The Development of Customer Relationship Management Model of Education Program in Private University

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Abstract—The objectives of this research are 1) The Development of Customer Relationship Management Model of Education Program in Private University 2) Implementation and evaluation the structure of Customer Relationship Management Model of Education Program in Private University. There are 3 steps of this research which are 1) Developing Customer Relationship Management Model of Education Program in Private University 2) Testing and evaluating Customer Relationship Management Model of Education Program in Private University 3) Improving Customer Relationship Management Model of Education Program in Private University.

The results of this research show that 1. Customer Relationship Management Model of Education Program in Private University includes 4 factors which are 1) Database 2) Electronic 3) Action, and 4) Retention 2. The evaluation and implementation of Customer Relationship Management Model of Education Program in Private University has shown that Customer Relationship Management Model via the usage of Web Application on cloud computing satisfies Faculty of Education Saint John's University deans and lecturers and the overall score is ranked as ‘good’ (μ = 4.46). Current students and alumni are satisfied by Customer Relationship Management Model via the usage of Web Application on cloud computing and the overall score is ranked as ‘excellent’ (μ= 4.80 and μ = 4.75 respectively), and 3. Improving Customer Relationship Management Model of Education Program in Private University by creating a plan to update various information on Web Application on cloud computing which is linked to the database system of students in Faculty of Education Saint John's University for the thoroughly updated data.

Keywords-component; Customer Relationship Management, Education, Web Application on cloud computing

I. INTRODUCTION

Nowadays, the marketing competition among business organizations is getting tenser and tenser which causes firms to bring in customer relationship management concept to manage the relationships of the customers in order to create the stronger bonds with the new groups of customers and retain old customers. This makes the companies survive and improve their competitive potential. As well as other business organizations, education business must focus on the paradigm of proactive strategies in education management more by conducting and adapting the concepts of customer relationships management that are successfully used in business field in the process to create the students’ satisfaction.

Education, so called as Education Program, in Private Higher Education Institution, includes 29 universities and 10 faculties for each university. Mostly taught faculty is Educational Administration and Curriculum, respectively. Educational Administration is the faculty that is established to satisfy the needs and wants of learners.

According to the mentioned advantages, the researcher then innovated a concept to improve Customer Relationship Management Model of Education Program in Private University because,

According to the literatures that are related to the customer relationship management, there isn’t any research that studies about the combination of customer relationships management and marketing mix theories. So, the researcher decided to develop the concept of customer relationships management that includes 8 P’s marketing mix and students’ life cycle in terms of private university education by using Web Application on cloud computing as a tool to make the process more convenient and relate to the life of 21st century people in order to build the good relationships between Education and students. Thus, students will be satisfied with Education service which leads to less number of dropped out students. It is also a part of university management policy establishment
II. RESEARCH OBJECTIVES

The Purposes if this research were:

2.1 The Development of Customer Relationship Management Model of Education Program in Private University.

2.2 Implementation and evaluation the structure of Customer Relationship Management Model of Education Program in Private University.

III. RESEARCH QUESTIONES

3.1 What are the characteristics of Customer Relationship Management Model of Education Program in Private University?

3.2 What are the results of examination and evaluation of Customer Relationship Management Model of Education Program in Private University?

IV. REVIEW OF LITERATURE

A. Customer Relationship Management (CRM)

Berry [2] defined the meaning of Customer Relationship Management (CRM) in terms of business as attracting new customers (first step) and strengthening the relationships with these customers until they have become the loyalty customers and are willing to protect the organization and spread good words-of-mouth about the organization to other customers.

These days, technology has taken a role of creating good bonds with customers and competitive advantages as well. According to the customer relationships management literatures, the concepts of customer relationships management from different scholars are quite similar to one another (Parvatiyar and Sheth [3], Anderson and KeVr[4]) while Witaya Danthamrongkul and Pipop Udorn [5] presented the process of Customer Relationship Management that includes communication technology and can be explained by the Model that is called as DEAR. The components are as the followings:

1. Database is the creation of customer’s database which includes analysis, identifying, categorizing and grouping the customers according to their values and potential that are determined by the long-term companies benefits generating.

2. Electronic is the appropriate usage of technology to analyze and categorize customers. It also creates ‘Touch point’ and spread the information through all possible channels (Cross channel) and units in organization.

3. Action is deciding the marketing activities plan to improve the relationships. The mostly used activities are creating communities and relationships through those communities.

