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A conceptual framework to explain the relationship among electronic customer relationship management and electronic customer lifetime value: investigation the antecedents and presentation a structural model

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Abstract

This study investigates the relationship between electronic customer relationship management (CRM) and electronic customer lifetime value and their analysis in the electronic business environment in the form of a conceptual framework. CRM is a tool that different industries, especially in competitive conditions, use to maintain customers and increase their satisfaction. An important concept that arises as customer lifetime value that specifies the expected amount of value that the client in a given period of time creates is undoubtedly related to the benefits that accrue to the organisation. The global nature of business as well as the development of information and communication technology is forcing organisations to take advantage of emerging technologies to maintain their competitiveness. The use of e-business is a prominent example. The results of this study could help both researchers and executives of organisations and businesses with the subject of research, and provide good insights for them.

Keywords: Electronic business (e-Business), electronic customer relationship management (e-CRM), electronic customer lifetime value (e-CLV), relationship marketing;

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1. Introduction

When you look at the competition among businesses around the world, we find that to gain greater competitive advantage among competitors as well as success, we must put the customer at the core of basic data capture and hold them. Customer relationship management (CRM) begins its work in response to this fundamental question; which of customers or customer groups are profitable for the organisation and if they worth a long-term relationship or not, and which should gradually be eliminated. In fact, the CRM is a process for more information about the correct customer needs and behaviors to develop stronger relationships with them. (Peppers, 1999) It is clear that equal attention to all of our customers cannot reach the intended target. Some customers may be of great benefit now or in the future for the organisation, but others may not have much benefit for the organisation. Or even some customers may already not have a huge benefit for organisations, but if these customers are taken into consideration in the future will be very beneficial for the organisation. So companies should pay attention to the long-term interest of customers. This led us to discuss the long-term value of customers. Customer lifetime value (CLV) due to the operating costs and future transactions; note that is the value denominated to the organisation by customers. Customer value analysis for marketing and CRM is appropriate and essential. Long-term customer value is defined as the profit that the customer creates over time for the company (Janny & Huizingh, 1999).

In addition, the Internet has brought a unique opportunity for companies, in order to keep pace with the competitive and global environment to run their business electronically (Beheshti & Sangari, 2007). Communications and information technology, incentives within the enterprise, cost savings and the growth of e-commerce have led organisations towards the use of a suitable strategy to attract, retain and keep loyal customers. This caused a new technology called electronic CRM (E-CRM). In fact, E-CRM is born of CRM that achieved success in its Internet businesses (Bagheri, 2012). Followed by this discussion electronic customer lifetime value (E-CLV) arises. Since CRM is one of the most important competitive benefits, so understanding the dynamics of E-CRM and effective evaluation on organisational outcomes is critical for e-business (Jarahi & Ardakani, 2009). Opher et al. stated that recently the demand for Web services and applications are on the rise and in this regard, e-commerce companies have found that they must be able to measure their web clients. The purpose of this measure is the expected profit that from now until a certain time in the future of the web client is received by the company. So customer value can be used as a basis for decision-making for new applications, allocation and collection of the budget. A variety of new users are added in the field of e-commerce that customer value can prioritise their requests. Also, resource allocations can be based on customer values. The intelligent ability for such decisions based on the real value of customers can give companies a competitive advantage ahead of other competitors in the market. The term used for this value is CLV, which in the field of electronics is called E-CLV. In fact, E-CLV is born of CLV, in an e-business environment.

