Acculturation to the   
Global Culture and Internet Adoption

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Abstract

Globalization is now felt in most parts of the world and its effects on culture are becoming a topic of interest to society and in particular to the IS academic community. Our research addresses calls for research on the issue of globalization and its cultural effects in the IS field. We present the survey results of 136 members of the general public in a developing country, namely Jordan, which has felt the effects of globalization in the last decade. Our findings show that there is a significant and positive relationship between an individual’s acculturation to the global culture and his or her intention to adopt the Internet. This link is also significantly mediated by the individual’s perceived usefulness and perceived ease of use of the Internet. Results indicate that the survey’s respondents who were exposed to other cultures through travel and media as well as learning other languages were more likely to adopt the Internet for communicating, getting educated and being entertained, but were less ready to conduct commercial exchanges through the Internet. This initial validation of anew construct, namely “acculturation to the global culture” as an antecedent to the technology acceptance model (TAM) is an important contribution to the area of IS research on cultural effects.

Keywords

Acculturation, global culture, Internet adoption, dynamic view of culture, multi-dimensional constructs, formative constructs, Theory of Reasoned Action, subjective norm, Technology Acceptance Model

Research Context

More than 20 years ago, it was estimated that at least 90% of countries around the world are populated with multiple cultures (Smith, 1991). Changes that happen as a result of contact with culturally dissimilar people, groups, and social influences are called acculturation (Gibson, 2001). This phenomenon, still ongoing, is mainly the result of *globalization* (Schwartz et al., 2010).Globalization refers to a “growing economic interdependence among countries, as reflected in the increased cross-border flow of three types of entities: goods and services, capital, and know how” (Govindarajan and Gupta, 2001, p. 4). Now calls have been made to address the issue of globalization and its cultural effects in the IS field (Hunter, 2001; Myers and Tan, 2002).

Although a limited number of IS studies on this issue has been conducted, more work in the area of globalization is needed (e.g. Choi and Geistfel, 2004; Srite and Karahanna, 2006; Lee et al., 2007). Also, the issue of grasping the impact of globalization on various areas of our daily activities is an emerging topic in other disciplines such as international business and marketing (Leung et al., 2005; Cleveland, 2006; Cleveland and Laroche, 2007).

To further address this phenomenon, we conducted a research that looked into the impact of globalization on an individual’s intention to adopt the Internet. We borrowed from the fields of culture and acculturation. *Culture* refers to the social environment and sets the rules of behavior for a group of individuals (Oetting, 1993). The subject of culture has been studied at many levels: national, organizational, group, and individual. For this reason, it has been described as being “layered”, like an onion (Straub et al., 2002; Leung et al., 2005; Karahanna et al., 2005). *Global culture* is the most macro-level of these layers and is defined as the creation of “global networks and global institutions that cross national and cultural borders” (Leung et al., 2005, p. 362). Another concept used in the cultural research stream is the concept of *acculturation* which is defined as “the process of learning a culture different from the one in which a person was originally raised” (Valencia, 1985, p. 118). Individuals are exposed to new cultures from many sources due to globalization which is ubiquitous and contributes most probably both to the existing culture and to cultural change.

This paper is organized as follows. The next section covers the difference between the static and the dynamic view of culture, the notions of acculturation to the global culture and technology adoption, and establishes the link between culture and technology adoption. The research model is then introduced with the research hypotheses and operationalization of the measures. The research method follows along with the description of the data collection. The analysis of the results is then presented. The paper concludes with a discussion of the findings, the research limitations and directions for future research.

Theoretical Background

### Dynamic vs. Static View of Culture

Following a review of the concept of culture in IS research, Straub et al. (2002) indicated that a definition of culture has rarely been agreed upon because culture has been viewed as a general, abstract and complex notion. Culture is a term that is used to describe the customs, beliefs, social structure, and activities of any group of people who share a common identification and who would label themselves as members of that group (Oetting, 1993). There is an agreement that culture is learned, transmitted and shared. Culture serves three core functions: it determines rules of conduct, it sets standards of performance, and it establishes ways of interpreting environmental inputs and interpersonal signals (Cleveland and Laroche, 2007).

The notion of culture has been approached from both a static and a dynamic perspective (Hunter, 2001; Myers and Tan, 2002; Leung et al., 2005). The *static* view of culture implies that it can be studied by focusing on a few cultural elements that may be studied in isolation from other contextual elements or variables. The *dynamic* perspective considers the fact that human beings evolve over time, change, and experiment a multi-faceted identity, starting with self-identity and including a global identity. This ongoing transformation occurs at various times and at a various pace in the life of individuals, groups, organizations and nations.

The best known static model of culture is Hofstede’s classic model of national culture. This author defines culture as “the collective programming of the mind which distinguishes the members of one group or category of people from another” (Hofstede, 1991, p. 5). From this perspective, national culture is measured through four dimensions: masculinity/femininity, power distance, individualism/collectivism, and uncertainty avoidance. Later, long-term orientation was added as a fifth dimension (Hofstede and Bond, 1988).

