

Research Article

Cultural Technology Acceptance Model for Consumers' Acceptance of Arabic E-Commerce Websites

Omar (Mohammad Ali) Al-Qudah and Kamsuriah Ahmad

Faculty of Information Science and Technology, School of Computer Science,
Universiti Kebangsaan Malaysia, 43600 UKM, Bangi Selangor, Malaysia

Abstract: The aim of this study is to identify the factors affecting consumer's acceptance of Arabic e-commerce websites and to propose a cultural technology acceptance model for consumer's acceptance of Arabic e-commerce websites. The proposed model was built based on, technology acceptance model, trust, perceived risk and Hofstede's cultural values as moderators between trust and perceived risk and purchase intention. In addition, Arabic language from literature review was added. Based on these theories and concepts, this study identifies the factors affecting consumer's acceptance of Arabic e-commerce websites.

Keywords: Arabic e-commerce websites, culture, Hofstede's cultural values, perceived risk, purchase intention, technology acceptance model, trust

INTRODUCTION

Technology has managed to go over every limitation that has ever arisen in various sectors of human life and the latest technology that has managed to do so is the Internet. The present business environment reveals the Internet being a significant infrastructure in most organizations (Chai *et al.*, 2011). In the context of both business and trading, people have attempted to look for different methods of business expansion. One of these methods is by investing through Internet-based firms during the dot-com era from 1995-2001. Following the collapse of this era, e-commerce surfaced and ever since then, e-commerce definitions proliferated. Kalakota and Whinston (1997) defined e-commerce as the latest type of enterprise using Internet technology for business growth. All e-commerce definitions are of the consensus that business depends on Internet to achieve goals and it is considered to help improve the nation's economy. Nevertheless, various factors can influence e-commerce adoption with risk and trust among the primary ones (Yang *et al.*, 2008; Casaló *et al.*, 2011). In case consumers expect certain risks while conducting transaction online, their interest naturally decreases (Ayyash *et al.*, 2012). In addition, cultural values are found to be moderators of the relationship between trust and risk with purchase intention (Lam, 2011). Culture is described as the collection of knowledge beliefs, values and attitudes determining the behavior of individuals in a society and differentiates them from another society (De Angeli and Kyriakoullis, 2006). Cultural values

have been considered as a variable to determine user's behavior and expectation in online purchase and factors driving adoption of e-commerce and its level (De Angeli and Kyriakoullis, 2006; Cyr *et al.*, 2005; Fletcher, 2006; Jagne and Smith-Atakan, 2006; Yoon, 2009). There is therefore a need for studies to predict the role of cultural values on the trust-risk relationship with purchase intention in terms of Arabic e-commerce websites. This study aims to propose a cultural technology acceptance model for the acceptance of consumers of Arabic e-commerce websites.

THEORETICAL FOUNDATIONS

Existing models on user's acceptance: To understand the reason behind user's acceptance/rejection of computer technology is one of the most critical challenges faced in Information Systems (IS) (Swanson, 1988). There are various factors that have been revealed to impact user's acceptance/rejection of computer technology. These models proposed for user's acceptance is provided and explained in the following sections to develop the basis of the present study.

The theory of reasoned action: Ajzen and Fishbein (1980) were the pioneering researchers to introduce the TRA by contending that behavioral intention is triggered by two factors namely individual's attitude and importance of people's influence. In other words, in TRA, individual's behavior is driven by his intention and attitude. This is then directed to technology use and

Corresponding Author: Omar (Mohammad Ali) Al-Qudah, Faculty of Information Science and Technology, School of Computer Science, Universiti Kebangsaan Malaysia, 43600 UKM, Bangi Selangor, Malaysia

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eventually influences others in terms of subjective norms.

Theory of planned behavior: TPB is an extension of the former TRA. It includes more constructs/variables. The model postulates that PBC predicts intention. TPB is considered to be superior to TRA but it has its own limitations; it fails to tackle the issue of behavior where in the individual has no control over (Ajzen, 1991).

