Quality Management in E-Commerce

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Abstract

Among the various preocupations of managing an organization total quality management is an comprehensive approach that contributes in the management of the organization which aims to work for the product quality improvement. This paper presents the subject of quality management in an e-commerce context and explains why quality management principles are important for e-commerce business operations and focuse on the strong relationship between TQM and information and communications technology.Quality management practices for e-commerce is relatively a new topic,even this kind of doing business is inherently global. Retailers can sell and consumers can buy products through web pages from anywhere in the world. Consequently, global proliferation and global consumers' acceptance are important issues to be considered. Therefore, implementation of quality management principles in e-commerce, could be considered an advanced step to ensure continuously global consumers preferences for quality.

Key words: quality management, e-commerce ,consumer, communication.
J.E.L. Classification: L15,L18,L21,M21,O24

1. Introduction

E-commerce quality refers to the quality experienced by the user of commercial services via Internet. Quality management practices for e-commerce is a relatively new topic, even this kind of doing business is nowadays global. E-commerce refers to buying and selling products and transfer of funds through digital modalities and also to online stock, bond transactions, buying and downloading software in the absence of a physical store.

Over the last several years, have been developed different models of e-commerce quality management in order to identify those aspects that are most important for customer satisfaction. Today e-Business applications are gaining importance every day ,working like a virtual shop and include interoperable e-commerce, e-collaboration, e-government, e-procurement etc.

Unfortunately,many e-commerce attempts failed to give performance due to the misunderstanding of the challenging issues of these complex applications. In this respect, introducing quality management in business administration will greatly increase the chances of an e-commerce project satisfying user performance requirements for the first time.

However the aspects of the e-Commerce systems that give them power and flexibility also pose significant new challenges and risks.(Murphy ,2009)

The current context regarding the analysis of the electronic commerce systems has proven to be enough limited for this complex and dynamic field. Therefore, it is obvious the need of new approaches, theories, instruments, methods ,such as quality management. And moreover,important differences between traditional trade and e-commerce have been identified, both in terms of characteristics and support activities.

2. Quality issues in E-commerce

After being initially used as a source of trade information, the Internet gradually came to be used as an important media for trading like e-commerce.

From an analytical perspective, quality management in e-commerce should focus on customer needs. Therefore, the e-commerce operator should be aware at the terms and conditions of delivery in order to avoid the product`s return due to inadequate transport services or advertisement.(Collinsworth,2016)

In this context,the connection from the customer to the e-commerce systems meets more points of failure than traditional business systems and creates much tasks for the software quality control team, which has no control over the client and communications.

In this respect, the tolerance for quality problems is very low, and the competition is fierce. Software quality represents an important factor for e-competition. Integrating total quality management into E-commerce can create more benefit for various segments of the e-commerce economy. (Mc Keeman,2000;Chou,2006)

Applying e-commerce is now a compulsory choice and companies are forced to use it. Technological innovations have a great influence on the field of trading: applying electronics tools and especially Internet in trading system brings also quality benefits . In the meantime, the potential of TQM (Total Quality Management) without commitment in e-commerce organizations are less attended.(Kheirollahi et al , 2013)

E-commerce could be considered an excellent choice for companies to gain new customers. A business that run over the Internet is like any other business, therefore the quality management could be implemented in the business and organizational culture like in any other field of activity.

Using the Internet is changing the fundamentals of doing business.These things are changing many of the traditional sales models and have already changed the way to live, shop and communicate, because nowadays the e-business economy is changing the global competition. (Navin,2001)

The organizations` goals are different, but generally refers to the reduction of costs or multiply of sales, but in competitive terms, nowadays the organizations should pay special attention to quality assurance.(Kheirollahi et al , 2013;Babu,2012)

The most important elements of TQM that can be applied in e-commerce includes:

-*Leadership*: the development of strategic point of view and the ability to comply with the changes;

-*Customer satisfaction*: online needs and desires should be defined;

-*Continuous education*: e-commerce should focus on the training;

-*Commitment*: IT professionals to be well familiar with the use of TQM principles or ISO9000 quality standards of the software;

-*Continuous improvement*: to maintain the overall quality, from beginning to end;

-*Learning organizations*: many organizations encourage social learning as the supplement of more traditional approaches of knowledge;

-*Statistical process control*: in order to provide benefits and to determine administrators of the website to understand the factors which affect the effectiveness. (Kheirollahi et al , 2013)

Modern organizations' activities are affected by a set of quality factors. Identification and assessment of these can help to improve activities and realize the goals of organizations. (Kheirollahi et al ,2013;Babu,2012)

Having in view to assure a successful development of e-commerce, it is necessary to define the criteria that could guide the choice of a competitive e-commerce system and its quality evaluation.

