A HYBRID APPROACH TO INTEGRATE
CUSTOMER EXPERIENCE MANAGEMENT (CEM)
&
CUSTOMER RELATIONSHIP MANAGEMENT (CRM)

John W. K. Leung, Ph.D
Department of Marketing, City University of Hong Kong
Tat Chee Avenue, Kowloon Tong, Hong Kong
mkjleung@cityu.edu.hk

Kenneth K. Kwong, Ph.D
Department of Management & Marketing
Tung Wah College, 31 Wylie Road, Homantin, Hong Kong
kennethkwong@cutw.edu.hk

Brian Lai
Lingnan University
Tuen Mun, New Territory, Hong Kong
brian05@gmail.com

ABSTRACT

Experience, defined as the subjective response of customers to any direct or indirect contact with a company, has been considered as a critical factor in connecting customers emotionally and in turn achieving customer retention. A most critical source of experience is the service delivery process encountered by customers. Nevertheless, existing tools for depicting service focus mainly on the activities involved without showing the emotion aspects of customers. The information and knowledge exchange process in providing excellent customer experiences has not been fully addressed. Another critical successful factor that affects the overall experience of a customer is his or her relationship with the company. The effect of service activities will be totally different if the relationship between a customer and a company is different. For instance, a new customer may feel good about even a simple greeting. On the other hand, an old loyal customer may expect a frontline worker to address him or her personally and a simple greeting is not good enough to create delightful experience. Leung & Kwong (2009) has proposed a structured approach to describe service using different tools to depict both emotional and information aspects of services. However, the proposed approach does not address the impact of the relationship between a company and a customer.

To keep creating delightful experience continually, a company must be capable of capturing and distributing the response of a customer to the service and maintaining strong relationship with customers. To further strengthen the relationship with a customer, a company must be able to maintain the critical information of customers so that more customized service can be provided. Thus, both customer experience management and customer relationship management must go hand in hand.

In this paper, we propose a hybrid approach that integrates object and structured based analysis to model service. With this new approach, the relationship between a customer and a company can be incorporated into the service or experience model proposed by Leung & Kwong (2009). We first develop an object model which depicts the key personnel (objects) involved in the service process at the highest level. Then, the key information and attributes of a customer (an object) that are essential
for creating customized service are identified. The attributes that are identified for delivering customized service are shown. The original emotion-transition diagrams proposed by Leung & Kwong are used to depict the emotional effect of different customized actions based on the characteristics (attributes) of an individual customer identified by the object model. Using this approach, the customized service generated through CRM can then be integrated with the emotion transition diagram for creating delightful experiences. Thus the opportunities and actions for creating delightful experiences arisen from CRM can be more effectively identified and implemented.

Keywords: Yourdon’s Structured Methodology, Object-oriented Modeling Technique, Service Experiences, Customer Emotions

Scope & Topics: Information Technology, Service Modeling & Analysis, Systematic Innovation

INTRODUCTION

While many researchers have pointed out the importance of customer experience management (CEM) and customer relationship management (CRM) in achieving customer loyalty and in turn increase the overall profit of a company, it is lack of a tool that can help to integrate both of them to gain insights in experience design. To really gain the true loyalty of a customer, it has been proposed that perfect experience (Frow & Payne, 2007) or delightful experience (Kwong, 2006, Kwong & Yau, 2002, ) has to be achieved during the service encounter between customers and service providers.

In this paper, we demonstrate how object-oriented modelling technique (OMT, Coad & Yourdon 1991, Booch 2007) can be coupled with Yourdon’s Structured Method (YSM) to build an integrated model to take advantage of both CEM and CRM for loyalty building.