Decomposed Theory of Planned Behavior (DTPB): The combination of TPB and TRA led to the DTPB. Taylor and Todd (1995) brought DTBP forward by exploring models components and decomposing attitudes into perceived ease of use, perceived usefulness and compatibility and decomposing subjective norms into peer and superior influence. Moreover, the DTPB also decomposed perceived behavioral control in self-efficacy (internal control), resource facilitating conditions and technology facilitation conditions (external control).

Technology Acceptance Model (TAM): TAM stems from TRA and DTPB. It is well-known for its effectiveness in addressing issues linked with behaviors and attitudes of individuals towards technology. Initially, TAM only had three elements namely perceived ease of use, perceived usefulness and computer usage. Later studies by Davies revealed usage to indicate technology adoption. TAM has been tested by various studies particularly in light of its efficacy and relevancy. Meanwhile, Davis carried out another test in order to modify TAM and eventually TAM2 was proposed where Venkatesh and Davis (2000) included other factors including usage, intention to use, perceived usefulness, experience, social influence processes (e.g., subjective norm, voluntariness and image), cognitive instrumental processes, relevance, output quality, result demonstrability and perceived ease of use.

Motivational Model (MM): Similar to TAM, MM stems from the field of psychology's self-determination theory. This model was proposed by Deci and Ryan (1985) and Deci *et al.* (1991). The model provides two distinct constructs namely intrinsic motivation and extrinsic motivation. According to Vallerand and Blssonnette (1992), intrinsic motivation is a behavior resulting from satisfaction from acting upon the behavior whereas extrinsic motivation is a behavior resulting from something else. Hence, three factors of the MM influence specific behaviors; intrinsic motivation style, extrinsic motivation style and a motivational style.

Model of PC Utilization (MPCU): The MPCU's foundation can be traced back to Triandis (1980) stress on behavior as predicted by behavior intention and habits. Habits are described as the frequency, intensity

and immediacy of reinforcement matching specific acts. Triansi eventually proposed the MPCU in 1979 where three behavioral intentions are considered as what individuals would like to do (related with attitude aspects), what individuals think they should do because of its implications to others (social norms aspects) and what individuals normally do (the habitual part). Moreover, attitudes are explained with the help of terms like cognitive, affective and behavioral. The cognitive aspect is attributed to the assumption that technology has a key role in work/performance while behavioral aspect is aimed at using the technology.

Innovation Diffusion Theory (IDT): The IDT is a model that stems from the field of sociology and although Rogers was the pioneering researcher to propose it, it wasn't until Brancheau and Wetherbe (1990) analyzed it that it became popular. They concentrated on some certain areas like adoption over time. The model is known for its good and effective means or measuring innovation adoption particularly in the organizational level.

The Social Cognitive Theory (SCT): Bandura (1982) first proposed the SCT with the aim of examining the impact of self-efficacy of individual behavior. SCT links self-efficacy to performance expectations. It is known to be influenced by enactive, emotive, exhortative and vicarious sources.

Unified Theory of Acceptance and Use of Technology (UTAUT): Venkatesh *et al.* (2003) proposed this theory which encapsulates various models within the area of technology adoption. These include models like TRA, TAM, TPB, DTPB, IDT and SCT, MM, the Model of PC Utilization and the combination of TAM and TPB models.

TECHNOLOGY ACCEPTANCE MODEL (TAM)

Davis (1985) introduced the Technology Acceptance Model (TAM) as an extension of the Theory of Reasoned Action (TRA). The primary aim of TAM is to justify the determinants of computer acceptance and to explain user behavior in a concise and theoretical manner (Davis *et al.*, 1989). Davis *et al.* (1989) stressed on the model's stipulation of the basis of the external factors, internal beliefs, attitudes and intentions impact.

As mentioned, TAM initially only had three parts; Perceived Ease of Use (PEU), Perceived Usefulness (PU) and computer usage. Davis (1989) included usage as a variable that indicates technology adoption. TAM is widely used by many researchers with individual's behavior and attitudes towards technology. He proceeded to test the PU and PEOU measures and revealed PU to be a significant predictor of intention

