CRM-Based E-Business Design (Customer Relationship Management)
Case Study: Shoe Washing Service Company S-Neat-Kers

Tsara Ayuninggati¹, Ninda Lutfiani², Shofiyul Millah³
University of Gadjah Mada - Indonesia¹
University of Raharja - Indonesia²³

To cite this document:

Abstract

S-Neat-Kers is a shoe-washing service firm with problems. S-Neat-Kers is a freshly created SME with problems. The issue at hand is how to acquire new potential clients while still retaining old ones. It is hoped that by creating an e-Business system based on CRM, the company's challenges would be solved. It begins with an analysis based on the CRM phase, followed by the design and development of e-Business applications utilising UML tools. The system is implemented when the application's design and development are completed. Based on the implementation findings, an implementation study was conducted to assess the design's applicability for the company's challenges. As a result, it can be inferred that the application's capabilities can assist businesses in gaining new consumers and increasing sales, as well as processing customer data that can be utilised to retain existing customers, thanks to data that is now held by the business.

Keywords: Customer Relationship Management, E-Business, System Design, Management Information System.

1. Introduction

With the advancement of the internet, a new way for businesses to do business has emerged: online transactions, sometimes known as e-business (Laudon and Travis, 2007). Many studies in the field of E-Business have been conducted, such as Ke and Li (2009) conducting collaborative research as one of the application areas of CRM for successful collaborative applications in CRM, people collaboration, information collaboration, and process collaboration, and then introducing the framework. CRM collaboration apps Yu et al. (2009) suggested a novel approach that allows proprietary data and internet data from small and medium enterprises (SMEs) to be smoothly integrated in CRM. His research identifies three
dimensions for customers, including the use of SaaS schemes and models, the creation of a new CRM prototype, and the use of 1,000 real customers for this trial. His findings reveal that CRM extracts a lot of useful data from the internet and saves a lot of time when it comes to consumer research.

Many organisations are vying to attract clients by offering exceptional service, however the offered services are less focused on particular customer needs, as competition for customers becomes increasingly strong (Darudiato et al. 2006). As a result, their efforts are not yielding ideal results, necessitating the implementation of a CRM strategy to enhance marketing, sales, and services. S-Neat-Kers is a brand-new shoe-washing service with minimal human resources and management. The number of shoes washed and customers is still tiny; the typical shoe only has 17 to 18 pairs after seven months. A graph depicting the growth in the number of shoes imported in the previous seven months is shown below:

![Graph of the Number of Shoes Washed Per Month January 2016 – July 2016](image)

**Figure 1.** Graph of the Number of Shoes Washed Per Month January 2016 – July 2016

Even if the quantity of shoes received fell short of the goal, it was still feasible to boost it. Consumers who wish to place an order submit the shoes and the necessary craftsmanship specifications manually at the moment. In order for the shoe washing service business to grow even more, old customers to stay loyal, and new customers to be attracted, business management must be aligned with customer needs, which can be accomplished, among other things, by better managing customer data and information and employing appropriate methods and technology. Customer data is turned into information needed for promotions, allowing customers to obtain corporate information without being constrained by time or location, and without having to visit the firm. An e-business system based on CRM is one viable option.

The goal of the study is to create an information system to manage customer data, as well as to design and develop e-business CRM-based applications that are more focused on the marketing function, to provide facilities for channelling complaints, suggestions, and criticisms, to provide facilities for online consultations, and to provide facilities for how to pay for washing services.

2. Research Methodology

CRM is an integrated function of sales, marketing, and service techniques targeted at improving income from customer pleasure, according to Kalakota and Robinson (2001). The customer life cycle is divided into three phases: acquire (customers), improve (raise the profitability of current customers), and retain (maintain customers for the long term). Meanwhile, a full CRM, according to Helgeson (2017), helps organisations understand what’s going on in the sales process, track how individuals are more intimately involved in the company’s marketing activities, and track other contacts with company operations employees.
(for example, staff) customer service, manage company activities, manage company projects, and billing / invoicing).

According to Steven Alter, e-business is the practise of using communication technology, computers, and computerised data to develop and manage important business operations such as product design, raw material supply management, production, sales, fulfillment, orders, and service providers. Electronic commerce, according to Turban (2005: 181), is the process of purchasing, selling, transferring, or exchanging things, services, or information through computer networks, such as the internet. E-Marketing is the marketing side of E-Commerce, according to Armstrong and Kotler (2004:74), which is the company's efforts to communicate about the promotion and sale of its products and services over the internet. In addition to hardware, information technology infrastructure includes software such as operating systems (OS), applications middleware, and databases.

To aid in the marketing process and make it easier for customers to acquire firm information, an e-Business CRM-based problem-solving model was deployed. Because the firm still has a small number of consumers, this strategy was chosen. This strategy might be useful for new customers who are interested in learning more about the company's products and services.

There are two stages to system analysis. The first step is to assess the present system through literature reviews, observations, and interviews with relevant parties, including both firms and customers. The second stage is to determine information requirements and express them as-is using UML (Unified Modeling Language).

The object-oriented method is used in the application design and development phase, and the suggested design of an e-business CRM-based system is specified using UML as a system to be. The building of an application model, which is expressed using UML notation, is the first stage in the development of a web application utilising object-oriented concepts. Use case diagrams and class diagrams based on Mathiassen et al. (2000) theory, as well as activity diagrams and sequence diagrams based on Bennet et al. theory, are among the system models mentioned (2005). The second step entails the creation of an e-business CRM system. This system uses the Wix programming language and MySQL database.

