

## The Relationship between E-Business Website Quality and Customer Satisfaction

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### ABSTRACT

The goal of this study is to gather information from current literature regarding the influence of dimensions of e-business website quality on customer satisfaction in order to better identify the most significant e-service quality. This research focuses on five aspects of an e-business site quality model that may be used to better anticipate customer behavior. The final goal is to raise understanding of diverse countries' cultures and the relevance of quality features on an e-business website. The survey model was tested with SPSS using an online survey of 283 Libyan internet users, the majority of whom were working adults. According to the findings, all facets of an e-commerce website's quality, including website design, information quality, security and data protection, transaction and payment offerings, and delivery services, have an influence on consumer satisfaction. Customer behavior is statistically substantially connected to the overall quality of an e-business website

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Future research should look at multiple product categories and/or sectors to guarantee that the measurement performs equally effectively. In the future, various approaches such as focus groups and interviews may be employed.

**KEYWORDS:** E-Business, Customer Satisfaction, Information Quality, Website Design, Security and Privacy, Transaction Payment Capabilities, Delivery Services.

### INTRODUCTION

The navigation system and the overall look of a website can be used to evaluate the quality of its design (McKnight et al. 2002; Cyr et al. 2008; Zhou et al. 2009; Wilson and Keni 2018; Bernarto. Et al., 2019). The standard of online design is critical to company success in the e-commerce sector. Not only does the website play an essential role in assuring and securing customer happiness (Corbitt et al. 2003), but it also serves as a communication instrument, acting as a "bridge" between vendor and customer. Companies frequently update their websites for a variety of reasons. However, it is a misconception that companies seldom consider the importance of the design of their new websites for a general digital marketing strategy (Sobihah, M. 2015). Therefore, this survey is carried out to determine the quality factors of an e-business website and its relationship to the satisfaction of the users of website in Tripoli (Libya).

Customer satisfaction was an important success factor in information and marketing literature. Customer satisfaction refers to subjective responses perceived by consumers or to assessments of the performance of information systems (P.B. Seddon, 2015). The importance of customer satisfaction as an indicator of information security success is well documented

in the information security literature. Consumer or customer satisfaction is seen as an important indicator of net benefit (R. Agarwal and V. Venkatesh, 2010). Many e-commerce systems do not require human interaction with consumers, nor do they require them to view and collect information, conduct business transactions, and receive the services they need. It is therefore important that users are satisfied with how they interact with the system. It has also been found that customer satisfaction often leads to loyalty to their websites and thus to better website results (H. Evanschitzky, 2010).

To look into the connections between website quality variables and customer satisfaction, and ultimately buyer allegiance to the website. To fill voids in the literature on customer happiness and to provide industry practitioners with insights into customer satisfaction and loyalty strategies in relation to website quality. The purpose of this study is to investigate the relationship between the content of e-business websites and customer satisfaction. Offering high-quality online services is a necessary success strategy, even more important than price and online exposure.

An e-business website has been found to have a significant impact on business performance by addressing a geographic

issue. The following research questions must also be answered

1. What is customer satisfaction and what are the factors that determine customer satisfaction in the quality of an e-business website?
2. What is the role of the quality of the e-business website in improving customer satisfaction?
3. What are the relationships between the variables of website quality determinants and customer satisfaction?

## LITERATURE REVIEW

For a variety of factors, including rapid economic development and schooling around the world, increasing consumer incomes, technological breakthroughs, and changing consumer life, the e-commerce industry has expanded steadily over the last decade. Over the last decade, there has been a substantial rise in the use of the internet to purchase or sell vehicles. Because of advancements in information technologies such as the Internet, marketers can now collect feedback from viewers and users for personal remarks. Marketers can also reach their email customers immediately via email. Because of its cheap organizing costs, ease of access, interactivity, timeliness, and worldwide reach, e-commerce can be given to a new marketing channel. (Haque et al., 2007).