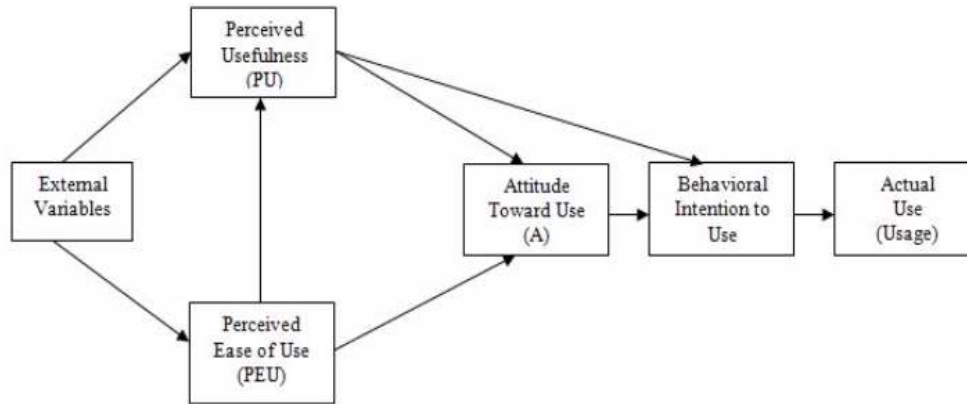


Fig. 1: TAM (Davis, 1989)

and intention to positively influence computer usage. Similarly, Szajna (1996) carried out a study to investigate the impact of experience in the model with both pre and post implementation steps aided in the model. The findings confirmed the effect of intention on actual usage indicating the distinction between the two model stages. Along the same line, Ma and Liu (2004) study found both perceived usefulness and acceptance to be significantly related (Fig. 1).

The effect of experience through three various settings in the context of PEOU forerunners was also investigated by Venkatesh and Davis (1996). The study revealed a significant difference between experienced/non-experienced users and the influence of self-efficacy and objective usability of PEOU in TAM.

Moreover, Venkatesh (2000) also examined PEOU forerunners that could be included into TAM model. He made use of two sets of factors namely anchors and adjustments. Anchors refer to individual's general beliefs concerning computers and computer usage and it comprises other elements including self-efficacy, perceived external control, computer anxiety and computer playfulness. On the other hand, adjustments refer to beliefs developed in light of the direct use of system/computer and it comprises of perceived enjoyment and objective usability. The findings revealed both anchors and adjustments to strongly influence PEOU.

Studies concerning TAM were also conducted by Van der Heijden (2003) and Teo *et al.* (2003) in the context of internet and content, specifically on website acceptance and virtual learning respectively. Both studies revealed that TAM had a constant explanatory power in a distinct setting and content. The latter study showed TAM to be significant, with information accessibility and community adaptively impacting PU and PEOU and intention. Moreover, Lin (2011) study explored the factors that influence web users' acceptance of the sponsored link in the web. He revealed that perceived usefulness and information

quality on a linked page and perceived ease of use and preference to organic links significantly affected users' intention to sponsor the link.

TAM was also studied in relation to cellular phones by Kwon and Chidambaram (2000). They postulated the model to include many factors/constructs with the inclusion of demographical factors of age, gender, nationality, occupation and income.

Gefen *et al.* (2003) also investigated TAM in relation to trust. Trust mechanisms were added to enhance the customers' adoption and usage rate. They revealed that online shopping user investigation was predicted by perceived usefulness, perceived ease of use and habit. They also stressed on trust as a main predictor of perceived ease of use whereas factors like experience, repeated usage and interaction affects the level of online shoppers' trust.

TAM was also adopted by Van der Heijden (2003) in his investigation of the website and the environment. The study found that usage impacts intention to use and intention to use impacts attitudes in TAM. Attitudes remain a significant factor in the TAM model.

More currently, Wu *et al.* (2011) conducted a study relating TAM and trust. The study aimed to conduct a meta-analysis on TAM's related studies in an attempt to examine the impact of trust on TAM constructs. The findings indicated that attitude remains a significant variable in TAM although most of the researchers have excluded it. Attitude represents the level to which users are satisfied with the system. The findings also showed that trust plays a key role in new technologies adoption. Moreover, the students' use of technology led to a higher correlation between trust and other TAM constructs.

