# INTEGRATING KANSEI ENGINEERING AND CUSTOMER RELATIONSHIP MANAGEMENT TO IMPROVE SERVICE QUALITY: A CASE STUDY AT SHOPPING MALL IN SURABAYA

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***ABSTRACT***

*With respect to customer dynamics in experiencing products and services, nowadays, customers tend to highly demand hedonism, pleasure and individuality rather than functionality and usability. In other words, they look for a service that offers more values (both physically and emotionally) from its function. Apart from that, it is a must for a company to strive for achieving customer loyalty. Thus, this study proposes an integrative framework of Kansei Engineering (KE) and Customer Relationship Management (CRM) in services. It aims to explore the customer emotional needs (Kansei in Japanese) experienced and encountered in services. As emphasized in the Customer Relationship Management (CRM) concept, understanding the customer emotional needs is one of successful keys for CRM implementation.*

*In order to analyze the applicability of the proposed framework, a case study taken at a brand new elegant shopping mall in Surabaya that involved 100 customers was conducted. Some significant Kansei words as the representatives of customer emotional needs were obtained, such as elegant, believe, cool, wide and curious. These Kansei words have significant correlation with several service attributes, such as: "service given without social status", "service accuracy", "responsive employees", "convenient parking lots", "attractive events", and "neat and attractive employees". Some improvement innitiatives were proposed, including to accelerate the parking lots construction, and to provide a clear directions to the mall access.*

*Theoretically, this study contributes to academic literatures on the relationship between CRM and KE providing in a unified integrated framework. Practically, this research provides a guidance to service managers in collecting and capturing the emotional needs of customers, and investigating what service attributes that are significantly sensitive to the customer emotions. It is, then, to be used as a prioritization tool for continuous improvement or maintenance on service attributes.*

*Key words: Kansei Engineering, KE, Customer Relationships Management, CRM, service quality.*

## 1. INTRODUCTION

To understand better what the customers need is one of important keys for the success of customer relationship management (CRM). It may cover insight into customer decision-making and information about customers. Inherently, CRM is aimed to understand and provide what the customer needs so that it may improve a company's long-term profitability (Stringfellow *et al.*, 2004). The success of CRM implementation has been proven by, for an example, Lowe's home improvement warehouse. This company obtained 265% return on investment (ROI) with a huge investment of $11 millions. However, during CRM implementation, a few may have experienced insignificant achievements. This is due to, according to Stringfellow *et al.*

(2004), a lack of customer focus. To understand customer better in terms of their functional and emotional needs is of high interest. According to Hartono and Tan (2011), more specifically, understanding customer emotional needs is vital for predicting and influencing customer purchasing behaviour (Tehrani, 2002). For example, in banking industry, customers are not only satisfied by favourable interest rates, but also by nicely designed physical surroundings, polite and fair customer service, and promptly service. A never busy employee in responding customer request was found to be the most significant luxury hotel service attribute producing positive customer emotions (see Hartono and Tan, 2011; Hartono *et al.*, 2012).

## 2. LITERATURE REVIEW

Today's trends are hedonism, pleasures and individuality. Such notions may stimulate customers to shift their focus on hedonic ergonomics in product/service designs rather than functionality and usability (Helander, 2003). Kansei Engineering (KE) has a strong ability to deal with such trends and to accommodate customer emotional needs or "Kansei" in Japanese (Nagamachi and Imada, 1995). KE has been considered superior to other similar methods. It has the ability to translate customer emotional needs into concrete design parameters through engineering (Schütte *et al.*, 2004; Nagamachi, 2002). As a consequence, it can minimize the subjective interpretation of emotions/Kansei. Also, this method is able to modify and optimize product properties which are not directly visible, such as the atmosphere of a concert hall or the comfort of a hospital (Schütte *et al.*, 2008). In addition, Llinares and Page (2011) highlights KE as an appropriate framework for linking the user perceptions expressed in words to symbolic attributes. Its applications have been extended into services as the fastest growing sector in today's economies (see Hartono and Tan, 2011; Hartono *et al.*, 2012).

With respect to CRM implementation and application, many CRM databases only record information on customer demographics and transaction numbers without revealing about people (i.e., their specific desires and needs). The reasons of why many companies fail to capture crucial customer needs while implementing CRM have been addressed by Stringfellow *et al.* (2004). They include lack of awareness of the importance of knowing customer needs during transaction process, the difficulty of how to collect and interpret customer needs and the failure of translate intuitive or ambiguous information about customers.