Most of the IS research into the effects of culture has used the concept of of national culture and has relied on Hofstede's dimensions to test and validate propositions relating to a variety of IS issues (Myers and Tan, 2002). However, Hofstede’s conceptualization of culture has been shown to have some weaknesses (Fang, 2003). For example, Srite and Karahanna (2006) found that there were difficulties in capturing the essence of the masculinity/femininity dimension. Furthermore, the concept of national culture has been criticized as having certain problems such as one related to the fact that the nation state is a relatively recent phenomenon and thus did not exist for the greater part of human history (Myers and Tan, 2002).

Therefore, there is a need to explore other, more dynamic approaches than the national culture approach to studying culture in IS research. This approach is based on recent research in cognitive psychology wherein culture is seen as being capable of changing in response to external forces (Leung et al., 2005). Such a dynamic view of culture argues that “culture is represented by cognitive structures and processes that are sensitive to environmental influences” (Leung et al., 2005, p. 366). This is the approach that we took for the present study, given globalization’s potential to change culture.

Whereas culture is not pure, being fluid and constantly evolving over time, some cultures change more rapidly than others. New cultural identities can be formed by opening up to new cultures. This constant evolution refers to *acculturation* which was originally defined as the process of adapting from a home or original culture to a host or new culture (Redfield et al., 1936; Graves, 1967). This concept also corresponds to the process by which individuals absorb the norms and values of cultures different than the one in which they grew up (Berry, 1980). It reflects the evolving aspect of culture which is an intrinsic effect of globalization. Considering the calls for studies related to culture and globalization (Hunter, 2001; Myers and Tam, 2002), this paper adopts the dynamic view of culture and applies it by studying acculturation to the global culture and its impact on the adoption of new technology, more specifically the Internet.

### Acculturation to the Global Culture

A dynamic view of culture is meant to account for the effects of globalization on local cultures. An attempt has previously been made to conceptualize the notion of acculturation in a marketing research (Cleveland and Laroche, 2007). These authors have developed a construct called *acculturation to the global consumer culture*, which they defined as “how individuals acquire the knowledge, skills and behaviors that are characteristic of a nascent and deterritorialized global consumer culture” (p. 252.). Their findings showed that individual’s adoption of communications and consumer electronics was indeed influenced by his or her acculturation to the global consumer culture.

In our research, *acculturation to the global culture* is inspired by previous work on acculturation and is defined as “the process by which individuals learn and adopt the norms and values of other cultures to which they are exposed by different means”. Adapting Cleveland and Laroche’s operationalization, various factors are deemed to affect this acculturation, including the degree of cosmopolitanism of individuals, their use of the English language, their social interactions with the world outside their country (including travel to other countries), their exposure to the marketing of multinational companies, their openness to and desire to emulate the global culture, and their identification with the global culture. Further, the mass media to which individuals are exposed are also apt to influences their acculturation to the global culture.

To the best of our knowledge, IS studies that have used the concept of acculturation to the global culture are rare. The closest notion was referred to as “technological culturation” by Loch et al.( 2003). These researchers found that Arab knowleged workers who were personally trained by experts in technically advanced countries and those who learned from visiting other organizations in technically advanced countries were more likely to use their organization’s systems. This research was among the very few to address the issue of investigating further the impact of globalization on the adoption and use of information systems. Our research pursues this line of thought by attempting to provide new insights on the effects of globalization in the IS domain. Yet it differs by investigating members of the general public in a developing country, instead of employees of organizations, and as to their intention to adopt the Internet rather than the information technology (IT) applications implemented in organizations.

Information Technology Adoption

In IS research, the adoption of IT has been studied mostly through three theories or models, that is, the Theory of Reasoned Action (TRA; Ajzen and Fishbein, 1980), the Technology Acceptance Model (TAM; Davis, 1989), and the Theory of Planned Behavior (TPB; Ajzen, 1991), noting that both the TAM and the TPB are derived from the TRA. In the TRA, a behavioral intention is determined by an individual’s attitude towards the behavior and by a subjective norm. Attitude towards behavior is determined by beliefs and evaluations whereas subjective norm is determined by normative beliefs and the motivation to comply (Ajzen and Fishbein, 1980). Consequently, it could be said that where attitude captures the individual’s personal feelings about the behavior, subjective norm captures the individual’s social impressions about the behavior (Ajzen and Fishbein, 1980).

The TPB differs from the TRA by including two constructs, one being control beliefs, the other being perceived facilitation and perceived behavioral control. The particularity of the TPB is that it requires specific operationalization that would be applied to a particular situation for each type of beliefs (Mathieson et al., 2001). Since our research does not include the notion of control, the reference to the TPB is not further considered.

Based on the TRA, the TAM provides antecedents to the attitudinal aspects of the TRA. The goal of developing the TAM was to model the acceptance of information systems in a general way; a way that would hold across technologies and user populations while being both parsimonious and theoretically justified (Davis, 1989). The TAM has been very widely used in IS research and has successfully achieved its goals (Lee et al., 2003). The original dependant variable of the TAM is the actual acceptance of the technology. It is hypothesised to be influenced by the behavioral intention to use the technology, which is in turn influenced by the attitude toward using such technology. Attitude is influenced by the perceived usefulness and perceived ease of use of the technology, which are the two constructs suggested as antecedents to attitude in the TRA.