Various studies have also incorporated cultural dimensions into TAM. Among them, Veiga *et al.* (2001) incorporated it as an external variable that may impact TAM constructs. This is consistent with Singh *et al.* (2006) study. Prior studies along the same line revealed that trust and risk are the most influential

factors in online shopping. Similarly, culture has key role in interface design for websites (Gould *et al.*, 2000; Hornby *et al.*, 2002; Sun, 2001; Marcus, 2002; Becker, 2002; Smith *et al.*, 2004). Culture was revealed to impact user's perception of websites credibility and trustworthiness (Jarvenpaa *et al.*, 1999; Marcus and Gould, 2000; Fogg, 2002).

TAM has been revealed to be the most significant theories, among other theories, which explain user's technology adoption (Venkatesh, 2000; Wu *et al.*, 2011; Lin, 2011). Prior study models are primarily concentrated on external factors like perceived ease of use, perceived usefulness, compatibility and relative advantage and they are not capable of concentrating on factors affecting individual behavior and intention (Malhotra and Galletta, 2003).

INTEGRATING TECHNOLOGY ACCEPTANCE MODEL WITH HOFSTEDÉ'S CULTURAL DIMENSIONS MODEL

Veiga *et al.* (2001) conceptual paper proposed a direct effects model that explains the way four of Hofstede's cultural dimensions affect technology acceptance in the context of IS implementation. These dimensions comprise of culturally induced beliefs and considered as external variables influencing ease of use and usefulness. Similarly, Elbeltagi *et al.* (2005) also considered cultural dimensions as an external variable (the total measure of Hofstede's first four cultural dimensions) directly affecting ease of use and usefulness in the context of a Decision Support System (DSS). Meanwhile, Lee *et al.* (2007) examined the direct effects model of the way uncertainty avoidance, individualism, context and time perception impact behavioral beliefs and satisfaction in the context of mobile internet.

On the other hand, from the moderating viewpoint, McCoy *et al.* (2005) examined the moderating impact of cultural values in the relationship between determinants of intention (i.e., perceived usefulness, perceived ease of use, subjective norm and perceived behavioral control) and intention in email use. Similarly, other researchers (Dinev *et al.*, 2008; Pavlou and Gefen, 2002) examined the moderating impact of culture between intention determinants and intention in protective information technology and a self-selected Web retailer. Cultural values were represented by nationality and are aggregated throughout cultural dimensions.

Moreover, the moderating role of individual-level cultural values was examined by Srite and Karahanna (2006) in technology acceptance in light of Hofstede's (1984) first four cultural dimensions. They came up with individual-level scales for the dimensions

according to the existing measures of culture. Dorfman and Howell (1988) and Hofstede (1984) tackled issues concerning country-level assessments of cultural values. Srite and Karahanna (2006) assumed six moderating effect of culture on the relationships between perceived usefulness, perceived ease of use and subjective norms and behavioral intentions. Their model was tested with the help of two data collections employed on subjects characterized by various cultural backgrounds enrolled in U.S. University in light of their PC and PDA use. Both uncertainty avoidance and masculinity were revealed to be moderators of the relationship between subjective norms and behavioral intention in one study and in the other, no significant moderating impact was revealed. They did not propose any direct effects of cultural values.

As the present research considers online context, it is important to consider risk perception and trust as parameters. According to Lee and Turban (2001), online commercial establishments are not as familiar to consumers for the lack of face-to-face contact or interaction. This results in the customers' perception of uncertainty and risk. Also, online transaction translates into the necessity to provide personal information and financial data. If the customers do not trust online providers, the transactions may not proceed (De Ruyter *et al.*, 2011). Hence, perceived risk and trust are significant and necessary parameters that can be utilized in the context of online or e-commerce (De Ruyter *et al.*, 2001; Hsu and Chiu, 2004). Furthermore, Pavlou and Fygenon (2006) contended the importance of risk as a variable in online transaction by stating that trust counteracts the negative aspects of consumers' uncertainty in online transactions.