During product experience and service encounter, there are two types of customer needs involved: i) functional – those satisfied by functionality of products/services, and ii) emotional – deeper and latent needs associated with the psychological aspects of product/service attributes. An interesting example has been highlighted by Schneider and David (1999) as follows. When a person buys a Ralph Lauren polo shirt that costs twice as much as a similar shirt from L.L. Bean, he willingly pays extra for the polo logo which fulfils and reflects his 'self-esteem' emotional need. Thus, addressing and exceeding the need for self-esteem and other emotional needs lead to customer delight; it goes beyond satisfaction and drives loyalty (Hartono and Tan, 2011; Stringfellow *et al.*, 2004).

## 3. RESEARCH METHODOLOGY

This study provides an integrative framework to represent the research methodology (as shown in Figure 1). It starts with choosing service domain. It is a place where customer and service provider meet and interact with. In this study, an elegant shopping mall was chosen. According to recent research, luxury and elegant services were reported to have greater strength of emotions than any other service domains.

Afterwards, it is followed by spanning the semantic space. This is to collect Kansei words as the representation of customer emotional needs. In-depth interview is chosen since conventional information collection techniques (such as databases, transaction records, *etc*) may fail to capture

customer attitudes and behaviour. Hence, in-depth interview as a rich information channel is deemed to be sufficient to access customer latent purchase drivers. According to Moruca (2000), people are more able to share information through face-to-face interview. This technique deals with complicated and unstructured information.
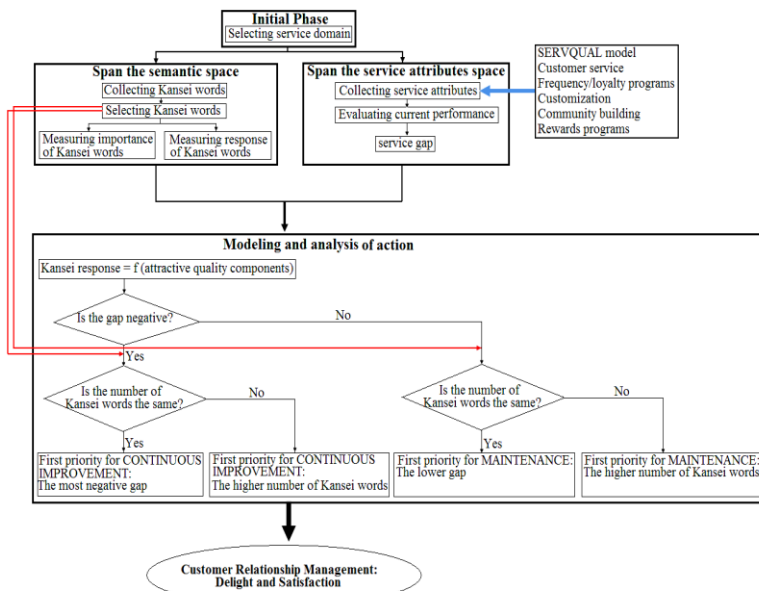


Figure 1. An integrative framework KE-CRM

Free association technique has been used in qualitative research for conducting psychoanalysis. Here, participants are expected to speak what they think without any restrictions. They are asked to relate whatever comes into their thought and express it without any censor. One example of possible customer response is *"…excellent stay, hotel is a little old but it is well maintained. The environment and surrounding are cozy…"* (see Hartono and Tan, 2011). Afterwards, we need to finalize and structure customer emotional needs/Kansei words using affinity diagram technique.

The next step is to span the service attribute space. Relevant service attributes in a shopping mall are considered to be the source of external stimuli. The proposed service items are adopted from the SERVQUAL model developed by Parasuraman *et al.* (1988) with some modification for use in shopping mall services. In addition, CRM relationship items

such as customer service, frequency/loyalty programs, customization, community building, and rewards programs (Winer, 2002) are considered.

The final step is modeling and analysis of actions. This is to build a quantitative model between Kansei words and service attributes. By engaging quadrant analysis and according to Hartono & Tan (2011) and Hartono *et al.* (2012), analysis is firstly done by checking for negative service gaps (i.e., a negative difference between perceived and expected service quality mean-values). For each negative gap, it is then checked whether the number of affected Kansei words among significant service attributes is the same. If it is the same, then the action is to choose service attributes with the most negative service gap as the first priority for improvement. Otherwise, we choose service attributes with the higher number of Kansei words. Following similar steps, if the gap is positive, then it also checks whether the number of Kansei words among significant service attributes is the same. If it is the same, the next step is to choose service attributes with the lower gap as the first priority for enhancement/maintenance; otherwise, we choose those with the higher number of Kansei words.

## 4. RESULT AND DISCUSSION

By involving 100 respondents, the questionnaire was distributed. There were 15 Kansei words finalized, such as *happy, friendly, comfortable, satisfied, elegant, trusty, luxurious, crowded, cool, clean, wide, consistent, current, attractive,* and *curious.Clean, wide, comfortable, elegant and happy* were ranked to be the most experienced emotions. Also, 23 service attributes were structured. After doing reliability and validity tests, those variables were deemed valid and reliable.

