	Cross Functional Integration	7.192	.837
	No Customer Orientation	-8.536	.837
	No LongTerm Orientation	-5.390	.837
	No Cross Functional Integration	-6.874	.837
Support	Having CRM Training	7.972	.645
	CRM Champion	8.147	.837
	Compensation congruent with CRM	9.678	.837
	No CRM Training	-8.456	.837
	No Top Champion	-9.330	.837
	Compensation Not congruent with CRM	-8.011	.837
Commitment	Organization wide commitment	7.387	.645
	Top Mgt Buy-In	9.514	.837
	Adequate Financial Commitment	10.520	.837
	No Organization wide commitment	-9.272	.837
	No Top Mgt Buy-In	-8.056	.837
	No Adequate Financial Commitment	-10.094	.837
Readiness	Specification of data ownership	8.642	.645
	Understand CRM benefits	5.041	.837
	Good Data Quality/Quantity	7.841	.837
	No specification of data ownership	-6.800	.837
	Don't understand CRM benefits	-7.547	.837
	Poor Data Quality/Quantity	-7.176	.837
Execution	Focus on Change Management	5.933	.645
	Phased strategy implementation	5.862	.837
	Adequate Performance Metrics	5.886	.837
	Cannot focus on Change Management	-6.946	.837
	No phased strategy implementation	-4.353	.837
	Inadequate Performance Metrics	-6.382	.837
(Constant)		49.277	.406

Kendall's tau = .937   Significance = .0000
Kendall's tau = 1.000 for 3 holdouts   Significance = .0586

The utility scores from Figure 6 can be used to estimate the extent of the perceived possibility of successfully launching CRM. The calculation of utility scores (part-worths) is similar to that of the regression formula, i.e. adding the sum total of the constant and the respective five CRM factor categories (Orientation, Support, Commitment, Readiness, and Execution).

The highest possible utility score = constant + the highest score from each factor category
$$= 49.28 + 7.46 + 9.68 + 10.52 + 8.64 + 5.93$$
$$= 91.51$$

The lowest possible utility score = constant + the lowest score from each factor category
$$= 49.28 - 8.54 - 9.33 - 10.09 - 7.55 - 6.95$$
$$= 6.82$$

As each CSF of CRM is divided as a pair of dichotomous variables, apart from estimating the highest and

lowest possible scores, we can also estimate the highest and lowest of all of the 15 CRM factors as determined by the 466 respondents. Figure 6 reveals that all of the favorable CRM factors are accorded with positive values and all of the unfavorable CRM factors have negative values. The following are the best and worst scenarios of all 15 CRM factors, aggregated with the constant assumed to be "0".

Highest utility scores for all 15 CRM CSFs

= 7.46 + 6.15 + 7.19 + 7.97 + 8.15 + 9.68 + 7.39 + 9.51 + 10.52 + 8.64 + 5.04 + 7.84 + 5.93 + 5.86 + 5.89

= 113.22

Lowest utility scores for all 15 CRM CSFs

= -8.54 – 5.39 – 6.87 – 8.46 – 9.33 – 8.01 – 9.27 – 8.06 -10.09 - 6.80 - 7.55 -7.18 - 6.95 – 4.35 – 6.38

= -113.22

These calculations illustrate that the utility scores of CRM CSFs can be used to predict whether an organization can successfully implement CRM. They can also be used to diagnose problems arising from CRM launch. Consulting firms that wish to use the results of this study should supplement these with qualitative research methods, such as interviews and observation.

Table 3: Averaged importance score of the five factors for CRM

Orientation	19.071
Support	21.781
Commitment	23.049
Readiness	19.174
Execution	16.924

As Table 2 reveals, the 466 respondents perceived Commitment to be the most important success factor for launching CRM, followed by Support, Readiness, Orientation, and Execution. This is not surprising, given that in all major change initiatives, commitment and a buy-in from top management are of paramount importance.

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Returning to the 15 CRM factors (Zablah and Bellenger, 2004), the range or differences of the utilities for each respective pair of dichotomous CRM factors are calculated and respective independence sample T-tests and one-way ANOVA are performed across all of the demographic variables for the 466 respondents. The inferential statistical analysis result details are depicted in Tables 4-12.

