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# E-commerce: A New Framework to Aggregate Culture with Website Design

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**Abstract**— in the modern market, e-commerce is absolutely essential in business marketing and advertising. Many studies have been conducted to explore the relations between players and companies by creating the trust within security and culture. Various models have been proposed to show the reliability of trust that in a successful e-commerce website. In this paper, we have built a new framework to aggregate the e-commerce culture with the facilities of the websites that can attract more players to increase the trust between the players and companies.

This paper also explores factors in e-commerce related to Jordanian culture and religions, in the context of the great increase in the use of smart phones by all sectors of society around the country. Our new framework will explore the vision for companies to enhance services with increasing the trust by considering many different keys such as scalability, delivery on time and protected accounts with more website facilities.

**Keywords**— E-Commerce; E-CC; Public and private sector; Developing Countries; Website design; Quality of Experience (QoE)

## I. INTRODUCTION

Since the mid-1990s popular use of the internet has grown exponentially throughout the world; it is undoubtedly the greatest development in communication technology since the telephone [1]. Since the 2000s, particularly in the developed countries, it has become the norm for companies to have an online portal to retail their products. The main benefits of online/electronic commerce (e-commerce) are that it saves money and time for the both the retailer and the consumer. E-commerce has become a critical factor in everyday life in developed countries and online purchases are increasing worldwide. E-commerce has become the object of study and interest in different disciplines, but it remains a highly dynamic and growing field. It is difficult to conceptualize and analyze e-commerce because it is always developing, but some general parameters have been established. For example, although e-commerce and e-business are interrelated, they are differentiated as the former refers to both financial transactions and information dissemination electronically between a business or individual entity and another party engaged in the business. Transactions that are of non-financial nature such as inbound and outbound e-mails to customers and business prospects also form part of e-commerce that needs to be managed through ICT [2]. On the other hand, e-business can be understood as the use of ICT or internet technology to transform important business processes, without necessarily involving a commercial transaction. While in the early phase of e-commerce during the 1990s and early 2000s simply having an online retailing portal was sufficient to give companies an edge, it is now necessary to provide extensive online services and facilities to maintain competitiveness as online shopping options become ubiquitous. This is reflected in increasing quality and improved design of website interfaces linked to methods of advertising, in addition to functionality aspects such as order tracking and personalized recommendations. The main purchase method is by credit or debit card or online payment methods such as PayPal. In 2003 the total volume of online purchases in US exceeded \$100 million and comprised 11% of all transactions by value [3]. Although there is a well acknowledged discrepancy between e-commerce in developed and developing countries, the level of e-commerce preparedness in the Middle East region has been steadily increasing in recent years. Most countries in the region have reported significant increase in the number of people who use the internet and other ICT facilities in their day-to-day activities such as shopping, banking and communication. According to the Jordan Times newspaper, there was a 92 percent increase in internet use for online purchasing of goods, bill payments and other services between 2010 and 2011 in Jordan [4]. The Interactive Media in Retail Group (IMRG) report indicates that the whole Middle East and Northern Africa (MENA) region reported a 45 percent increase in business to consumer e-commerce rate between 2011 and 2012 [5]. IMRG also reported a significant increase in the region's internet penetration with a high of 86 percent in Qatar and a low of 15 percent in Yemen [5]. The Middle East regional e-commerce performance influences ecommerce development in Jordan, which is an e-commerce pioneer and one of the leading nations in e-commerce and ICT initiatives within MENA [6]. This paper discusses the quality criteria for e-commerce websites and how they can be improved to suit local cultures. The study builds a new framework that considers the Jordanian public and private sectors to enhance the relations between them with regard to customer behaviors.

## II. E-COMMERCE WEBSITE EVALUATION

There are three different elements of concern in evaluate e-commerce websites: consumer, designer and owner. Each stakeholder has different objectives and perspectives. For the consumer, the fundamental goal is satisfaction with the goods and services provided from the owner (i.e. companies). Service level agreement demands high quality and security of services to facilitate customer purchases. Designers are obliged to develop websites to promote the brand image and advertise products by presenting the content in a way tailored and amenable to consumers. The designer must be familiar with production and other company operations in order to attract people to buy updated products frequently. For owners, the objective is obviously to reach more customers and sell more goods. Owners can be in either the public or private sector. Owners' commission studies to find evidence of market features and behaviour (e.g. national cultural considerations) in order to tailor their products to the target consumer.