RESULTS AND DISCUSSION

Research model and hypotheses development: Due to the centrality of individual's cultural values in the determination of cognitive processes like decision-making, attitude formation (Radford *et al.*, 1993), intentions and purchases (Jarvenpaa *et al.*, 1999), they have also become central in the determination of consumer's behavior (Keh and Sun, 2008). Accordingly, Samiee (1998) stated that culture is the top facto that influences international marketing on the Internet (p.297). Similarly, many studies have proposed models of technology acceptance that postulate values of natural culture as external variables that moderate or directly influence determinants of technology acceptance and behavioral intentions. Some studies utilized various national cultural values at the country level whereas others that are more current measured the values based on individual level. Based on literature concerning culture and technology acceptance model,

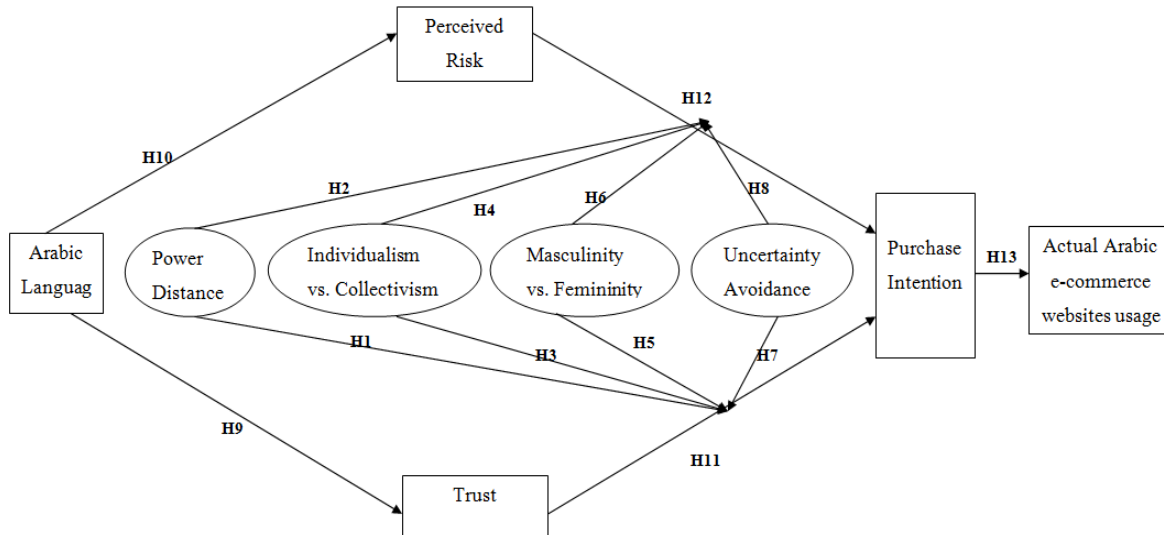


Fig. 2: Cultural technology acceptance model for consumers' acceptance of Arabic e-commerce websites

this study proposes the research model in Fig. 2 and postulates the following hypotheses.

Power distance: Power distance is defined as the power distribution among individuals and groups in the society and the way power inequality is handled in the society. According to Hofstede, countries having a centralized political power and wide hierarchy in societies characterized by diverse salaries and statuses, are more likely to have higher power distance (Adeoye and Wentling, 2007). In these societies, both superiors and subordinates acknowledge inequality where subordinates follow the superiors blindly. Contrastingly, in a society with lower power distance, everyone is perceived equal and interdependent with each other. It is a situation calling for overall trust as power distance reflects a tendency to be susceptible to risk. Consequently, low power distance societies require higher interpersonal trust. On the other hand, customers in high distance culture are more likely to suspect service providers to be unethical compared to those from low power distance culture. Therefore, they have more reasons to distrust online shopping compared to their counterparts and this brings us to the following hypotheses:

- H1:** Power distance of the cultural values moderates the relationship between trust and users' purchase intention.
- H2:** Power distance of the cultural values moderates the relationship between perceived risk and users' purchase intention.

Individualism vs. collectivism: Individualism, as a dimension of cultural values, refers to the liberal and open mindedness of the individuals where each is expected to take care of themselves and their families.

On the other hand, in collectivist cultures, individuals are brought up to develop strong bonds with people in exchange for unquestionable loyalty. In addition, individualistic cultures stress on job achievements and private wealth in an attempt to achieve more. Family relations are outspoken which stress on honesty, truth and self-respect. In collectivistic cultures, people value training, abilities and skills. Peace and stability are considered more important compared to truth and honesty.