Table 4: Importance values for the 15 CRM factors

	N	Mean
range9 Adequate Financial Commitment	466	20.61
range6 Compensation Congruent with CRM	466	17.69
range8 Top Mgt Buy-In	466	17.57
range5 CRM Champion	466	17.48
range7 Organization-wide Commitment	466	16.66
range4 CRM Training	466	16.43
range1 Customer Orientation	466	15.99
range10 Clear Data Ownership	466	15.44
range12 Data Quality	466	15.02
range3 Cross Functional Integration	466	14.07
range13 Focus on Change Mgt	466	12.88
range11 Understand CRM Benefits	466	12.59
range15 Adequate Performance Metrics	466	12.27
range2 Long-term Orientation	466	11.54
range14 Phased Implementation	466	10.21
Valid N (listwise)	466	

The top three most importance critical success factors for CRM are:

– adequate financial commitment,
– compensation congruent with CRM, and
– top management buy-in.

Exploratory factor analysis

There are 15 CSFs in this empirical study. An exploratory factor analysis was performed on the importance scores. Principal component analysis (PCA) was used to extract the factors. The first principal component is the combination that accounts for the largest amount of variance in the sample. The second principal

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component, uncorrelated with the first, accounts for the second largest amount of variance, and so on. Varimax rotation, an algorithm for the orthogonal rotation of a simple structure, was used. The Varimax method attempts to minimize the number of variables that have high loadings on a factor to enhance the interpretability of the factors (Norusis, 1993). The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is 0.895, indicating that the data set is meritorious for factor analysis. Norusis (1993) reports that KMO measures in the 0.90s are marvelous, in the 0.80s are meritorious, in the 0.70s are middling, in the 0.60s are mediocre, in the 0.50s are miserable, and below 0.50 are unacceptableCoakes and Steed (1997) also state that if the KMO is greater than 0.6, then factorability can be assumed. Three factors were identified. The first *(Adequate Financial Commitment, CRM Champion, Compensation Congruent with CRM, Organization-wide Commitment, CRM Training, Top Management Buy-In, and Customer Orientation)* can be described as "Commitment and Support". The second *(Phased Implementation, Clear Data Ownership, Data Quality and Quantity, Focus on Change Management, Adequate Performance Metrics, and Understand CRM Benefits)* can be described as "Implementation". The third *(Long Term Orientation and Cross Functional Integration)* can be described as "Culture". The Cronbach's alphas for the three factors are: Commitment and Support, 0.845; Implementation, 0.811, and Culture, 0.521.

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Table 5: Factor analysis of the 15 CRM factors

Factor Analysis of CRM Attributes[a]

		Component		
		1	2	3
Commitment and Support	range9 Adequate Financial Commitment	**0.81**	.213	.052
	range5 CRM Champion	**0.74**	.255	.006
	range6 Compensation Congruent wih CRM	**0.64**	.102	.341
	range7 Organization wide Commitment	**0.56**	.234	.441
	range4 CRM Training	**0.52**	.304	.497
	range8 Top Mgt Buy-In	**0.5**	.273	.358
	range1 Customer Orientation	**0.42**	.352	.404
Implementaion	range14 Phased Implementation	-.017	**0.78**	.315
	range10 Clear Data Ownership	.368	**0.71**	-.059
	range12 Data Quality	.281	**0.64**	.174
	range13 Focus on Change Mgt	.461	**0.59**	.153
	range15 Adequate Performance Metrics	.080	**0.59**	.337
	range11 Understand CRM Benefits	.296	**0.58**	.082
Culture	range2 Long Term Orientation	.019	.139	**0.88**
	range3 Cross Functional Integration	.377	.169	**0.53**

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

T-tests and ANOVA analyses

Tables 5 to 13 report the results of the independent samples T-test and one-way ANOVA analyses, revealing CRM factors that are significantly different at the 0.05 level.