Parasuraman et al. (1988) consider evaluating the quality of customer service in terms of their expectations of the service a particular service provider receives. Although Santos (2003) defined the quality of e-commerce services as ratings based on actual experience of using the service in terms of the quality of e-commerce service delivery and the quality of the online market. Wolfenbarger and Gilly (2002) developed the comQ scale to evaluate the quality of e-commerce services. This scale consists of 14 elements, which are divided into four factors: location design; Reliability; Confidentiality or Security Customer Service. Quality objectives for e-commerce services are to assess the quality of websites (Kuo, 2003), satisfaction with the e-commerce services offered (Devaraj et al., 2002) and determine whether a website is successful or not (Liu and Arnett, 2000).

The user interface, according to Gummerus et al. (2004), is the channel through which consumers contact computerized service providers. When offering web design, Kim and Lee (2002) claim that the user interface design is appealing to consumers. According to Cao et al. (2005), tangible design elements such as information arrangement, navigation, layout, and look that are part of software are essential but not adequate. Instead of a software component, consider hardware features so that customers who visit the website can obtain it in a fair amount of time. According to Srinivansana et al. (2002) research, the interactive elements of e-commerce apps are closely linked to consumer loyalty.

Customer satisfaction is a measure of a company's perceived product performance based on customer expectations. If the properties of the product do not meet consumer expectations,

you are not satisfied. If the performance is as expected, the customer is satisfied. If the performance exceeds expectations, the customer is considered very satisfied and satisfied. Customer satisfaction is your best competitive advantage over your competitors. Customers are loyal and want to pay more for the product. In addition, they become great outside marketers for the organization (Gupta et al., 2003). In their article, Gupta and Zeithaml (2006) proposed a theoretical framework to meet customer needs. According to the author, there are five key variables that have a decisive influence on customer satisfaction. The study concluded that the five variables have a positive and significant effect on customer satisfaction.

There has been no widely accepted singular gauge or optimal technique for measuring customer satisfaction. According to Cui Wa (2003), the primary objective of an online portal is to show a stronger relationship between the standard of electronic services, client satisfaction, and loyalty. First, investigate the connection between online e-service quality, happiness, and trust. Second, investigate the criteria used to assess the standard of the website or electronic services (usability, ease of use, enjoyment). Investigate how the quality and happiness of technological services affects loyalty. Customer satisfaction must be evaluated in order to provide a foundation for the growth of goods or services. There was no singular metric or best practice for measuring client satisfaction.

Customer satisfaction is extremely important as it can be used to gather feedback from customers so that you can operate and improve your business. Customer satisfaction is the best indication of how a company will look in the future. Customer satisfaction helps with SWOT analysis which can help them move forward systematically. In addition, it helps to make the right decision, to use the right resources to manufacture products. It also maintains relationships with existing customers and creates the opportunity to attract others. (USSR survey in 2016)

Website design refers to the characteristics of a website as these are essential elements for user engagement online, which is reflected in customer satisfaction. Website design can be described as the attraction of user interface design to customers (Kim and Lee, 2002). There are various components of physical design, such as information design, navigation, layout, and appearance that are important but insufficient (Mei Cao et al., 2005). In addition to the software components, the hardware functions must also be taken into account so that customers can download the website in a reasonable time. A good website should have an inspired and thoughtful design with relevant content that allows consumers to trust marketers and communicate with them effectively (Gefen, 2000; Wolfenbarger & Gilly, 2002).

System quality is defined as the perceived performance of a site by users in receiving and sending information (McKinney, W., Yun, K. & Zahedi, FM, 2002). System quality is the perceived satisfaction of users with the technical

and functional features of a website (Kim, G., Shin, B. and Kwon, O. 2012.). When shopping online, they have to rely on online descriptions and photos to understand the products and focus more on systemic features such as website usability, ease of navigation, response time, and loading time (Dickinger, A. and Stangl, B 2013). Although shopping pages are clearly structured, categorical category items and more options help users find lists with fewer searches and lower physical costs (Overby, J.W. and Lee, E.J. 2006).

