

A Framework for e-CRM Implementation in Health Service Industry of a Developing Country

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Abstract— currently, all of the industries dealing with the issues of business competition and technological environment and health service industry is not an exemption. On the other hand, the concept of Electronic Customer Relationship Management in the context of health care in developing countries is another face of the challenge. Since, utilization and implementation of e-CRM is not well experience there so, the issues or challenges in this field have not being critically identified and analyzed. However, e-CRM like other organizational concepts cannot be managed properly unless be planned so comprehensive framework is an essential need to scheme the implementation and follow up its accomplishment. In this perspective, the paper has attempted to present a framework for e-CRM implementation by identifying the key factors and their principles in Health Service Industry in developing country of the Middle East, namely Iran in order to enable health service providers for assigning their resources where maximum benefit and customer satisfaction can be achieved.

Index Terms—Electronic Customer Relationship Management, e-CRM implementation, health service industry, key factors

I. INTRODUCTION

In today's world, accelerate of technology developments have forced the healthcare providers to use the Information Technology in order to improve the quality of services, treatments and medical cares. But, the most critical issue for all the healthcare industries is: How to use the Information Technology to achieve the improvements [1]? In business perspective, Information Technology should be used to providing the low cost platform in order to effective process and high revenue [2]. In this perspective, patients are the one and only customers of healthcare providers who have directly received and perceived health care services. Therefore, customer satisfaction in healthcare services is one of the critical points for effectiveness and improvement in the industry [3]. Currently, enhanced society knowledge toward health care issues and service quality levels then increased the number of medical centers make it more difficult for all the healthcare providers to absorb and retain the patients rather than past [4]. Moreover, this growth in knowledge and market, provide the widen scope for customers to selecting the desirable service so the organizations will be succeed which take the competitive advantages and seriously attempt to satisfy the customers [5]. These days Iran's healthcare also deals with the issues of contemporary business competitions and technological environment. Recently, health industry of Iran faces unique challenges, including the need of obtaining

patient information for improvement, a great deal of different stakeholders, the patient's need for support, trust and empowerment. Nevertheless, hospitals of Iran are less likely to consider new approaches or technologies for overcoming these issues [6]. Therefore, this paper has discussed the need of appropriate business strategy and technology like Electronic Customer Relationship Management for increasing customer satisfaction and aims to present a strategic framework for e-CRM implementation by evaluating the key factors that would facilitate the procedure in health service industry.

II. LITERATURE REVIEW

A. Importance of e-CRM in Health Service Industry

Customer Relationship Management (CRM) is a customer focus business strategy for acquiring, retaining and increasing profitable customers in order to gain customer satisfaction and loyalty [7]-[8]. Along the internet application movement in businesses the CRM has enhanced companies' capabilities by providing access to their customers and supplier through the web. This communication via the wireless web and web experience is called Electronic Customer Relationship Management (e-CRM) [9]. e-CRM involves web channels integration into the organization's CRM strategy for driving consistency within marketing initiatives, sales and Customer Service Support (CSS) channels. In other words, the need of services quality improvement and meeting patient's satisfaction have been pushed the health service industries to consider new Information Technologies and Strategies like e-CRM to facilitates the process of acquiring and maintaining relationships with their customers more effective simultaneously provide the desirable levels of serving customers [10]. Recently, patient concept has been changed from the one who was merely recipient of care and medical decisions to those who actively participate in their healthcare. This change influenced the entire healthcare industry and has spread out it as a movement. However, the express increase in the amount of medical information has pushed health care providers to confront a critical issue of Information Technologies utilization in order to manage large amounts of customer information for improving the customer services quality. Since, patients information and its' manipulation plays a crucial point in managing relationship with customer and delivering service to them therefore, actual need of e-CRM is feeling in health industry. Moreover, the ability of e-CRM to support business-to-consumer efforts along with standards and Web-deployment technologies for ensuring patient connectivity make e-CRM more useful in health care [11].