Table 6: Independent T-test with gender as the discerning factor

	d1 Gender	N	Mean
range1 Customer Orientation	1.00 Male	197	15.08
	2.00 Female	265	16.66
range5 CRM Champion	1.00 Male	197	16.29
	2.00 Female	265	18.32
range6 Compensation Congruent with CRM	1.00 Male	197	16.41
	2.00 Female	265	18.59
range10 Clear Data Ownership	1.00 Male	197	14.23
	2.00 Female	265	16.28
range11 Understand CRM Benefits	1.00 Male	197	11.10
	2.00 Female	265	13.53
range13 Focus on Change Mgt	1.00 Male	197	11.66
	2.00 Female	265	13.79

The views of the female respondents were significantly higher (at the 0.05 level) than those of their male counterparts for the six factors indicated in Table 4.

Table 7: One-way ANOVA with age as the discerning factor

	A < 1 years	B 21-30 years	C 31-40 years	D 41-50 years	Sig. at 0.05
range1 Customer Orientation	13.15	16.28	15.99	18.86	~
range2 Long-term Orientation	13.15	11.90	11.40	10.07	~
range3 Cross Functional Integration	13.15	16.28	15.99	18.86	~
range4 CRM Training	13.15	11.90	11.40	10.07	A<B
range5 CRM Champion	11.84	14.40	14.31	12.98	A<B
range6 Compensation Congruent CRM	13.07	16.84	15.84	12.86	A<B
range7 Organization-wide Commitment	13.90	18.01	16.01	13.26	A<B
range8 Top Mgt Buy-In	13.13	18.18	18.15	15.62	A<B
range9 Adequate Financial Commitment	12.06	17.29	15.13	15.67	~
range10 Clear Data Ownership	12.17	18.23	14.24	19.74	~
range11 Understand CRM Benefits	13.63	21.34	19.61	22.79	~
range12 Data Quality	11.99	15.81	14.37	19.02	~
range13 Focus on Change Mgt	9.50	12.86	13.88	8.14	A<B
range14 Phased Implementation	12.66	15.37	13.99	14.88	~
range15 Adequate Performance Metrics	9.31	13.29	13.44	11.25	A<B

There were five age groups among the 466 respondents. Only one respondent was over 50, and as such was ignored in the one-way ANOVA – the results of which are shown in Table 5. The Bonferroni Post Hoc test was applied to eliminate multiple comparison error. Invariably, the importance scores rated by respondent group A (45 people, less than 21 years) were less than those rated by respondent group B (389 people, between 21 and 30 years).

Table 8: One-way ANOVA with education as the discerning factor

	A Secondary school	B University Level	C Postgraduate	Sig. at 0.05
range1 Customer Orientation	11.46	16.42	15.56	A<B
range2 Long-term Orientation	8.95	12.09	8.64	B>C
range3 Cross Functional Integration	10.54	14.54	13.01	A<B
range4 CRM Training	12.41	17.06	13.63	A<B B>C
range5 CRM Champion	10.01	18.23	15.87	A<B A<C
range6 Compensation Congruent with CRM	13.46	18.05	17.28	A<B
range7 Organization-wide Commitment	10.33	17.49	13.93	A<B B>C
range8 Top Mgt Buy-In	10.58	18.35	15.19	A<B
range9 Adequate Financial Commitment	11.53	21.21	20.70	A<B A<C
range10 Clear Data Ownership	11.26	15.64	16.37	A<B A<C
range11 Understand CRM Benefits	7.00	13.38	9.23	A<B B>C
range12 Data Quality	10.62	15.43	14.67	A<B
range13 Focus on Change Mgt	6.23	13.64	11.74	A<B A<C
range14 Phased Implementation	6.74	10.63	8.59	~
range15 Adequate Performance Metrics	8.63	12.75	10.71	A<B

The results in Table 7 suggest that education is a discerning factor among those with university educations, who rated the factors more importantly than their counterparts at the secondary and postgraduate levels.