Security can be defined as a form of protection to protect customers and prevent hackers from breaking into customer privacy (Dixit and Datta, 2010). According to Ahmad and Al-Zubi (2011), security has a significant impact on customer satisfaction. Confidentiality is another important element that is always important to customers. Customers always expect banks to be able to protect their personal and financial information, especially when transacting online banking. Zhao and Saha (2005) have shown in their studies that data protection has a major influence on customer satisfaction.

In this study, the performance assessed by the safety function includes:

- If the site offers encryption,
- If the site requires the user to create an account with an ID and password, and
- When a confirmation screen is displayed at the end of the purchase to ensure correctness.

E-commerce confidentiality is defined as the desire to share online information that enables shopping (Belanger et al. 2002). B2C websites collect visitor information using explicit methods (e.g. surveys) and implicit tools (e.g. cookies) (Patterson et al., 1997) and provide the data necessary for information about marketing, advertising and product information are. However, many consumers are concerned about the possible misuse of personal data (Brown and Muchira, 2004; Hair et al., 1995; Ranganathan and Ganapathy, 2002; Torkzadeh and Dhillon, 2002). For example, a Business Week / Harris study of 999 users in 1998 found that privacy was the biggest barrier to website use beyond price, ease of use, and unsolicited marketing (Green et al. 1998). 1999 An international IBM Consumer Privacy Survey found that 80% of US respondents believe they have lost control of how companies collect and use personal information. 78% declined to provide information because they felt these conditions were inappropriate under certain circumstances, and 54% chose not to purchase due to concerns about the use of information gathered during surgery (Belanger et al., 2002). Forrester research confirms these results and shows that two-thirds of consumers are concerned about protecting their privacy online (Branscum, 2000). To address privacy concerns, privacy policies are posted on many websites (McGinity, 2000). In addition, independent companies (e.g. TRUSTs) can review, review, and approve the privacy policy (Ranganathan & Ganapathy, 2002). This study assesses the following characteristics of the confidentiality function:

- Use of a privacy policy
- the seller's policy of selling customer information to third parties;
- The use of cookies to collect personal information.

The benefit of the service is important because it depends on how open the customer is to new innovations. Liao and Cheung (2002) examined attitudes towards online businesses and developed several suggestions to encourage them to analyze their attitudes about their applicability. One of the most interesting suggestions from Liao & Cheung (2002) is the expected speed of operation as a characteristic of the quality of service in relation to the perceived benefit in online businesses. An indication of speedy service is what customers consider important as it adds value. Conversely, if the service is slower, the perceived value in use of the service is automatically lower (Liao & Cheung, 2002).

### RESEARCH METHODOLOGY (STUDY DESIGN)

This part describes the research methodology as well as the methodologies used to gather and analyze data for this study. The concept and layout of the used questionnaire are described, followed by the sample. The technique of data analysis is addressed, as well as ethical concerns. Before the chapter is finished, evidence of the study's validity and dependability will be given. For field investigations, quantitative explanatory test techniques are used in this work. Furthermore, the research investigates and describes the connection and impact of website quality variables. In a quantitative method, this study collects main customer data from Tripoli e-commerce websites via online questionnaires in the Google Forms application.

Design factors for websites quality that influence customer satisfaction were selected from previous literature studies. The model combines ten factors that reflect five important dimensions with 24 items of website design that influence customer satisfaction:

1. Website design,
2. Quality of the information,
3. Security and privacy,
4. Transaction and payment options, and
5. Delivery service.

The main purpose of this study was to examine the relationship between key e-Aspects of quality for e-business websites and customer satisfaction. An empirical sample is the customers of some e-commerce websites. In this survey, questionnaires were sent to people who had seen and bought from ecommerce websites. The participants to the survey come from Tripoli province in Libya. Buyers were asked to indicate the parameters that influence the quality rating of their online purchases. Totally 500 questionnaires were distributed to potential respondents, and 356 of the 500 customers replied. Among the 355 respondents, 57 of them indicated that they have little or no experience of online shopping, and 11 questionnaires were uncompleted. The

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remaining 283 respondents are the basis of the study. Therefore, 283 completed questionnaires have been used in the analysis of data, by using Correlation Coefficient analysis. This study was based on the following hypotheses

- H1: Website design has a significant association with customer satisfaction.
- H2: Information quality has a significant association with customer satisfaction.

