

# E-Commerce in Saudi Arabia: Characteristics of a Trustworthy Usable E-commerce Websites

Najim Al-Shammari

Program Manager- Manpower Services, Project Management Function, BAE Systems Ops, Riyadh, Saudi Arabia

---

**Abstract** The aim of this paper is to improve the performance of e-commerce in Saudi Arabia through assisting Saudi retailers to reinforce their presence through a usable and trustworthy e-commerce website especially after the Saudi E-commerce Law been into effect. The advantage is that the Saudi stores will be more convenient to customers, gain their trust and contribute to the Saudi vision 2030. A questionnaire survey has been conducted to know the e-commerce websites mostly used by Saudis and why they have been chosen. 280 university students representing different regions and cultures of Saudi Arabia have been chosen to participate. Studies of website usability and usability inspection methods have been visited by this paper to identify the technical factors that contribute to improving website usability and to assist the Saudi e-commerce organizations overcome usability issues. This paper also talks about the vulnerability of cloud technology and social media when used for storing business and personal data for e-commerce purposes. Plus, it encapsulates the legal requirements such as data privacy as trust enhancing factors. Hence, this study is beneficial for Saudi law makers as it illustrates the requirements that should be part of the Saudi Data Privacy law which is not yet finalized. Although this study focuses on Saudi e-commerce, it is beneficial to the Saudi e-government as website usability and usability inspection methods are applicable to all websites. As a result, the online performance of the Saudi stores is weak and need to be strengthened. Strong e-commerce activity make Saudi stores not only reach more customers and gain their trust but also contribute to achieving the Saudi government goals illustrated in the Saudi vision 2030.

**Keywords** Human Computer Interaction (HCI), Data Privacy, Fair Processing Notice (FPN), Consent, Information Architecture, Non-Disclosure Agreement

---

## 1. Introduction

Saudi Arabia needs effective e-commerce more than any time before. The Saudi Ministry of Commerce and Investment announced in their website that the Saudi e-commerce law had been into effect and issued on 10/07/2019. For sure this will motivate businesses to perform online. In his study, Eid (2011) concluded that the information quality of an e-commerce website and privacy influence customer satisfaction and loyalty. Hence, this paper aims to assist businesses to adopt a user-friendly, useful and trustworthy e-commerce website. For the purpose of this study, Saudi e-commerce means Saudi retailers who already exist and perform in Saudi Arabia sell products and provide services online form Saudi Arabia. Saudi vision 2030 clearly states that one of the goals is to make the country of Saudi Arabia is less dependent on oil as a main

source of income. Both public and private sectors are expected to contribute to the Saudi vision 2030. In order to do so, e-commerce needs to be adopted and looked at as one of the enablers of the Saudi vision. Since e-commerce is buying and selling online, online retailers need to make sure they own usable and trustworthy e-commerce websites. But how can they be sure of that? How can a Saudi online store gain customer's trust? Is there a link between usability and trust? What is the impact of government rules and regulations on e-commerce? To implement Saudi vision 2030, this paper aims to assist Saudi businesses to improve their e-commerce websites. Saudi stores need to understand the value of e-commerce and that it is inevitable. Successful e-commerce activities mirror the strong and effective competition skills an organization embraces. Another value of e-commerce for organizations is that they do not need to be physically present in every location in Saudi Arabia. Rather they only need to be convenient to people online and make new loyal customers as most of the people nowadays are online most of their times.

Obviously internet changes people's lives in many ways. People can now complete an academic degree without having to leave their jobs and purchase books whilst at home. They socialize and create communities on line for

---

\* Corresponding author:

naarrak76@gmail.com (Najim Al-Shammari)

Published online at <http://journal.sapub.org/ijis>

Copyright © 2019 The Author(s). Published by Scientific & Academic Publishing

This work is licensed under the Creative Commons Attribution International

License (CC BY). <http://creativecommons.org/licenses/by/4.0/>

knowledge sharing. They evaluate the services and products provided by a vendor and provide feedback online to be seen by millions of people. This forces organizations to change business behavior and to better shape customer services prior, during and after sale. Unfortunately, this is not happening in Saudi Arabia the way it should be. In spite of the fact that some Saudi government bodies like Ministry of Interior, Ministry of Justice, Ministry of Trade and Investment, Ministry of Health and others have moved their services online to be more convenient to people and minimize physical trips to government offices, e-commerce is still weak. For example, giant Saudi retailers are not on the list of Maroof; a service provided by Ministry of Commerce and Investment and operated by Thiqa Company for both online sellers and buyers in order to create trusted e-commerce through online store recognition. So, the ministry tells online shoppers that whoever on this list is a recognized business and dealing with them is safe. The list can be found in <https://maroof.sa/>. But as mentioned earlier giant Saudi retailers are not on it.

Perhaps e-commerce is not a priority to them or they need guidance on how to start. This study sheds lights on the steps Saudi commercial organizations should take to reinforce their presence and improve their online activities and therefore be significant players in achieving the Saudi vision 2030.

It is very important to understand that the success of e-commerce cannot be attributed only to the efficient and user-friendly website in spite of the magnificent role it plays. It is the output of a collaboration, cooperation and coordination between many different parties; public and private sectors. In other words, it is the result of effective stakeholder management and understanding the business needs of the right web application and technology. When everyone knows their roles and responsibilities and the value of their contribution, objectives are more likely to be achieved. This paper illustrates what is expected from government agencies to enhance e-commerce trust.