Given the recognized stability of the TAM’s constructs over the years (Lee et al., 2003), we use these constructs in this study as they were originally defined (Davis, 1989; Davis et al., 1989). Therefore, *perceived usefulness* is “the degree to which a person believes that using a particular system would enhance his or her job performance”, whereas *perceived ease of use* refers to “the degree to which a person believes that using a particular system would be free of effort” (Davis, 1989, p. 320). *Behavioral intention to adopt a system* corresponds to “the strength of one's intention to perform a specified behavior” (Fishbein and Ajzen, 1975, p. 288), the definition used in Davis et al. (1989).

The TAM differs from the TRA in a few ways. First, it adds a direct relationship between perceived usefulness and behavioral intention to use, in addition to the relationship being mediated by attitude. The rationale behind this is that in a work setting, attitude towards a technology may not be as important as the cognitive reasoning behind using the technology (Davis et al., 1989). This has been proven to be the case in many situations and the attitudinal construct was thus dropped in many subsequent studies (Srite and Karahanna, 2006).

Secondly, although the TAM is based on the TRA, it only includes attitude as an antecedent to intention to use and does not consider the effect of the subjective norm. Subjective norm was seen as a poorly understood construct and as such was excluded from the TAM (Davis et al., 1989). Later, subjective norm was proven to be an important construct as it was included in extensions to the TAM, such as the TAM2 (Venkatesh and Davis, 2000; Venkatesh et al.; 2003) and in other studies based on the TAM (Srite and Karahanna, 2006). *Subjective norm* 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 and Ajzen, 1975, p. 302). However antecedents to the subjective norm have rarely been studied. This gap is addressed in our research by adding acculturation to the global culture as an antecedent to the subjective norm.

A critique of studies based on the TAM suggests going back to the original theory on which it is based, and adding other antecedents with more implications for practice (Benbasat and Barki, 2007). Due to the context of our study and especially the voluntary nature of the general public’s adoption of the Internet, we follow Benbasat and Barki’s (*op. cit.*) recommendations by keeping the relevant theoretical basis of the TAM, that is, perceived usefulness and perceived ease of use of the Internet as antecedents of the intention to adopt this technology. The two antecedent constructs that are added to better understand the influence of globalization are acculturation to the global culture and subjective norm. Both should help in better ascertaining whether the intention to adopt the Internet is influenced by factors such as an individual’s exposure to other cultures (acculturation) and to social pressure to use such a technology (subjective norm).

Culture and Technology Adoption

Technology adoption has been tested in different cultural settings, usually with Hofstede’s (1980) cultural dimensions, thus a static perspective of culture as mentioned previously. For example, in an international study of three countries, the TAM was used with Hofstede’s cultural dimensions’ index values to assess the level of acceptance of e-mail by different cultures. It was found that the TAM held true for airline employees in Switzerland and the United States, but not in Japan (Straub et al., 1997).

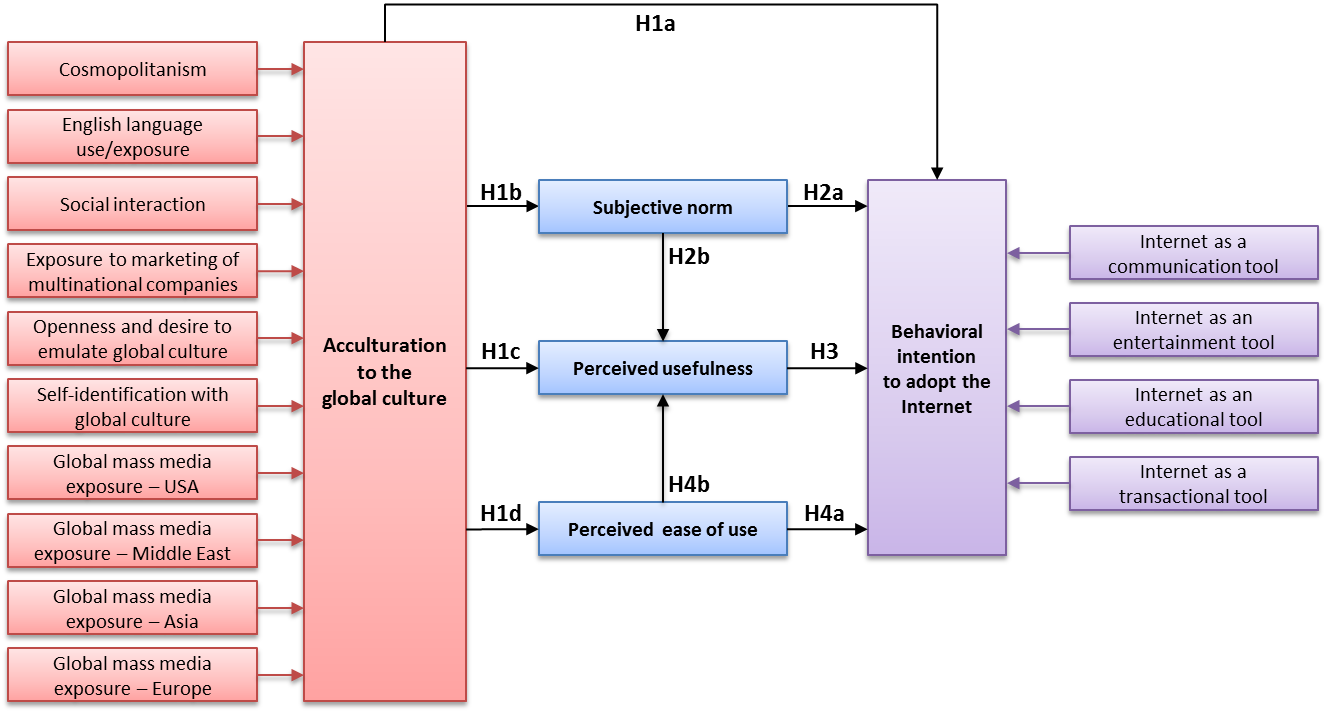
Hofstede’s four main cultural dimensions have also been studied as moderators of in the extended TAM that includes the subjective norm (Srite and Karahanna, 2006). It was found by Srite and Karahanna (*op. cit.*) that the subjective norm had a stronger influence on behavioral intention to use technology for individuals whose national culture was high on uncertainly avoidance, was more feminine, and was low on power distance. These authors also found that perceived ease of use had a stronger influence on the behavioral intention in masculine cultures, whereas the espoused individualism/collectivism values had no significant moderating effect on the relationship between the subjective norm and the intended behavior. Furthermore, in a survey study of managers in a Middle-Eastern country, it was found that two of Hofstede’s four cultural dimensions (power distance and collectivism) had a significant and positive impact on their intention to use the Internet, whereas uncertainty avoidance and femininity were not significant (Akour et al., 2006).