Hofstede (1984) revealed the existence of cultural differences between the U.S. and Saudi Arabia as individualistic and collectivistic societies respectively. The society of Saudi Arabia is characterized by a high level of uncertainty avoidance which indicates that it is not inclined to accept change and is averse to risks. Meanwhile, the U.S. society ranks as one of the lowest uncertainty avoiding countries which indicates that it has a high tolerance for many ideas and beliefs. Additionally, Jarvenpaa *et al.* (1999) revealed that perceived risk of online shopping differ from one country to another and can be affected by culture as well as the country's level of e-commerce infrastructure. Therefore, cross-cultural differences between Saudi Arabia and the U.S. will influence consumers' perceived risk of online shopping. The same authors also revealed that cultural environment may affect consumers' risk perception of online shopping and that consumers from individualistic cultures possess lower degrees of risk perception compared to their counterparts from collectivistic cultures. Yaveroglu and Donthu (2002) showed that individuals from high individualistic societies are also very highly innovative. Therefore, this type of consumers would require high overall trust from online service providers for online purchasing. Hence, the following hypotheses are proposed:

H3: Individualism/collectivism of cultural values moderates the relationship between trust and users' purchase intention.

H4: Individualism/collectivism of cultural values moderates the relationship between perceived risk and users' purchase intention.

Masculinity vs. femininity: These dimensions of culture are expected to moderate technology adoption intention (Hasan and Ditsa, 1999). Individuals with feminine values are more concerned about other individuals and developing relations as opposed to the technology itself (Hasan and Ditsa, 1999). In other words, they aim to maintain interpersonal harmony and responsiveness to others' suggestions and needs. As a consequence, they are more likely to give in to societal pressures than those having high masculinity values (Srite and Karahanna, 2006). Studies have claimed that masculinity in addition other factors may impact the relationship strength between social influence and acceptance of technology (Dinev *et al.*, 2008; McCoy *et al.*, 2005; Srite and Karahanna, 2006). Therefore, the following hypotheses are proposed:

H5: Masculinity/Femininity of cultural values moderates the relationship between trust and users' purchase intention.

H6: Masculinity/Femininity of cultural values moderates the relationship between perceived risk and users' purchase intention.

Uncertainty avoidance: In societies characterized by high uncertainty avoidance, consumers are less forbearing of obscure and ambiguous situations. Nath and Murthy (2004) claimed that customers having a high degree of uncertainty avoidance resist using the Internet. Along the same line of argument, Lim *et al.* (2004) stated that countries that have higher degrees of uncertainty avoidance require the emphasis of overall trust in online businesses to minimize the related perceived risks. Hence, online stores should cultivate a trustworthy reputation to ease the anxiety of customers that are high in uncertainty avoidance. On the other hand, according to some studies, uncertainty avoidance negatively relates to trust. People that are highly averse to risks pay extra attention to ambiguity. Stewart (1999) revealed perceived trust to moderate consumers' overall trust and their willingness to purchase online products/services. Individuals that are highly averse to risk do not have high online purchase intention owing to the importance of trust in their perception. It is thus hypothesized:

H7: Uncertainty avoidance of cultural values moderates the relationship between trust and users' purchase intention.

H8: Uncertainty avoidance of cultural values moderates the relationship between perceived risk and users' purchase intention.

Arabic language: Several studies concerning website localization emphasize that for drawing customers' interests and retaining existing customers, the web designer/owner should localize websites (Stengers *et al.*, 2004; Kondratova and Goldfarb, 2006; Jagne and Smith-Atakan, 2006; Cyr and Trevor-Smith, 2004; Nantel and Glaser, 2008; He, 2001). The website localization is inseparable from culturability as proposed by Barber and Badre (1998). According to them, culturability refers to the unification of culture and ability that are significant in designing websites. Elements of culturability are color, fonts, shapes, icons, flags, language, among others. Language is among the important elements in designing websites particularly in website localization. Since 1996, the numbers English-speaking users have exponentially increased (Dunlap, 1999). This fact was also contended by Goble (cited by He, 2001) when he stated that the U.S. Government has predicted in 1999 that the number of non-English speaking users would be more than those who are owing to the increasing number of the Internet users external to the U.S. (Aberdeen Group, 2001). Therefore, by 2005, Heckman and Schmidt (2000) predicted that 70% of the Internet users would refuse to conduct transactions if not in their native language.