Organizations need to make sure that they are running a usable website because if ease of use and ease of navigation are some inputs of usability, customer's trust is the outcome. It is hard to trust an online store whose e-commerce website is not usable and required information cannot be found easily. If the website were hard to use and navigate it would not serve the business goals. Such type of e-commerce websites is abandoned by customers. To help businesses overcome website usability issues, this paper sums up what researchers have concluded about website usability inspection methods such as heuristic evaluation, cognitive walkthrough, formal usability inspection, pluralistic usability walkthrough, and contextual inquiry. Online retailers have to review the business goals and evaluate the performance of their e-commerce websites regularly using these usability inspection methods.

This paper is divided into sections. Next part discusses the survey which is conducted for the purpose of this paper. The third section brings in and discusses website usability. The

forth talks about the usability inspection methods and the fifth is about trust and how it is obtained. Conclusion of this study comes before the reference lists.

## 2. Research Method

For the purpose of this paper, 280 undergrad students at King Saud University participated in the questionnaire survey. Participant comes from different regions of Saudi Arabia to ensure different thoughts and cultures are captured. The purpose of the survey is to know where people in Saudi Arabia shop online, what is their preferences and why. The survey was in Arabic language to ensure accurate answers and to make sure participants express themselves and deliver the message clearly. The participants are asked about the e-commerce websites they usually shop at and whether they get the technical support they need. They are also asked if the business return, shipping and complain policies are clear and why this particular e-commerce business has been chosen. Recommendation for improvement is also part of the survey from the customer point of view. It is important to know how online shoppers think about their online shopping experience in order to improve the online services and meet the customer's expectations.

Results show the majority of the participants chose to shop at or deal online with non-Saudi organizations. 274 of 280 which means 98% of the participants used 3<sup>rd</sup> parties like Souq.com which is owned by Amazon, AliExpress which is based in China, Newegg which is based in the USA. Only 6 participants of 280 forming a percentage of 2% chose to shop at or deal with Powerstore; a Saudi e-commerce website based in Saudi Arabia which. This indicates that the Saudi e-commerce websites are not well known. Besides, Powerstore e-commerce website is only in Arabic language i.e. the website does not serve non-Arabic speakers. Of course, this does not fulfill the business needs. In addition, the return policy of Powerstore e-commerce website is not clear according to participants. From a customer point of view, online returned item must not be tied to a timeframe as the delivery of the item might be delayed by the Post or get lost. Although there is a link in Nano-eshop to their privacy policy, it is just not there. The Saudi e-commerce websites can do better and be distinguished among their rivals if the next sections of this paper are studied well by the owners.

As an attempt to understand why most of the users chose to shop at non-Saudi online retailers, the answer is due to the good reputation they have built and maintained. Saudi online stores need to pay close attention to the next sections in order to build mutual trust with customers and achieve business goals.

## 3. Website Usability

Generally, studies by Human Computer Interaction (HCI) contribute to the improvement of website usability. Online businesses need to make sure the websites they are directing

their customers to be usable i.e. easy to navigate and therefore. According to Palmer (2002), poor usability means the inability to navigate the website, issues related to timelessness (download time) which can be measured both in terms of initial access to the site as well as within the site movement; and content. Moreover, if the website is easy to navigate, it is more attractive and users spend more time browsing the content and business goal is more likely to be achieved.

Moreover, Nah & Davis (2002) assert that if users know their locations in an e-commerce website, what to do next, how to find the information of their interest in minimal efforts, the website therefore is easy to use. Thus, web usability's core idea is the ease of navigation and search. In his research, Palmer (2002) asserts that web designers have to pay close attention to good links and navigation mechanism when creating a commercial website because Palmer (2002) believes graphics, layout, content, searching, readability, and text links are vital.

So in order for the commercial website to be a user-friendly and easy to use, the homepage of the website should contain a summary describing the business's mission and accomplishments, a very clear and visible window title, search box, and efficient graphics. In the contrary, Nah & Davis (2002) consider slow download time, non-standard link colors, long scrolling navigation pages, of poor usability.

Saudi online businesses can improve the usability of their e-commerce websites through personalization. In their study, Abbattisa et al. (2002) concluded that personalization application is essential for the website to be user-friendly and easy to use. In other words, they use intelligent personalized agents in order to improve the consumer-supplier relationship in e-commerce. These agents represent virtual assistants for users. But this requires a combination of usefulness and a high degree of usability. Moreover, it requires accurate and complete user profiles based on the collected data (Abbattisa et al., 2002).

Bruno, Tam & Thom (2005) review the characteristics of web applications that are believed to have a great effect on website usability. According to Bruno et al. (2005) web application is an application which has been designed to be executed in the web-based environment. Such an application is more than web pages with a navigational bar. The characteristics of web applications contribute to understanding the website usability. Such usability gets affected by factors like: users, tasks, technology and context.

The first factor "users" is divided into primary users, secondary users, user communities, users as buyers and substitute users. Primary users can be novice, advanced beginners, competent performers and experts. There are other important aspects we have to think about when talking about or considering the users factor such as user loyalty, different levels of credentials, accessibility for disabled users. Additionally, the psychological aspect of users is not of less important. Motivational factors can make wonders. Web designers should take the user culture factor into

consideration because it helps understand the target users of the website. Bruno et al. (2005) provide five dimensions by which a specific culture can be measured: power-distance, collectivism vs. individualism, femininity vs. masculinity, uncertainty avoidance and long vs. short-term orientation. Similarly, Bruno et al. (2005) follow the same way illustrating the other factors: task, technology and context. So, knowing the target users of the website and understanding their culture are vital in creating a usable website as what works in the US may not in other countries.