B. The Need of e-CRM in Iranian Healthcare

The Iranian health service providers need to adapt themselves as far as possible to contemporary technological environment for retaining their longevity in the market. Customer relationship management (CRM) as a useful tool will lead them to enhance the service capabilities, make better decisions and improve performance. Furthermore, e-CRM would enable them to provide specific services to a certain customer to create increasingly intimate relationships with their customers and thereby achieve a competitive advantage [12]. These days Iranian managers and executives are struggling to tackle contemporary business and technological challenges in the healthcare industry. In other words, the current health service industry of Iran is falling behind the issue of management with respect to adopting and managing technology and automation. Iranian healthcare managers and executives in compared with their counterparts in other industries do not have enough business and technology skills to be able to utilize latest automation and technology [10]. The industry is far less ready to do the latest utilizations and indeed it just takes preparing steps to exchange data in order to patients' satisfaction while other industries in service or manufacturing are already searching for ways to interconnect data. Moreover, the development of e-CRM in Iran is still in its infancy and the absence of strategic frameworks would be one of the significant reasons for avoiding CRM upgrading and e-CRM project failure [13]-[14]. On the one hand, according to a survey done in Hospitals of Iran [14] inappropriate behavior to patients or their relatives and delay in receiving services are parts of frustration that customers deal with usually. The problem of long waiting time and delay in receiving services results customers' dissatisfaction and patient resentment. These particular problems make it clear the need and necessity of useful management strategy like e-CRM in the current health service industry of Iran. On the other hand, patient communication and access to their treatment could have significant impact on their treatment. For instance, good communication will reduce their stress and anxiety [10] or patient ignorance and unsafe feeling will cause longer treatment consequently lower satisfaction and cause paying unwilling for their treatments [15]. That is why considering customer satisfaction by healthcare providers noticed as one of the key factors in their strategies and significant criteria of long term feasibility and success under competitive situation. In this perspective creation and development of conceptual frameworks in order to implementing Customer Relationship Management concepts, strategies and systems in health care industry will defiantly cause improvement in the business.

C. In order to e-CRM Implementation

Developing a CRM solution often is the matter of complex integration between software, hardware and adoption to the real world. Reference [16] proposed an eight-phase CRM development cycle for creation of CRM solution. The phases

namely are: "Planning, Research, system Analysis, Design, Construction, Implementation, Maintenance and Documentation, Adoption". Reference [17] also suggested a process-based conceptual framework for strategic CRM development by identifying key elements in each processes of Strategy Development, Value Creation, Multichannel Customer Experience, Information Management and Performance Assessment. Indeed, most of the CRM and e-CRM frameworks emphasized on integration of people, operations, processes and marketing capabilities through Information. However, organization also needs to align the business process with customer-centric strategy and support it by technology. Therefore, it can sum up to the point that e-CRM is about three component which are People, Processes and Technology [17] - [18]-[19]-[20]. On the other hand, there are enormous organizations which invested significant amounts of money in Customer Relationship Management however, majority of these initiatives end in disappointment [21]. More often the failure has causes disillusionment but instead of blaming the technology for failing in its promise, the organization can traced back the steps taken to plan, organize and implement the project [22]. Several reasons of failure in e-CRM implementation identified as systems were implemented in organization by inexperienced consultants or executives and do not involving people (users or customers) in the processes of system designing and developing [19]. In other words, the diverse group of employees like senior managers to marketing managers and users ranging from various fields such as sales, engineers, service staff to customers will use the e-CRM system. Therefore, the factors such as user performance (functionality) and reactions to the system (usability) need to be observed, recorded, and analyzed in order to implementing e-CRM [23]. Moreover, the significant problems of organizations in e-CRM implementation revolve around change management. In this perspective, after the Strategic Planning of project was done Change management is the next step in order to successful CRM implementation. Strong involvement and executive leadership of Top Management plays important role on managing the change process in the project. Although, perfect analysis of IT, Technology considerations and Project Management are the other essential phases in order to succeed in implementation [22]. Therefore, implementing Electronic Customer Relationship Management depends on a allocating of organizations resources and involvement of people, process and technology so there is a need of effective framework to organize the components into meaningful structure. In this perspective, based on related research some of the key factors that strongly influence the e-CRM implementation and can assist this paper to form a framework will be discussed in following paragraphs.

