Customer Relationship Management System for Barmadas Ltd.

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Abstract: *CRM is the strategic use of information, process, technology, and people to manage customer's relationship with your company (marketing, sales, services and support) across the whole customer life cycle. Customer relationship management (CRM) is a widely implemented strategy for managing a company's interaction with customers, clients and sales prospective. Customer relationship management is a term that refers to practices, strategies and technologies that companies use to manage and analyse customer interactions and data throughout the customer lifecycle, with the goal of improving business relationships with customers.*

I.   Introduction

We are combining the current popular concept of customer relationship management (CRM) and management information system (MIS)together. Meanwhile structured object-oriented methodology has been adopted here successfully. By such a highly efficient system, client can carry out information inquiry, information deletion, information filtering and so on. Empirical results show that the technology which used for CRM performs an important and supportive role. It will help enterprise search for more potential clients, dig for more customer demand, maintain the relationship between customers and improve work efficiency. [1]

As the Barmadas Is hardware supplying company and currently entire system is paper based. Paper based system is time consuming because after enquiry is received from customer company sends survey engineer to estimate the requirement of customers. As survey engineer fills the form and then giving company report is time consuming because only after receiving the report company start processing for Base of Quotation. So customer has to wait until the he/she receives the response from the company. Also data about customers enquiry, Quotation and previous transaction are paper based so there are high chances of loss of data. Customer's also cannot be informed about new offer or new products.
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II.   Customer Relationship Management System

CRM is the strategic use of information, process, technology, and people to manage customer's relationship with your company (marketing, sales, services and support) across the whole customer life cycle. Customer relationship management (CRM) is a widely implemented strategy for managing a company's interaction with customers, clients and sales prospective. Customer relationship management is a term that refers to practices, strategies and technologies that companies use to manage and analyse customer interactions and data throughout the customer lifecycle, with the goal of improving business relationships with customers..

Companies that enter to compete in a new market weaken the existing and solid ones, due to new ways of doing and conceiving businesses. One of the factors that have driven all these changes is the constant change and evolution of technology. Because of this reality, the CRM concept has evolved in such a way that nowadays it must be viewed as a strategy to maintain a long-term relationship with the customers.

A good customer relationship is the key to business success. Relationship building and management, or what has been labelled as relationship marketing, is a leading approach to marketing [2]. The use of customer relationship management (CRM) systems is becoming increasingly important to improve customer life time value.

III. Literature Review

Authors: Cailjan Shen, Bing Han, Quinbio Zhou, Wenfei Song[1]

Their proposed system uses structure oriented approach to create the CRM system. They have shown papers for enterprise marketing, methods to satisfy consumers demands and customer relationship management system. They have combined the current popular concept of Customer relation management (CRM) and Management information system (MIS) together. Meanwhile they have successfully adopted structure oriented methodology. By such high efficient system, client can carry out information inquiry, information deletion, information

filtering and so on. Empirical results show that the technology which used for CRM performs an important and supportive role. It will help enterprise search for more potential clients, dig for more customer demand, maintain the relationship between customers and improve work efficiency.

Authors: Xiaopei Liu, Hui Zou, Teng Fei, Cheng Zhu, Yanxiang Geng[2]
In this proposed system they have used MVC framework for creation of CRM system. Customer Relationship Management Creates a platform for enterprises to collect, summarize, analyse and make use of customer-information, which integrates information technology, network technology, database technology. This thesis firstly briefly analyses the selected topic background, the research significance and development status of CRM system in the world as well as unique characteristics of market in China, talking about jobs and structure of this paper. This system includes contact management, contract management, storage management, finance management, service management, which supply a convenient, efficient, informative platform for Anjou Nature Building Materials Trading Co., Ltd, enhancing competitiveness and realizing sustainable development.

Authors: Pimjai Tongmee, Prattana Punnakitidasharam[3]
In this paper, the comprehensive review of marketing, sales, information technology and service operations management literature is conducted focusing on CRM implementation and service encounter. The conceptual model of adapted technology-facilitated service encounter is proposed from literature review and in depth study of two models which are service encounter triad and technology in service encounter model. The proposed model indicates that service culture, empowerment, control system, contact personnel selection, training and ethical climate are the service components impacted by CRM implementation.