The second factor; tasks, focuses on the nature of the website, namely, informational, interactive, transaction, workflow, collaborative work environment, online communities (market places), web portals, and web services. The transactional type is commonly found in the commercial website applications. In order to create an easy to use and usable website, web designers have to understand the task of the website they are assigned to build so that they incorporate all the tools needed accordingly.

The third factor that affects web application usability is technology. By technology Bruno et al. (2005) mean the tools that are used to implement a web application. These tools include: visual editors and site managers, hypermedia web generators, web database gateways, web-based form editors, database web publishing wizards and model-driven application generators. Technological characteristics have a greater effect on the web application usability than in traditional applications (Bruno et al., 2005). Web designers must be knowledgeable about all required technological tools.

The fourth factor affecting web application usability is context. According to Bruno et al. (2005), context differs from a website to another based on the nature of business that owns the site. Some businesses, for example, require more concentration on security such as finance industry whereas; a newspaper web application focuses on accessibility.

Bruno et al. (2005) conclude that the web application is more complicated than the traditional application or conventional software. The web application deals with a wider range of stakeholders, a wider range of tasks and interaction styles, more sophisticated technological infrastructure, and a wider range of contextual issues. Hence, it is highly recommended that the Saudi online businesses understand the scope of their businesses, know who their stakeholders and customers are and make sure they have the required and the exact resources for successful product and service delivery.

Website design can benefit from the application of usability principles such as media richness theory and marketing concepts. As defined by Palmer (2002), media richness is the ability of information to change understanding within a time interval. It has been stated that media richness adds specific media-inherent capabilities and information content that need to be included in an initial set of potential web metrics. In other words, e-commerce website needs to be capable of processing multiple information at a time, provide a quick feedback, and use natural language i.e. avoid

technical and programming languages.

Palmer (2002) mentions that website design, usability and media richness are closely associated with website success. It has been recommended to pay attention to download delay since it is important to users. Besides, findings of Palmer's research (2002) consider organization, navigation, media richness, interactivity and responsiveness as website success factors. Website success can be inferred by the repeated customer's visits to the site that indicates their satisfaction and efficient usability and user-friendly attribute indicate good quality.

In their research, Cheung and Lee (2002) aim at integrating end-user satisfaction and service quality literatures. They assert that information quality, system quality and service quality play a significant role attaining consumer's satisfaction. When consumers are satisfied, websites gain consumer loyalty, favorable word of mouth, purchase repetition, and improve the company's market share and profitability. Also, Cheung and Lee (2002) focus on customer's satisfaction as which must be in mind of e-commerce business in every single transaction. Saudi online businesses have to evaluate where they are with Customer's satisfaction. The online store must have a clear return policy and make sure all employees and customers understand. In order to make loyal customers, online stores have to trust their customer, as trust is mutual, and get their money back to them when the product or service does not meet their satisfaction. Customer's satisfaction can be known via Feedback or Service Rating when the customer is given a chance to describe her/his experience about the product they have purchased or a service they have received.

Minocha et al. (2006) present a naturalistic, and opportunistic, in situ observations, in conjunction to self-reporting techniques such as post-observations interviews and semi-structured interviews after the delivery of the purchased product or service. This approach enables e-commerce offering organizations to attract and retain customers. In order to be capable of doing that, customer's experience must be received, reviewed and analyzed by online stores.

Customer experience includes customer's interaction with the website and the usability of the user interface design and extends to overall experience and satisfaction attained when purchasing a product or service. So, Saudi online businesses must apply all approaches that attract and retain customers. Note, off-line shopping, personal values, attitudes to technology and e-commerce influence customer experience (Minocha et al., 2006).

Minocha et al. (2006) conclude that a single technique is inadequate to capture customer behavior with e-commerce. Two or more techniques can be combined to expose individual, social, and organizational factors and to capture relationships between consumer's behavior (what they did) and their expectation and perceptions (why they did).

Cheung and Lee (2002) use theories like End-User Computing (EUC) Satisfaction and Service Quality (SERVQUAL). In the end-user computing environment,

users consume information directly when interacting with the system application. Information consumption requires information quality and direct user interaction requires system quality. As a matter of fact, both information quality and system quality have significant impacts on consumer satisfaction in internet shopping. According to Cheung and Lee (2002), information quality has four dimensions: accuracy, content, format, and timeless. These dimensions are supported and consolidated by Information architecture through grouping materials or items right. The materials must be well categorized and grouped within the website. For example, do safety shoes fit under Safety Equipment? Should they be under Shoes or Clothes? Another example, are men's dress belts going to be classified under Clothes, Leather Product or Accessories? As a solution, the website must incorporate what has been culturally agreed on.

In other words, a material within the website should not be given a title or labelled in a way people do not understand. If the scope of the Saudi e-commerce website is to serve people, Arab and non-Arab, who live in Saudi Arabia, it should be in both Arabic and English languages. So, web designers must make sure that similar materials fall into the right category and described well through right labels because the organizational structure and the grouping of the pages of e-commerce websites must be intuitive and easy to understand. When navigating the website, users should find the information where expected. The scope of the websites of Saudi giant stores should not be limited to people living on Saudi soil. Rather, the web designers and business owners must bear in mind their contribution to the Saudi vision 2030. Expanding the scope to include international customers supports the Saudi economy and thus help achieve the Saudi vision 2030.

System quality, on the other hand, has the dimensions of navigation, ease of use, time, and security. Some of the tools that can optimize navigation are Site Map, Index, Alternative Menu Structure and Search Engine. Besides, service quality also has significant effects on consumer satisfaction in internet shopping and its dimensions are responsiveness, assurance, and empathy. Cheung and Lee (2002) argue that user satisfaction in internet shopping can be achieved if information quality, system quality and service quality are well collaborated into e-commerce websites.