D. Key Factors of e-CRM Implementation

First and foremost, *identifying resistances* in e-CRM project will able organization to manage, reduce and

overcome the identified resistance [19]. There could be so many resistances toward implementing a new strategy or system like e-CRM but the most common resistances would be “People resist to change” [24], “The user or employee resistance to adopt a new system”, “Budget” and “Time of the implementing process” [19], “System functionalities and fear of facing the unresponsive or complex system after implementation” [25]. Identification of resistances can be useful in terms of usability because they guide user behavior and affect the actions taken by managers while implementing computer based strategies and applications such as e-CRM [19]. On the other hand, the *Top Management* plays significant role in implementation process. The expected objectives, goals or benefits from e-CRM implementation should be specified right from the beginning of the project and in order to achieve them the technology should be chosen. Moreover, managing and exclusive leadership of the change process in order to implementation and spreading the same vision throughout the organization, every position and all levels of employees is particular role of managers [26]. Although, e-CRM projects are strategic initiatives so effective decision making and actively support of top management is need throughout the implementation. In sum, the level of Top Management support and commitment will determine e-CRM success or failure [27].

Furthermore, *e-CRM technology* plays the role of facilitator to the Customer Relationship Management initiatives. Large amounts of customer data would process by the technology and these customers information will clarify the opportunities for organizations to create new business strategy in order to support the client needs. The technology provides easier tracking and analyzing customer behavior by retrieving information through customer database [28]. So, the e-CRM technology definitely would be a great support in the e-CRM implementation and performance but, in order to gain the support the technology initiative must be driven and aligned by business goals [23]. Top management should prioritize the business criteria that will guide configuration of technology and make business the driver of the technology. It is because, if the technology does not directly assist the organization better serve customers, it probably does not need that technology. Since, technology plays remarkable role in running the business for organizations so it will complete the overall goals and business objectives [29]. On the other hand, *IT infrastructure* and Network structure are involved with the customer databases and data warehouse. The customer databases and data warehouse are important for collecting customer information and support the knowledge flow in organization so worthy database system will lead personnel to use customer data easy and in effective way. Organization IT infrastructure should be customized and well fit [30]. IT infrastructure of organization should be capable of supporting the mechanism of e-CRM system and technology so, organization should consider and plan the IT infrastructure to be well-balanced and add advantage to the project.

Implementing a Customer Relationship Management strategy is about involving a wide range of personnel and the CRM operations supposed to support by them so, the personnel should be quite knowable about it [22]. In other words, employees are the internal resources that could maximize the potential result of e-CRM [24] and Top Management should consider their potential and skill capabilities before starting the e-CRM development and implementation in order to arrange proper *training program*. Investing in training to empower end users and staff on how really the strategy will work should cover the critical points such as e-CRM importance, How customers deal and the way that system will help organizations and staff deal with customers. The crucial point relates to managers who may need specific and particular training on the e-CRM in order to spot problems in implantation process faster and lead them in the right direction [16]-[29]. Moreover, the dominant purpose of e-CRM strategy is to create desirable relationship with customer so it should be *customer focus*. Indeed, knowing about customer lifestyle will lead organization to choose the right channel for create the effective communication. Choosing the right communication channel causes better customer data collection which will lead organization to improve the customer behavior analytics and effective customizing the relationship strategies. Thus without customer consideration and involvement the goals of e-CRM cannot fulfill [31].

II. METHODOLOGY

The quantitative research design has chosen for this research. The target population was Administrations, Branch Managers, Managing Directors and IT Managers. The sample size of target population was 150 to 200 in order to get the acceptable reflection of the population. In addition, Non-probability sampling technique has applied as sampling method. Questionnaire survey distributed in fifty hospitals and clinics and 150 respond has collected. The questionnaire survey was adopted from the literature reviews and targeted Iranian health service providers, public hospitals and private hospitals. It has to be mentioned that the questionnaire was made initially in English and then subsequently was translated into Persian language for those who are not familiar with foreign language. The pilot testing has been implemented in order to revisit the research questions and ensuring about ideas relevancy. In consequence, the necessity of ethics in this research was considered to be ensuring that no one harmed from the survey and participants' privacy rights had protected. The respondents participate voluntary and based on their willingness and also treated confidentially. On the other hand, according to the research objective the data collected regarding to key factors of e-CRM implementation and their considering issues base on their importance in the implementation process in order to frame the final framework.

