Electronic business Adoption and the National Culture: Conceptual framework in the Saudi Arabia

Ali Bakhit Jaafreh

Ph.D. in MIS

Business department-Shaqra university-

ALDawadmi- KSA

Abstract

This paper's objective is to explore the national culture affected e-business based on TRA theory and TAM model extended the Hofstede model by suggesting a more coherent conceptual framework. In addition, to explore whether national culture influences users' perception and adoption e-business.

This research is to the understanding of factors that affect the people's attitude toward e-business and culture factors influence on adoption E-business.

Keyword: E-Business, adoption, National Culture, KSA, TAM

1. Introduction

The internet has changed the way many firms do business throughout the world. The major barriers concern culture, economic dimensions, infrastructure, and the political/regulatory environment. This study is significant for two reasons:

Firstly, it fills a knowledge gap about e- business adoption in Saudi Arabia (KSA). Secondly, aims to identify which factors are important for encouraging a willingness to adopt e- business and to develop a model of factors motivating and inhibiting electronic business adoption in KSA and cultural effect. Whereas Culture plays the significant role in the adoption of e-business.

This research is to the understanding of factors that affect the people's attitude toward e-business and culture factors influence on adoption E-business. The possible contribution of this research is to the understanding of factors that affect the adoption e-business in KSA.

In this research, the researcher applies an extended theory of reasoned action (TRA) and the Technology Acceptance Model (TAM) as a theoretical framework to test adoption e-business and to explore whether national culture influences users' perception and adoption e-business.

2. Theoretical Background

2.1 National Cultural

 Based literature review the definition of culture in many ways. Hofstede defined culture as "*Culture is the collective programming of the mind that distinguishes the members of one group or category of people from others*"(Hofstede, 2011, P.3). Aspect in the Arab-Islamic culture shares the same characteristics with Islam as a religion and as a program of life. These characteristics are universalized, inclusiveness, moderation, realism, objectivity, and diversity in unity (Malek Ben Nabi, 1948).

All definition is similar which focus on values, assumptions is and beliefs the differences depend on the environment and the background of scholars. so that Researcher defined the culture as a set of shared values, beliefs, norms, and knowledge that is shaped a human behavior in a group, and that influence the attitudes and behaviors of individual and group members .whereas the culture is determined the act or behavior of individual, and the culture help to predict action or behavior of individual.

Scholars determined many types of culture as organizational culture, IT culture, and National culture.in this study, researcher focuses on national culture and IT culture. Whereas the definition of IT culture defined as "*the set of IT related visible or audible behaviors, IT related values and IT related underlying assumptions shared by a group*" (Walsh et al. 2010, p. 259).

 Hofstede proposes National culture Model consists of four cultural dimensions Hofstede (2000): Individualism-collectivism, masculinity-femininity, power distance, and uncertainty Avoidance. The major assertion of Hofstede's framework is that there are shared values, Beliefs and norms that are culture specific and these factors can predict a wide range of Human behavior and practices. The basic thesis of a cognitive approach to culture is that processing frameworks acquired in one culture persist and influence behavior, even though contextual circumstances change (Hofstede, 2000).

The country index scores for the four cultural variables "power distance, individualism/collectivism, masculinity/femininity, and uncertainty avoidance" in this study were based on Hofstede (1980), values survey results collected within subsidiaries of one large multinational business organization (IBM) in 72 countries. The survey conducted twice, between 1967 and 1973 and produced answers to more than 116,000 questionnaires. The four dimensions on which country cultures differ were revealed through theoretical reasoning and statistical analysis.

The following cultural variables: Power Distance (PD), Individualism/Collectivism (INDCOL), and Uncertainty Avoidance (UA) were used to guide the cultural aspect of this study (Hofstede, 2011). Each cultural variable described as following: Power Distance (PD) is defined "*as the extent to which the less powerful members of institutions and organizations accept and expect that power is distributed unequally*" (Hofstede, 2011, P.9). The value of Power Distance Index (PDI) between 0 (Low Power Distance, LPD) and 100 (High Power Distance, HPD), but values below 0 and above 100 are technically possible. Thus a score near 0 reflects the least acceptance of the unequal distribution of power while a score near 100 reflects the greatest acceptance of unequal distribution of power within one's culture.