- H3: Security and privacy have a significant association with customer satisfaction.
- H4: Transaction and payment capability have a significant association with customer satisfaction.
- H5: Delivery service has a significant association with customer satisfaction.

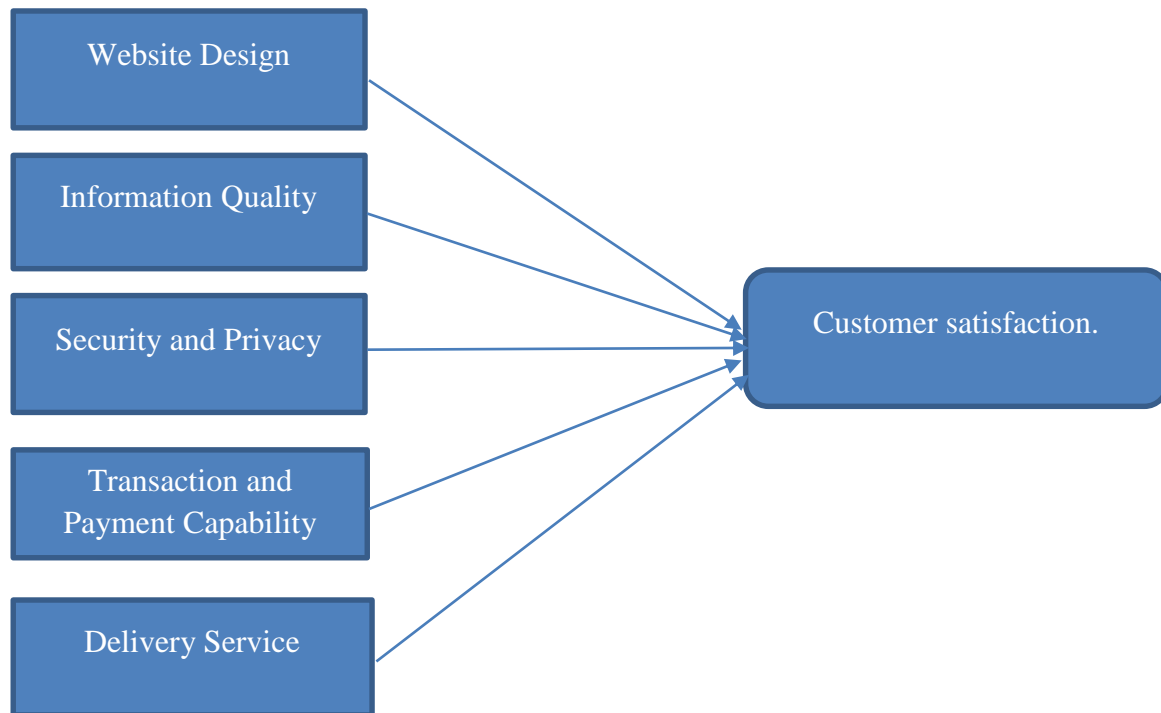


Figure 1. Research Model

### Data Analysis and Discussion of the Results

This section presents in detail the results of data analysis and also discusses the obtained results from the data analysis which were conducted through SPSS version 25. The result of the data analysis was presented in this section in form of tables, figures, and matrixes.

### Data Reliability

Data reliability refers to the overall consistency of a measure. Reliability of the research instrument was assured in two different methods including using a research instrument that was already used by previous researchers where the reliability was already assured and using the reliability test using Cronbach Alpha test to measure the reliability of the research instrument. Below table 3.1 presents the results of data reliability using Cronbach Alpha.