Authors: Masoomeh Kordalipoor, Reza Shahhaosseini, Kambiz Hamidi[4]
This paper is an overview on success factors that could facilitate successful implementation of CRM. The background of literature on managing customer relationships and creating value showed that there is a link between customer relationships and critical success factors (CSF). Large corporations invest huge amounts of money, time, and resources in CRM solutions. CRM is a modern business and management concept which focuses on customer. Customer is one of the important resources for the development of enterprise. For the enterprises, efficient organization and planning of their own resources can help them to achieve long-term development. Customer relationship management (CRM) is a widely implemented strategy for managing a company"s interactions with customers, clients and sales prospects.

Author: Mohammad Almotairi[5]
The aim of this paper is to extend the line of knowledge about realizing the promising outcomes of CRM implementations. To do so, the paper is proposing a conceptual framework for successful implementation of CRM based on integrating CRM implementation phases, CRM components, and CRM success factors. The paper shows the feasibility and usefulness of the framework by evaluating it through a real life case study in Saudi Arabia. Although the promising potentials of CRM as a way of capturing comparative advantages in the face of the growing competition, the failure percentage of its implementations is still relatively high which causes increasing concerns for business organisations. Many studies have addressed the problem of the high rate of CRM failure from different perspectives such as strategy development and success factors implementation.

Authors: Ilan Rahimi, Uri Berman[6]
This paper aims to identify the critical success and failure factors of customer relationship management (CRM) systems – from the project planning stage to the system's successful implementation. They showed that how they achieved their aim through a quantitative analysis of 821 questionnaires and a qualitative study of 20 companies, managers and employees. Our analysis revealed an organically customer -oriented organization type: this type functions as a single unit for the customer's benefit. They also found that aggressive utilization of management support brought opposite results with regard to employees and the venture. Additional findings highlight organizational transparency as a tool for increasing success and decreasing negative aspects throughout the CRM venture. The analysis also includes a graphical mapping of the factors for the CRM life cycle.

Authors: T. Nagai, Li Xiu, D. C. K. Chau[7]
Findings of this paper indicate that the research area of customer retention received most research attention. Of these, most are related to one-to-one marketing and loyalty programs respectively. On the other hand, classification and association models are the two commonly used models for data mining in CRM. Their research provides a roadmap to guide future research and facilitate knowledge accumulation and creation concerning the application of data mining techniques in CRM.

Authors: G. Babu, T. Bhuvneshwari[8]
In this papers, they have proposed a data mining and artificial technique to maintain the customer relationship between company and customers. Accomplishing this process, they maintained a historical database and then they used data mining ARM technique to mine the customer information from this database. they then presented an artificial intelligence PSO technique to provide an offer to the selected customers. This offer does not affect the company revenues as well as satisfies the customers. This process will make a best relationship between the customers and organization and to satisfy the customers forever with company's rules.

Authors: A. S. Mudimigh, F. Saleem, Z. Ullah, F. N. Al-aboud[9]
In this paper they presented the model of customer relationship management (CRM) to describe the association of a customer with the company and enhanced the model by connection with data mining engine (DME) for evaluation the query of a customer or an employee, customer understanding to support the CRM. The main aspect of this paper is DME which is playing commanding role to bear a company on the top.

Authors: Ricardo Colomo Palacios; Juan Miguel Gómez Berbís; Ángel García Crespo[10]
In this scope, a unified methodology centered on CRM solutions is of paramount importance since it has traditionally been linked to either system integration or overall solution design. Based on the two de-facto complementary standards for the implementation and development of Information Systems, namely the ESA and Dyché CRM systems implementation methodology, in this paper, we provide a CRM business solutions customization methodology which pertains independently to the integration and tool maker perspective.