Having been aware of the importance of web usability and the factors and principles that can either positively or negatively affect the usability of an e-commerce website and therefore affect the relationship between the businesses and their customers, one may ask how an online store can be confident of having a usable e-commerce website. The answer is by applying usability inspection methods or one of them that most suits the business, identifying and fixing website technical problems and.

## 4. Usability Inspection Methods

These usability inspection methods are applicable to all types of websites and not only to e-commerce. The usability

of the websites of universities, government agencies, non-profit businesses etc. can be evaluated by the application of such inspection methods. The aim of undertaking usability inspection methods is to ensure that the website contributes to the goals of all stakeholders and contributes to the Saudi vision 2030 as well. Hollingsed and Novick (2007) track the usability methods such as heuristic evaluation, cognitive walkthrough, formal usability inspection, and the pluralistic usability walkthrough in terms of their uses and effectiveness.

According to Hollingsed and Novick (2007), the heuristic evaluation involves a small group of usability experts evaluate a user interface using a set of guidelines and identifying usability problems, where they exist, and how critical each problem is to usability. The disadvantages are evaluators must be experts, several experts are needed, and therefore the cost will be higher. The second usability inspection method is cognitive walkthrough which is defined by Hollingsed and Novick (2007) as a usability inspection method that evaluates the design of the user interface for its ease of exploratory learning, based on a cognitive model of learning and use. It can be used at any time of the development process. This method is learnable and usable for evaluators with novice experience in the process. However, heuristic evaluation finds more problems with the interface but non-experts cannot participate in it (Hollingsed & Novick, 2007).

As the testing processes continue, researchers argue that understanding user behavior is so important. In other words, it would be helpful if web designers fathom the relationship between what the consumer does (behavior) and why they did it (rationale of their behavior). Minocha et al. (2006) assert that many relevant HCI techniques focus to reveal the "what" and "why". Heuristic evaluations and controlled user-observations, for example, expose the usability problems without examining the associated influencing factors. In other words, Heuristic evaluations and controlled user-observations are not naturalistic due to the user inability to choose their preferable sites and the inability of getting involved in a real online purchasing process.

Pluralistic usability walkthrough is another usability inspection method that adapts the traditional usability walkthrough to include representative users, product developers, members of the product teams and usability experts in the process. One of its advantages is offering feedback from users even if the interface is not fully developed. Additionally, it enables fast repetition of the design cycle and can result in "on-fly-redesign" until condition is met. On the other hand, the disadvantage of the pluralistic usability walkthrough is that this approach must be limited to representative rather than comprehensive user paths through the interface and if users did not follow the path that has been followed by the group; they would reform their interaction with the interface (Hollingsed & Novick, 2007).

Formal usability inspection is a review by the interface designer and his/her peers of users. Similar to the heuristic

evaluation, this method requires experts to participate. Thus, it is quicker, more thorough and more technical than the pluralistic usability walkthrough. It aims to identify the maximum number of problems in the interface (Hollingsed & Novick, 2007).

Hollingsed and Novick (2007) conclude that the heuristic evaluation and the cognitive walkthrough are the most actively used and researched techniques. The pluralistic walkthrough is still recognized but not the subject of significant further study. The formal usability inspection is integrated into other techniques or mostly abandoned in practice. However, why do usability professionals depend on one method which involve either users or experts but not both?

Furthermore, Smith & Dunckly (2002) introduced a methodology which has been developed by Holtzblatt and colleagues and called Contextual Inquiry (CI). The purpose of CI is to understand how and why something is done and otherwise. Work context can be studied by the techniques provided by CI. Namely, CI is a means of collecting information about user work practice by observing and interviewing users while they actually work. In CI, users are interviewed in their work environment by members of development team. In CI, every user is observed and interviewed at a time. Unlike other usability testing methods where all participants are observed simultaneously (Smith & Dunckly, 2002).

The aim of CI is to build a partnership in which both the developer and the user collaborate to create a shared understanding. CI helps reduce the dominance of the designer and refocuses the process on the user. In other words, CI is considered as a user-centered design in which the user is the master of the testing process (Smith & Dunckly, 2002). Some Saudi online businesses don't include the potential users of the e-commerce website in the design phase and rely only on hiring good programmers and IT specialists to do the job which creates a gap between the online store and its customers.

Nonetheless, web designers have been offered a new method for both realizing the load of the system and improving the response time to be used along with the usability inspection methods to ensure website performance perfection. Businesses do care about their ability of retaining customers and they have been trying different methods and ways in order to make loyal customers. Ostensibly, Elnikty, Nahum, Tracy & Zwaenepoel (2004) contribute to usability of e-commerce website and customer service in their study. This is noticeable when the website gets too many visitors it gets jammed and sometimes kicks website users out. So, the Saudi online store has to regularly evaluate and measure the capacity of their e-commerce website as it may need to expand in order to avoid dismissing customers.

Elnikty et al. (2004) present a method for admission control which requires knowing the capacity of the system and knowing the load that will be caused by a transaction. The online business needs to watch the load and try to keep it within the system capacity otherwise problems such as

overload and responsiveness might be imminent. Overload refers to the website's state wherein a tremendous volume of requests flow into the system that exceeds the system's capacity. Whereas, responsiveness refers to the lack of response time that leads to lower website performance (Elnikty et al., 2004).

The approach of this method externally measures execution cost online. It also differentiates between different types of requests, enables overload protection and helps improve the response time. No change is needed to implement admission control. For example, the source code, service software, applications programs, or the database will not be touched or changed. By implementing this approach, the development effort will be tremendously reduced (Elnikty et al., 2004).