In order to reinforce business competitiveness through quality of the products and to make it successful in the global market, it is necessary to understand the quality characteristics of e‑commerce.

3. E-commerce characteristics and criteria for quality evaluation

The relationship between Total Quality Management and information & communication technology used in e-commerce usually focuses either on technological issues, or on the role in the achievement of quality goals in business process. Less attention has been paid to the effects that utilisation of e-business is having on management style, and on the quality. (Iles et al,2004)

Web sites are more frequently analyzed from the commercial point of view; in the meantime, the factors that affect the customer's perception on the quality and acceptance of Web sites are less known and studied. Some authors that consider four sets of quality factors of e-commerce Web sites: functionality of the quality system; the content information quality; service quality ; the attractor. (Cao et al,2008)

References analysis has shown that there is a vast range of criteria proposed for quality evaluation in e-business, but none of the models is prevailing. The most mentioned refers to the online content, technical characteristics and particularities of the e‑commerce system's usage, while the aspects of client relation management and user perception are mentioned less often, e-commerce offline aspects being least invoked.(Guseva,2011)

Other authors identified the experts' and e-consumers' surveys like relevant criteria for the most important aspects of e-commerce and websites, speaking about not only safety, but also about the aspects of payment comfort, very important in e-commerce quality evaluation. The offline e‑commerce processes are often ignored , even the offline characteristics of e‑commerce are of no less importance than the online ones. Moreover, the e‑ customers requirements can serve as the quality criteria for offline e‑commerce stages (for example, conditions of delivery or post-purchase support). (Guseva,2011)

Usability is a quality objective that refers to the characteristics allowing the use of e-commerce sites in diverse situations, not only during its development process, but also during its operation and maintenance. In order to obtain the desired quality of software products, it is necessary to produce models which allow the soft evaluation of those products quality.(Albuquerque,2002)

Quality has been established as a key factor in ensuring the success of E-commerce in attracting and retaining customers. In this respect, numerous software metrics and website quality models have been developed, with a correspondingly large literature.Thus can be mentioned the Equal, Pequal or Servqual models, based on the identification of key factors influencing the perception of a given service by users. The methods differ especially in terms of assessment criteria and theoretical substantiation .Since evaluation of websites is a multiple-criteria issue, in the literature we can observe attempts of using Multi-Criteria Decision Analysis (MCDA) methods for evaluating websites.(Wątróbski et al,2016)

An e-commerce business could be as good and successful as its business model, its online system design and operation. Therefore, developing a high quality software system is very important factor. The aim of any model is to guide designers of e-commerce applications and to ensure the development of high quality applications that meet user`s requirements.(Al- Safadi et al,2012)

A solution is provided by ISO : the standard ISO/IEC 9126-1 version includes quality characteristics and sub-characteristics as a guide to applying the model for quality evaluation. The characteristics defined are applicable to every kind of software, including computer programs and data contained in firmware, and provide consistent terminology for software product quality. The main characteristics of the ISO9126-1 quality model are defined as : functionality; reliability; usability; efficiency; maintainability ;portability.(ISO 9126-1)

A number of works have proposed quality models for e-commerce based on ISO 9126-1.

4. Conclusions

E-commerce is considered an excellent alternative for companies to reach new customers and markets.

Quality is the vital issue of e-commerce. The importance of measuring and monitoring quality is now well recognized among web sites `managers. Taking into consideration that TQM focuses on products and services process, it is recommended to perform the study of quality assurance in e-commerce systems.

Resuming, many e-commerce websites have quite short life because they don't meet the minimal software quality requirements and do not completely satisfy their customers in several aspects such as quality and those deficiencies can affect the existence and maintainance of many of those companies in the market.

Quality experts believe that only the quality improvement and global standardization can provide e-commerce acceptance by global consumers. Expansion of e-commerce from developed countries to developing countries creates an opportunity to redefine the paradigms of quality management practice appropriate for worldwide disemination of e-commerce.

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