It is evident from the reliability test findings that the research instrument is very dependable and that every study variable received very high-reliability values greater than 0.700. Based on the results, it can be concluded that the research tool is accurate and useful for assessing the relationship between the quality of an e-business website and customer satisfaction. Website design (=0.964), information quality (=0.945), security and privacy (=0.943), transaction and payment capability (=0.955), delivery services (=0.977), and customer satisfaction (=0.933) were all given high reliability values. The study questionnaire is highly trustworthy and its internal consistency is guaranteed based on these high reliability ratings. Achieving coefficients above 0.7 is seen as acceptable, and those above 0.8 are regarded as extremely dependable (Sim & Wright, 2005; Madan & Kensinger, 2017).

Variables of the Study	Cronbach's Alpha	N of Items
Website Design	.964	4
Information Quality	.945	4
Security and Privacy	.943	4
Transaction and Payment Capability	.955	4
Delivery Service	.977	4
Customer Satisfaction	.933	4
<b>All Paragraph</b>	<b>.991</b>	<b>24</b>

**Correlation Matrix**

A correlation matrix is a simple matrix that presents the correlation between the variables. The correlation matrix can be presented in different forms include scatterplot or through a simple table. The correlation matrix helps the researcher to

show the extent to which the variables correlated with each other. Table 3.8 below, presents the result of the correlation matrix and it indicates the strength of the correlation between every two variables as well as the variables themselves.

	WD	IQ	SP	TPC	DC	CS
Website design	1.000	.948	.944	.969	.978	.946
Information quality	.948	1.000	.940	.961	.966	.891
Security and privacy	.944	.940	1.000	.981	.933	.862
Transaction and payment capability	.969	.961	.981	1.000	.962	.901
Delivery service	.978	.966	.933	.962	1.000	.953
Customer satisfaction	.946	.891	.862	.901	.953	1.000

**Demographic Data**

The participants in this research study were asked to indicate some of their demographic data include gender, age, marital status, functional background, number of using the internet per day, and whether the participants made any purchase online in the last three months. The distribution of the participants according to these demographic variables is shown in this section in form of tables.

Distribution of the participants according to their gender has shown that percentage of males and females are almost the same where the male participants formed 48.4% while the female participants formed 51.6% of the total participants in this survey study.

Distribution of the participants according to their age has shown that 47 participants were below 20 years old, 89 participants were 20 to 29 years old, 66 participants were 30 to 39 years old, 48 participants were 40 to 49 years old, and 33 participants were 50 years old and above.

The distribution of the participants according to their marital status was almost the same where the single participants formed 52.7% while the married participants formed 47.3% of the total participants in this survey.

Distribution of the participants according to their educational background has shown that all participants were from those who hold an educational background where the distribution shows that the Bachelor’s degree holders formed the majority of the participants with a percentage of 43.5%, followed by the holders of post graduate diploma 29%, and finally the holders of high school diploma formed a total of 27.6% of the total participants in this research survey.

Distribution of the participants according to the number of using the internet per day has shown that 27.65 of the participants were rarely using the internet, 26.5% respectively were using the internet 4 to 8 hours every day and 8 to 12 hours every day, and a total of 19.1% of participants have indicated that they are always online.

In the question of the participants that whether they made any purchase online or not, a total of 82.3% of them have indicated that they already made a purchase online while a total of 17.7% have indicated that they never made any online purchase. The high percentage of those who already made online purchases referred to the ease to access to the internet and the widely used smartphones which made the internet access easy wherever the clients are.

## CONCLUSION

According to our findings, the quality of material has a direct, positive, and significant effect on consumer satisfaction when purchasing online. This finding supports the findings of Seddon and Kiew (1994), who discovered that knowledge content must have a positive and significant effect on customer loyalty by utilizing an interface-based framework. This result supports Magerhands' (2006) study, which discovered that one of the main antecedents affecting satisfaction when conducting e-Commerce transactions is information accuracy.

Customers who buy online may be more satisfied because they can shop practically anywhere and at any time, and they can obtain information at a reduced cost (Elliot and Fowell, 2000). According to Shang et al., (2005), internet shopping must provide an extrinsic advantage to customers by providing a broader variety of goods, lower prices, and easy access to information. This can be beneficial and gratifying for a customer who needs to acquire a product quickly (impulsive buyers).