Researchers still concern about the quality of e-commerce websites and they carry on looking for appropriate testing method. The importance of the usability and quality of a website urges researchers to find out a testing method that can be done remotely and without putting participants under the control of a direct observer. This is very useful method for Saudi online businesses as they can use feedback provided by virtual participants.

Thompson, Rozanski & Haake (2004) compare between the traditional usability testing and the remote one. As past studies assert that the traditional usability testing is more accurate than the remotely held one, Thompson et al. (2004) prove that the remote usability testing is as effective as the traditional one in terms of usability problems identification. This is the most important point in usability testing since the major goal of a performance-based usability test is problem identification.

Many details have been taken into consideration when developing procedures and protocols for remote usability testing. The nature of those details can be grasped from the following questions: what web software was to be used? How were materials going to be sent? And what data was to be collected? As an example, the usability of a well-known shopping website has been tested. Five users were participated in the traditional usability testing and another five participants for the remote usability testing. Traditional testing was held in a usability testing lab. The remote testing, however, took place while users at home synchronously with the test administrator.

Thompson et al. (2004) share and support Nielsen's point of view that says five users are enough to reveal 85% of the usability problems. Also Whitehead (2006) believes that at least five users are needed to be involved in the usability testing. Ideally, it is believed that from eight to twelve users must be involved in order to identify the website's usability problems. The method was a questionnaire of eight questions regarding satisfaction, navigation, layout, consistency, feedback, error messages, help, and search.

The results of both tests show that the traditional participants identified 26 usability problems whereas the remote participant identified 32 problems. Therefore, the remote usability testing can be as effective as the traditional

one. In addition, based on this experience, it has been recommended that the remote testing must be done synchronously with the administrator to ensure its accuracy Thompson et al., (2004).

Usability components; checkability, confidence, control, ease of use, speed and understanding are explained by Whitehead, (2006) who asserts that it is possible to measure the usability components either separately or in combination. These measurements are necessary for setting up web page/site usability, evaluation and testing. In general, usability is potentially complex and wide ranging but clearly "user-centered" (Whitehead, 2006).

Moreover, usability metrics are measures of a particular aspect of a web page or website that has an impact on usability. In today's environment, the following web page metrics are considered the most important measurements in evaluating usability: word count, body text, emphasized body text, text positioning, text cluster count, link count, page size, graphics, graphics count, color count, and font color (Whitehead, 2006). Although these metrics are important for improving website usability, they cannot be trust inducing by themselves. In other words, an online store has to be careful dealing with customers because if a customer had a bad experience with an online store, he or she might be apprehensive about revisiting. All these metrics are part of system quality and system quality is not enough for building trust (Salem, Lyer, Palvia & Singh, 2005).

## 5. Trust and e-loyalty

Although it is difficult to define trust, everyone is assumed to know what it is. The question is not what trust is but how can an online store build customer's trust? Customers need to know that their rights are preserved. Online shoppers concern about the security of their data. Online retailers need to ensure that the environment of the transactions customers are about to complete is safe and secure. Information has to be updated in a regular basis since information accuracy makes difference. By so doing the online trade activities will be trustworthy and performed by a responsible business.

In addition, in order to build customer trust, it is important that online stores place their customers' interests before their own. Also, online stores must avoid looking incompetence (Landford & Hubscher, 2004). In other words, e-commerce website must not contain broken links, unclear checkout procedures, unsecure protocols or missing data privacy policy. This illustrates the importance of usability and its relation to online trust.

Landford and Hubscher (2004) consider learnability, efficiency, effectiveness, memorability, subjective and error general usability criteria that must be taken into consideration by website designers. Moreover, Landford and Hubscher (2004) provide some guidelines they believe as trust enhancing such as fulfilling the customers' expectations, building a good reputation, technical competence, minimizing the risk customers is taking, reducing uncertainty in decisions, moving risky actions to a third party

and building long-term relationship.

However, Landford and Hubscher (2004) suggest not to ask for personal information which needs more explanation as there is no single e-commerce website doesn't ask for personal data. The authors perhaps mean not to ask for personal data without any legitimate purposes or not to use excessive amount of personal data for a purpose. Privacy and security play a very significant role in trust enhancement. No matter how usable a website is, without strong security measures and standards customers will not perform any payment transaction. Online shoppers need to know how their personal data such as names, addresses, credit card information and so on is collected and processed and to whom it is going to be disclosed and for how long it will be retained. Is the payment process the only reason for which customers' personal data is collected?

Privacy policy for example instructs that customers should be aware of why their personal data is collected and how it is going to be processed. There must be clear processes and requirements to help everyone complies with the privacy policy. First process is that the business has to obtain Customer's Consent for processing their personal data. Second process is that the online store has to make a Fair Processing Notice (FPN) available on the website and can be seen by all website visitors. The purpose of the FPN is to inform customers about the type of personal data required for a purpose and how such data is to be processed. It has been noticed that some Saudi online stores don't have a privacy policy. Missing privacy policy does not serve online trust. Maybe this is because the Saudi Data Privacy law is not yet finalized. The Data privacy requirements such as data privacy policy, customer's consent on the process of their personal data and FPNs are part of the up-and-coming Saudi data privacy law.

Successful e-commerce organization is the one whose customers believe their data is in good hands, safe and secure. In order to reach this level, an online business needs to adopt and invest on effective information and cyber security. Additionally, the Saudi online businesses have to be very careful when using cloud technology as they may lose control of their data. Vulnerability would be grater and the business information might be compromised especially when the cloud technology is hosted in and controlled by a foreign country. Similarly, some Saudi online stores exist only in social media which is not a proper place for online business dealings due to security concerns. A responsible and successful online business dose not put customers and their information at risk. All customers' concerns about security and privacy can be addressed by having the right business policies clear, visible and easy to find preferably on the home page of the website.