Now, McCoy, Galletta, and King (2007) have warned researchers with regard to using the TAM across cultures. These authors used Dorfman and Howell’s scales (1988) that match Hofstede’s original four cultural dimensions. They obtained 4 434 responses from students born in 78 countries who were studying in 39 universities located in 24 countries. Results indicated that the links between perceived usefulness, perceived ease of use, and behavioral intention did not hold across all cultural groups. These researchers’ interpretation was that the TAM may not hold in all cultures. Our position is that one potential explanation for this lack of support for the TAM lies in the static nature of Hofstede’s concept of national culture, as opposed to a more dynamic approach in which individuals are exposed to cultures other than their own. This is why we propose investigating further the impact of globalization on the adoption of a technology, more precisely the Internet, through a dynamic cultural lens which is that of the individual’s acculturation to the global culture.

Research Model

In order to study globalization and the influence of culture on technology adoption, our research adopts the dynamic view of culture by proposing that an individual’s acculturation to the global culture is an antecedent to his or her intention to adopt the Internet. We also propose that this relationship is mediated by the subjective norm, the perceived usefulness, and the perceived ease of use of the Internet, as presented in Figure 1. Our research model is derived from the TAM (perceived usefulness, perceived ease of use, and behavioral intention to adopt the Internet) with the addition of the subjective norm as an antecedent to the perceived usefulness and the behavioral intention.

Figure 1: Research Model



### Hypotheses

As the concept of acculturation to the global culture has rarely been used in IS research, we borrow from previous IS studies that have investigated cultural effects in order to justify our research model and its hypotheses. We build on those findings through the lens of acculturation which is an original approach in this case, based on a more dynamic view of culture.

The first hypotheses (H1a to H1d) address the various relationships between acculturation to the global culture and the other constructs in the research model. We first posit that individuals’ acculturation to the global culture directly and positively influences their behavioral intention to adopt the Internet. This direct link is derived - but differs - from a previous study that investigated the link between culture, measured with Hofstede’s cultural dimensions, and the attitude toward using IT (Veiga et al., 2001). Although there have been few studies that have used the concept of acculturation, it was found in a marketing study that acculturation to the global culture had a positive impact on the adoption of communication and consumer electronics (Cleveland, 2006). In another study using acculturation, certain cultural differences (home vs. host culture) were observed among employees in the implementation of a value-chain support system at a large Australian national baker, thus helping to explain why certain systems were more successful in certain situations than others (Fernández et al., 2010). In a study investigating the impact of acculturation on learning method preferences (including e-learning), acculturation was an influential factor among Asian-American and Far East-Asian adult learners (Chuang, 2011). Hence we can state our first research hypothesis:

*H1a: Acculturation to the global culture will have a positive influence on the behavioral intention to adopt the Internet.*

Culture influences perceptions of desired behaviors and may have an impact on subjective norm (Oetting, 1993; Karahanna et al., 2005; Srite and Karahanna, 2006). A cross-cultural study investigating e-shopping adoption by citizens of the United States and of Korea indicated that cultural values were significant antecedents to subjective norm for both countries (Choi and Geistfeld, 2004). Therefore, we proposed that acculturation to the global culture affects the perceptions of desired behaviors represented by the subjective norm, as in the following hypothesis:

*H1b: Acculturation to the global culture will have a positive influence on the subjective norm with regard to Internet use.*

Culture is a description of beliefs, among other things (Oetting, 1993). It has been proposed but not tested that culturally induced beliefs have a positive impact on perceived usefulness and perceived ease of use (Veiga et al., 2001; Karahanna et al., 2005). National culture was found to be significantly linked to the perceived usefulness of IT in a large sample of approximately 27,000 individuals from 24 nations (Praboteeah et al, 2005). Previous research concluded that Hoftsede’s cultural dimensions had a significant impact on both perceived usefulness and perceived ease of use (Lee et al., 2007). Perceived usefulness and perceived ease of use are beliefs about Internet applications in our case, and may be influenced by acculturation to the global culture. Furthermore, being acculturated to the global culture may lead to a stronger perception of the Internet’s usefulness and ease of use. Therefore it is hypothesised that:

*H1c: Acculturation to the global culture will have a positive influence on the perceived usefulness of the Internet.*

*H1d: Acculturation to the global culture will have a positive influence on the perceived ease of use of the Internet.*

The upcoming hypotheses are based on previous work done with the TAM and on an extensive literature review done by Lee et al. (2003). They compared 101 articles published in leading IS journals and conference proceedings over 18 years in order to identify all proven exogenous antecedents to the TAM’s core constructs. As a case in point, the link between the subjective norm felt by individuals and their behavioral intention was found to be significant and positive one in past studies (Leet et al., 2003; Venkatesh and Davis, 2000; Srite and Karahanna, 2006; Yan et al., 2006; Teo et al., 2008). Therefore:

*H2a: The subjective norm with regard to Internet use will have a positive influence on the behavioral intention to adopt the Internet.*

The subjective norm has also been significantly related to perceived usefulness (Lee et al., 2003; Venkatesh and Davis, 2000). Furthermore, it was found to have a positive influence on perceived usefulness with different types of potential users of e-learning systems such as students or teachers (Lee, 2006; Teo et al, 2008). Therefore, we posit that:

*H2b: The subjective norm with regard to Internet use will have a positive influence on the perceived usefulness of the Internet.*

The last three hypotheses (H3, H4a and H4b) reproduce the same relationships originally proposed in the TAM (Davis et al., 1989). As indicated by Lee et al. (2003) in their summary of research done with the TAM, the relationship between perceived usefulness and behavioral intention was found to be significant in 73% of the 101 studies surveyed.

*H3: Perceived usefulness of the Internet will have a positive influence on the behavioral intention to adopt the Internet.*

The impact of perceived ease of use is two-fold, one on the behavioral intention and the other on perceived usefulness. Half of the surveyed research (58 studies out of 101) indicated that perceived ease of use had a positive impact on behavioral intention. This relationship was thus qualified as unstable. In fact, it was noted that perceived usefulness was a stronger predictor of behavioral intention than perceived ease of use. However, we maintain this relationship in the research model to further test its validity in the context of our research. Therefore:

*H4a: The perceived ease of use of the Internet will have a positive influence on the behavioral intention to adopt the Internet.*

Finally, the TAM includes a link between perceived ease of use and perceived usefulness. Perceived ease of use is most often recognized as a significant antecedent to perceived usefulness (69 studies out of 101). Therefore:

*H4b: The perceived ease of use of the Internet will have a positive influence on the perceived usefulness of the Internet.*

### Operational Definitions and Measures

This section presents the research constructs’ definition and operationalization. All items were measured using a five-point Likert scale, with 1 representing “strongly disagree” and 5 representing “strongly agree”. The five-point scale is used to simplify choice as the target population, being the general public, is heterogeneous in educational background.

*Acculturation to the Global Culture (AGC)* is an adaptation of the acculturation to global consumer culture (AGCC) concept and measure (Cleveland and Laroche, 2007; Cleveland, 2006). AGC had ten formative dimensions, including four mass media dimensions, with a set of questions measuring each dimension. Below are the definition and the number of items for each dimension of acculturation to the global culture:

|  |  |
| --- | --- |
| **Definition of each dimension of AGC** | **# of items** |
| ***Cosmopolitanism***  Degree to which a person is cosmopolitan. A cosmopolitan person is one who is familiar with and at ease in many different countries and cultures (The New Oxford American Dictionary, 2005). | 6 |
| ***English language use/exposure (ELU)***  Degree to which a person is exposed to the English language and uses the English language. | 12 |
| ***Social interactions***, including ***travel, migration, and contacts with foreigners (Travel)***  Degree to which a person travels, has migrated, or is in contact with foreigners. | 6 |
| ***Global/foreign mass media exposure (GMM)***  Degree to which a person is exposed to foreign or global television, literature such as magazines or books, and other types of media. This dimension was expanded to include other relevant global mass media. Specifically, the mass media of Europe, the Middle East and Asia were added to those of America. | 6 |
| ***Exposure to the marketing activities of multi-national companies (EXM****)*  Degree of a person’s exposure to the marketing and advertising activities of multinational or global corporations. | 7 |
| ***Openness to and desire to emulate global consumer culture (Openness)***  Degree to which a person admires the lifestyles of other countries and is likely to desire ownership of consumption symbols from other countries. | 3 |
| ***Self-identification with global consumer culture (IDT)***  Degree of self-ascribed membership in or outright identification with a global consumer culture. | 6 |

*Perceived ease of use (PEoU)* is defined as “the degree to which a person believes that using a particular system would be free of effort” (Davis, 1989, p. 320) and was measured using an adaptation of the 6-item instrument developed by Davis (1989).

*Perceived usefulness (PU)* is defined as “the degree to which a person believes that using a particular system would enhance his or her job performance” (Davis, 1989, p. 320). The definition for this study was slightly altered by not focusing on job performance in particular, but by generalizing the construct to personal performance instead. PU was measured using an adaptation of the 6-item instrument developed by Davis (1989).