Yang (2007) finds that information quality has an impact on customer satisfaction online, which is consistent with the findings of this report. Furthermore, Yang (2007) said that when a customer interacts with a portal or website, the customer would focus his or her attention on the information content available on the portal or website. This is why knowledge content has such a huge impact on consumer loyalty. Knowledge is required for customers or shoppers who shop using an online method to learn about the life of a product and how much it costs on the market. Moreover, customers could compare the products' quality, price, and brand from different places that are available online.

The results of this study back up Turban and Gehrke's (2000) claim that the consistency of information on a website will serve as a consumer appeal in an online business. This research backs up Janda, et al. (2000) and Szymanski and Hise (2000), who says that information quality is one of the most important factors influencing consumer satisfaction while shopping on the internet. The findings of this research contradict those of Radityo and Zulaikha (2007), who found that information quality has no impact on consumer satisfaction.

According to Lohse and Spiller (1999), there is a distinction between the features of a physical retail store and an online store when it comes to distribution. Customer retention can be affected as a result of this. Despite the fact that the online

shop can offer information on a physical product available, due to technological constraints such as picture quality, it cannot deliver the same degree of satisfaction as consumers who see the product in a retail store. However, this study found that information presentation speed of new products, ease of obtaining information for retail items, reliable price information for retail items, variety of products displayed, description clarity of brands offered, regularity of description writing format of displayed products on the website, similar colour composition shown on the website, and a variety of products displayed are all important factors.

According to the study's results, the information quality provided on E-Business websites has a clear, positive, and significant effect; thus, better information quality on E-Business websites would result in higher customer satisfaction when conducting online purchasing on such websites. Because of its significant effect, the information quality variable is a critical variable for online buying customers to consider in order to satisfy their satisfaction in conducting online shopping.

The results of this study revealed that the service quality delivered on E-Business websites has a strong and important impact on consumer satisfaction when shopping online. This result backs up Yang's (2007) report, which showed that service quality has a positive and important impact on online shopping customer satisfaction. In reality, when it comes to online shopping, service quality has become one of the most critical considerations to remember. Another research performed by de Oliveira confirms this inference (2007). According to Aberg and Shahmehri (2000), a continuous increase in the service provided by an e-commerce website will result in a high degree of customer satisfaction.

The findings of this study have also backed up what Mappatempo (2005) said: "Service quality has a close association with customer satisfaction because it encourages customers to develop a genuine and deep relationship with the business in order to recognize customer expectations." This is in line with Wyckok's principle, as stated in Lovelock (1988) in Tjiptono (2000), that service quality is the degree of anticipated superiority and control against that superiority in meeting customer demand. This finding further supports Zeithaml et al(1990) 's hypothesis that customer satisfaction is based on the customer's view of the service experience.

A well-designed e-business website raises not only the appeal of the product or service being sold but also the value of the organization. As a result, it's important for an organization to choose the right growth plan in order to get the best return on its investment. The wide range of e-business models and implementations, from local retailers to multinational exchanges, necessitates a number of implementation methodologies and approaches. Like all other information systems, e-business programs are typically designed to support one or more business processes. As a result, their preparation must be in accordance with the general strategic agenda of the company as well as the particular procedures

involved. E-business sites must be designed in a coordinated way due to their high cost and difficulty. The development of an e-commerce platform can be undertaken in phases.