Table 9: One-way ANOVA with monthly income as the discerning factor

	A Under $10,000	B $10,000 to $20,000	C $20,001 to $30,000	D Over $30,000	Sig at 0.05
range1 Customer Orientation	16.26	14.86	14.79	18.56	~
range2 Long-term Orientation	11.60	11.39	13.26	3.45	~
range3 Cross Functional Integration	14.79	12.34	11.56	13.81	~
range4 CRM Training	17.09	14.88	14.15	11.11	~
range5 CRM Champion	18.60	14.90	15.50	16.14	A>B
range6 Compensation Congruent with CRM	18.67	15.25	13.91	24.21	A>B
range7 Organization-wide Commitment	17.90	14.06	13.74	13.02	A>B

range8 Top Mgt Buy-In	18.75	15.08	18.17	10.71	A>B
range9 Adequate Financial Commitment	21.20	18.86	19.33	21.93	~
range10 Clear Data Ownership	16.11	13.20	15.11	17.27	A>B
range11 Understand CRM Benefits	13.36	10.99	11.66	16.24	~
range12 Data Quality	15.42	13.88	14.65	12.64	~
range13 Focus on Change Mgt	13.64	11.33	11.88	7.57	~
range14 Phased Implementation	10.58	8.91	10.69	10.31	~
range15 Adequate Performance Metrics	12.15	12.15	11.48	11.52	~

Table 8 shows that respondents earning under $10,000 per month rated the five CRM factors more importantly than those who earned a monthly income of $10,000 to $20,000.

Table 10: One-way ANOVA with job nature as the discerning factor

	A Frontline staff	B Marketing	C Sales	D IT	E Operat-ion	F ersonnel	G Others	Sig at 0.05
range1 Customer Orientation	15.66	16.68	16.80	16.36	14.56	15.17	16.43	~
range2 Long-term Orientation	11.52	11.82	12.36	10.75	11.96	10.04	11.65	~
range3 Cross Functional Integration	13.66	15.60	15.56	14.24	14.11	8.55	14.54	~
range4 CRM Training	16.10	16.51	18.59	19.15	14.06	12.60	16.81	~
range5 CRM Champion	16.01	18.06	17.97	22.45	15.55	13.63	19.80	A<G
range6 Compensation Congruent with CRM	17.21	15.78	20.20	20.10	20.21	14.56	18.39	~
range7 Organization-wide Commitment	16.20	15.63	16.93	24.43	18.50	11.65	17.37	D>F
range8 Top Mgt Buy-In	17.59	19.61	18.83	24.93	17.29	15.02	16.92	~
range9 Adequate Financial Commitment	19.96	21.78	20.87	27.63	19.88	16.75	21.07	~
range10 Clear Data Ownership	14.25	16.15	17.43	17.85	17.47	12.33	16.09	~
range11 Understand CRM Benefits	12.30	13.37	15.04	16.10	10.92	10.61	12.99	~
range12 Data Quality	14.09	15.48	18.61	16.50	13.17	13.15	15.63	~
range13 Focus on Change Mgt	12.64	11.94	13.35	16.01	11.63	9.11	14.01	~
range14 Phased Implementation	10.45	8.72	9.35	13.26	9.57	6.34	10.80	~
range15 Adequate Performance Metrics	11.99	12.03	13.11	13.76	13.05	7.90	12.23	~

Table 9 suggests that job nature was not a strong discerning factor.

Table 11: One-way ANOVA with number of subordinates as the discerning factor

	A Nil	B 10 subord-inates	C 11 - 50 subord-inates	D 51 - 100 subord-inates	E 100 subord-inate	Sig. at 0.05