III. DATA ANALAYSIS & FINDINGS

The primary research findings have presented overly in Table 1. The following Table illustrate the key factors of e-CRM implementation and their concerning issues in order of importance. The key factors and their considering issues and principles will facilitate the e-CRM implementation. The participants were asked to rate or prioritize items of each section in order to their important roles in that phase. The level of importance and priority scales symbolized by numbers such as 1=Important 2=The Most Important 3=Normal 4=Unimportant and 1=First Priority 2=Second Priority 3=Third priority 4=Last priority. In consequence, the factors and their considering principles which have presented in table below are in sequence of the importance and priority with highest turn out in their level.

Table1. The Key Factors and their considering principles in e-CRM implementation

The Most Common Resistances	Need of Organizational change	44%
	Time and budget	58%
	Fear of facing complex or unresponsive system	49%
	Employees unwilling to adopt a new system	46%
Top Management Most Important Roles	Change management	54%
	Considering employees potential, capabilities, training	54%
	Set technology	46%
	Decision making	43%
The Appropriate Business objective in Technology setting	Customer satisfaction	42%
	Customer Service	37%
	Customer Increasing	21%
The Most Important Factors in IT Infrastructure	Support Knowledge flow of Organization	62%
	supporting e-CRM system and Technology	62%
	Assist in usage of customer data	59%
Trainiang Programs Concepts	How to use the e-CRM system	59%
	How e-CRM will helps staff to deal with customers	52%
	How customer will deal	49%
	e-CRM importance	44%
The Most Important Factors of Customer Focus	Customer behavior analytics	55%
	Customer touch points	43%
	Customizing relationship strategies	36%

The final framework explains the interconnections between variables that are important and related to the research problem collected through primary and secondary researches. The framework for e-CRM implementation covers the key factors of implementation in order to facilitate the implementation process in Iranian health service industry. The main elements and criteria in each of these key factors

based on their importance are discussed in the following subheadings.

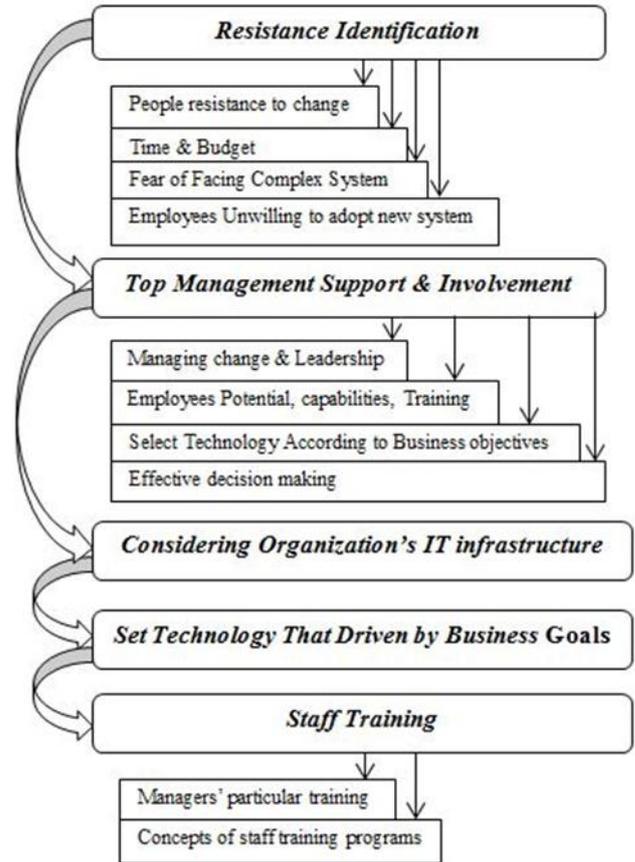


Fig 2. Final Framework

A. E-CRM Resistance identification

The most common resistance toward e-CRM is “people resistance to change”. People refers to managers, employees and business owners that are against to any shift or alteration in their routine organizational environment so it is the task of e-CRM executive director to convince the organizations people by clarify the e-CRM advantage and get them ready and ensure for developing and implementing a new strategy like e-CRM. The next common resistance to e-CRM related to “Time and Budget”. The concerns about the time duration to implement e-CRM and its required budget are an important resistance towards e-CRM implementation. The other resistance that makes Iranian health industry against implementing e-CRM is “the fear of facing to the unresponsive or complex system after implementation”. Indeed, they find e-CRM systems complex or unresponsive and make them avoid implementing. In other words, as long as managers or staff are not aware of e-CRM and its potentials the fear and doubt about the systems is existing. The last resistance to e-CRM related to “employees unwilling to adopt a new system”. Since, employees are the most valuable resources of the organization and they will run the system so their concern, interest and their attitude towards e-CRM is

crucial in implementation. In this perspective, training staff plays a significant role in order to make employees ready for adopting e-CRM. Thus, employees' willingness also is one of the determinants for Staff Training Programs which will be discussed further.

