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Information Technology (IT) as An Improvement Tool For Customer Relationship Management (CRM)

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Abstract

In this paper, it has been tried to evaluate influence of information technology – as a key factor – from different aspects in order to create and manage direct relationship between organizations and their customers. A framework is presented to develop required infrastructure for effective and sustainable relationship between customer and organization. It uses modern information technology tools as input to collect useful data from customers. Then, data are collected and needed processes are done in customer relationship department of organizations. Results are improved customer relationship, sustainable competitive advantages and reduced costs of organization.

Keywords: Customer Relationship Management (CRM), Information Technology (IT), Business

1. Introduction

The use of information technology (IT) in marketing has been well established and has gained much attention from researchers and marketing practitioners. The concept of database marketing has existed since the 1960s and experienced its rapid [1]. Rapid progress in IT is allowed new methods of collaboration between corporations and customers. In the business world, management recognizes that

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customers are the core of a business and success of a company depends on effectively managing relationships with them [2].

Borke et al. (1999) discussed effect of IT on marketing fields and management and they have emphasized on reconfiguration of new marketing that utilize advantages of web technology [3].The advent of the Internet in commercial use in 1994 and onwards created an additional task for IT management: to transmit information to customers and secure orders worldwide [4].

Customer needs and expectations have to be considered by all staffs in organization and they have to identify those needs and expectations and try to enhance customer expectation level that is possible only through effective and proper relationship with customers. Still, many of business managers believe selection of products have to be based on important factor such as information technology. Today, technology provides businesses with systems that can help companies track customers' interactions with the firms and allow the firms' employees to quickly retrieve all information about the customers. This concept is called a customer relationship management (CRM) system [2]. CRM is an old and commercial philosophy that has been born again by development and progress in information technology. The restructuring of the business system is extremely complex in the digital environment, requiring careful planning, modeling and implementation of a customer-oriented approach. The adoption of a customer-oriented strategy is referred to as Customer Relationship Management (CRM) [5].

2. Information Technology(IT)

Investment in information technology (IT) field is one of discussed topics in all organizations. In many cases, investment in this field has been caused many saves in costs. IT has become an essential element of firm capability and a source of sustainable competitive advantage [6]. To achieve this goal, organizations need a right mix of innovative information technology, effective business processes, better data management and new workforce initiatives [2].

IT plays an increasingly important role in almost all aspects of the organization's operations and corporate strategies. Researchers and professionals often assume that investment in IT will lead to gains in both profits and productivity [6].

Accordingly in large industries, accomplishments caused by usage of IT are assessed in saving, more variant performance and proficiency frameworks and in smaller organizations its advantages are more obvious. Also more investment on IT has positive correlation with cost reductions. As other results of IT, it can be mentioned reduction in new product development and manufacturing time, utilizing corporative skills of employees, expanding organization activity areas by creating closer relationship with customers, distributors and partners. Different functions of IT are mentioned by different researchers, and generally IT plays a key role in business of organizations, Fig. 1.

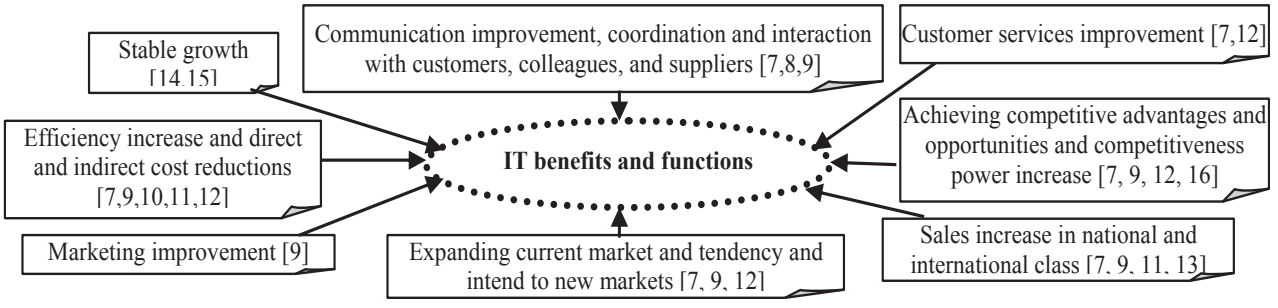

Figure 1. IT Benefits and Functions

3. Customer relationship management

Customer relationship management is based on customer's data and is facilitated by usage of IT. In fact, CRM is a modern and developed tool for data mining of customer's data which is supported by using of various communication points in system and create comprehensive point of view from customers. Customer relationship department acts as watcher in a ship. This watcher enhances quality of products by understanding needs and expectations of consumers and reflecting them to producer.