Individualism/Collectivism (INDCOL): Individualism " *is the degree to which people in a society are integrated into groups. On the individualist side, they find cultures in which the ties between individuals are loose: everyone is expected to look after him immediate family. On the collectivist side, they find cultures in which people from birth onwards are integrated into strong, cohesive in-*

groups, often extended families that continue protecting them in exchange for unquestioning loyalty, and oppose other in groups". (Hofstede, 2011, P.11). The variables values typically are between 0 (Strong Collectivist, COLL) and 100 (Strong Individualist, IND), but values below 0 and above 100 are technically possible. Uncertainty Avoidance: defined as "*what extent a culture programs its members to feel either uncomfortable or comfortable in unstructured situations. Uncertainty avoiding cultures try to minimize the possibility of such situations by strict behavioral codes, laws and rules, disapproval of deviant opinions, and a belief in absolute Truth; 'there can only be one Truth and we have it'.*"(Hofstede, 2011, P.10).

The variables values typically are between 0 (Low Uncertainty Avoidance, LUA) and 100 (High). For this study a value less than 50 represented Low variables scores and a value of 50 or more represented High variables scores.The variable scores represent the relative, not the absolute positions of individual members of the countries. As shown in below table.

Dimension	Low score value	High score value
Power distance	Society de-emphasizes the differences between citizen's power and wealth.	Inequalities of power and wealth within society
Individualism vs. collectivism	Collectivist nature with close ties between individuals.	Individualism and individual rights are paramount.
Uncertainty avoidance	Tolerance for variety of opinions, less concern about ambiguity and uncertainty	Low Tolerance for uncertainty and ambiguity.

2.2 Theory of Reasoned Action (TRA)

Behavior prediction has been one of the major purposes of psychological theories. Some of the more useful theories include the theory of reasoned action (TRA) (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). The Theory of Reasoned Action (TRA) (Figure 1) states that an individual's actual performance of a behavioral act can be predicted by their intention to perform that behavior and their attitude towards performing the behavior is a predecessor of intention. the Attitude Toward the Behavior (A) is referred to" *the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question*"(Ajzen, 1991, p. 188). Attitude toward the behavior defined as the individual's positive or negative feelings about performing a behavior (Fishbein & Ajzen 1975). Subjective Norm (SN) refers to "*the person's perception that most people who are important to him think he should or should not perform the behavior in question*" (Fishbein & Ajzen 1975, p. 302). Subjective norm is an individual's perception of whether people important to the individual think the behavior should be performed.

The Purpose of Theory is to predict and understand motivational influences on behavior that is not under the individual's volitional control. In addition, to explain virtually any human behavior. Ajzen explains the theory: " *Theoretically, personal evaluation of a behavior (attitude), socially expected mode of conduct (subjective norm) and self-efficacy with respect to behavior (perceived behavioral control) are very different concepts each of which has an important place in social and behavioral research*" (Ajzen, 1991, p. 199).
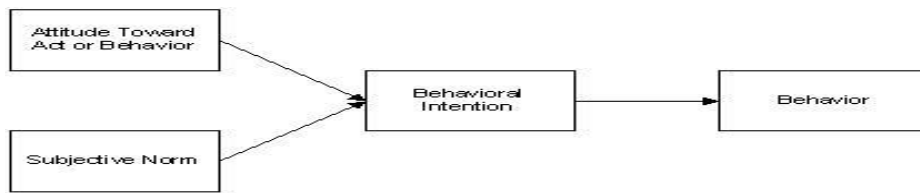
Figure 1: The Theory of Reasoned Action (TRA) (Source: Fishbein, M., & Ajzen, I. (1975)