LITERATURE REVIEW

As pointed out by Leung and Kwong (2009), one of the challenges to implement perfect or delightful experience is that it is lacking of a methodology to model customer experiences. A common practice is to use text to describe service, however, Zeithaml and Bitner (2004) stated that four common types of risks are associated in using words to describe a service delivery process: oversimplification, incompleteness, subjectivity and biased interpretation. A service blueprint is a commonly used tool to describe service delivery process that focus to depict the process flows (Shostack, 1984). However, it does not provide insights on designing experience. A few researchers have proposed to use IT tools to provide adequate data and information to all stakeholders in a service delivery process (Congram & Epelman, 1995). Nevertheless, communication between customers and service providers are more than data or information exchange; the exchange of emotions, trust and control are significant in experience design (Dasu & Chase 2010). In fact, many researchers have stated the importance of linking the process flows to emotions (Berry et al. 2002). Cook et al. (2001) proposed very practical principles for designing a service delivery processes but still no tools have been developed to describe service delivery processes in a manner that provides actionable insights.

To achieve perfect customer experiences, one must understand a service delivery process which can generate positive emotional experience from a behavioral science point of view (Chase & Dasu, 2001). In other words, the current available tools for describing service experiences cannot effectively capture all essential requirements of a service delivery process if a company wants to create experiences that lead to true loyalty for its customers. In particular, it does not capture the effect of CRM on experience creation.
THE HYBRID APPROACH

Leung & Kwong (2009) have demonstrated how Yourdon’s structured methodology (YSM), a widely used approach in software or large-scale systems development, can be adapted to describe a service delivery process so that the emotion flow can be depicted effectively. However, it does not provide insights in how CRM can be integrated into the service process to improve the experience design.

Nevertheless, OMT has been successfully applied by researchers in modelling systems through the understanding of the objects and their relationships. Hence, OMT can fit well to model CRM which also requires the understanding of objects (customers and servers) and their relationships.

The hybrid approach takes advantage of both YSM and OMT. Using the hybrid approach, we can provide a more comprehensive picture of the service process by investigating the process from three different views that are, the view of relationship between customers and servers modelled by OMT, the view of emotion transition and the view of operations modelled by YSM. These views can be further explained as follows:

(i) The object view which describes the objects and their relationship in a system and is called an object model (figure 1). It can be considered as the foundation of a system as they closely correspond to the real situation. In the context of service, the most important objects are customers and servers in particular when we talk about emotion exchange. The advantage of this model is that it can depict the critical objects involved and how they are related. Hence, this model provides a good foundation to understand CRM.

(ii) The emotion view is modelling by emotion transition diagram (figure 2) which specifies when and how the emotion of a customer (an object) is changed. In the context of CEM, we use an emotion transition diagram to depict how the customers will respond to the service actions (Leung & Kwong 2009). Thus, it serves as a model to provide insights for CEM.

(iii) The operation view which is embedded in the emotion transition diagram (figure 2), specifies the operations of a service. It shows the condition and sequence of operations/actions to be performed to generate positive experience. Therefore, it shows the dynamics of the operations and provides insight for operations control, a critical factor for achieving experience with positive emotion (Dasu & Chase, 2010).

AN ILLUSTRATIVE CASE

To illustrate the application of the hybrid approach, we make use of it to model the service delivery process in a restaurant provided by Leung and Kwong (2009).

Step 1 Identifying the objects and their relationship
The purpose of this step is to identify the stakeholders (objects) involved and their relationships among themselves. Each object is uniquely identified by their attributes (figure 1 a, b). Additionally, it can show how the objects are classified and what the components of the objects are. In the context of a restaurant service, we have identified two major objects, namely, customers and servers. On the left hand side of the model, a half-circle symbol is used to denote that customers can be classified into 4 classes, namely, new customer, old customer, corporate customer and VIP. On the right hand side, a circle is used to denote that servers are composed of receptionist, runner, wait/waitress and manager. The large diamond connecting server and customer denotes their relationship, namely, service. Or, we can say service is the action to be performed. In fact, this object model depicted in figure 1 is developed based on the CRM cycle proposed by Peppers & Rogers(1998). It states that to strengthen the CRM, a company must be able to identify the customers (identify the attributes of the object), differentiate the customer (classify the customer) and provide customized service based on the information collected through the interaction with the customers.
Step 2  Modelling the emotion & operations flow by emotional transition diagram (ETD)