3.1 Report on present investigation
- Customer relationship management is a term that refers to practices, strategies and technologies that companies use to manage and analyse customer interactions and data throughout the customer lifecycle, with the goal of improving business relationships with customers.A large percentage of those live in low and medium income countries which does not have access to proper ear and hearing care services.
- In one of research paper we discovered that the CRM system can be implemented by combining the CRM and MIS together in structured oriented manner thus it can increase the success rate of implementation. [1]
- The use of data mining in the CRM on databases also makes the system more efficient.
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IV. Proposed System

In this Customer Relationship Management system Company's entire working system will be on internet. Company can receive enquiry via email/phone call then survey engineer will be assigned by service manager. As survey engineer conduct the survey rather than submitting the report to the company in paper format he/she can fill the form on the website of company and it will be received by company's Service manager on the admin panel. After receiving the report Service engineer will make BOQ (Base Of Quotation) and send it to the next admin(IT manager) for verification, and then to Sales manager and the Director. If all three admin approve then confirm quotation is made and service manager informs customer via email/SMS. If any of admin disapprove then service manager will have to make BOQ again. After confirmation of the quotation, quotation will be send to customer for approval and then process for delivery management will take place.

4.1 Problem Statement
It takes a lot of effort to produce or get hold of key management reports. It's difficult to share customer information in a team environment and see a reliable and holistic view of all customer interactions. Company needs to respond faster to enquiries. Managing the customer and employee data on paper based system is hectic and very time consuming. Supply exceeded demands of most products. Only protection available to supplier of goods and services was in their relationships with customer. The CRM will solve this problem by putting company's entire working system on internet.

4.2 Enquiry Management System
The first phase of the system is enquiry management system in which customer sends enquiry via mail or phone call then service manger processes enquiry and stores it in database. Then service manager assigns service engineer for survey. Service engineer will fill the survey form on site according to customers

requirement which will be stored in database. Then service manager will process on enquiry to make quotation. This quotation will be stored in the quotation database which will be accessible by IT manager, Sales manager and director.

4.3 Quotation Management System

In the quotation management phase service engineer will make base of quotation according to customers enquiry and send it for approval to other three admins. When all three admins that is IT manager, Sales manager and director approves the base of quotation then only it is forwarded to make confirm quotation. If any of admin disapproves then service manager has to make new base of quotation. Same process is done for confirm quotation, after approval of all admins quotation is sent to customer for confirmation.