4. Retention is retaining customers by evaluating the customer relationship management and keep the growth of those relationships. The sample factors are customer loss rate, customer buying rate and Share of customer (or Share of wallet).

B. Marketing Mix

The original marketing mix theory or 4P’s was established in 1960 by Prof. Jerry McCarthy [6] which has 4 factors; Product, Price, Place, and Promotion. Marketing mix refers to the marketing tools or strategies that are related to the products, and creates the satisfaction and good relationships between the products and consumers. To implement the marketing mix, Planning (Implementation) and Control processes must be considered to enable the communication between the producers and consumers (Two Way Communication) [7].

Later on, many marketing professionals were trying to develop factors of marketing mix to become 5P’s, 6P’s, 7P’s, 8P’s, 15 P’s, and 19 P’s. And the details of 5P’s, 6P’s, 7P’s, 8P’s, 15 P’s and 19 P’s are shown in table 1.

<table>
<thead>
<tr>
<th>TABLE 1 MARKETING MIX</th>
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</thead>
<tbody>
<tr>
<td><strong>4P’s</strong></td>
</tr>
<tr>
<td>Product</td>
</tr>
<tr>
<td>Price</td>
</tr>
<tr>
<td>Place</td>
</tr>
<tr>
<td>Promotion</td>
</tr>
<tr>
<td>People</td>
</tr>
<tr>
<td>Politics</td>
</tr>
<tr>
<td>Public Opinion</td>
</tr>
<tr>
<td>Physical evidence</td>
</tr>
<tr>
<td>Process</td>
</tr>
<tr>
<td>Provision of customer</td>
</tr>
<tr>
<td>Productivity</td>
</tr>
<tr>
<td>Quality</td>
</tr>
<tr>
<td>Public relation</td>
</tr>
<tr>
<td>Probe</td>
</tr>
<tr>
<td>Partition</td>
</tr>
<tr>
<td>Prioritize</td>
</tr>
<tr>
<td>Position</td>
</tr>
<tr>
<td>Profit</td>
</tr>
<tr>
<td>Plan</td>
</tr>
<tr>
<td>Performance</td>
</tr>
<tr>
<td>Positive implementations</td>
</tr>
</tbody>
</table>

However, for this research, 8 P’s marketing mix proposed by Lovelock and Wright [11] is used as a part of developing Customer Relationship Management Model to be able to relate it to the education field since education business is classified as service business and has curriculum as its intangible and heterogeneous goods. The definition of 8P’s marketing mix in this research are as in table 2.

<table>
<thead>
<tr>
<th>TABLE 2 THE DEFINITIONS OF 8P’S IN EDUCATION ORGANIZATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>8P’s in Business Organization</strong></td>
</tr>
<tr>
<td>Product element</td>
</tr>
</tbody>
</table>
C. STUDENT LIFE CYCLE

Student life cycle in university [12] is the cycle that supports the university to manage student administration, student accounting, teaching and study, and event planning effectively. Student life cycle is divided into 14 steps as followings;

1. Recruitment is that the university must plan and support the unique marketing strategies.

2. Admission is appointing the responsibilities to give the information about university, and answer all the questions about course registration.

3. Transfer equivalency determination is that the university must proceed the credits transferring for the students immediately, and suggest study program and graduation day for the students.

4. Enrollment is that the university should arrange the registration system for the students to be able to register in the different channels.

5. Course registration is that the university should give the details of each course and its fees to the students.

6. Academic advising is that the university should arrange the appropriate advising lecturers to take care of the students one by one from entering the university to the graduation day.

7. Student financial is that the university should help the students to negotiate with their parents financially such as allowing the students to do the payment installments.

8. Examination and grading is bringing in the communication technology to show the GPA of each student.

9. Academic progression is that the university should appoint the advising teacher to follow up the GPA of each student in order to give them suggestion and help them fix their problems efficiently.

10. Re-registration is that the university should create the education project to help students who have GPA less than the requirement between semester such as extra classes.

11. Change of program is the convenience of changing curriculum which tells the students about the disadvantages, advantages, limitations and the effects of changing their courses.

12. On the job training is that the university should find internship places for students and create internship supervision system for the students’ highest benefits.

13. Graduation is that the university should establish the graduation ceremony for students as impressive as possible.

14. Alumni relations) is that the university should have the contacts of alumni for them to take parts in supporting the activities that may develop the institution.

In conclusion, student life cycle in the university according to the concept of Baring Point Management & Technology Consultants [12] can be used in managing the customer relationships in terms of students since student life cycle of undergraduate students and graduate students have the same characteristics.