2.3 Technology Acceptance Model

Davis presented in 1989 the Technology Acceptance Model (TAM, figure 2) to explain the determinants of user acceptance of a wide range of end-user computing technologies (Davis 1989). Ajzen and Fishbein in1980 base the model on the Theory of Reasoned Action. TAM points out that perceived ease of use and perceived usefulness affect the intention to use. TAM explains the relationship between internal psychological variables – such as beliefs, attitudes, and behavioral intention – and actual system usage (Davis, 1989). This model tries to predict the behaviors of people in specific situations.

Davis et al. (1989) described the variables of the TAM as follows:

Perceived Ease of Use (EOU): *refers to "the degree to which the prospective user expects the target system to be free of effort"* (Davis et al., 1989, P.985).

The model Concerned with user's subjective probability that using a specific application system will increase his or her job performance within an organizational context.

Perceived Usefulness (U): defined as "*the prospective user's subjective probability that using a specific application system will increase his or her job performance within an organizational context*" (Davis et al., 1989, P.985). A person believes that using a particular system would enhance his or her job performance . Behavioral Intention to Use (BI):" *is a measure of the strength of one's intention to perform a specified behavior* "(Fishbein & Ajzen 1975, p. 288). The user's attitude and the perceived usefulness influence the individual's behavioral intention to use the system (Davis, 1989).

 Actual System Use (U): "*individual behavioral intention to use the system*".

External Variables (EV): include system design characteristics, user characteristics, and task characteristics, nature of the development or implementation process, political influences, and organizational structure.

 Attitude towards using (A):" *user's desirability of his or her using the system*". (Davis et al., 1989).
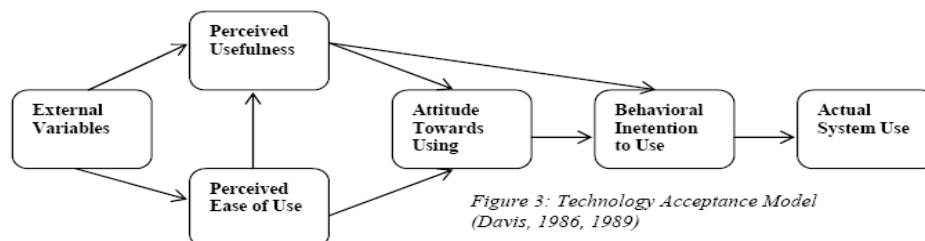

Figure 3: Technology Acceptance Model (Davis, 1986, 1989)

Figure 2: the Technology Acceptance Model (TAM) (Davis, 1989)

Davis found "*the Perceived usefulness is a major determinant of people's intentions to use computers. And Perceived ease of use is a significant secondary determinant of people's intentions to use computers*". (Davis et al., 1989, P.997). In a study of technology acceptance model (TAM) across cultures, Straub, Keil, and Brenner (1997) found UA differentiates between how different cultures accept new information technology within cultures such as Sweden and U.S. Therefore, we expect that integrating culture will strengthen our understanding of differences in behavioral intentions and will allow a better capturing of cultural effect on new service (idea) .We employed the measurement items for TAM constructs from previous studies (Davis, 1989; Davis et al., 1989).

2.4 Differences between adoption models

It's may be correct to say that evaluation and comparison of the different theories reveal that they are not so different in terms of their differential predictions. Most differences really amount to an emphasis on one construct over another. Drawing upon the theoretical foundation of TRA, Davis (1989) proposed that the theory is specially modified for the domain of IT in the form of a now widely accepted interpretation of IT acceptance: the technology acceptance model (TAM). In the TAM, as in the TRA, attitude predicts intention, and intentions predict behavior. Unlike TRA, TAM does not include a subjective norm component as a determinant of intention because of its uncertain theoretical ad empirical psychometric status (Davis et al., 1989). Subjective norm can create the direct effects to norm on intentions from indirect effects via attitude (Fishbein & Ajzen 1975). Comparing with TRA, Technology Acceptance Model (TAM) is more oriented to analyze the human behavior on using information system.