*Subjective norm (SN)* is defined as the individual’s perception that most people who are important to him or her think he or she should or should not perform the behavior in question (Ajzen and Fishbein, 1980, p. 57). The measure for SN was adapted from Srite and Karahanna (2006) which includes both subjective norm (2 items) and normative beliefs (3 items) and is consistent with the measure proposed by Ajzen and Fishbein (1980, p.272).

*Internet Adoption (IA)* is defined as the intention to adopt Internet applications within the next six months. Adopting the Internet was conceptualized as a *behavioral category*. “Behavioral categories cannot be directly observed; instead they are inferred from single actions assumed to be instances of the general behavioral category” (Ajzen and Fishbein, 1980, p. 31). Therefore, behavioral categories involve *a set of actions* rather than a single action. To construct a behavioral category, a set of actions deemed relevant to the category was selected.

In the case of Internet adoption, it is extremely difficult for an individual to use the entire range of Internet applications. Consequently, this makes it possible to conceive of Internet adoption as a behavioural category. Accordingly, one can say that a user who adopts more Internet applications has a higher level of Internet adoption. Internet application adoption would thus be the set of actions relevant to the behavioral category of Internet adoption.

The individual’s *intention* to perform a behavior has been found to be a good predictor of his or her actual behavior (Ajzen and Fishbein, 1980). Therefore, for the purposes of our study, the intention to adopt the Internet was used as the dependant variable and measured using the standard two-item behavioral intention instrument, as set forth by Ajzen and Fishbein (*op. cit.*). Each action corresponds to the intention to adopt an *Internet application,* which was defined as any application which required an Internet connection to function. The actions were grouped into four formative dimensions, namely Internet for communication, for entertainment, for education, and for transaction. As a result, this construct can be seen as being multidimensional and modeled as shown in Figure 1. The multi-item scales that measure the research variables are presented in the Appendix. As all variables showed a high level of internal consistency, variable scores were obtained by averaging item scores.

Research Method

### Research Setting

To study the effects of globalization, we wanted to look at a culture which has been opening up in recent years. Jordan provided an excellent example of a country with such a culture. For example, in 1996, Jordan’s Ministry of Information was in charge of censoring any written material entering the country. This situation then changed a great deal when the new king came into power. The Ministry of Information became the Ministry of Communication and Information Technology and began actively implementing e-government projects, many of which have already been completed (www.moict.gov.jo). These projects not only automated the internal work of government departments, but also developed an e-services portal for the general public. For example, individuals looking to buy a piece of land can go to the portal of the Department of Lands and look up for the information needed ([Department of Lands and Survey web site](http://www.dls.gov.jo/arabic/), 2007, only available in Arabic).

A major concern of Jordanian officials expressed at one governmental IT summits was the low penetration rate of the Internet among the general public ([Farawati and Robertson, 2007](http://www.jordan-business.net/magazine/index.php?option=com_content&task=view&id=73&Itemid=40)). Many efforts were made to improve Internet adoption rates within the Jordanian population. One project was supported by the United States Agency for International Development (USAID), among others, and was designed to help those individuals in poorer parts of the country to adopt Internet technologies by providing them with knowledge stations equipped with all the necessary hardware, software and Internet connections (personal communications with Jordan’s Ministry of ICT; [Knowledge Stations web site, 2007](http://www.ks.gov.jo/KS_effort.htm); [USAID in Jordan, 2007](http://www.usaidjordan.org/features_disp.cfm?id=118&type=success)a, 2007[b](http://www.usaidjordan.org/features_disp.cfm?id=121&type=success)). Now, these projects can be seen as a result of globalization, as they would not have been possible if Jordan and the United States had not developed a free trade agreement.

### Data Collection

The study consisted of a field survey. The English version of the questionnaire was pre-tested, with an executive who planned and oversaw the execution of a significant number of marketing surveys in Jordan. This led to the inclusion of the marketing dimensions of the AGC construct as mentioned earlier. The questionnaire was then translated into classical Arabic so that it could be filled out by the general public in Jordan. The translation was done by a native Arabic speaker who was also a fluent English language speaker. A back translation of the Arabic survey was then conducted to ensure that the survey was accurate in its translation (Karahanna et al., 2002). As a result, a few corrections were made to increase the accuracy of the initial translation. The back translation was performed by a university translation professor. Furthermore, a linguistic check was performed by a third person on the corrected Arabic questionnaire and final adjustments were made.

Given that the population targeted for the study was the general public, a good way to reach this population was to go through social clubs and associations. This approach proved to be successful as the sample was obtained through a cold call to a charity organization which agreed to distribute 150 surveys. A total of 140 surveys were returned, out of which 136 were found to be useable, for a response rate of 90.7%).

Out of the 136 respondents to the survey, 78 were female and 58 were male. Most respondents were born in Jordan (85.3%) and nearly all were Jordanian citizens and residents (97.8%). A rather large percentage (45.6%) had an undergraduate university degree (bachelor’s). The employment status varied between those respondents who were employed full time (37%), retired (16%), homemakers (15%) or students (18%). Over two thirds of the respondents were between twenty and forty years old (68.4%).