The online business has to make sure that all business policies align with the government law and legislation. There must be a communication plan between the online store and the relevant governmental agencies such as Ministry of Commerce and Investment, Ministry of Interior, Law Enforcement Authorities, Ministry of Information

Technology, Ministry of Justice and the Saudi National Cybersecurity Authority. Such communication plan must also include how to deal with Saudi Post and when and how it should perform in terms of delivering a product to a customer.

In addition to the technical aspect, Nah and Davis (2002) argue that e-commerce business owners should be aware of the online trade processes and they should ensure web designers create and incorporate the easiest way of online shopping process. Such processes must follow the government rules and regulations. Hence, the policies of the Saudi Arabian Monetary Authority, Ministry of Commerce and Investment and other relevant government bodies must be complied with by all online stores. By doing so, Saudi e-commerce will be reliable, usable and useful. It is very important that an online store doesn't violate any of the government policies and processes.

The government support is vital to e-commerce as they control, provide guidance and governance on all e-commerce activates to prevent identity theft, fraud, and receive people's complains. As an example of the government support, Ministry of Commerce and Investment provided an online service by which customers can know who they are dealing with. This can be found in 'Maroof' which literally means 'known' <https://maroof.sa/>. Through this list the ministry is telling people that online vendors who are on Maroof's list are registered and licensed. So, it is recommended that Saudi online businesses to be registered on that list. This will increase the store's credibility and as a result the store will gain customer's trust.

Landford and Hubscher (2004) also suggest to move risky actions to a third party. This does not clear the responsibility of the online store though. Appropriate contracts and agreement must be in place between the online store and third parties that provides services to the customers on behalf of the online business. Non-Disclosure Agreement for example obliges third parties to maintain the business secrets and not to disclose any of the customers' personal data. Business Contracts illustrates the roles and responsibilities of all parties involved in providing services or products to customers.

Salem, Lyer, Palvia & Singh (2005) present a framework that highlights the importance of nurturing consumer trust in the context of e-commerce. This framework is based on sound theoretical and empirical foundations from the main research streams: Technology Acceptance model (TAM), theories on trust, theories on relational dependence and how these theories are integrated through the theory of reasoned action (TRA). Hence, the underlying theoretical concepts that decrease risk and increase consumer trust have been clarified. As mentioned earlier in their paper, Salem et al. (2005) believe that Technical approaches to establishing credibility and integrity are necessary but they are insufficient for creating long-term trusting relationships between consumers and online businesses. It is necessary that web designers and online business owners make sure they align both their long-term and short-term relationships

with consumers and develop interventions to inspire consumer beliefs that affect their attitudes, intentions, and dependence, and ultimately their willingness to spend money (Salem et al., 2005).

Honesty, transparency, security and responsibility are the trust enhancing attribute should be adopted by online performing organizations. The Theory of Reasoned Action (TRA) provides four trusting beliefs e-commerce website has to embrace in order to be trustworthy. These trusting beliefs determine consumer attitudes of trustworthiness towards the online store they are dealing with. The first belief, according to Salem et al. (2005) involves consumer perception of the vendors' characteristics such as good will, caring, responsiveness, and concern. The second belief involves the consumer awareness of characteristics expressed by the business such as honesty, credibility, reliability, dependability, and discretion. The third belief implies perceived competence in its product design, manufacturing, order processing, after-sale service, and consumer problem solving. The fourth belief involves perceptions of predictability and consistency in the vendor's actions, reducing perceived consumer risk. For consumers, however, the beliefs help determine three outcomes of a vendor's trustworthiness: Consumer evaluation, intention to use a vendor's site and actual visit to the site. If the Saudi online store understands these trusting beliefs, online trust will be gradually built and therefore the online risk will be reduced.

In their paper Nah and Davis (2002) provide a helpful tool if an e-commerce website applies a good relationship between the online store and customers will be formed, reinforced and consolidated which is product comparison. It simply means when an e-commerce buyer is browsing an online store website and viewing multiple choices, the website should provide comparison between those choices without forcing the customer goes a few pages back to find out the difference. This can be considered a trust enhancing and the online shopping will be more interesting.

For relationship development, it has been mentioned by Salem et al. (2005) that participating in e-commerce relationship assumes some amount of dependence on the web vendor for products or services. Due to the fact that some consumers make one time purchasing and never visit the vendor's website again, market-pricing relationships are considered of shallow dependence relationship. This type of dependence needs a mechanism called deterrence-based or calculative to help produce trust. Users may use deterrence-based to calculate if they need to get involved in the vendor's website. If they found the website trustworthy, they may engage in a transaction. The relationship then continues from shallow to deep dependence. In deep-dependence relationship, deterrence-based develops into an obligation-type of trust mechanism, assisting development of a long-term relationship. Obligation-trust mechanisms are based on "psychological contracts" that rely on mutually perceived obligations (Salem et al., 2005).

According to Yang, Hu, & Chen (2005) Buyer, Seller,

Third Party, and Technology are e-commerce entities that must be understood by online stores in order to be trustworthy. Yang et al. (2005) also presents a Web trust-inducing model along with four hypotheses. When talking about buyer, Yang et al. (2005) believe that the demographic factors, experience, familiarities, individual culture and privacy are key factors of trust inducing. In terms of seller, there are brand-equity, comprehensiveness, variety, availability, and customization as trustworthiness determinants. The third party must hold good reputation, accreditation, authentication, approval and customer communities in order to have trust inducing attributes. The trust inducing factors in technology are quality of media transmission, interface design and content, security, reversibility, digital certificate, and confidentiality.