D. Context about Education Program in Private Higher Education Institutions

Education Private Higher Education Institutions includes 29 university with 10 departments for each university which are Higher Education Administration, Educational Administration, Educational Management, Educational Administration and Leadership, Teaching Science, Curriculum and Instruction, Bilingual Education, Early Childhood Education, Quality System Management and Instruction in both Bangkok and other provinces. The structure of Education Higher Education Institutions management is divided in to 2 forms. The first form is Education Program which deans are responsible for each study program. The second form is Faculty of Education which university president takes the highest responsibilities and there are deans who are responsible for each faculty such as Master of Education and Doctor of Philosophy Program. In the private universities, most of them use the first form which is Master of Education [13].

E. Customer relationships management model for study program (private university)

After reviewing the related literature, this research has brought the concepts of Customer Relationship) 5] 8P’s of Marketing Mix[11], student life cycle by Baring Point Management & Technology Consultants [12], and the context of Faculty of Education Private Higher Education Institutions to develop Customer Relationship Management Model of Education Program in Private University which has 4 factors; 1) database 2) electronic and 3) action which have all the information of 8P’s of Marketing Mix and student life cycle, but 4) retention has doesn’t include S4 and S14 according to the table3.
TABLE 3: CUSTOMER RELATIONSHIPS MANAGEMENT MODEL FOR STUDY PROGRAM (PRIVATE UNIVERSITY)

<table>
<thead>
<tr>
<th>Student life cycle</th>
<th>8P’s of Marketing</th>
<th>Database</th>
<th>Electronic</th>
<th>Action</th>
<th>Retention</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1 Recruitment</td>
<td>Product, Promotion, Process, People</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>S2 Admission</td>
<td>Price, Place, Process, People</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>S3 Equivalency</td>
<td>Product, Process, People</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>S4 Enrollment</td>
<td>Place, Process</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>S5 Course</td>
<td>Price, Process</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>S6 Academic</td>
<td>Product, Process, People, Physical evidence</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>S7 Student</td>
<td>Price, Process</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>S8 Examination and Grading</td>
<td>Process, Productivity quality</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>S9 Progression</td>
<td>Process, Productivity quality</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>S10 Re-registration</td>
<td>Price, Process, Productivity quality</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>S11 Change of Program</td>
<td>Product, Process</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>S12 On the Job Training</td>
<td>Place, Process, Productivity quality</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>S13 Graduation</td>
<td>Process, Productivity quality</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>S14 Alumni Relations</td>
<td>Place, Process</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

F. Web application on cloud computing

Web Application is the developed program or software that can be used in the form of website that processes similarly to the general computer’s installed programs by using many Script Engines such as PHP ASP or Java Script for the web application to be able to process the complicated and different types of jobs. Web Application works as Client – Server, on the other hand, it refers to installing the main software or program on the server and let the Client engine connect to the client system for work accessing which the program users do not need to install the program on the computer. This supports the user to be able to use the program at anytime and anywhere as long as there is the internet connection [1]

Cloud Computing is the service that includes the evaluation, and organizing data and other online system from the services provider which aims to reduce the complexity of installation, support the system, save time, and decrease the cost of computer system and network establishment which have both free and chargeable services. [1]

In this research, web application on cloud computing as the tool to install Customer Relationship Management Model of Education Program in Private University that the researcher developed because for web application on cloud computing, the users do not need to install the program on computer and Web Application on cloud computing installation does not affect the communication technology system management of Higher Education Institutions.

V. CONCEPTUAL FRAMEWORK

For this research, CRM concept of Witaya Danthamrongkul and Pipop Udorn [5] 8P’s of Marketing mix concept of Lovelock and Wright [11] and Student life cycle of Baring Point Management & Technology Consultants[12] are used as the theories for the research as they can be seen in figure 1.

![Conceptual Framework](image-url)
VI. RESEARCH METHODOLOGY

There are 3 steps in Research and Development:

The first step is The Development of Customer Relationship Management Model of Education Program in Private University which refers to gathering the information from documents and research about customer relationship management, marketing mix theories and the context of Education Program in Private Higher Education Institutions to use them as the reference to build the Customer Relationship Management Model of Education Program in Private University and pass the professional test.

The second step is testing and evaluating Customer Relationship Management Model of Education Program in Private University by testing Customer Relationship Management Model of Education Program in Private University at Faculty of Education Saint John's University in the second semester in 2558 B.E.