## III. THE ROLE OF SOCIAL MEDIA

Since the 2000s social media have become increasingly important in e-commerce, facilitating the promotion of brands and products and directing web traffic towards company websites. Social media websites such as Facebook and Twitter offer access both to huge pools of internet users comprising potential or existing customers as well as the possibility to reach specific market segments. They also facilitate electronic word of mouth (e-WOM) between customers, helping customers to make purchase decisions.

Social media websites have also played a role in making internet users worldwide more comfortable about posting personal information and generally interacting online, reducing trepidation and fear that could hinder internet use behaviours such as online purchases. They have increased the sense of security and privacy internet users feel.

## IV. WEBSITES USER INTERFACE FRAMEWORK

Purchase and browsing behaviour are quite difficult to measure and numerous methods have been devised to assess the effectiveness of e-commerce websites [7]. This research will use an existing websites with different country cultures to show the gaps between them and how it can be improved. Moreover, some websites contain a media advertisements or comical art; therefore our model will consider such strategies as methods to enhance the relations between users and all sectors. This paper addresses a new framework design which will aggregate the websites and culture to reduce the gaps among them and attract the people to make purchase online with respect to their cultures.

Website design has a significant effect on user identification and evaluation of websites. [8]Wan Abdul Rahim et al. (2006, 2008) investigated types of websites which can be accessed frequently by the users. They found that there is a substantial presence of the websites that contain Islamic traits in MENA, with low presence of the websites containing merely Arabic text. The authors proposed frameworks providing important notes and comments to make the users understand the features of the websites in both Islamic and non-Islamic websites.

## V. LANGUAGES AND CULTURE IN E-CC

E-Commerce Culture (E-CC) websites can be created based on countries and languages. Although the English language is the most widely used language worldwide, Heckman [9] indicated that different cultures and languages lead to constructing E-CC websites appropriate to certain locales/user groups. Based on the nature of a company's business, they can create different websites with several languages to propagate their products in various locations and markets. Some companies rely on translation for this, but it is difficult to guarantee a seamless transposition of content from one language to another without using expensive professional translation services; for example, Google Translate is notoriously unreliable [10]. Singh et al. [11] collected a total of 93 websites from different companies with different countries and found a corresponding relation between cultural content and Hofstede's [12] cultural dimensions (individualism, collectivism, power distance, uncertainty avoidance, masculinity). Different cultures can be reflected in/linked to website content and design [13].

## VI. OBJECTIVES AND HYPOTHESES

The main objective of this study is to explore how the design and culture of a website play important roles to increase the site performance for stakeholders from different cultures and languages. Precisely, the hypothesis can be formalized as following:

- Linguistic, cultural and religious conceptions are reflected in websites. This is the first hypothesis based on previous studies. Hence, this paper suggests that a website can contain natural functional language with an effecting website design based on the culture which people follow.
- Irrespective of the website languages, the design based on the culture can be important in attracting consumers. This is because languages can be translated in a rudimentary way by online assistant tools, and written text is increasingly less important in the image-rich online world. The quality of the websites reflecting different cultural backgrounds can be more usable but not necessarily of better quality.

## VII. LITERATURE REVIEW

Based on the previous studies, many factors can determine website success or failure. Stevenson [14] found that webpage backgrounds have different attitudes that affect overall users' perceptions. For example, web page loading times are severely increased by the presence of heavy advertising, which is a particularly acute problem in developing countries where the internet infrastructure provides slower and erratic service. The interference of advertisements in download speeds can cause online payments to fail and this causes great annoyance and mistrust among consumers.

The fundamental purpose of the internet is to function as a technology to make interactions between people easier and faster. For instance, buying and selling process can be done fully online. In order to exist and perform online, a web shop - in this context selling physical goods - needs to have two systems: the front and the back. The front is the platform, the website, the visual part where the user browses and interacts with the shop, analogous to the shop front or shop window in traditional shops. After the customer registers on the website and makes an order, the back-office (typically a warehouse) takes action. After a client clicks on "buy" (or "confirm purchase" etc.), the back-office sources the product and dispatches it (usually according to the postal option selected and purchased by the customer) to the client. Sometimes this is augmented by product tracking through the delivery chain and post-purchase follow-up (e.g. querying customer satisfaction to build rapport and loyalty, and soliciting online feedback to give e-WOM to other customers).

