Customer Relationship Management Approach for MyFamily System: A Framework

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Abstract: CRM is an approach that is widely utilized by companies to increase the customer values and normally, it is adopted by business-oriented companies. There are various studies on the CRM which focused on developing customer-centric systems and strategies. Besides the business-oriented system, there is a need to develop a social-oriented system which can expand the customer relationship between the customer, experts and organization. Thus, in this paper, we describe the framework of the MyFamily system which is a social-oriented system with the aim to strengthen the family relationship. The system offers specific information and experts' consultation for users as options to solve their family problems or issues. Besides the content being complemented with some personal touch, the system will also be integrated with approaches in knowledge management, information retrieval, ontology, taxonomy and visualization in order to enhance the delivery of experts' consultation. This will certainly provide a new direction of the CRM approach that emphasizes on the social-oriented system.

Key words: Customer Relationship Management · Ontology · Information Retrieval · Knowledge Management · Taxonomy · Visualization

INTRODUCTION

Customer Relationship Management (CRM) is not a new jargon in the business-oriented system. The CRM software is normally embedded in the business' system with the purpose to be more customer-centric and has mutual relationship with the customers. According to Couldwell [1], the system will store the customers' information in order to be analyzed and utilized by the company to enhance and customize their products and services (as cited in Payne and Frow [2]. The CRM is also a platform for the business companies to manage their relationship with the customer in which the main functionalities focus on Marketing, Sales and Services [3].

There are many papers describing and elaborating on the CRM in the business-oriented system. The purposes, functions, importance and frameworks are gradually established in the business aspect. However, it is a need to have an in-depth study on the CRM approach in the social-oriented system. The social-oriented system in this study refers to an informal platform for the society to seek for solutions and assistance from the experts in the family relationship matters. A research done by the Selangor Islamic Religious Department shows that there is one divorce case in every six marriages [4]. Therefore, this system is a must in the Islam religion to avoid problems in the beginning of marriage and indirectly decrease the demolishment of the family institution.

In reference to the above problem, the purpose of this paper is to propose for a conceptual framework in developing the CRM system by extending the experts' consultations to solve and strengthen the family relationship. Moreover, the system will also be developed by embracing techniques in knowledge management, information retrieval, ontology, taxonomy and visualization which assist the moderator, experts and users in performing interaction in the system platform.

The remaining sections of this paper are organized as follows: Section 2 explains on the importance of the CRM. The next section elaborates on the related CRM works. The proposed methodology or conceptual framework is deliberated in Section 3. Lastly, the conclusion section offers discussion and concludes the paper.

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CUSTOMER RELATIONSHIP MANAGEMENT

The CRM approach was introduced in the mid-1990s beginning with the Information Technology (IT) vendor community and practitioner community [2]. IT revolution with the emergence of the World Wide Web (WWW) technology has created an opportunity to the business-oriented companies in linking the mutual relationship with their customers [5]. It was a kick start for researchers and practitioners to develop ideas and perspectives on the CRM. However, the definition of the CRM varies according to the scopes and perspectives of the investigated issues.

According to Chen and Popovich [6], the CRM is a combination of people, processes and technology with a purpose of understanding the customers of the companies. It can also be considered as an integrated approach in managing relationship with the customers that emphasizes on customer retention and relationship management. Meanwhile, Seeman and O'Hara [7] mentioned that the CRM is a fusion of business strategy and technology-software set. The technology-software set involves with automation activities and leverages the processes of managing the customer relationship. In the meantime, business strategy places the customers at the centre and core of the company. Payne and Frow [2] has reviewed and examined several papers on the CRM in order to find the definition of the CRM associated with technological aspects. Based on the examination, they found that three perspectives can be drawn whereby they can closely relate to technology solution whereby the focus is only to invest on IT technology and solution by the company. The second perspective is called as wide-ranging technology in which it is a combination of the IT solution and customer-oriented aspect. Finally, the customer centric perspective emphasizes more on customer relationship management with the aim to create shareholder values.

Besides creating a platform to strengthen the customer-company relationship, the CRM changes the marketing strategy of the company. That is one of the functionalities of the CRM [3]. The changes occur when the marketers are able to extract the customer behavior to analyse and predict on the future path of marketing. It also replaces the conventional marketing method by reducing high volume of mass advertisement as well as creating price promotions to their customers. By adopting the CRM also, less focus is given to the customer acquisition but emphasis is now on customer retention [5]. The marketers are also able to customize offerings that suit with the individual customer's needs [8] which can increase satisfaction from the customer's side. Two-way communication and interaction can be conducted when employing the CRM technology. This is a circle setting whereby it enables the company to receive feedback and suggestions from the customers. This approach offers a learning relationship to the company [8, 9].