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	16.62	13.67	15.64	14.29	12.06	~
range1 Customer Orientation	16.62	13.67	15.64	14.29	12.06	~
range2 Long-term Orientation	11.47	12.38	11.52	11.66	3.45	~
range3 Cross Functional Integration	13.79	14.42	14.13	11.17	13.64	~
range4 CRM Training	16.94	15.39	14.17	12.10	15.65	~
range5 CRM Champion	18.00	16.68	12.93	12.80	17.81	~
range6 Compensation Congruent with CRM	17.66	17.06	17.23	14.94	25.36	~
range7 Organization-wide Commitment	16.99	15.93	15.03	11.56	18.11	~
range8 Top Mgt Buy-In	18.10	16.58	18.22	12.09	15.88	~
range9 Adequate Financial Commitment	20.37	18.96	23.19	17.51	24.05	~
range10 Clear Data Ownership	15.46	15.27	13.76	17.51	14.05	~
range11 Understand CRM Benefits	12.79	12.43	12.21	10.97	15.67	~
range12 Data Quality	15.11	15.41	13.81	13.43	16.38	~
range13 Focus on Change Mgt	13.45	11.80	9.95	9.41	14.13	~
range14 Phased Implementation	10.58	8.83	8.79	8.31	8.38	~
range15 Adequate Performance Metrics	11.86	12.22	11.68	14.23	13.88	~

Clearly, the number of subordinates is not a discerning factor in rating the importance of the 15 CRM factors.

Table 12: One-way ANOVA with industry as the discerning factor

	A Finan Instit	B Retail	C Manu	D Hotel	E Govt	F Food & Bev	G Educa Inst	H Enter-tain-ment	I Others	Sig at 0.05
range1 Customer Orientation	16.08	16.38	15.66	18.37	14.76	14.57	15.31	15.24	16.39	~
range2 Long-term Orientation	9.41	12.84	16.80	13.62	9.42	12.15	12.19	11.64	9.98	~
range3 Cross Functional Integration	12.18	14.44	11.36	16.01	12.40	13.73	14.80	13.03	14.44	~
range4 CRM Training	14.29	18.77	16.63	19.41	14.63	15.80	15.29	15.20	16.39	~
range5 CRM Champion	17.02	19.35	18.36	20.07	15.73	14.86	15.63	15.68	18.81	~
range6 Compensation Congruent with CRM	14.73	19.30	14.89	20.69	16.27	12.87	17.33	16.64	18.14	~
range7 Organization-wide Commitment	13.90	17.28	16.66	20.54	18.21	15.82	16.31	15.11	16.40	~
range8 Top Mgt Buy-In	18.34	21.56	20.66	21.45	16.82	16.24	14.46	16.27	17.30	~
range9 Adequate Financial Commitment	12.96	23.18	26.09	23.81	20.14	17.18	18.71	19.61	20.83	A<D
range10 Clear Data Ownership	13.58	16.90	14.81	16.19	15.17	16.60	14.55	14.37	15.69	~
range11 Understand CRM Benefits	9.80	12.97	11.84	13.88	10.49	17.18	11.18	12.47	13.02	~
range12 Data Quality	14.44	16.83	18.45	15.15	14.33	16.73	14.39	12.89	16.49	~
range13 Focus on Change Mgt	10.04	14.00	12.03	14.29	10.57	14.05	13.92	11.97	13.44	~
range14 Phased Implementation	9.63	9.55	8.64	12.96	7.84	10.21	12.17	9.66	10.23	~

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range15 Adequate Performance Metrics	10.50	13.59	14.20	13.13	11.28	11.82	13.49	11.71	11.30	~

Industry is not a discerning factor in rating the importance of the 15 CRM factors. These finding suggest that the results from this study should be generalizable to most industries. The only significant difference (at the 0.05 level), is between financial institutions and hotels on "Adequate Financial Commitment" in CRM implementation. As custodians of other people's money, the financial institutions are more tightly regulated by the authorities and must already have invested more heavily in IT than the hotels. The respondents working in financial institutions, when evaluating, may have subconsciously assumed that adequate financial commitment from banks is mandatory, and therefore viewed it less importantly.