Quadrant analysis was formed; it shows that several service attributes which fall in quadrant IV *("high importance – low satisfaction")* should be take care of. They include *"The employees look neat and interesting", "The responsiveness of employee to visitors' needs", etc.* Using

multiple linear regression, the relationship between Kansei and service attributes was formed and shown in Table 1.

Table 1. Kansei and service attribute model

| Significant model (with α = 5%) | Service attributes |
|---|---|
| Happy =1.923+0.271 $Atr_5$+ 0.256 $Atr_{22}$ | Good & branded sold item ($Atr_5$) |
| | Apology for any mistake ($Atr_{22}$) |
| Friendly =1.404+0.211 $Atr_2$+ 0.211 $Atr_8$+ 0.228 $Atr_{22}$ | Comfortable parking lots ($Atr_2$) |
| | Reliable parking attendant and security guards (Atr8) |
| | Apology for any mistake ($Atr_{22}$) |
| **...** | |
| Current=0.72+ 0.385 $Atr_{20}$ +0.368 $Atr_{23}$ | Service with no social status ($Atr_{20}$) |
| | Sincere and whole-hearted services ($Atr_{23}$) |
| Attractive=1.701+0.299 $Atr_6$+ 0.31 $Atr_{23}$ | Attractive event ($Atr_6$) |
| | Sincere and whole-hearted services ($Atr_{23}$) |

Since Kansei was hypothesized to be influenced by customer loyalty as the representative of CRM. There were two constructs utilized in the relationship model, i.e., customer loyalty and level of relationships (see Table 2).

Table 2. Kansei and CRM model

| Kansei word | Significant model (with α = 5%) |
|---|---|
| Elegant | Elegant = -1.719+2.174 *Soft Core* |
| Trust | Trust =16.677+2.697 *Soft Core* |
| Cool | Cool = -1.506+2.738 *Shifting* |
| Wide | Wide = -0.01-2.445 Rare |
| Curious | Curious = -0.352+18.985 Never |

With respect to quadrant analysis (i.e., quadrant IV), the number of Kansei words influenced, and service gap (i.e., the gap between perception and expectation scores), several important service attributes were listed. Please refer to Table 3 for details. Those service attributes were deemed to be importantly given high priority for improvement.

Table 3. Prioritized improvement for services

| Service attributes | #* | Gap** | Priority |
|---|---|---|---|
| Comfortable parking lots | 1 | -0.92 | 4 |
| Attractive event | 1 | -0.32 | 6 |
| Neat and interesting employees | 0 | -0.42 | 7 |
| Availability of foods and beverages | 1 | -0.75 | 5 |
| Reliable parking attendant and security guards | 3 | -0.63 | 2 |
| Responsive employees | 3 | -0.58 | 3 |
| Services with no social status | 3 | -0.85 | 1 |

*The number of Kansei words influenced. Those in shaded rows show the highest three service attributes to be improved.*
**gap = perception score – expectation score*

The first priority for improvement is given to the service attribute "service with no social status." This is quite understandable since that shopping mall is well known for upper-class. The mall sells a huge variety of international branded and very expensive stuffs. However, since that shopping mall is still quite brand new, it also attracts the under-class. Many just come and see; they are just doing a window shopping. Customer care should be given and prioritized, no need to discriminate between statuses, whether the visitor is rich or not, which is usually easily recognized from their physical appearance. Planting an intensive message in mind among employees that ***"Every visitor and buyer is a king"*** may be useful to generate their awareness to every need of customer/visitor/buyer. Hence, it is hoped that all visitors will be served equally, well and comfortably.

## 5. CONCLUSION

As presented in the proposed integrative framework, KE helps to capture and treat customer emotional needs as the most critical point in CRM framework. This integrative framework has been tested through an empirical study on shopping mall services. The results are expected to show what emotional needs are critical and the relationship model of perceived service attributes/qualities impacted on Kansei. The

more influence that the Kansei words have, the more important are their associated service attributes.

This study provides a theoretical contribution to the academic literature on Customer Relationship Management (CRM), marketing management, and Kansei ergonomics by proposing an integrated conceptual framework and methodology of KE and CRM model. In addition, a practical contribution is presented by giving a guideline for service managers in collecting/capturing customer emotional needs, utilizing rich channel of information collection technique, and investigating which service attributes are significantly sensitive to customer delights and given a priority for improvement or maintenance. Its practical potential benefit and impact can be large as service is the fastest growing sector in today's businesses.

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