The third step is improving Customer Relationship Management Model of Education Program in Private University by testing the results from the evaluation in the form of Customer Relationship Management Model of Education Program in Private University to improve the completed version of Customer Relationship Management Model of Education Program in Private University.

VII. DATA ANALYSIS

Descriptive Statistics (mean, standard deviation: SD) are used to analyzed the data in this step by computer program and the definitions are as followings:

- **4.50 – 5.00** means Excellence
- **3.50 – 4.49** means Good
- **2.50 – 3.49** means Fair
- **1.50 – 2.49** means Poor
- **1.00 – 1.49** means Very Poor

VIII. CONCLUSION

According to this research, the outcomes can be concluded according to the steps of process as the followings:

1. The results from the improvement of Customer Relationship Management Model of Education Program in Private University that the researcher has developed has main and secondary factors as shown in figure 2.

2. According to the testing and evaluation of Customer Relationship Management Model of Education Program in Private University, the overall satisfaction score of Customer Relationship Management Model via the use of Web Application on cloud computing rated by deans and lecturers of Faculty of Education Saint John's University is 'Excellence' (\( \mu = 4.80 \) and \( \mu = 4.75 \), respectively).

3. There is the improvement of Customer Relationship Management Model of Education Program in Private University by planning the update of data on Web Application on cloud computing of the student database system of Faculty of Education Saint John's University to gather the updated data all the time.

VIII. Discussion

The research of developing Customer Relationship Management Model of Education Program in Private University has 4 components which can be explained as the followings:

The first component is Database; the database of 8P’s marketing mix that is utilized to analyze customers.

By bringing Customer Relationship Management Model via the use of Web Application on cloud computing to develop the database to gather the students’ biography while they are studying at Private University is the beginning of relationships development between Private University and students. Furthermore, Private University gets benefits from
the recorded students information in the system of Web Application on cloud computing to analyze the needs of students in order to facilitate them in terms of education services one by one which is related to the concepts of Suriya Pumcherm and Prachyanun Nilsook [15]; Jirapong Pongpilasarn and Sakchai Tangwannawit[16] and Edward, Alison and Shazhi [17] which said that the constructing of student database and their activity records will enable the university to facilitate and support them educationally more effectively since the records and data can be used to analyze students’ behaviors. Thus, advising and helping students can be done immediately when the problems occur. This also creates good attitudes for students when thinking about their university which may lead to introducing other nearby people to study at that particular private university. The advantages of Application on cloud computing are that the students and university do not need to install the program or student database that the researcher has developed on the computer or mobile phone, because Application on cloud computing does not require the copyright to be used. The user may also access to web application on cloud computing easily by the use of internet which is related to the concept of Krit Chantraprayoon [1] that states that Web Application is the developed program for the users to use it via Web browser such as Internet Explorer, Nescape, Opera, Firefox ,and the installation on computer and other service provider devices(Server) are not required as long as it is connected to the internet which enables the user to access to the program at anywhere and anytime.

The second component is Electronic; the usage of appropriate technology for analyzing and organizing 8 P’s marketing mix data.

Since Customer Relationship Management Model via Web Application on cloud computing is the technology that helps Education to record and organize the student’s data that is recorded in course’s database accurately, conveniently and quickly. Hence, lecturers and the members of Education can search for the student’s records to facilitate students immediately at any service providing location in Education that students also uses which is related to the research’s results of Natpatsaya Tabtimited [18]; Edward Alison and Shazhi [17] which found out that by using the customer relationships management website, GPA can be organized and evaluated accurately. Moreover, creating the communication channels for advising teachers and students by the use of innovative technology may help the students to contact their advising teacher at anytime and anywhere. Other university members may also use this technology to contact students. In addition, creating the channel for alumni of Education is also related to the concept of Nualsri Songsom [19] that supports the use of communication technology in building the information exchanging point for alumni which makes the global connection of the alumni strong.

The third component is Action; planning the activities to create and maintain the relationships through by the use of 8 P’s marketing mix.