Results

Structural equation modeling was used to validate the research model. To this effect, a component-based technique, PLS, was chosen for its robustness as it is much less exacting with regard to the size of the sample and the distribution of residuals than covariance structure analysis techniques such as LISREL, EQS and Amos (Gefen et al., 2000). A sample size heuristic for PLS is that there should be at least ten cases per indicator for the construct with the largest number of indicators (Barclay et al., 1995), that is, a construct with 14 indicators in this study. A sample size of 136 meets this requirement approximately.

Given their composite and multidimensional nature, two of the five constructs in the research model (Figure 1), namely Acculturation to the Global Culture (AGC) and Internet Adoption Intention (IAI) are modeled as being “formative” rather than “reflective” (Chin, 1998a). Such a construct is composed of many indicators that each captures a different aspect; hence changes in these indicators bring or “cause” change in their underlying construct (MacKenzie et al., 2005). More precisely, AGC is modeled as a second-order construct derived from ten formative indicators, each indicator being itself a first-order reflective construct. In similar fashion, IAI is also modeled as a second-order construct composed of four formative indicators, that is, four first-order reflective constructs.[[1]](#footnote-1) The other three research constructs, namely Subjective Norm (SN), Perceived Usefulness (PU) and Perceived Ease of Use (PEoU), are modeled as first-order reflective constructs.

**Assessment of formative indicator validity**

Given the presence of two second-order formative constructs, a first step in the data analysis aimed at assessing the psychometric properties of the indicator scales from which these constructs derive. The primary aim here is to confirm the unidimensionality, internal consistency, convergent validity and discriminant validity of these indicators (first-order constructs) (MacKenzie et al., 2011) so that each can be treated as a single distinct factor when testing the research model, and a valid score for each factor can be obtained by averaging its corresponding item scores.

A PLS confirmatory factor analysis of the scales used to operationalize the formative indicators of the AGC construct was initially conducted. Unidimensionality was assessed by examining the strength of item loadings, the initial analysis showing that 3 (out of 64) items loaded poorly on their corresponding factors. These items were removed and the factor analysis was rerun. As shown in Table 1, all item loadings then ranged above the 0.70 guideline (Fornell and Larcker, 1981), except for two (at 0.64 and 0.68) that approximated this guideline. Internal consistency was assessed with the composite reliability coefficient, that is, the ratio of construct variance to the sum of construct and error variance. The 0.88 - 0.96 range obtained for the coefficient values, well above the required 0.70 level, confirms the internal consistency of the ten components of AGC (Fornell and Larcker, op. cit.). Convergent validity is confirmed by looking at the average variance extracted (AVE), i.e., the proportion of variance not due to measurement error. Here, AVE values greater than 0.50 for all ten components support their convergent validity (Gerbing and Anderson, 1988). Discriminant validity is confirmed if the shared variance between a component and another component (i.e., the squared correlation between the two) is less than each component's AVE value (Chin, 1998b). The results presented in Table 2 prove this to be the case for all ten components.

A similar PLS factor analysis of the of the four IAI indicators was also conducted. Here, 2 items (out of 36) were removed because of insufficient loadings and the factor analysis was rerun. As presented in Table 3, item loadings greater than 0.70 save for three items in the 0.64 to 0.67 range provide evidence of the unidimensionality of the four IAI indicators. Ranges of 0.91 to 0.95 for the composite reliability coefficient and 0.54 to 0.78 for the AVE also provide strong evidence of internal consistency and convergent validity. Finally, the results presented in Table 4 confirm the discriminant validity of the four indicators, as no variance shared between any two indicators is greater than their respective AVE.

**Table 1: PLS factor analysis of Acculturation to the Global Culture**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **AGC indicator**  **Item** | COS | ELU | TRAV | EXM | OPE | IDT | GMM  America | GMM  Mideast | GMM  Asia | GMM  Europe |
| Cosmopolitanism  COS1  COS2  COS3  COS4  COS5  COS6 | .85  .91  .89  .90  .82  .84 | -a  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - |
| English language  use / exposure  ELU1  ELU2  ELU3  ELU4  ELU5  ELU6  ELU7  ELU8  ELU9  ELU10  ELU11  ELU12 | -  -  -  -  -  -  -  -  -  -  -  - | .86  .78  .84  .85  .76  .78  .80  .88  .86  .86  .80  .86 | -  -  -  -  -  -  -  -  -  -  -  - | -  -  -  -  -  -  -  -  -  -  -  - | -  -  -  -  -  -  -  -  -  -  -  - | -  -  -  -  -  -  -  -  -  -  -  - | -  -  -  -  -  -  -  -  -  -  -  - | -  -  -  -  -  -  -  -  -  -  -  - | -  -  -  -  -  -  -  -  -  -  -  - | -  -  -  -  -  -  -  -  -  -  -  - |
| Social interaction  (Travel)  TRAV1  TRAV2  TRAV3  TRAV4 (*removed*)  TRAV5  TRAV6 | **-**  **-**  **-**  **-**  **-** | -  -  -  -  - | .84  .66  .77  .85  .71 | -  -  -  -  - | -  -  -  -  - | -  -  -  -  - | -  -  -  -  - | -  -  -  -  - | -  -  -  -  - | -  -  -  -  - |
| Exposure to multi-  nationals’ marketing  EXM1  EXM2  EXM3  EXM4  EXM5  EXM6  EXM7 (*removed*) | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | .64  .74  .82  .81  .68  .75 | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - |
| Openness to the global culture  OPE1  OPE2  OPE3 | -  -  - | -  -  - | -  -  - | -  -  - | .82  .94  .90 | -  -  - | -  -  - | -  -  - | -  -  - | -  -  - |
| Self-identification  with global culture  IDT1  IDT2  IDT3  IDT4  IDT5  IDT6 (*removed*) | -  -  -  -  - | -  -  -  -  - | -  -  -  -  - | -  -  -  -  - | -  -  -  -  - | .79  .82  .89  .89  .83 | -  -  -  -  - | -  -  -  -  - | -  -  -  -  - | -  -  -  -  - |

aA dash indicates the cross-loading is inferior to 0.5.