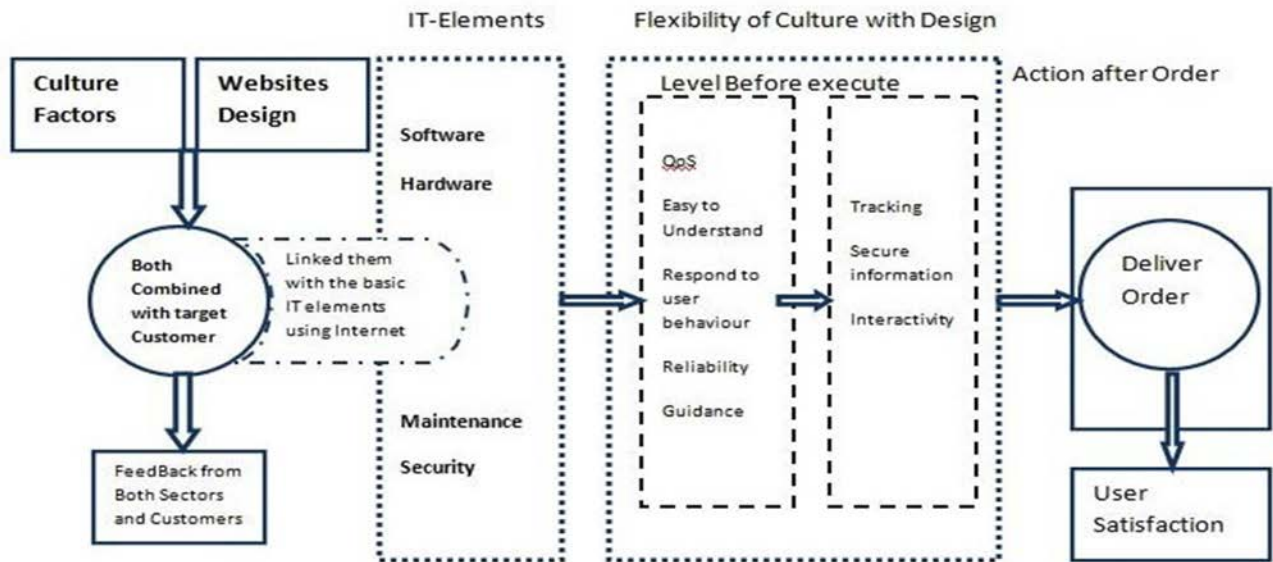


Figure 1 Integrated E-CC framework based on real environmental elements and website design

Process-wise, it is necessary to stress the whole management flow that happens behind an order. The first important aspect is inventory management. In order to sell a product, the web shop needs to have this product in stock and the necessary conditions to deliver the correct commodity to the consumer who requested it. In the worst case-scenario, the web shop should have a replacement or an agreement with the supplier to ensure that the product is delivered. One of the secrets to successful online stores is having a high quality logistics system to distribute the products efficiently, thus providing credibility to the brand and increasing e-consumer confidence. The next important aspect is the payment. Selling online is different from selling offline - the customer has a relationship of trust where he pays first and receives after, not immediately at the point of sale. People's readiness to engage in such uncertain online behaviours varies among individuals and cultures [15]. Taxonomy of cultural differences with regard to online purchasing behaviour is required to tailor e-commerce to cultural contexts with various languages in multiple countries. [11] Showed that e-customers from different cultures and backgrounds have different visions and concentrate on various aspects of websites, such as the way in which they self-promote company products without disparaging the intelligence of the customer. Sultan et al [16] investigated the role of trust and culture through interaction of users with websites' culture. The authors indicated that the aim of their study was to perform a convergence review for all previous website designs and identify validation factors that detract from trust and customer behaviour, and to show the relationship between purchase and website characteristics. In MENA, Islamic websites are particularly in demand, reflecting people's socio cultural interests. Hence, it is very important for the international companies to