TRA and TPB were formulated as a generalization of a wide area of individual behaviors, including the use of information technology.

In both theories, Attitude is influenced by belief about the consequence of executing the behavior weighted by the individual's evaluation of each consequence. Depended variable of interest in both theories is visible and both posit that behavior is influenced by subjective norms. Attitude and intention have the same definition in both TAM and TPB. Both theories predict behavior from intention.

3. Issue Related to Adoption E-Business

To explore the relevance of e-business and the opportunity of its growth in developing countries, it is important to understand national factors that affect e-commerce adoption. A number of such factors have identified from the literature as:

3.1 Government Initiatives and Incentives

Governmental agencies play an important role as the lead-user of e-business if various
Business and private-sector related activities are to be encouraged to move online. E
(Electronic)-The government can take the form of various online transactions such as company registration, taxation, and applications for a variety of employee- and business-related requirement. Under the circumstances, Government can disseminate information about e-business policies, best practice, and obstacles in order to facilitate e-business adoption (Wagner et al., 2003).

Government initiatives are important in the adoption of e-commerce and other ICT in general (Molla 2005). They can be in terms of promotion of ICT usage, education and the establishment of an adequate regulatory framework for e-commerce including taxation and tariff for revenue

generated through e-commerce and Intellectual Property protections. Government initiatives are affected by many factors including the country's political condition, economic condition, and external influence from other countries.

3.2 Legal Policies and Political Condition

One other major concern is the legal protection for e-commerce. It is important to have government policies to protect consumer to cover against unfair and deceptive trading practices by suppliers, unauthorized access and usage from hackers etc. A lack of specific laws governing Internet banking and internet purchases, customers hesitate to use it (Larpsiri et al., 2002). Companies, therefore, are cautious in making transactions over the Internet because of the lack of supporting law about electronic documents as legal evidence specifically in the developing countries (Farhoomand et al., 2000). The existing legal system, especially in most developing countries, is not sufficient to protect those engaged in e-business.

The political situation is a key factor for e-commerce growth. In a country with an unstable political condition, it is less likely that government will give enough attention, if any, on e-commerce development (Dedrick et al. 1995).

3.3 Economic Condition

Economic condition is also widely recognized as a major driver for e-commerce adoption. The GDP and income per capita are common indicators of the economic condition of a country. Since e-commerce relies on some technology infrastructures that are relatively expensive for many developing countries, countries with the unfavorable economic condition are not likely to be involved in e-commerce (Dedrick et al. 1995). The economic condition will also affect the socio-cultural condition of a country.

3.4 Technology Infrastructure

E-commerce success relies heavily on a number of technology infrastructures. Firstly, telecommunication infrastructures are required to connect various regions and parties within a country and across countries (Molla 2005). The overall technology infrastructure development of a country relies heavily on the economic and geographical conditions of the country.

3.5 Public Awareness

A lack of awareness of the use and potential benefits of ICT can also hinder the growth of e-commerce (Molla 2005, Jennex et al. 2004). In some developing countries, many people are only aware of limited e-commerce applications such as chat, email and browsing websites (Minges 2002). As a result, many organizations have not considered exploiting the potential of e-commerce to improve their business operations.

4. Conceptual Research model and suggested Hypothesizes

Based on previous studies, this study is significant for two reasons: Firstly, it fills a knowledge gap about e-business adoption in KSA. Secondly, aims to identify which factors are important for encouraging a willingness to adopt e-business and to develop a model of factors motivating and inhibiting electronic business adoption in KSA and cultural affect Where Culture plays the significant role in the adoption of e-business.