The activities in Education are as the followings;
1. Arranging the appointment with advising teacher continuously in order to let advising teacher know the occurred problems and help students one by one according to the concept of Taneenart Na-Soontorn [20] which states that creating the interactions with students by using advising teacher system that understands the differences of each student will help to lessen the number of dropped out students and maintain the standard of education.
2. Organizing the activities for lecturers in Education program to send letters to current students and alumni in different occasions. This strengthens the bonds of students and lecturers in Education. It creates the good attitudes for lecturers as well according to Duncan [21] which states that creating the relationships with customers especially in the special occasion is another marketing communication to create good relationships with customers.
3. Informing news and activities of Education program continuously will create the opportunities for students and alumni to meet and do the activities together which is related to the research of Jirapong Pongpilasarn and Sakchai Tangwannawit [16] , and Tina Cvahte and Darja Topolsek [22] which states that current students and alumni are glad to give the personal information to the university for informing them the news or inviting them to the university activities.

The fourth component is Retention; maintaining customers by the evaluation of Student Life Cycle inside university. There are 14 steps that are related to the 5 P’s marketing mix.

Customer Relationship Management Model via Web Application on cloud computing has the potential to identify the student’s information one by one. The advising teachers may also check and analyze the GPA of students that they have responsible to take care of. They can help their students to prevent the probation by having too low GPA as well. The evaluation of Customer Relationship Management Model will help Education in PRIVATE University to improve the results of different activities for maintaining good relationships with students. It also create the good attitudes for students to Education in PRIVATE University which leads to the better image of Education in PRIVATE University directly. This is related to the concepts of Parvatiyar and Sheth [3], Duncan [21], Anderson and Kevr [4], Taneenart Na-Soontorn [20], Benjamaporn Kunarangsi [12], and Seeman & O’Hara [23] which states that organization or university should follow up and evaluate the customer or student relationships creation continuously to maintain the standard of education and relationships of private university and students. So, this will reduce the loss of customers and dropped out students. Additionally, the use of customer relationships management via Web Application on cloud computing in checking remained education fees of
students helps them one by one by creating the program of installments for those who have financial problems. This is a way to maintain the base of customers of Education and relationships of Education and students which is related to the concept of Anongnath Ratsirijan [24] that states that giving students time to pay the fees and other service charges is a strategy for their parents to be loyal to the school and introduce this good services of the school to other people.

2. According to the results from testing and evaluating Customer Relationship Management Model of Education Program in Private University, deans and lecturers’ satisfaction towards to usage of Customer Relationship Management Model via Web Application on cloud computing is ‘Good’. This is because Customer Relationship Management Model via Web Application on cloud computing that is constructed has functions that are related to the 14 steps of Student Life Cycle and the context of university which makes deans and lecturers able to record and search for the students’ personal information from entering university to the graduation day. For current students and alumni, the satisfaction rate of Customer Relationship Management Model via Web Application on cloud computing is rated as ‘Excellence’. This is because Customer Relationship Management Model via Web Application on cloud computing is the innovation for education management that is related to the human life cycle in the 21st century that information system and internet play important roles in communication. Moreover, Customer Relationship Management Model via Web Application on cloud computing can be used through Internet Connection that has low connection without the installation of Client Application on cloud computing in checking, to get benefit and students helps them one by one by creating the program of installments for those who have financial problems. This is a way to maintain the base of customers of Education and relationships of Education and students which is related to the concept of Anongnath Ratsirijan [24] that states that giving students time to pay the fees and other service charges is a strategy for their parents to be loyal to the school and introduce this good services of the school to other people.

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IX. Recommendations

According to the research of developing Customer Relationship Management Model of Education Program in Private University, there are several suggestions and comments as the followings:

Recommendations from the research results

1. According to the research, the users of Customer Relationship Management Model via Web Application on cloud computing rated their satisfaction as ‘Excellence’. Therefore, Faculty of Education Saint John’s University should bring Customer Relationship Management Model via Web Application on cloud computing to install on the website of Faculty of Education Saint John's University permanently and should recommend the students to use Customer Relationship Management Model via Web Application on cloud computing in orientation day for them to get benefits from Customer Relationship Management Model via Web Application on cloud computing in checking, improving their personal information, follow the news and take parts in activities provided by the faculty of education.

2. Education Program should establish the policy that brings Customer Relationship Management Model via Web Application on cloud computing to use in recording student’s information in order to benefit from the database of courses’ public relations and giving special promotions to alumni for their further education. Education program should also appoint the responsibility of Customer Relationship Management Model through Web Application on cloud computing so that there is the information update all the time.

Recommendations for the further research

1. In the further research, there should be the improvement of bringing Customer Relationship Management Model through Mobile application instead of Web Application on cloud computing.

2. The further research should conduct the real test of Customer Relationship Management Model of Education Program in Private University in university.

REFERENCES