4.4 Delivery and Sales Management system

Sales management phase is sales manger makes proforma invoice for the confirm quotations and send it to customer. Customer will confirm it and proceed to the payment. Sales manger will create bill and send it to sales manager. Then delivery engineer will deliver products to the customer.
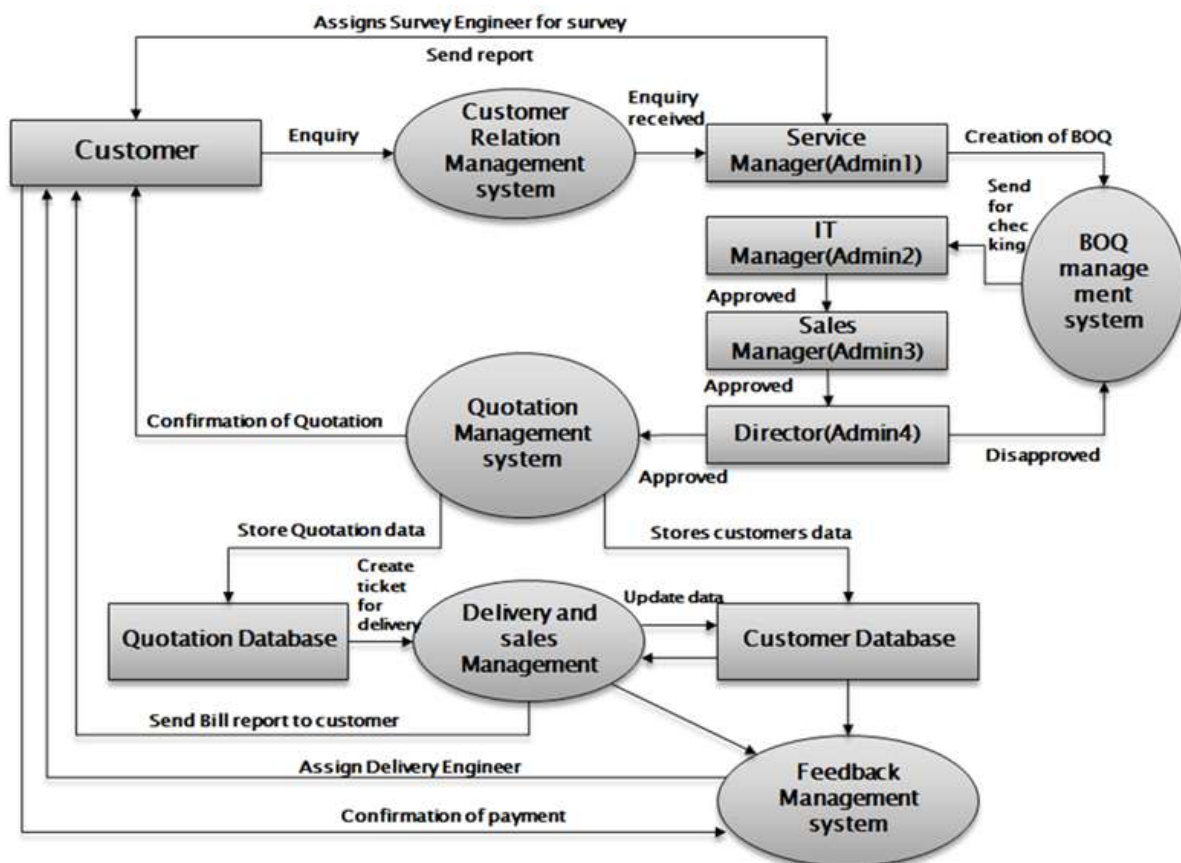

Fig. Control Flow of Customer Relationship Management System.

V. Conclusion

Customer relationship management is based on customer because survive was made in the global market and focused on the customer and the customer is becoming a key factor for the small and big companies.

Thus implementing the above system will have following benefits:

1. Reduction in Operating cost
2. Development of abiding relationship with customers.
3. Simplification of marketing and sales processes by understanding customer needs
4. More success in attracting new customers and closing deals faster, through quicker and more efficient responses to customer leads and customer information
5. Better customer service - through improved responsiveness and understanding that builds customer loyalty and decreases customer
6. Building up better communication within the organization.

References

Journal Papers:

[1]   S.Ummugulthum Natchiar "Customer Relationship Management Classification Using Data Mining Techniques", International Conference on Science, Engineering and Management Research, 2014, pp 223- 234.

[2]   Bergeron, B. Essentials of CRM: Customer Relationship Management for Executives. John Wiley & Sons. 2001.

[3]   Bibiano, Luis H; Pastor, J.A; Mayol, E. Organizational Issues in CRM System Implementation Projects. Proceedings of the IADIS 2009, Barcelona.

[4]   Ruey-Shun Chen, Ruey-Chyi Wu and J. Y. Chen, "Data Mining Application in Customer Relationship Management of Credit Card Business", in proceedings: International Computer Software and Applications Conference (COMPSAC'05), IEEE, 2005.

[5]   Abdul Wajid, Pan Junjun, Adeel Akbar, Muhammad Ali Mughal, "WebGraveStone: An online gravestone design system based on jQuery and MVC framework", *Computing Mathematics and Engineering Technologies (iCoMET) 2018 International Conference on*, pp. 1-6, 2018.

[6]   E.W.T. Ngai , Li Xiu , D.C.K. Chau, " Application of data mining techniques in customer relationship management: A review and classification" published in the International Journal " Expert Systems with Applications 36 (2009).

[7]   R. Forsyth, Six major impediments to change and how to overcome them in CRM in 2001, Tech. Rep., 2001. Available from: <http://www.crmguru.com>