In this research, researcher applies an extended theory of reasoned action (TRA) and the Technology Acceptance Model (TAM) as a theoretical framework to test adoption e-business and to explore whether national culture influences users' perception and adoption e-business. The

researcher suggests the national cultural impact on the behavioral Intention to use or adopt and actual using.
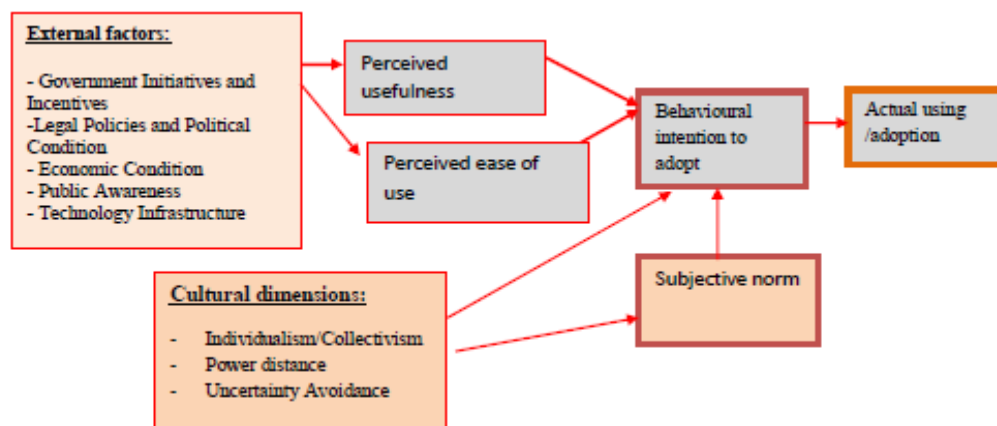

Figure 3: Research Framework Developed by Researcher

The researcher developed the following suggested hypothesizes to test the proposed conceptual model, which are:

H1: There is a positive relationship between national culture and Behavioral intention to adopt.

H1-1: There is a positive relationship between Individualism and Behavioral intention to adopt.

H1-2: There is a positive relationship between uncertainty avoidance and Behavioral intention to adopt.

H1-3: There is a positive relationship between power distance and Behavioral intention to adopt.

H2: There is a positive relationship between national culture and subjective norm.

H2-1: There is a positive relationship between Individualism and subjective norm.

H2-2: There is a positive relationship between uncertainty avoidance and subjective norm.

H2-3: There is a positive relationship between power distance and subjective norm.

H3: There is a positive relationship between subjective norm and behavioral intention to adopt

H4: There is a positive relationship between perceived usefulness and behavioral intention to adopt

H5: There is a positive relationship between perceived ease of use and behavioral intention to adopt

H6: There is a positive relationship between external factors and perceived usefulness.

H7: There is a positive relationship between external factors and perceived ease of use.

H8: There is a positive relationship between behavioral intention to adopt and actual using (adoption) .

5. Research Methodology

To test the proposed research model, the researcher will be adopted the survey method for data collection and will be examined research hypotheses by applying the partial least squares (PLS) method. Unit of analysis will be the individual. The researcher developed the items in the questionnaire either. adopting measures validated by other researchers or by converting the definitions of constructs into a questionnaire format. Specifically, the items for the factors developed based on relevant theories and prior studies.

The items measuring attitude, subjective norm and Intention to use new system were adopted from Fishbein & Ajzen's (1975) and from Daivs (1989) the Technology Acceptance Model (TAM).where items national culture adapted from Hofstede's dimensions national culture. The sample will be composed of people who work in the area of study will do in KSA. Data collection will be conducted through questionnaires. Most of the questions in the survey adopted based on previous well-validated instruments.

6. Conclusion

This paper's objective is to explore the national culture affected e-business adoption based on TRA theory and TAM model extended the Hofstede model by suggesting a more coherent conceptual framework. The researcher supports their suggested model by reviewing a number of related studies, which investigated the adoption e-business and influenced by national culture as intention and attitude-behavior. Then, the researcher aimed at the next coming step is to validate the proposed model through empirical investigation and testing.

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