ETD is the key in describing a service delivery process for creating experiences with positive emotion and has multiple purposes. It composes of four major parts, namely, (i) the conditions or service environments, (ii) the actions that should be taken in response to different conditions, (iii) the emotional state of a customer and (iv) the sequence of emotional transitions. This diagram serves several purposes. Firstly, it shows the ideal process of restaurant service and depicts how a customer’s emotion is transformed from an initial state to a delightful state (figure 2). Secondly, it provides insights to avoid building experience with negative emotion. Finally, it shows what should be controlled to generate experiences with positive emotion. Though ETD has been used by Leung & Kwong (2009) to describe service delivery, it was not linked with the object model before. In the new emotional transition diagram, based on the attributes of a customer (figure 1b), the actions will be taken differently. For general (old and new) customers, the actions without brackets are performed. However, if a customer is classified as a VIP based on his attributes, additional services specified inside the brackets are also performed (figure 2). More importantly, information is collected during the service delivery to provide more customized service and in turn creating delightful experiences. In other words, both CRM and CEM are linked and supplement to each other.

Step 3 Specifying the attributes and the actions

To implement the service delivery process effectively, we have to specify what attributes have to be updated and how we can make use of the updated information for providing customized service to further strengthening our CRM. Figure 1b shows the attributes used to identify a customer and a list of information to be collected during the interaction with the customers. In case more details are necessary, text specification may also be employed (Leung & Kwong, 2009).

CONCLUSION

This paper demonstrates that the application of YSM and OMT can be coupled together to link up CRM and CEM. On one hand, we take advantage of the OMT to depict objects and their relationships systematically. On the other hand we adapt the state transition diagram to show the emotion flow of the service delivery process. Then, the two models are linked by the shared information. While the object model can identify the attributes required to perform more customized service, the information collected through the service delivery process depicted by the emotion transition diagram can be used to update the attributes of the objects. As a result more customized service can be provided to create experiences with positive emotion. Hence, the hybrid approach, which links the object model and the emotion transition model together, can provide more insights in developing the synergy effect on CRM and CEM.

However, to take full advantage of the hybrid model, one may have to get into the details of the modelling process and identify the key features of both YSM and OMT that help to design experience for strengthening CRM. This research work is under the investigation of the authors.

REFERENCES


Harvard Business Review 79 (6), 78-84.


Figure 1a. The object model of a restaurant with classification shown.
**Figure 1b. The object model of a restaurant with attributes shown**

<table>
<thead>
<tr>
<th>Customer</th>
<th>Server</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification</td>
<td>Identification</td>
</tr>
<tr>
<td>Contacts</td>
<td>Skills</td>
</tr>
<tr>
<td>Profile</td>
<td>Recurring Customer Groups</td>
</tr>
</tbody>
</table>

**Customized Service**
- Escorting <Preferred seat>
- Order taking <Preferred food order>
- Dishes serving <Preferred dessert>
- Billing <Preferred incentive>
  - <Preferred pay method>

---

**Figure 2. The ETD of the Service delivery process**

- **Dotted line** denotes unfavorable service behavior leading to negative emotion
- **Solid line** denotes favorable service behavior leading to positive emotion
- **Upper part** stands for customer action or response while the **lower part** is service behavior of waiting staff
- **< >** denotes VIP services

- **Arrive at restaurant**
  - **Greeting** <Preferred identification>
  - **Relaxed**
    - No table
      - Assigning ticket
        - **Bored**
          - Leaving
            - No recovery actions
              - Frustrated
                - Bad food
                  - No recovery
                    - **Disgust**
          - Food desired unavailable
            - No alternatives
              - **Sad**
                - Food desired available
                  - Order taking
                    - <Special Offer>
              - **Glad**
                - Food desired available
                  - **Content**
                    - Good food
                      - Dishes serving
                        - <Free dessert>
  - Seats
    - Escorting <Preferred Seat>
  - **Interest**
    - **Delight**
      - Value for money
        - Billing
          - <Discount>
    - Not Value for money
      - No compensation
        - **Outrage**
          - Value for money
            - Billing
              - <Discount>