CRM is an example of relationship marketing that aims to retain customers, build lasting relationships, and maximize customer value for the company [16]. Customer management itself is not a new concept. The development in the mid-1990s of customer management techniques using IT (termed CRM), with the IT being used to track multiple activities of customers, distinguishes CRM from earlier approaches to customer management [17].

In fact, it can be said IT is necessary and vital factor in CRM but is not sufficient factor and it needs using other tools too. In some enterprises, CRM is only a technology which is caused organizational activity improvements by developing databases and sales automation tools and as well as connecting sales and marketing duties. Although CRM is not a new tool, with considering advancement in IT, it has been formed practically. This comprehensive strategy strives to achieve knowledge by customer's data collection and analyze them with regarding to customers through effective utilizing of IT and thereby, establish effective relationship with customers and make common customer-oriented culture and eventually conduct organizations in achieving long-term benefits.

CRM is a designed process to collect data related to customers, to grasp features of customers, and to apply those qualities in specific marketing activities [18]. Early in the conceptualization of CRM in the field of marketing, Parvatiyar and Sheth (2001) explored the conceptual foundations of CRM based mainly on the relationship marketing concept. They attribute the development of CRM to the changes of business circumstances with IT, especially innovation of firms' interfaces with customers and total quality philosophy associated with cost reduction efforts [19].

Compared with the relatively simple database marketing approach, CRM requires more complex and company-wide systems [16]. Therefore, CRM is defined as customer relationship building programs based on IT. Such programs may be directed at loyalty building, but other uses are also in evidence [17].

3.1. New technologies in supporting of CRM

IT advancements have changed different field of marketing and business environment. One of the newest CRM application software which is related to real value of electronic business is E-CRM. It helps companies improve the effectiveness of their interaction with customers while at the same time making the interaction intimate through individualization [20]. Also new kind of CRM which works with wireless device called customer relationship management based on mobile or M-CRM. Customer analysis in analytical E-CRM includes two major procedures: (1) preprocessing data, and (2) building customer profiles from this and other data [1].

This is considered as a tool which empowers CRM with utilizing advanced wireless communication tools. This new technology can even allow call centers to contact their customers more frequently to offer new services and improve the relationship between the companies and their customer [21].

3.2. Variant functions of IT in CRM

From a technological perspective, IT is considered an enabler that allows organizations to foster closer relationships with customers, analyze customer information and provide a coherent view of the customer [22]. Information recording technology and customer behavior analysis allow to companies to identify

good customers easily. No doubt technology is essential to CRM implementation. Collecting customer data, disseminating, using and integrating them within the firm, requires technology [17].

Chircu and Kauffman (2000) argued that a firm can obtain a sustainable competitive advantage if it uses IT capabilities to exploit specific organizational resources that are unique, difficult, or costly to imitate, and if other firms cannot acquire or build them fast enough [23]. IT systems provide acquisition, storage and accessibility of customer information as well as for its analysis which we hypothesize to be both positively associated with performance [24, 25]. Lederer et al. (2001) noted the importance of using IT resources to improve customer relations in a web shopping mall environment, a task that clearly requires an external orientation [26]. Also IT investments in tangible and intangible effects on the organization that will be important in this mechanism is given in Figure 3.

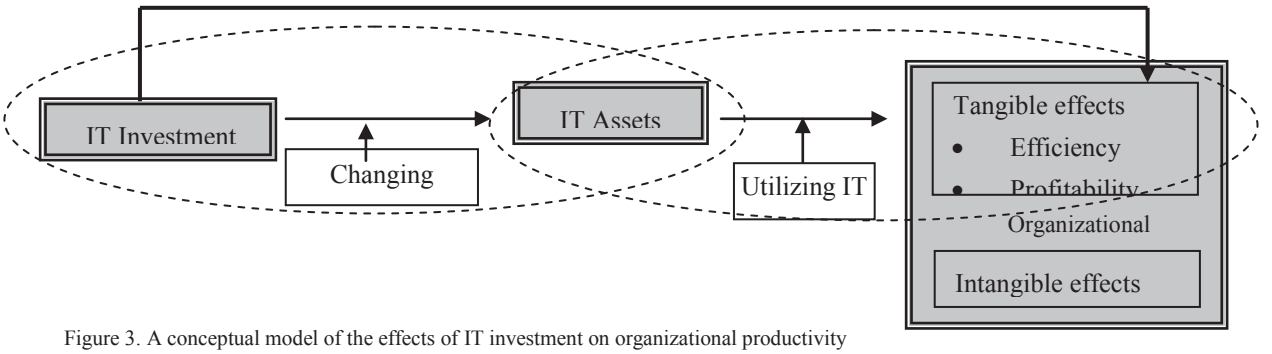

Figure 3. A conceptual model of the effects of IT investment on organizational productivity

CRM implementation can be viewed as the integration of strategic customer data utilization into a loyalty scheme through the use of IT. Improvement programs arising from new business processes, such as CRM, are directed by the IT, almost exclusively. Particularly, the experience of the IT service provider across some CRM implementations for clients was felt to be effective. When IT has been utilized properly, it can help to detain customers by better managing customers based on knowledge and initiating stronger relationship. Therefore, CRM often requires sophisticated IT support.