The first step is to identify an e-business application portfolio based on an organization's approach. The second step is to build the e-business architecture. The next step is to determine whether the development will be built, purchased, or outsourced. The device is then assembled, checked, and implemented in the third phase. Finally, the system enters repair mode, where modifications are made on a regular basis to ensure the system's continued success. Functions within e-commerce systems such as order-taking and billing can be dynamically invoked and implemented anywhere in the world using service-oriented architecture and Web services, based on business rules. The study and development of market plans will benefit from website user trends

There are a few major problems with e-business Websites' online service efficiency. The first problem is the need to create user-friendly e-business Websites that allow for simple customer shopping and browsing, thus establishing a suitable platform for generating higher levels of satisfaction and loyalty. Second, the Website manager should improve service efficiency, user sensitivity, customized service, and the speed at which concerns are addressed. Fourth, the Website should retain appropriate security standards in communications and satisfy privacy data protection criteria. Finally, the importance of proper product distribution, coercion, and operation is stressed. E-commerce Websites and services are used in systems engineering programs to facilitate application-to-application connectivity and to address interoperability problems. These Web services offer a standards-based approach for various components engaged in real-time information processing or providing complex context-driven information to users.

Web quality is a valuable diagnostic instrument for determining an organization's e-commerce operation's perceived quality. The iterative method of developing and integrating the literature has aided in the instrument's growth of external validity. It's especially useful for establishing a benchmark against competitors, and it can also be used to assess the effects of e-commerce growth practices over time. Despite having a user profile of e-commerce quality, however, online service quality does not provide prescriptive guidance about how a company can enhance its e-commerce offering. Excellent Website design and judicious use of emerging technologies are unlikely to improve consumer loyalty, as trust is influenced by external influences such as the brand's strength, the customer's previous interactions, and the entire spectrum of communications provided by the brand-owner, the media, and word-of-mouth (Conchie et al., 2011).

Good e-business website offerings are likely to be experienced consumers who have enthusiastically adopted the Internet rather than as a bolt-on extension to their new

corporate structure, i.e. the company sought advanced stages of process integration. The most critical consideration was defense. It indicates that security is crucial in e-commerce Websites, especially when it comes to electronic payments, which cannot be breached in any way, and when it comes to the subject of site authentication itself. An e-commerce website must properly and accurately handle and monitor its stored data.

Results of the study have shown that customer satisfaction is positively and significantly affected by the website design, information quality, security and privacy, transaction and payment capability, and delivery service within the Libyan context.

Theoretically, this research applies conventional service quality assessment scales to online service quality. SERVQUAL was created by Parasuraman et al. (1988) to evaluate service efficiency in conventional markets. Researchers and professionals have called for a series of accurate and valid service quality metrics in e-commerce since the introduction of online markets. The online service quality measure developed in this study is intended to be a valuable metric for measuring the quality of Internet-based services. This study will help business managers in assessing their e-commerce initiatives and deciding success metrics for their e-commerce Website. Managers may use these measurements to not only assign money while they build their e-commerce policy, but also to determine the financial impact.

By understanding the unique characteristics of each service group, managers can implement more suitable strategies, promote more positive attitudes toward online transactions and increase online buying intentions. From a managerial point of view, this study shows businesses with e-commerce Websites how to integrate the specific dimensions of their activity into their evaluations. Managers will introduce more appropriate policies, encourage more optimistic attitudes about online purchases, and improve online shopping intentions by considering the particular characteristics of each service category. This research explains how companies with e-commerce Platforms should introduce the particular aspects of their operation into their assessments from a managerial perspective.

The findings of this study have functional consequences as well. First and foremost, customer satisfaction has a huge impact on client retention. In e-commerce, promoting consumer interest is crucial. Second, knowledge consistency has been shown to be an important factor in fostering consumer commitment, and clinicians should pay particular attention to it. Third, offering high-quality services and utility is an important way to keep high-quality client connections. Customers' impressions of their interactions with the marketplace, on the other hand, are unaffected by system consistency. Instead, practitioners should concentrate on delivering high-quality services and information.

## CONCLUSION

Good e-business website offerings are likely to be experienced consumers who have enthusiastically adopted the Internet rather than as a bolt-on extension to their new corporate structure, i.e. the company sought advanced stages of process integration. The most critical consideration was defense. It indicates that security is crucial in e-commerce Websites, especially when it comes to electronic payments, which cannot be breached in any way, and when it comes to the subject of site authentication itself. An e-commerce website must properly and accurately handle and monitor its stored data.

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