Table 13: One-way ANOVA with number of customers as the discerning factor

	A Under 1,000	B 1,001 to 5,000	C 5,001 to 10,000	D Over 10,000	Sig. at 0.05
range1 Customer Orientation	16.49	16.34	15.42	15.56	~
range2 Long-term Orientation	11.71	11.01	8.78	12.10	~
range3 Cross Functional Integration	13.83	13.12	13.77	14.53	~
range4 CRM Training	17.00	16.18	15.59	16.03	~
range5 CRM Champion	17.47	16.78	18.29	17.26	~
range6 Compensation Congruent with CRM	17.39	17.42	18.14	17.30	~
range7 Organization-wide Commitment	17.54	16.92	14.53	15.30	~
range8 Top Mgt Buy-In	18.14	18.72	18.38	16.44	~
range9 Adequate Financial Commitment	20.15	19.39	23.39	20.44	~
range10 Clear Data Ownership	15.15	15.48	20.24	14.29	C>D
range11 Understand CRM Benefits	12.39	11.79	14.52	12.89	~
range12 Data Quality	15.95	13.63	17.43	13.57	~
range13 Focus on Change Mgt	13.27	13.16	12.55	11.94	~
range14 Phased Implementation	10.63	10.05	10.63	9.16	~
range15 Adequate Performance Metrics	12.49	12.07	11.50	11.90	~

The number of customers was not a discerning factor.

Table 14: Independent samples T-test with Having Discount Card as the discerning factor

	d9 Have customer	N	Mean	Std. Deviation	Std. Error Mean
range7 Organization wide Commitment	1.00 Yes	209	15.5308	9.75856	.67501
	2.00 No	185	17.7309	9.50030	.69848

Having a customer discount card (a method widely used to collect data about customer purchase patterns) is not a strong discerning factor. Yet, those whose employers had such cards rated the factor Organization-wide Commitment to be more important than those whose employers did not offer customer discount cards.

An independent T-test was performed with Whether Having CRM System as a discerning factor. None of the 15 CRM critical success factors was significantly different at the 0.05 level. Thus, these empirical data suggest that having a CRM system in one's own organization is not a discerning factor in all 15 CRM CSFs in this study. This may be because the understanding of CRM (in its broader context or in a more restricted technical sense) may be varying among the respondents.

Conclusion and recommendations for future research

The literature review on CRM suggests that many organizations have failed to successfully launch CRM systems, despite having made huge investments. Many hindsight explanations are proposed. It is important to study the CRM success formula rigorously. In this respect, the list of CRM success factors consolidated by Zablah and Bellenger (2004) is comprehensive and pragmatic. In this empirical study, 466 university students in Macau taking management courses were selected as a sample to examine their views on how CRM could be successfully implemented. Conjoint analysis is a powerful marketing tool for studying consumers' preferences, and the way it is deployed in this study is innovative. Fifteen factors for a traditional conjoint analysis could still generate a set that would be too large. Moreover, the SPSS conjoint procedure is limited to generating an orthogonal set of a maximum of 10 factors. Thus, the 15 factors are first subjectively grouped under five factors (i.e. Orientation, Support, Commitment, Readiness, and Execution). This study reveals that Commitment has the highest importance. Each of these 15 factors is split into a pair of dichotomous variables. With their utility scores generated from the responses of 466 respondents, the ranges of each of these 15 factors are computed to represent their respective importance. The demographic data are used as discerning factors and the findings are indicated in Tables 6-14. The following demographic variables do not have a strong discerning effect on the 15 CSFs of CRM:

- job nature,

- number of subordinates,

- industry,

- number of customers, and

- the presence of customer discount cards.

The demographic variables with discerning effects are:

- gender,

- age,

- education level, and

- monthly income.

Table 4 lists the importance scores of the 15 factors (reconstructed from the utilities of the respective dichotomous pairs). These utilities provide useful reference for the designers of CRM systems. The contribution of this paper is that it demonstrates the deployment of a conjoint analysis in studying the utilities of the 15 CSFs of CRM. Additional empirical studies on the CSFs of CRM are recommended. Although this study was conducted in Macau, the findings should be generalizable to a wider context.

Appendix 1

To successfully implement CRM, an organization must possess some pre-requisite conditions. Listed below are combinations of the characteristics of organizations that intend to adopt CRM. Please score your perceived success probability for each of these combinations, with scores ranging from "0" for least probable to succeed to "100" for most probable to succeed.