B. Top Management Support and Involvement

The significant issues that Top Management needs to focus in order to begin the implementation process and also consider them during process have analyzed based on their importance. The most important ones are "Managing change and leadership" and "Consideration about Employees Potential, capabilities, and their Training". Since, any new strategy or system often lead organization to change so directing, managing and leadership of the organizational change would be one of the critical tasks of Top Management in e-CRM implementation. In other words, there is a need of creating a positive attitude about the organizational change and coherent vision among personnel in order to effective collaboration in implementation. However, considering employees' potential and their skill capabilities will identify the actual level of required training programs. The training programs will improve employee's ability, makes them capable in terms of IT facilities and technologies, involve them in the implementation from beginning and eventually makes them accept the changes and avoid any rejection. Last but not least, "Set Technology According to Business objectives" is the other critical role of Top Management since, technology plays remarkable role in running the business for organization so considering business goals in order to technology set up is needed. Therefore, "effective decision making" in process will lead the implementation to success although the poor decision making can change the whole process to the failure.

C. Technology Driven by Business Goals & Objectives

The Technology will assist organization to better serve customer so it is necessary that be align with business objective. In health service industry the e-CRM Technology should be aligned and driven by objectives like Customer satisfaction and Customer service.

D. Organization IT infrastructure

The most important issues in terms of organization's IT infrastructure are the capability to support the knowledge flow in organization, mechanism of e-CRM system and technology. Then, the other criterion is that the infrastructure assists the usage of customer data.

E. Staff Capability & Training

In order to emphasize on improving employees capability, arranging the training program and courses are critical issues so in this perspective the following points are identified to be noticed. First of all there should be a particular training for managers besides normal personnel and end users, managers

from the first line to the top who are involved in e-CRM needs to be fully understand the e-CRM strategy and Technology in order to spot problems in implementation process faster and leading procedures to right direction. On the other hand, the training program for other employees should cover the specific concepts to make them capable and knowledgeable on e-CRM essence and processes. The important concepts to cover in training program according of their priority are: How to use the e-CRM system, how it will help staff to deal with customers, how customer will deal and the importance of e-CRM.

F. Clear customer focus

The customer behavior should be analyzed by data because this "Analytics of customer behavior" is the most important issue in order to being customer focus in e-CRM project. Moreover, "Customer touch points" which make customers interest, encourage and involve in implementation need to be notice. Then, there should be customization of relationship strategies in order to serve and satisfy the customers from e-CRM implementation.

IV. CONCLUSION

The final framework indicates the stages, considering factors and principles that a service provider organization needs to focus in implementation of e-CRM. The implementation process should begin by e-CRM resistance identification in order to manage them and conclude with stability assurance. Based on the literature that reviewed top management should manage the Organizational change, support all the actions and consider the employees' capability for managing required training courses. Training programs should cover significant concepts in order to improve staff ability. Besides, identifying business objectives and considering Organization's IT infrastructure for selecting the suitable Technology is other critical steps in implementation. It is necessary that organization's business goals and IT facilitate be aligned. Last but not least, the customers should be considered and involved in the process. The critical point is all the considering issues and factors are related to each other and have strong relationship as well. It has to be mentioned, various researches have been done in the field of e-CRM but this is one of the first empirical studies on e-CRM implementation in health service industry in a developing country namely Iran. The developing countries like Iran need more studies on In-depth implementation process. Indeed, implementing e-CRM in health service industry of Iran is an earlier stage and the result of it can be realized after several iteration and repeat through transformation and implementation. Moreover, retention of implementing e-CRM would be further refined the key factors or principles. In sum, e-CRM implement in the industry will add more valuable findings for the studies and eventually more desirable framework would be proposed based on these experienced findings.

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