In an agreement with Cheung and Lee (2002), Yang et al. (2005) see Graphic design, structure design, content design and social-cue design as the four dimensions of the web trust-inducing model. Proper use of graphics is trust enhancing. Ease of navigation was frequently mentioned as a key to promote online trust. The trust-inducing features in the content dimension is to provide a correct, comprehensive, and up-to-date product information and using domain name consistent with the brand or company name. Face-to-face interaction and social presence via different communication media also induces trust (Yang et al., 2005). So, the Saudi online store must avoid using too much bright flashing colors as they are tiring. Besides, they must create communication channel with their customers and consolidate relationship.

Yang et al. (2005) emphasizes the positive influence of good usability in e-commerce trust. They consider usability a key trust inducing factor about which web designers must concern and work on improvement. Although hyperlinks improve usability and make the process of finding the required information easier, they might have an impact on trust.

Stewart and Zhang (2003) study how hypertext links between organizations on the World Wide Web impact trust from an organization to another. Hypertext links can be either for business affiliations, such as partnership, or advertisement. In terms of link direction, does it make any difference if a link is sent from the unknown target to known target rather than the reverse? A link, as a form of information, may have more impact when it is presented by a known and trusted target than by unknown target (Stewart & Zhang, 2003).

An experimental study has been conducted to test the hypotheses raised by Stewart and Zhang (2003). Participants were assigned a task of shopping for a laptop computer and they visited two websites. One was a computing magazine website and the other was laptop vendor. The direction of the link between the two sites was varied such that some subjects viewed the magazine first and it provided a link. Others viewed the vendor first and it provided a link to the magazine. Links employed the company logo of the linkee with a label stating that it was a partner or an advertiser.

Findings of the study of Stewart and Zhang (2003)

indicate that trust in known targets may be decreased during the transfer process, that links from both known and unknown targets may cause transfer to happen, and that the perceived nature of a link may impact the strength of the transfer effect. So, Saudi online businesses have to be careful whom to link for since this might have serious consequences especially when terrorist organization involved.

To avoid being unknown, some businesses clearly show privacy seals in their websites. Moores (2005) aims to answer the basic question of whether online consumers understand or care about privacy seals and whether such measures influence their tendency to shop online. The main three privacy seals are TRUSTe, CAP Web Trust, and BBBOnline. The main criticism of these seals according to Moores (2005) is that they have no real power to deal with abuses. But here is an issue, if these privacy seals are powerless dealing with abuses, why do people think that they are important for a website's trust enhancement? For Saudi online retailers, it is necessary to be on the list of Maroof which has been discussed earlier to prove their recognition to their customers.

Cyr, Bonanni & ilsever (2004) investigate the design preferences that contribute to the development of trust, satisfaction and e-loyalty across cultures. According to Cyr et al. (2004) e-loyalty represents intention of online repurchase or return visits to a website. In their paper, it is clear that Cyr et al. (2004) outline a review of literature emphasizing design, trust, satisfaction, and e-loyalty with reference to culture. It also proposes comparisons for preferences of the local and foreign websites and subsequent participant perception of trust, satisfaction and e-loyalty.

Culture is defined as "a system of values and norms that are shared among a group of people and that when taken together constitute a design for living" (Cyr et al., 2004). Understanding a national culture and how it is related to trust requires awareness of the cultural dimensions of individualism-collectivism, uncertainty avoidance, power distance and femininity-masculinity (Cyr et al., 2004).

A survey was developed to test topics like design, trust, satisfaction and e-loyalty. The research task requires that participants respond to a local version of Samsung website and a foreign version which was the Hong Kong site of the same company (Samsung) in each case. After browsing the homepage, participants were requested to navigate the site to choose a cell phone they would hypothetically purchase. Respondents were from the U.S., Canada, Germany, and Japan. These countries are chosen as they represent very diverse cultural dimensions (Cyr et al., (2004).

As a conclusion, Cyr et al. (2004) assert that the Japanese were least trusting of either local or foreign websites, while the Germans tended to be most trusting. Americans and Canadians who represent individualism would be expected to be more trusting; however, they scored mid-range compared to the other two groups.

Furthermore, the Japanese proved that they concern about security more than the Canadians, American and Germans. One of the Japanese respondents, on the other hand,

explained why they prefer the foreign website of Samsung (the Hong Kong), and said that there were more pictures and drawings used in the Samsung of Hong Kong than the Japanese version and that the Japanese like the emotional approaches. Apparently, the Japanese like brighter colors and animation which were presented on the Samsung site of Hong Kong (Cyr et al., 2004). Based on this experience, web designers have to study the culture for which they are to design a website for and understand the people's preferences before they start building or designing their website. By so doing, websites will gain customer's e-loyalty since those websites concern more about what users prefer and incorporate what users like to interact with.

## 6. Conclusions

Saudi giant retailers are not active online according to the questionnaire survey conducted by this paper and as shown by the list of recognized e-commerce businesses of <https://maroof.sa/>. It has been proved that the majority of Saudis and non-Saudis (98%) who live in Saudi Arabia prefer to shop at or deal with non-Saudi e-commerce organizations. Of course there are reasons behind that. As a solution, this paper brings in some guidance on how to be more convenient to customers and therefore contribute to the Saudi vision 2030 especially after the advent of the Saudi e-commerce law published in the Saudi Ministry of Commerce and Investment website. As illustrated earlier in this paper, e-commerce relies on technology, people, and information. But that is not all. There are other factors that impact e-commerce. This paper discusses the technical and non-technical factors that make Saudi e-commerce websites more user-friendly, trusted and usable.