3.3. Introducing proposed framework

In previous section, functions of IT in CRM discussed from point of view of various researchers. Those points of view are not comprehensive, so a result from key and important functions which include other detailed and effective factors is presented in framework format; see Fig. 4.

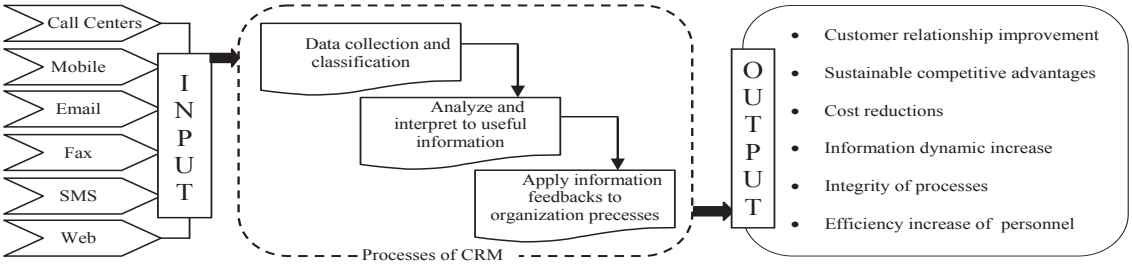

Figure4. Proposed framework: all type of IT tools as input and output will be the results.

In order to better utilization, researchers, contractors and civil engineers can save time and money through proposed preventive and corrective actions, quantization delay factors and finally calculate and compare obtained RPN numbers. It should be mentioned that engineers and employers of different projects should try to produce the greatest improvement with spend less resources. This high efficiency will not be possible except through the prioritization of defects, based on reliable scientific data, so that corrective actions are taken to be as competent and efficient planning Within this framework, all types of information technology tools that organizations and enterprises use them in their business processes are defined as "input". Customer Relationship input channels including web, call centers and mobile technology [27].

Also short message service, telephone marketing activities, e-mail, fax centers are other communication methods that are unitized in collecting customer data. In "processes" step, raw data that are sent from different input channels by using these technologies to organization or company are analyzed and processed by experts. In "output" step, very valuable and useful results and data are concluded. Sustainable competitive advantages [28], cost reductions [10], customer relationship improvement [25], information dynamic increase, communication rapidity, remote access [27], personnel efficienc increase [29], processes integration [17] are the most important and fundamental results of this framework. It is needed companies use all technologies for more effective communication with their customers to maximize these benefits and have maximum output.

4. Conclusions

Based on what is inferable from assessment of using IT effects in companies, necessity of setting special policy in each section of this business can be concluded. For instance, it should be emphasized on infrastructure development including skills and standards and also appropriate legal and lawful conditions have to be furnished. Development of IT helps to improvement relationship of company with its customers by different ways. Including understanding of rapidity and development of e-commerce between companies and organization is very important. For instance, companies can communicate with their customers by providing their products in technology portals.

Collecting and analyzing data about customer patterns, customer behavior interpretation, delivery of products and services to special customers and creation and development of service-level increase models are other results that can be acquired by innovation and creativity in IT area and CRM utilization.

Implement of CRM, however, requires huge investment in IT but it is expected that lead to profitable output as result. Support to expand marketing communications toward customers depend on how marketing is capable to be done based IT. Companies can produce products according needs and expectation of customers by using information technology and storage of customer information and also by advanced analyzing of this information.

CRM as one of information systems in organizations is able to cover and fulfill informative and communicative needs of an organization by combining IT, marketing and services. But 70 percent failure rate for CRM projects is an alarm for organizations to avoid from hasty decision making to invest in this system and provide needed infrastructures including IT before implement of this tool.