2. Theoretical Background

2.1. E-business

For a number of years, the term ‘e-business’ has been one of the most important topics in the field of business and information technology (Iizuka, 2013). Internet-based business can be defined as businesses with an infrastructure to communicate with customers, partners, employees and suppliers via the Internet, extranet and intranet. Internal and external communications in e-business reduce costs, and increase productivity and rapid realisation of business goals of the organisation. In addition, it will improve responses to customer needs, communication with businesses and relationships with suppliers (Beheshti & Sangari, 2007; Tsai, 2015). Moreover E-commerce, Internet and websites have changed the core of business. With all these changes, organisations find that in the face of competition, day by day it will be intensified, such as large markets and large customers. To communicate properly with existing customers is the best source of profitability and growth and return on investment (Bagheri, 2012). Communication tools are the advantages of electronic business that responds to the typical technological needs of industry and to encourage coordinated research activities among members of the industry (Chang, 2010; Kostoff, 2001), In general, there are five advantages in e-business that cause its acceptance: exposure to a broader view of the market, direct and indirect marketing, low cost communication, getting more market share and ultimately improving the company's image; hence the move to implement e-business, Not only does it have considerable advantages for companies but also allows them better opportunities to achieve efficiency and effectiveness as a competitive advantage (Janita, 2013).

2.2. Customer relationship management

CRM is not a new concept. Today based on this concept, businesses learn how to work and communicate with customers in the long run for more profitability. CRM was first mentioned publicly in the 1960s by masters of management science such as Peter Drucker and Theodore Levitt (Levitt, 1981). CRM began its work in response to the fundamental question of which customers or customer groups were profitable for an organization, is it profitable to have a long-term relationship with them, and which should be gradually eliminated? (Kahreh, 2012). In today's business world counting officially, managing the principle that customers are the core of business and the company's success depends on improving managing relationships (Nguyen, 2007). In fact, CRM leads the company toward a customer-oriented marketing instead of production-oriented marketing (Barnes, 1995). Today technology has brought systems for businesses that can help companies for customers to engage with them and exchange information, and thus allow employees to quickly retrieve all customer data. This paradigm is called the CRM system. If used effectively, it can increase a company's ability to achieve its ultimate goal of keeping its customers, and so to achieve a strategic advantage over its competitor (Nguyen, 2007). CRM is a set of interactive processes that aim to achieve optimum interaction between industrial investments and fulfillment of customer needs in order to achieve the maximum profit (Sulaiman, 2014). The CRM strategy is comprehensive business and marketing that unites technology process and all business activities around the customer (Fjermestad, 2003). The CRM process identifies, attracts and retains customers (Saifullah & Nawaz, 2015). Without a doubt, we can say that customers are the most important assets of most organisations. To gain customer satisfaction is a vital position in an organisation's objectives, and managers are well aware that their success in achieving organisational goals depends on satisfying their customers (Yaghubi, 2013).

2.3. Customer lifetime value

Customer value is defined as potential customers interacting with industry during specified periods of time. When the industry understands the customer value and takes the issue that customer value can provide customised services for different customers, then effective CRM can be achieved (Bashiri Moosavi, 2014). Generally, there are four stages in the customer life cycle:

- Potential customers: people who are not yet customers but are the target market.
- Customers who respond: potential customers or potential interest and react to a product or service.
- Actual customers: those who have already used the organisation's product or service.
- Former clients: these people are not the right customers because they have not been as a sales target; for a long time they have bought other competitors' products (Chris, 2002).

2.4. Electronic customer relationship management

Due to the importance of e-commerce and CRM, now we describe E-CRM:

E-CRM is a marketing strategy, where sales and service of integrated electronics plays an important role in identifying, acquiring and keeping customers as the company's greatest asset. E-CRM is a result of fundamental changes in beliefs and business paradigms; that is, conversion of mass and overall organisational approach relationships with different groups of customers to individual and virtual relationships with them through ICT. In other words, it is a business strategy that tends to increase the volume of trade exchange by the company. In fact, it can be stated that E-CRM is the application of web technology and the Internet in order to facilitate the implementation and efficiency of CRM (Sarafrazi, 2007). Today's world is the world of rapid and extensive developments in all sizes. There is no doubt that all countries in the world compete for enjoying the economic, social and cultural benefits and, in particular, receiving a greater share of the revenue and profit to thereby improve quality through the use of information technology. The intense focus on quality of service is a valuable product for the customer and causes their loyalty (Moosavi, 2006). Today, the Internet has been proposed as suitable for many commercial transactions and customers in today's virtual world have different needs, dealing with which through traditional methods is not feasible. Now E-CRM shows new ways for organisations that are obliged to provide the best for their customers. Companies in order to seize power in the market are constantly looking for ways to stay ahead of competitors. Rapid advances in technology leading to increased transparency in a long-term marketing activities and differentiation. CRM is one of the most important competitive benefits. So understanding the dynamics of E-CRM and effective evaluation on organisational outcomes is critical for e-business (Jarahi & Ardakani, 2009) E-CRM purposes:

- Putting the customer at the helm of affairs.
- Move from product-oriented to customer-oriented.
- Create efficient business processes.
- Exploitation of technology.
- Innovation, quality and efficiency in business processes.
- Recovery of sales.
- Profitable.

The main purpose of managing customer relationships is development and long-lasting ties between companies and customers. In fact, the main purpose of an organisation is to create loyalty among profitable customers (Bagheri, 2012). Companies that focus their attention on the needs and demands of their customers put themselves in a better position to achieve long-term success. In many cases, satisfied customers make market entry much easier than competitors and this also increases the market share. There is a direct relationship between E-CRM and investment. Understanding of the volume of investments in an E-CRM project is an essential condition for improving organisational performance. In addition, awareness of external pressures has a certain effect on the decision making. Any attempt to increase awareness could facilitate the adoption of electronics and reduce investment risk. In fact, a customer-centric economy, arising from guiding investment and effort to benefit customers increases the possibility of returning in projects of customer relations (Bagheri, 2012).

2.5. Electronic customer lifetime value

E-commerce sales have shown staggering growth in the past years. Recently, in the e-commerce community interest in using CLV has been created as a basis for measuring the success of websites. In short, CLV can be defined as an expected value of the benefit that customers will develop in the future. Thus, unlike previous measures CLV is a long-term approach. There are two motivations for using CLV as a metric for success of a website. First, the CLV metric can guide marketing efforts so that these efforts are directed towards being more respondents and cause sales increase and will also establish a company with long-term relationships and high customer value (Peter & Putten, 2007). E-commerce companies have understood that enterprise customers are the most important assets and in order to estimate the potential value, it is necessary to take actions. Peter and Putten in 2007 offered a model in the field of e-commerce to calculate customer value based on the Markov chain model. These models develop models that are available in direct marketing by taking a series of new variables required for the evaluation of customer value in an e-commerce environment. Among the indicators of CLV is customer satisfaction. E-satisfaction factors include the following: integrity of information and transactions, communication structure, customisation and access to information (Wang, 2002).

3. Proposed Conceptual Framework

This essay will focus on CRM and customer long-term value with regard to electronic commerce and prosperity in today's business environment. In the upcoming model we will analyse the e-CRM and e-CLV by discussing the factors and indicators related to CRM and CLV and by analysing e-business environment in the current era. A detailed review of the research background, extracted parameters and factors affecting CLV are shown in Table 1.

Table 1. Extracted factors and indicators for electronic customer lifetime value (E-CLV)

Factors and indicators extracted	Authors
The last purchase	(Chan, 2005)
customer commitment	(Marshall, 2010)
Reliability, quality of service	(Kahreh, 2012)
Total purchases during a particular period	(Chan, 2005), (Javanshir, 2008)
Money value that spent during a specific period	(Chan, 2005,)(Sunil Gupta, 2006)
The cost of customer service within the specified time	(Sunil Gupta, 2006)
Estimated time horizon of CLV	
Discount rates, special discount	(Sunil Gupta, 2006), (Silvia Figini, 2010)
The size of the potential buyer market, indirect network effects, the impact of direct buyers network, size of potential seller market	(Gupta, 2006)
Diverse purchasing, centralised purchasing (buying only one product), the mean time between purchases, marketing activities by the organisation, the amount of revenue from customer purchases	(Javanshir, 2008)
Method of payment, proposal smart card, geographic region	(Marshall, 2010)

The extracted parameters and factors influencing CRM are presented in Table 2.