Non-technical factors cover business policies and legal requirements such as data privacy that contributes to the enhancement of online trust because it preserves people's and organization's rights. Hence, this paper recommends that Saudi e-commerce organizations perform in alignment with all Saudi government policies and procedures. This can be achieved through an effective and comprehensive business communication and stakeholder management plans. Also, this paper considers the dominant culture where businesses are performed as a factor that has an impact on website usability.

Business owners should never forget the risk associated with using cloud technology and social media for e-commerce purposes. Business and personal information might be compromised causing reputational damage or financial loss. Online stores have to be confident about the security and safety of both business and customer's information in order to build customer's trust. In addition, this paper sheds some lights on how an online business evaluates the usability of their e-commerce websites as there is a link between usability and trust.

So, Saudi e-commerce can be improved and can be more efficient when business owners and all stakeholders work together to achieve one shared goal which is the success of

Saudi e-commerce. Usability criteria must be met and the performance of the e-commerce websites must be regularly evaluated. This can be achieved by applying one of the usability inspection methods illustrated earlier in this paper. When an online business combines usability, user-friendliness, usefulness and trust, it competes well, survives and is going to be distinguished among rivals. However, the system quality is not enough as mentioned earlier in this paper; businesses have to make sure that the information proposed in their websites is accurate and up-to-date. They also have to show customers their benevolence and concern.

---

## REFERENCES

- [1] Saudi e-commerce Law. (2019). Retrieved from <https://mci.gov.sa/en/Regulations/Pages/details.aspx?lawId=aaa4d4cf-ca57-41ff-a3f9-aa8500a3512c> last accessed 08/10/2019.
- [2] Saudi Vision 2030. (2017). Retrieved from [https://www.vision2030.gov.sa/sites/default/files/report/Saudi\\_Vision2030\\_EN\\_2017.pdf](https://www.vision2030.gov.sa/sites/default/files/report/Saudi_Vision2030_EN_2017.pdf) last accessed 08/10/2019.
- [3] Eid, M. (2011). Determinants of E-Commerce Customer Satisfaction, Trust, and Loyalty in Saudi Arabia. *Journal of Electronic Commerce Research*, 12(1), 78-93.
- [4] Abbattista, F., Degemmis, M., Licchelli, O., Lops, P., Semeraro, G., & Zambetta, F. (2002). Improving the usability of an e-commerce web site through personalization. Recommendation and Personalization in Ecommerce, 2<sup>nd</sup> International Conference on Adaptive Hypermedia and Adaptive Web Based Systems, 20-29.
- [5] Bruno, V., Tam, A., & Thom, J. (2005). Characteristics of web applications that affect usability: a review. Proceedings of the 17th Australia conference on Computer-Human Interaction: Citizens Online: Considerations for Today and the Future, 122.
- [6] Cheung, C. M. K., & Lee, M., K., O. (2002). Customer satisfaction with internet shopping: A research framework and propositions for future research. ACM International Conference Proceeding, 113.
- [7] Cyr, D., Bonanni, C., & ilsever, J. (2004). Design and e-loyalty across cultures in electronic commerce. ACM International Conference Proceeding Series, 60, 351-360.
- [8] Elnikty, S., Nahum, E., Tracy, J. & Zwaenepoel, W. (2004). A method for transparent admission control and request scheduling in e-commerce web sites. ACM International World Wide Web Conference, 276-286.
- [9] Hollingsed, T., & Novick, D., G. (2007). Usability inspection methods after 15 years of research and practice. ACM Special Interest Group for Design of Communication, 249-255.
- [10] Landford, P., & Hubscher, R. (2004) Trustworthiness in e-commerce. ACM Southeast Regional Conference, 315-319.
- [11] Minocha, S., Petre, M., Tzanidou, E., Gijk, G., Roberts, D., Gassman, G. et al. (2006). Evaluation of e-commerce environment: approaches to cross-disciplinary investigation. ACM, 1121-1126.
- [12] Moores, T. (2005). Do consumers understand the role of privacy seals in e-commerce? Communication of the ACM, 48(3), 86-91.
- [13] Nah, F. H., & Davis, S. (2002). HCI research issues in e-commerce. *Journal of Electronic Commerce Research*, 3(2), 98-113.
- [14] Palmer, J.W. (2002). Web site usability, design, and performance metrics. *Information System Research*, 13(2), 151-167.
- [15] Salem, A. F., Lyer, L., Palvia, P., & Singh, R. (2005). Trust in e-commerce. Communication of the ACM, 48(2), 73-77.
- [16] Smith, A., & Dunckly, L. (2002). Prototype evaluation and redesign: structuring the design space through contextual techniques. *Interacting With Computers*, 14, 821-843.
- [17] Stewart, K. J. & Zhang, Y. (2003). Effects of hypertext links on trust transfer. ACM International Conference Proceeding Series, 50, 235-239.
- [18] Thompson, K., E., Rozanski, E., P., & Haake, A. R. (2004). Here, there, anywhere: remote usability testing that works. ACM Conference on Information Technology Education 132- 137.
- [19] Whitehead, C. C. (2006). Evaluating web page and web site usability. ACM Southeast Regional Conference, 788-789.
- [20] Yang, Y., Hu, Y., & Chen, J. (2005). A web trust-inducing model for e-commerce and empirical research. ACM International Conference Proceeding Series, 113, 188-194.