In Arab nations, the increasing level of Internet use is greater than any nations in the world (Wheeler, 2006). Accordingly, Arab nations should promote Arabic Websites as Arab consumers may take better advantage from these websites and in turn, the websites can serve them in effectively and efficiently through minimization of transaction cost and barriers to delivery (Pons *et al.*, 2003). In addition, Pons *et al.* (2003) also stated that employing technology in the Arab nations may interfere with their cultures and beliefs. Hence, the development of technologies must focus on these elements by starting with the provision of Arabic websites and applications adhering to Arab beliefs. Moreover, because these nations have low English language adaptation, they will obtain higher advantage from Arabic websites and not to mention the fact that this will improve their trust and consequently engage them in online transactions. This is consistent with Maroto (2003) study that revealed language to be a primary element of trust. Based on the above, the following are hypothesized:

H9: Arabic language presenting e-commerce content positively affects Arabic users' trust on e-shopping website.

H10: Arabic language presenting e-commerce content positively affects users' perceived risk of e-shopping website.

Trust: Trust refers to the feeling of safety and inclination to depend on someone or something (Lee and Kwon, 2008). According to Holmes and Boon (cited by Li and Liu, 2011), when people are facing risks, they have good expectations of other people's motivation. With the increasing proliferation of Internet and e-commerce, an increasing interest in trust discussion has developed (Sillence *et al.*, 2006). Trust has a key role in any transaction (Wu and Chang, 2006) and hence in the context of online transactions, it may be the primary reason why people reject online shopping. The development of trust significantly depends on the beliefs that are affected by various personal traits, institutions and cognitive factors as proposed by Li and Liu (2011). They also proposed that the development of initial trust can be categorized into which are, trust before access, trust of web interface and trust in web contents. Meanwhile, McKnight *et al.* (2004) minimized the stages into two which are introductory and exploratory stages. In the former stage, users gather information concerning the website from others and in the latter stage, users visit the website by themselves and analyze and decide using this available information.

Discussions concerning trust in e-commerce have been conducted by prior studies with other factors. Among them, McKnight and Chervany (2001) developed a typology of trust concepts with the help of e-commerce customer relationships model while Corritore *et al.* (2003) examined trust in relation to the link consumers and online service providers. They claimed that this relationship is influenced by user privacy and perceived security. Similarly, Chellappa and Pavlou (2002) also stated that perceived security positively affects trust. It is a critical factor in the determination of whether or not an individual accepts or rejects to obtain goods and services through the Web (Quelch and Klein, 1996). It also impacts consumer's decision to take part in web-based e-commerce (Van Slyke *et al.*, 2004). As a result, studies have assumed that trust plays a key role in e-commerce adoption (Yang *et al.*, 2008; Casaló *et al.*, 2011; Samadi and Nejadi, 2009; Ko *et al.*, 2004; Marcus and Gould, 2000; Fogg, 2002). Trust is automatically reduced if consumers expect to face risks while dealing with businesses online (Ayyash *et al.*, 2013). It is thus hypothesized that:

H11: In e-commerce, trust positively influences purchase intention.

Perceived risk: Perceived risk is considered among the factors influencing the consumers' acceptance of conducting transactions online. Perceived risk is described as a consumer's perception concerning the possibility of negative outcome of online transactions (Ko *et al.*, 2004). According to Pavlou (2003) perceived

system risk is the aggregate uncertainty perceived by an organization in a specific purchase circumstance. Moreover, Bhatnagar *et al.* (2000) claimed that the risks are linked with the purchase process taking place over the Internet. Perceived risk is said to impact consumers' intention to transact online; this risk is divided into two types as proposed by Bhatnagar *et al.* (2000). They are product category risk which is linked to the product and financial risk which is linked with the Internet as the medium of transaction. Consumers are hesitant to transact online as they are wary about giving out their credit card information online.

Perceived risk differs from one country to another (Choi and Lee, 2003) and this is justified by the fact that different individuals have varying perceptions of risk (Ko *et al.*, 2004). Hofstede (1984) defines culture as the collection of mental programming of the mind which differentiates the members of one group from another. It is the most influential factor that affects international marketing on the Internet (Jarvenpaa *et al.*, 1999).