Table 2. Extracted factors and indices for E-CRM

Extracted factors and indicators	Authors
Customer loyalty, gender buyer, buyer education	(Marshall, 2010)
Employee training and employee behaviors, long-term relationships with customers, making customers familiar with products and services, CRM-oriented web design	(Sevgi & Rifat, 2005)
Employee satisfaction, management perspective, customer satisfaction	(Hyung-Su, 2008), (Simmons, 2015)
Senior management support from CRM, quickly responding to customer complaints on the first call	(Hyung-Su, 2008)
Complaints management, intimacy between employees, high-quality service, the timeliness of service delivery, the use of ICT	(Fagbemi, 2011)
Dedicated staff, job satisfaction	(Rootman, Tait & Bosch, 2007)

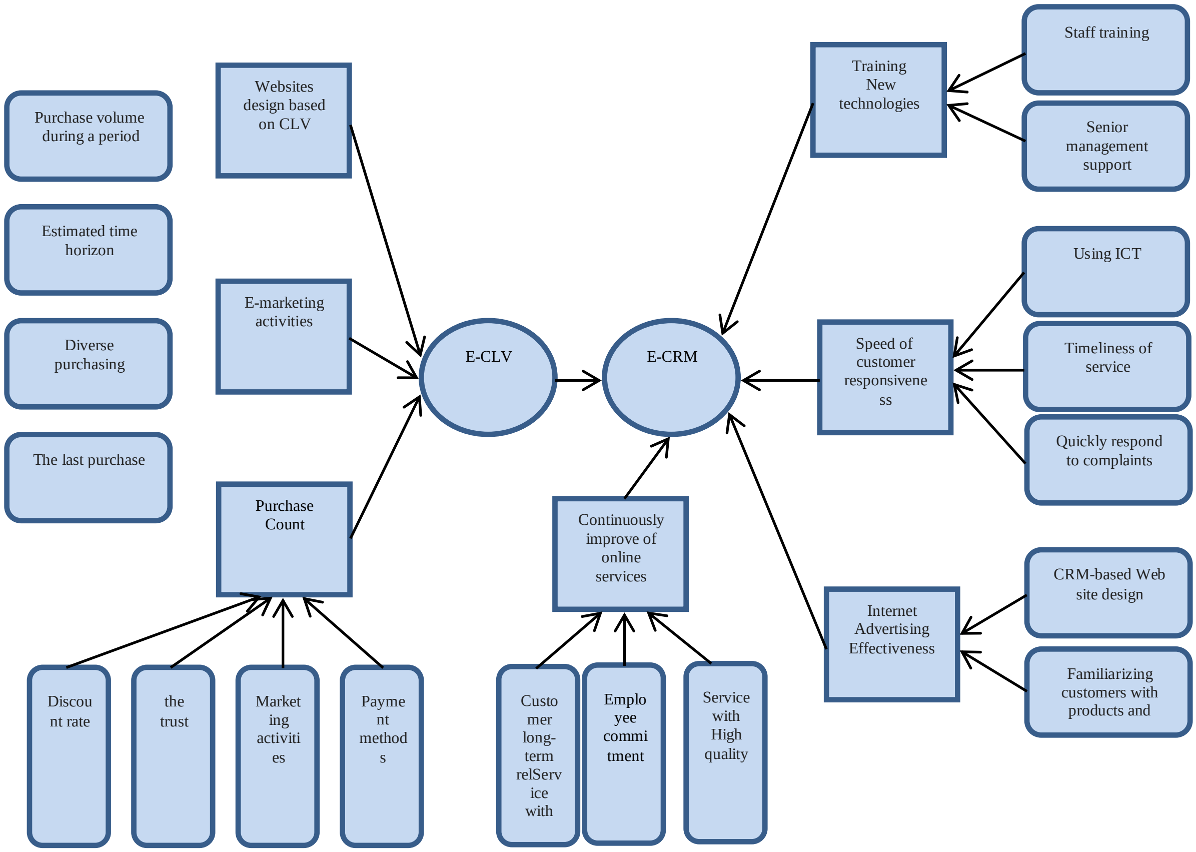

Figure 1. The proposed conceptual framework

4. Methodology

This is a descriptive study using library research and has achieved CLV indicators (Table 1) and CRM index (Table 2). Then by analysing the model for knowledge management of electronic customer and E-CLV has been extracted, which are very important for corporate management strategies.

5. Research Findings

As it is specified in the model, using CRM indices listed in any part of the review and E-business survey, the following indicators have been achieved:

- Training employees in new technology to create a corporate culture: This states that although we require adequate staff training for creating an organisational culture in the areas of CRM, organisations need to teach information technology and communications in the field of CRM in order to maintain their competitive advantage in the electronic age.
- Quick response to customer communication channels: This states that using ICT, CRM-oriented websites can be developed. The website can rapidly meet the needs of customers in the electronic environment and could be an indicator for CRM in e-business.
- Effective Internet advertising and increasing the share of online selling products: This states that with CRM-oriented web design, we need to familiarise customers with electronic products and services to grab their attention towards these products in e-business. So this can be an indicator for CRM in e-business.
- Continual service improvement with increased profitability and reduced online costs: When high-quality service is done, it will create long-term relationships with customers, increase corporate

profitability and reduce costs. So in e-business and the use of information and communication technology, we can consider it as an indicator for customer management in the electronic environment.

- Increase the use of electronic technology: In the electronic environment, ICT is considered a key factor. If employees see the senior management support in the organisation and employees are committed and have high job satisfaction, they keep pace with new technologies and will use them.

On another side of the model we have reached the CLV indicators in the electronic environment:

- Design CLV-oriented websites to store large volumes of customer data: With the size of the potential market of buyers and buying information during a specified time, comprehensive information can be found about buyers and more accurate calculations can be done for the lifetime value of customers. CLV-oriented websites can be designed in the electronic environment and comprehensive data of customers can be save there; it can be considered as an indicator in the electronic environment.
- E-mail marketing activities: For example, offering special discounts to win the trust of customers and attract them to marketing activities will increase the long-term customer value. This is also true in the electronic environment and should be considered as an indicator.
- Purchase count (how many customers purchase from the site): If we calculate the number of purchases by customers during a specified time, we can calculate the return on customers and their purchasing frequency and consider the basis for CLV. This can be considered as an indicator of the electronic environment.
- We explained CRM, long-term customer value (CLV) and e-businesses. In today's competitive environment, the customer must be the core of our business activities and with the knowledge of customer's need and their long-term value and profitability we can establish a long-term relationship with them to preserve and protect the profitability. In recent years, E-commerce, the Internet and the Web have had a significant impact on today's business. So we discussed two issues of CRM and customer long-term value in this environment and we offered indicators in this context.
- We provide some indicators for CLV and some for CRM from previous research and we also discuss the electronic environment. After analysing CRM indicators and the electronic environment, we extracted some E-CRM indicators. After analysing CLV indicators and electronic environment, we extracted some E-CLV indicators.
- Assessment of long-term customer value and their profitability is the most important elements of today's businesses and is the basis of management strategies. So we should pay a lot of attention and check these criteria in the electronic environment, which today is inseparable from businesses, in order to manage our relationships with customers. In this paper, we investigate and calculate E-CRM and electronic long-term value indicators.
- As a result of this investigation, we can say although E-CRM has many advantages like developing business market, and organisations can perform their activities internationally, we cannot deny that we face many challenges, particularly in Iran. Low-speed of Internet, the long process of establishment of E-CRM, reduced customer confidence because of the lack of face-to-face relationship and overseas communication disorders due to economic and political sanctions are some of these challenges.

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