3. Results and Discussion

S-Neat-Kers began operations in 2015, with consumers drawn from the company's immediate circle and the surrounding neighbourhood. Now, S-Neat-Kers has its own location and a large customer base. Some individuals consider shoes to be collectibles of various sorts and values, and they take great care of them. S-Neat-Kers took advantage of the chance and now provides services under the slogan "We Know How To Treat Your Kicks," which defines the high-quality services they give.

A positive customer connection is a factor that can influence a company's success. Companies who use the CRM idea are believed to be able to sustain long-term client loyalty, attract new consumers, and improve the quality of their services. CRM's functions include informing consumers and collecting feedback from them in the form of complaints, recommendations, and replies to services provided.

CRM, according to Kalakota and Robinson (2001), has three stages: acquisition, enhancement, and retention. These three steps are used to examine the present system, which is then applied to the CRM application that will be created. The CRM application is built using the steps listed below:

a. Acquiring (Getting Customers)
S-Neat-Kers frequently run campaigns to clarify what services they offer under the present system to attract new consumers. Potential clients will be more aware of the benefits of S-neat-Kers if this campaign is repeated more frequently. Meanwhile, its application to applications is e-business CRM base, which may display information through the website, prospective customers can use forums and the most up-to-date information, and email data that is used to market and provide products and services to potential consumers.

b. Enhancing (Strengthening relationship)
   S-Neat-Kers usually strive to give alternative promotions when the promos offered are less popular with consumers in the present system to enhance their relationship with clients. S-Neat-Kers will make every effort to provide special offers, such as free pick-up delivery without postage. Meanwhile, S-Neat-Kers can show the information needed by consumers by describing some exceptional quality services or some free laundry service promos that can be used by S-Neat-Kers customers through its application to application e-Business, a CRM based.

c. Retaining (Sustain)
   S-NeatKers contacted consumers to give information about upcoming services such as pick-up and delivery, as well as washing. Meanwhile, its application to application is e-Business, a CRM-based system that allows customers to be informed quickly about any promotions that are being held, provide information and congratulations to customers via email, provide information needed by customers online, and provide suggestions and criticism facilities. Customers use this to assess the results of laundry or other services.

Figure 2 depicts a detailed visual representation of the process of carrying out system actions.

![Figure 2. Rich Picture of Running System Activities](image-url)

The system design was developed using Use Case Diagrams, Activity Diagrams and Class Diagrams.

*Use Case Diagram* of the proposed system is as follows:

a. *Use Case Diagram of the Front End* public and customer
Organize your activities into a diagram. A set of activity flows, either business processes or use cases, is graphically shown. This diagram may also be used to represent the action that will be taken when an operation is carried out, as well as the outcomes of that action (Jeffrey L. Whitten, Lonnie D. Bentley, Kevin C. Dittman, 2004: 419).

a. Activity Diagram Front End (Public and Customer)
   A front-end activity diagram example (Home). The public conducts their activities by visiting the S-Neat-Kers web, to which the system responds by showing a home page with some S-Neat-Kers information material on the main page, and then the activity home use case terminates. Products/Services, News Testimonials, Consultations, Criticisms and Suggestions, Book Online, Subscribe, and About Us all have their own activity diagrams.

b. Activity Diagrams Back End (Admin)
   Figure 6 shows an example of a back end (Home) activity diagram. Notifications, Products/Services, Order Lists, News Testimonials, Contact & CRM, and
Staff are some of the other activity diagrams.

**Figure 5.** Example of Front End Activity Diagram (Home)

**Figure 6.** Example of Back End Activity Diagram (Service Products)
The Class Diagram depicts the many classes of things that make up the system, as well as their relationships. The Class Diagram depicts the many categories of items in the system, as well as their numerous relationships and interactions (Jeffrey L. Whitten, Lonnie D. Bentley, Kevin C. Dittman, 2004: 418). The following is an example of a class diagram that represents the use case's object.

![Class Diagram](image)

**Figure 7. Class Diagram**

Interface Design

![Interface Design](image)

**Figure 8. Interface design (Interface) Home, Consultation Criticism & Suggestion, and Online Book**

The platform builder Wix website was used to develop the system in an e-Business CRM-based design in the shoe cleaning service firm S-Neat-Kers. Wix is utilised because it makes it easier to design the layout of a website and offers features that make it easier for people to visit the website, both firm administrators and customers. The programme may operate on a variety of operating systems and hardware, although it is only fully implemented on PC (Personal Computer) hardware running Microsoft Windows 10. Some screenshots of the -e-Business CRM-based interface.
Each programme is thoroughly tested to guarantee that it runs smoothly and is error-free. The unit test technique is used in conjunction with a black box testing approach to carry out the tests. A black box technique is used to evaluate whether all of the application's functions are working properly. Customers can provide information to each other, customers can provide the latest information from the latest news and products offered, provide the latest information in real time, can be used to retain customers, and provide convenience in transactions such as payments and pickup & delivery services are all features that exist in the system that can assist in solving existing problems.

4. Conclusions

Conclusions of this study are as follows:

a. Companies may communicate with prospective new consumers, improve client relationships, and extend marketing regions, all of which are projected to enhance service sales.

b. Customers will be able to quickly examine everything S-Neat-Kers has to offer, as well as testimonials and the ability to give criticism and ideas.

c. Make it easy for businesses or administrators to handle client information such as contact information, comments, and critiques.

To run an e-business using this CRM-based system, human resources must be developed to support the application's operation and maintenance. Other academics could adapt this technology for use in a shoe-washing service business with a larger operational area and the ability to collaborate with partners in multiple Indonesian cities.
References