References

[1] L.A. Petrison, R.C. Blattberg, P .Wang, ‘‘Database marketing: past, present and future,’’Journal of Direct Marketing, 1997, vol. 11, pp. 109–125.
[2] T. Nguyen, J. Sherif, M. Newby, ‘‘Strategies for successful CRM implementation,’’ Information Management & Computer Security, 2007, Vol. 15, pp. 102-11.
[3] B. Padmanabhan, A. Tuzhilin, ‘‘On the use of optimization for data mining: theoretical interactions and e-CRM opportunities,” Management Science, 2003, vol. 49, pp. 1327–1343.
[4] J.W. Cortada, How Computers Changed the Work of American Manufacturing, Transportation, and Retail Industries. Oxford University Press, New York, 2004.
[5] P. Wilcox, C. Gurau, ‘‘Business modelling withUML: the implementation of CRM systems for online retailing,’’ Journal of Retailing and Consumer Services, 2003, vol. 10, pp. 181–191.
[6] S. Rahimifard, R. W. Bagshaw, S. T. Newman, R. Bell, ‘‘IT tools to improve the performance of metalworkingSMEs,’’International Journal of Production Research, 2002, vol. 40, pp. 3589-3604.
[7] R. Beck, R. T. Wigand, W. Konig, ‘‘The diffusion and efficient use of electronic commerce among small and medium-sized enterprises: An international three-industry survey,” Electronic Markets, 2005, 15 (1), pp. 38-52.
[8] Caillaud, E., and C. Passemard, ‘‘CIM and virtual enterprises: A case study in SME,’’ International Journal of Computer Integrated Manufacturing, 2001, vol. 14, pp. 168-174.
[9] S.O. Migiro, and D.N. Ocholla, ‘‘Information and communication technologies in small and medium scale tourism enterprises in Durban,” South Africa, Information Development, 2005, vol. 21, pp. 283-294.
[10] A. Abouzeedan, and M. Busler, ‘‘Information technology and small and medium-sized enterprises management: The concept of 'firm impact sphere',” Global Business Review, 2006, vol. 7, pp. 243-257.
[11] L. Stuart, ‘‘ICT adoption and SME growth in New Zealand,’’ Journal of American Academy of Business, 2004, vol. 4, pp. 93-102.
[12] Z.A. Tan and W. Ouyang, “Diffusion and impact of the Internet and e-commerce in China. Electronic Markets,” 2004, vol. 14, pp. 25-35.
[13] N. M. Levenburg, “Does size matter? Small firms' use of e-business tools in the supply chain,” Electronic Markets, 2004, vol. 15,pp. 94-105.
[14] B. Lin, “Information technology capability and value creation: Evidence from the US banking industry,” Technology in Society, 2007, vol. 29, pp. 93–106.
[15] N. Lybaert, “The association between information gathering and success in industrial SMEs: The case of Belgium,” Entrepreneurship & Regional Development, 1998, vol. 10, pp. 335-351.
[16] K. Wehmeyer, ‘‘Aligning IT and marketing—the impact of database marketing and CRM,’’ Journal of Database Marketing & Customer Strategy Management, 2005, vol. 12, pp. 243–256.
[17] C. Minami, J.Dawson, ‘‘The CRM process In retail and service sector firms in Japan: Loyalty development and financial return,’’ Journal of Retailing and Consumer Services, 2008, vol. 15, pp. 375–385.
[18] R.S. Swift, “Accelerating Customer Relationships: Using CRM and Relationship Technologies,” Prentice-Hall, Upper Saddle River, NJ, 2001.
[19] A. Parvatiyar, J. N. Sheth, “CRM: emerging practice, process, and discipline,” Journal of Economic and Social Research, 2001, vol. 3, pp. 1–34.
[20] I. Mahdavi, N. Cho, B. Shirazi, N. Sahebjam, “Designing evolving user profile in e-CRM with dynamic clustering of Web documents,” Data & Knowledge Engineering, 2008, vol. 65, pp. 355–372,.
[21] D. L. Goodhue, B. H. Wixom, H. J. Watson, “Realizing business benefits through CRM: hitting the right target in the right way,” MIS Quarterly Executive, 2002, vol. 1, pp. 79–94.
[22] A.M. Chircu, R. J. Kauffman, “Limits to value in electronic commerce-related IT investment,” JManage Inf Syst; 2000, 17(2), pp. 59–80.
[23] E.P. Batislam, M. Denizel and A. Filiztekin, “Empirical validation and comparison of models for customer base analysis,” International Journal of Research in Marketing, 2007, 24(3),pp. 201−209.
[24] R.T. Rust and P. C. Verhoef, “Optimizing the marketing interventions mix in intermediate-term CRM,” Marketing Science, 2005, 24(3),pp. 477−489.
[25] A.L. Lederer, D. A. Mirchandani, and K. Sims, ‘‘The search for strategic advantage from the world wide web,” International Journal of Electronic Commerce, 2001, vol. 5, pp. 117−133.
[26] S. Yang, J. Rhee, “Study of the wireless/wire integration CRM Gateway for the effective application of Event CRM for small and SME,” Computers & Industrial Engineering, 2009, vol. 57, pp. 571–579.
[27] M. Igbaria and M. Tan, “The consequences of information technology acceptance on subsequent individual performance,” Information & Management, 1997, vol. 32, pp. 113−121.