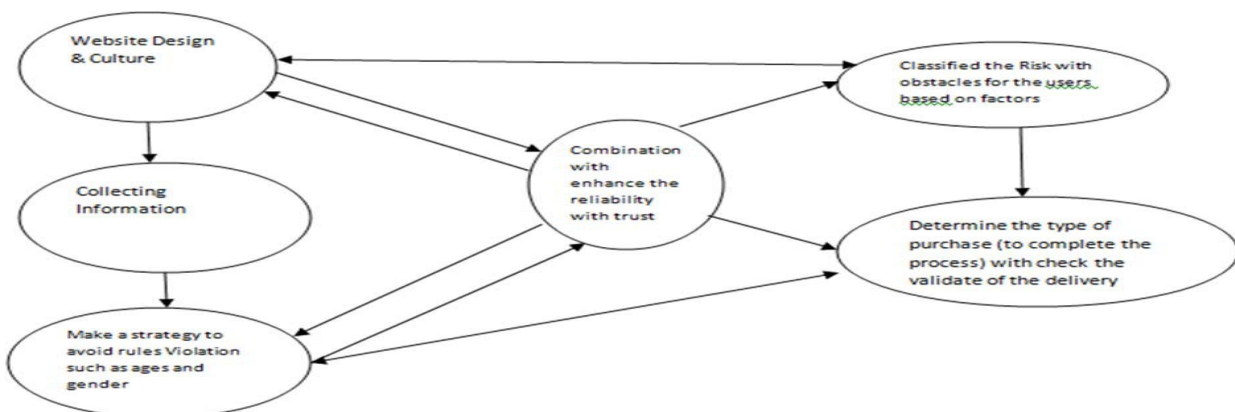


Figure-2: Consequences level for the websites purchase with user's requirements

understand the main content features of Islamic websites in order to gain acceptance among users without offending indigenous sensibilities [17]. In addition, Islamic websites display features common to websites that convey the main principles of religions to their followers [18]. There are many keys that can be used to evaluate the performance of Islamic websites, including usability, navigation, functionality, accessibility, interactivity, attractiveness and security, including privacy settings.

### VIII. PROPOSED E-CC FRAMEWORK

The proposed E-CC Framework, constructed with regard to previous literature mentioned above, analyses experienced and inexperienced e-customers. It was found that experienced e-customers habitually make online purchases without any problems [19]. An experienced e-customer on the most basic level is one who can easily understand the steps of how to make online purchases and who is competent to check the box agreeing to the terms and conditions to facilitate dealing between companies and users. On the other hand, the inexperienced customer uses different behaviours of dealing with online transactions. This paper focuses on inexperienced customers and their behaviours with regard to website design and clear guidance on purchasing online. Figure 1 illustrates a new framework which aims to generate a result that achieved user satisfaction.

The E-CC model describes the factors linking users and the public/private sectors through the technology based on centralized elements such as software and hardware providing internet connections. Once a connection is established, the e-customer will start to go through the process to make the purchase. Based on e-customer behaviour, users evaluate whether the service is acceptable or not through the quality of service (QoS). After users select products they wish to purchase, the website interface should guide them through the subsequent steps (from "go to checkout" to completing the purchase transaction and possibly including delivery information). Upon completing each step, the e-customer should be notified that the step was successful. Subsequent to the online purchase, timely delivery of the purchased goods will confirm the transaction and build trust and satisfaction.

### IX. *The effective design of E-CC*

The proposed framework for the E-CC has concerned different parameters, such as QoS and service level agreement (SLA), which develop and enhance purchasing by online shopping. We have developed the E-CC framework based on other studies as mentioned in the literature review through merging the website design with culture based on some parameters such as religion and educational level and age-related behaviour. In addition, some areas wherein people started to use technology and online shopping recently required constructing the trust and reliability between customers and companies. Most previous study concerning this area has concentrated on the people who are already using e-commerce and who have good experience for it, whereas the framework presented by this research is focused on both experienced and novice users. The user's level also contains tracking information, as step is going to proceed to promote trust with increasing feelings of security in e-commerce. The new framework enables the creation of a full map for a future e-commerce that measures user satisfaction at different ages without affecting the ethical basis of different advertisements, as shown in figure 2.

### X. *Limitations of the proposed framework*

Recently, many works have been done on e-commerce, some of them focused on design, culture and religion. Our framework combined between all of them to form a more comprehensive view of the future of the e-commerce with respect to people's culture and behaviour, as well as age groups. The aim of E-CC framework is to attract more new customers to do the online shopping regardless of their age and without fear of theft. According to the framework, the E-CC model faces some limitations which can be solved by addressing the responses and suggestions of survey participants. The limitations of this model may not show advertisements for various products, because some products are required to give customers full information to assay quality and value and make a purchase decision. For example, some products need to be shown just for female users and others just for males, which will be considered in future work. In addition, if the country has different cultures and religions, the model should be tailored to reflect this.

### XI. *Conclusion and Future Work*

This paper has presented an extensive review of the literature on website design with regard to users' culture in order to determine a trust model which contains primary factors and elements to consider user behaviour to promote trust.

This paper has showed the factors that can improve the quality of an E-CC design, as discussed above. Many keys factors can lead to meet the customer's requirements such as satisfaction, trust and reliability to make purchase online. In addition, these factors guide the companies to enhance and develop website design based on culture, regardless of language. Hence, the proposed framework aggregates culture with design, with consideration of the most important functional factors of security, trust and reliability. The new framework provides the important principles for constructing the understanding between companies and customers. Future work will build a full design that is easy to understand and which enhances the QoS. In addition, the framework will address customer's requirements with cultural and religious awareness and age sensitivity.

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