SCORE	Orientation	Support	Commitment	Readiness	Execution
	Customer Orientation	No Compensation Congruent with CRM	No Organization-wide Commitment	Good Data Quality	Focus on Change Management
	No Cross Functional Integration	No Compensation Congruent with CRM	Top Mgt Buy-In	Clear Data Ownership	Phased Implementation
	Customer Orientation	CRM Champion	Top Mgt Buy-In	Understand Benefits of CRM	No Phased Implementation
	Cross Functional Integration	Having CRM Training	No Top Mgt Buy-In	Clear Data Ownership	No Adequate Performance Metrics
	Customer Orientation	No CRM Champion	Adequate Financial Commitment	Understand Benefits of CRM	No Focus on Change Mgt
	No Long-term Orientation	No CRM Champion	No Adequate Financial Commitment	Good Data Quality	No Adequate Performance Metrics
	Customer Orientation	No Compensation Congruent with CRM	No Adequate Financial Commitment	Poor Data Quality	Focus on Change Management
	Long-term Orientation	Having CRM Training	Adequate Financial Commitment	No Clear Data Ownership	Focus on Change Management
	No Customer Orientation	Compensation Congruent with CRM	Top Mgt Buy-In	Don't Understand CRM Benefits	No Adequate Performance Metrics
	No Cross Functional Integration	No CRM Champion	Organization-wide Commitment	Poor Data Quality	No Phased Implementation
	No Cross Functional Integration	No CRM Training	Organization-wide Commitment	Don't Understand CRM Benefits	Focus on Change Management
	No Customer Orientation	Having CRM Training	No Adequate Financial Commitment	Understand Benefits of CRM	Focus on Change Management
	No Cross Functional Integration	Compensation Congruent with CRM	No Adequate Financial Commitment	No Clear Data Ownership	No Focus on Change Mgt
	Long-term orientation	No CRM Champion	Organization-wide Commitment	Clear Data Ownership	Phased Implementation
	Cross Functional Integration	No CRM Champion	Top Mgt Buy-In	No Clear Data Ownership	Focus on Change Management
	Long-term Orientation	Having CRM Training	Top Mgt Buy-In	Good Data Quality	Adequate Performance Metrics
	Cross Functional Integration	No Compensation Congruent with CRM	Adequate Financial Commitment	Don't Understand CRM Benefits	No Phased Implementation
	Cross Functional Integration	Having CRM Training	No Organization-wide Commitment	Poor Data Quality	Phased Implementation
	Cross Functional Integration	Compensation Congruent with CRM	Organization-wide Commitment	Understand Benefits of CRM	Focus on Change Management
	No Customer Orientation	No Compensation Congruent with CRM	No Top Mgt Buy-In	Clear Data Ownership	No Focus on Change Mgt