RELATED WORKS

Currently, there are several studies that emerge on the CRM and social platforms such as the media and social networking [3, 10-13]. According to Woodcock *et al.* [10], the significant purpose of developing the social CRM is building trust and brand loyalty. Meanwhile, Faase *et al.* [12] mentioned that by combining the social platform and CRM system, it leverages the customer involvement and collaboration. Since the feedback and interaction with customers are becoming globally and in large scale, the company must prioritize on the customer to satisfy their needs and requirements. This is because the reputation of the company will be tarnished once they post negative feedbacks on certain products or services [14]. A study that done by Mohan *et al.* [3], has combined three technologies which are the CRM system, social network and web 2.0. This system facilitates on the sales people whereby it is easy for them to make sales prediction, sales campaign and share the sales content with other people in social networking sites. The integration of the current CRM and social networking platforms acted as one stop centre for the customers as they are able to acquire information on the desired products.

The CRM can also be implemented in the education sector like research that has been done by Seeman and O'Hara [7]. The CRM feature is embedded in the student information system with the purpose that the access to the system is able to be performed at the convenient times of the users. The students are the customers of the higher institutions and they were put at the centre of the CRM development. Several techniques utilized in the system include data integration, information retrieval and reporting. In data integration, all functional units are integrated and the processes are synchronized. The purpose is to ensure that all functional units received the updated information on the students. The processing speed and customer service can also be increased when employing this technique. This approach has several challenges during the implementation stage, however, it was a minor aspect compared to the advantages towards the institution. They found that by deploying and implementing the CRM, several people benefit from it including the counselor and admission unit as well as leveraging on the student services and activities.

Moreover, both student loyalty and retention are increased and this can offer competitive advantages for the higher learning institutions.

Knowledge management (KM) is one of the features that can increase the customer-centric focus [15]. By employing the KM, features such as the knowledge transparency, knowledge dissemination, knowledge development and knowledge efficiency enhance the CRM processes which indirectly increase the revenues of the company [16]. A case-based research done by Liew [17] has integrated three main features which are the KM, CRM and strategic planning. In order to integrate the KM in the CRM system, he suggested that the strategic planning must be incorporated so that the company would have a strategic move to ensure competitive advantage. Several crucial areas are thoroughly examined before the integration whereby people, process, technology and content are considered.

Ontology and visualization has also been developed to enhance the CRM system. Visualization helps the customer in performing the searching activity [18]. There are several visualization technologies and tools available to leverage the CRM cycle such as the customer attraction, customer acquisition and customer analysis as outlined by Ganapathy *et al.* [18]. For instance, the visualization feature in product display and presentation can give great impact to the customers as well as the company when embedding the 3D views for the products. This can help the customer to personally feel and imagine the real product. There is a significant value perceived when employing ontology in the CRM system [19, 20]. It enables in explaining the CRM processes and identifies the functionality of the CRM applications. Both inter and intra organizations will benefit from the well developed ontology because it will facilitate the communication and interoperability.

PROPOSED FRAMEWORK

The methodology of this research consists of four main phases which begins with the content development followed by the system development. The next phase is testing and the final stage is the evaluation part. The methodology phase is illustrated in Figure 1 and further explained.

Content Development: This stage requires an analysis on the suitable content before being integrated in the system. Thorough and proper selection must be made on the content in order to make this system unique and able to provide solution towards the user's problems. The content development will be closely related with four modules which are the *e-panduan* (e-guide), *e-dokumen*
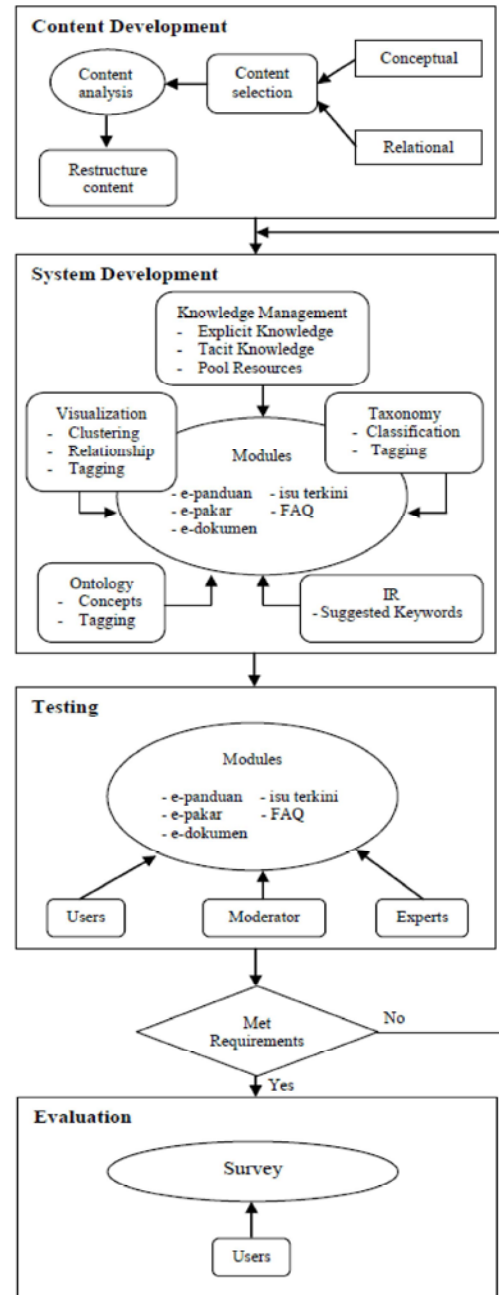