As for the cross-cultural effects on the risk perception of consumers, Choi and Lee (2003) research of Korean and American consumers revealed that the former were likely to show greater degrees of perceived risk towards online shopping compared to the latter. In Korea, the e-commerce structure is still at the stage of infancy which explains why Koreans are more hesitant to conduct shopping online. On the other hand, American consumers were revealed to be influenced by the risk factors with the exception of customer service. In Ko *et al.* (2004) study, Korea was characterized as country with high uncertainty avoidance. Moreover, the perceived risk linked with online transactions may lead to the minimization of behavioral and environmental control perceptions and this is likely to influence e-commerce usage intentions in a negative manner (Pavlou, 2003). It is therefore hypothesized that:

H12: In e-commerce, perceived risk negatively influences purchase intention.

Purchase intention: Davis (1989) proposed the initial version of TAM (Technology Acceptance Model). The model adopts the causal chain of beliefs, attitude, intention and behavior that was proposed by Fishbein and Ajzen (1975) which has become to be known as the Theory of Reasoned Action (TRA). On the basis of specific beliefs, an individual develops an attitude concerning a specific object. The intention to behavior is the only determinant of actual behavior (Van der Heijden, 2003). Consistent with the premise employed in TRA and TAM, it is hypothesized that a direct and positive influence lies between online purchase intention and actual Arabic e-commerce usage. TRA and TAM research has consistently reported significant support for the hypothesis that attitudes and intentions

accurately explain and predict actual behavior (Van der Heijden, 2003). This study therefore proposes the following hypothesis:

H13: Purchase intention positively affects actual Arabic e-commerce websites usage.

On the basis of TAM research, perceived risk, trust, language and Hofstede's cultural dimensions (power distance, uncertainty avoidance, individualism vs. collectivism and masculinity vs. femininity), the present makes use of cultural technology acceptance model for consumers' acceptance of Arabic e-commerce websites in an attempt to contribute to literature and to assist researchers interested in extending e-commerce acceptance research. The proposed research model is presented in Fig. 2. The model is intended to test the influence of Hofstede's cultural dimensions on the trust-purchase intention relationship and to test the perceived risk-purchase intention relationship. It is also proposed to test the way Arabic language influences trust and perceived risk of e-commerce systems and the effects of trust and perceived risk on purchase intention. Lastly, the model is also used to examine the association between purchase intention and actual Arabic e-commerce websites usage.

RESEARCH METHODOLOGY AND MODEL VALIDATIONS

It is necessary to conduct a review of literature prior to initiating any research (Hart, 1998). Literature review of previous relevant studies is necessary for any academic project as it is useful in developing theory, it fills gaps where research exists and determines where it is required (p. 13). This research will utilize a quantitative method of research in the form of survey questionnaire to achieve the research objectives. The study population will comprise of Jordanian consumers involved in online shopping.

CONCLUSION

Hofstede's (1984) proposed cultural dimensions are used for the analysis of cultural differences that influence perceived risk. Four dimensions of cultural values are used namely power distance, uncertainty avoidance, individualism vs. collectivism and masculinity vs. femininity. Among the most important cross-cultural perspectives of perceived risk is uncertainty avoidance (Ko *et al.*, 2004) as this dimension represents a culture's tolerance as well as its intolerance. Uncertain and risky situations have also been delineated by Hofstede (1984) as threatening and this is particularly true in countries whose cultures are high in uncertainty avoidance and where people therein are not likely to take risks (Bontempo *et al.*, 1997).

With regards to theoretical foundations, the present study contributes by bringing forward a cultural technology acceptance model for consumers' acceptance of Arabic e-commerce websites. The model stresses on Hofstede's cultural dimensions moderating the relationship between trust, perceived risk and purchase intention for a clearer explanation of consumers' acceptance of Arabic e-commerce websites. Future studies may extend the present one by empirically testing the proposed model through survey questionnaire and creating a prototype according to the empirical findings. These findings will clarify and enrich the model further and they may be invaluable to decision makers in their understanding of the key role of cultural values dimensions in increasing the degree of Arabic e-commerce websites acceptance in the context of developing nations.

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