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No Customer Orientation	CRM Champion	Organization-wide Commitment	No Clear Data Ownership	Phased Implementation
Cross Functional Integration	No CRM Training	Organization-wide Commitment	Good Data Quality	No Focus on Change Mgt
No Long-term Orientation	No Compensation Congruent with CRM	Organization-wide Commitment	No Clear Data Ownership	Adequate Performance Metrics
Cross Functional Integration	CRM Champion	No Adequate Financial Commitment	Clear Data Ownership	Adequate Performance Metrics
Customer Orientation	No CRM Training	Top Mgt Buy-In	Clear Data Ownership	Focus on Change Management
Customer Orientation	Having CRM Training	Organization-wide Commitment	Clear Data Ownership	Focus on Change Management
Customer Orientation	Having CRM Training	No Top Mgt Buy-In	No Clear Data Ownership	No Phased Implementation
No Customer Orientation	Having CRM Training	Organization-wide Commitment	Good Data Quality	No Phased Implementation
Long-term Orientation	Compensation Congruent with CRM	No Top Mgt Buy-In	Poor Data Quality	Focus on Change Management
Customer Orientation	Compensation Congruent with CRM	Adequate Financial Commitment	Good Data Quality	Phased Implementation
No Cross Functional Integration	Having CRM Training	Adequate Financial Commitment	Clear Data Ownership	No Adequate Performance Metrics
No Long-term Orientation	Compensation Congruent with CRM	No Organization-wide Commitment	Clear Data Ownership	No Phased Implementation
No Customer Orientation	No CRM Training	Adequate Financial Commitment	Poor Data Quality	Adequate Performance Metrics
Customer Orientation	No CRM Training	No Organization-wide Commitment	No Clear Data Ownership	No Adequate Performance Metrics
No Customer Orientation	No CRM Champion	No Organization-wide Commitment	Clear Data Ownership	Focus on Change Management
Long-term Orientation	No Compensation Congruent with CRM	Organization-wide Commitment	Understand Benefits of CRM	No Adequate Performance Metrics
No Long-term Orientation	No CRM Training	No Top Mgt Buy-In	Understand Benefits of CRM	Phased Implementation
No Cross Functional Integration	Having CRM Training	No Organization-wide Commitment	Understand Benefits of CRM	Adequate Performance Metrics
Customer Orientation	CRM Champion	Organization-wide Commitment	Poor Data Quality	No Adequate Performance Metrics
No Long-term Orientation	Having CRM Training	Organization-wide Commitment	Don't Understand CRM benefits	Focus on Change Management
Customer Orientation	Having CRM Training	Organization-wide Commitment	Clear Data Ownership	No Focus on Change Mgt
No Cross Functional Integration	CRM Champion	No Top Mgt Buy-In	Good Data Quality	Focus on Change Management

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Customer Orientation	Having CRM Training	No Adequate Financial Commitment	Don't Understand CRM Benefits	Phased Implementation
Customer Orientation	Compensation Congruent with CRM	Organization-wide Commitment	Clear Data Ownership	Adequate Performance Metrics
No Long-term Orientation	CRM Champion	Adequate Financial Commitment	Clear Data Ownership	Focus on Change Management
Long-term Orientation	No CRM Training	No Adequate Financial Commitment	Clear Data Ownership	No Phased Implementation
No Long-term Orientation	Having CRM Training	Top Mgt Buy-In	Poor Data Quality	No Focus on Change Mgt
Long-term Orientation	CRM Champion	No Organization-wide Commitment	Don't Understand CRM Benefits	No Focus on Change Mgt
Customer Orientation	No CRM Champion	No Top Mgt Buy-In	Don't Understand CRM Benefits	Adequate Performance Metrics
No Customer Orientation	CRM Champion	No Adequate Financial Commitment	Don't Understand CRM Benefits	Focus on Change Management
No Long-term Orientation	CRM Champion	No Organization-wide Commitment	Good Data Quality	No Focus on Change Mgt
Cross Functional Integration	CRM Champion	No Adequate Financial Commitment	Don't Understand CRM Benefits	Focus on Change Management

Please fill in your personal details：

Gender:　　　　　Male [ ]; 　Female [ ]

Age: 　　Less than 21 [ ]; 21-30 [ ]; 31-40 [ ]; 41-50 [ ]; Over 50 [ ]

Education standard：Secondary [ ]; 　University [ ]; 　Postgraduate [ ]

Monthly income：Under $10000[ ]; $10000-19999[ ]; 20000-29999[ ]; Over 29999[ ]

Job type: Frontline [ ]; 　Marketing [ ]; 　Sales[ ]; IT [ ]; Production/Operations [ ]
　　　　　　　　HR [ ]; 　Others [ ] （Please specify：_____ ）

No. of subordinates: 　　0 [ ]; 　1-10 [ ]; 　11-50 [ ]; 　51-100- [ ]; Over 100 [ ]

Industry：Finance [ ]; 　Retails [ ]; Manufacturing [ ]; 　Hotel [ ]
　　　　Government [ ]; 　F&B [ ]; Education [ ]; Entertainment[ ]; Others [ ]

No. of customers：1000 and below [ ]; 1001-5000 [ ]; 5001-10000 [ ]; 10000 and above [ ]

Has membership cards：Yes [ ]; 　No [ ]

Has computerized CRM： 　　Yes [ ]; 　No [ ]

Thank you for your co-operation

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