Fig. 1: Proposed System Framework

(e-document), *isu terkini* (current issues) and *soalan lazim* (FAQ). The selection will be made on the conceptual and relational basis. In the conceptual part, the content will be classified and filtered according to the modules' concepts. The concept will be coded for the ontology development. Once the concept is developed, the relational between the concepts is explored. This is to ensure that the information provided match with the developed modules as well as avoiding redundancy.

After the content analysis exercise, the content will be restructured in order to deliver professional content that have a more personal approach instead of rigid outcomes.

System Development: The system development will integrate five major features which are the knowledge management, information retrieval, ontology, taxonomy and visualization. These features will be embedded in the developed modules that assist the moderator and experts as well as users to perform their interaction with the system.

- Knowledge Management – The concept of knowledge management will be embedded in the system whereby tacit and explicit knowledge are gathered together. Direct explicit knowledge can be found in the *e-dokumen* module whereby it enable users to download all forms related to legal family matters. These forms will be classified according to the cases, districts and purposes. The users are also able to find the procedure and rules in this module. The tacit knowledge can be found in the remaining modules whereby the experts' views and solutions are tailored to the users' problems. Additionally, advices are also embedded in the modules based on the experts' experiences in handling previous family cases. This system will be developed with pool resources in terms of the content as well as the people. The content will be developed with explicit and tacit knowledge. Meanwhile, the people consist of experts in family cases as well as a moderator to control the system and add contents.
- Information Retrieval (IR) – Suggested keywords will be integrated as part of the IR feature. Whenever the user performs a searching activity, the system will offer them with some suggested keywords. Therefore, the users have several options prior to retrieving the required information.
- Ontology – The ontology part will be built based on the concept on the developed modules. The tagging technique will also be implied to develop the ontology. The moderator plays an important role to tag the important information to be classified in the ontology part.
- Taxonomy – The taxonomy feature will be integrated by applying the tagging technique which will be done by the moderator. Each content that is inserted into the system and information received from the experts will be tagged. Furthermore, the content and information will be tagged according to the classification of the modules.

- Visualization – The visualization feature will facilitate the users in performing searching activities. Instead of the text form, the visualization component enables the users to visualize the structure of the content developed in the system. The relationship on the content according to the developed classification will be examined before the tagging activity is performed by the moderator.

Testing: The testing activity will be conducted in order to test the developed system. The testing part is meant for validating the functional and correctness of the system. Since the main people who will use the system are moderator, experts and public users, they will play an imperative role in conducting the testing. Failure in delivering the determined functional requirements will be verified during the testing phase. Iterative process will be done if the system fails to pass the validating and testing phases. Modification of the system will be done based on the commented function of the system by the users, moderator and panel of experts.

Evaluation: Once the system is ready to be utilized by public users, they will be required to participate in the evaluation. The evaluation part can be divided into three parts; the first part is to emphasize on the users satisfaction on using the consultation service through the developed system. The sub-sequent part is to examine on the usefulness of the experts' advices and views towards solving their family problems. This part on the reflection activity is performed by the users on their family relationship before and after getting the consultation offered by the system. The final part will be assessment on the system whereby the survey instrument will be developed directly on the functionalities of the system. The survey on the first and second parts will be answered by users who have utilized the *e-pakar* module and interacted with the panel of experts. Meanwhile, the final part will be opened to the users who volunteer to participate in the system survey.

CONCLUSION

CRM plays a significant role in increasing the customer's retention and leveraging relationship with the company. With the explosion of the World Wide Web and emergence of new technologies in the IT era, dramatic increment in business competition is undeniable.

Therefore, business-oriented companies compete against each other to sustain competitive advantage and increase profits. They have to put the customer at their core business to achieve their mission and receive advantage globally.

Despite many studies on the CRM relating to business-oriented issues, the social-oriented aspect must not be neglected. In this article, we have proposed a framework to develop a MyFamily System dedicated to the society as a platform for them to find alternative solutions to their family problems. There are four stages involved in developing the system which will begin with the content development, system development, testing and finally, the evaluation. In this system also, the CRM approach will be integrated together with current techniques such as the knowledge management, information retrieval, ontology, taxonomy and visualization. These approaches and techniques will offer new paradigms of the CRM in a social-oriented system. It also enhances the activities performed by the users, experts and moderator in the system. This system will also create great values and mutual relationship between the users and experts as well as the users and the main stakeholder International Islamic University Malaysia (IIUM).

We are currently in the process of developing the MyFamily System by integrating elements in the proposed framework as explained in Section 4. As for future work, we will explore on the analytical features that can be embraced by the system.

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