**Table 1: PLS factor analysis of Acculturation to the Global Culture (continued)**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **AGC indicator**  **Item** | COS | ELU | TRAV | EXM | OPE | IDT | GMM  America | GMM  Mideast | GMM  Asia | GMM  Europe |
| Global mass media exposure – America  GMMAmerica1  GMMAmerica2  GMMAmerica3  GMMAmerica4  GMMAmerica5  GMMAmerica6 | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | 75  .74  .84  .81  .76  .74 | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - |
| Global mass media exposure – Mideast  GMMMideast1  GMMMideast2  GMMMideast3  GMMMideast4  GMMMideast5  GMMMideast6 | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | .85  .84  .85  .75  .83  .77 | -  -  -  -  -  - | -  -  -  -  -  - |
| Global mass media exposure – Asia  GMMAsia1  GMMAsia2  GMMAsia3  GMMAsia4  GMMAsia5  GMMAsia6 | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | .85  .87  .92  .88  .90  .81 | -  -  -  -  -  - |
| Global mass media exposure – Europe  GMMEurope1  GMMEurope2  GMMEurope3  GMMEurope4  GMMEurope5  GMMEurope6 | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | -  -  -  -  -  - | .80  .82  .81  .73  .86  .76 |
| Composite reliability  Average variance extracted | 0.95  0.76 | 0.96  0.68 | 0.88  0.60 | 0.88  0.55 | 0.92  0.79 | 0.93  0.71 | 0.90  0.60 | 0.92  0.66 | 0.95  0.77 | 0.91  0.64 |

aA dash indicates the cross-loading is inferior to 0.50.

Table 2: Inter-correlation and discriminant validity of the AGC indicators

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **AGC indicator** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** | **10.** |
| 1. Cosmopolitanism | .87a |  |  |  |  |  |  |  |  |  |
| 2. English language use / exposure | .19 | .82 |  |  |  |  |  |  |  |  |
| 3. Social interaction | .43 | .26 | .77 |  |  |  |  |  |  |  |
| 4. Exposure to multi-nationals’ marketing | .39 | .19 | .35 | .74 |  |  |  |  |  |  |
| 5. Openness to the global culture | .15 | .03 | .16 | .12 | .89 |  |  |  |  |  |
| 6. Self-identification with global culture | .26 | .20 | .41 | .32 | .29 | .84 |  |  |  |  |
| 7. Global mass media exposure – America | .25 | .45 | .37 | .25 | .18 | .43 | .77 |  |  |  |
| 8. Global mass media exposure – Mideast | .03 | -.03 | .02 | .02 | .17 | .26 | .17 | .81 |  |  |
| 9. Global mass media exposure – Asia | .10 | .02 | .02 | -.03 | .20 | .22 | .07 | .38 | .88 |  |
| 10.Global mass media exposure – Europe | .25 | .21 | .28 | .20 | .14 | .39 | .50 | .19 | .34 | .80 |

adiagonal: (AVE)1/2 subdiagonals: correlation = (shared variance)1/2

**Table 3: PLS factor analysis of Internet Adoption Intention (IAI)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IAI indicator  item | Internet for Communication | Internet for Education | Internet for Entertainment | Internet for Transaction |
| Internet for Communication  INTC1 (*removed*)  INTC2 (*removed*)  INTC3  INTC4  INTC5  INTC6  INTC7  INTC8  INTC9  INTC10  INTC11  INTC12  INTC13  INTC14 | .67  .74  .77  .80  .64  .75  .71  .76  .75  .75  .65  .77 | -a  -  -  -  -  -  -  -  -  -  -  - | -  -  -  -  -  -  -  -  -  -  -  - | -  -  -  -  -  -  -  -  -  -  -  - |
| Internet for Entertainment  INTE1  INTE2  INTE3  INTE4 | -  -  -  - | .88  .89  .84  .80 | -  -  -  - | -  -  -  - |
| Internet for Education  INTED1  INTED2  INTED3  INTED4 | -  -  -  - | -  -  -  - | .86  .89  .89  .89 | -  -  -  - |
| Internet for Transaction  INTT1  INTT2  INTT3  INTT4  INTT5  INTT6  INTT7  INTT8  INTT9  INTT10 | -  -  -  -  -  -  -  -  -  - | -  -  -  -  -  -  -  -  -  - | -  -  -  -  -  -  -  -  -  - | .84  .83  .85  .87  .60  .72  .77  .85  .83  .84 |
| Composite  reliability | 0.93 | 0.93 | 0.91 | 0.95 |
| Average variance  extracted | 0.54 | 0.78 | 0.73 | 0.66 |

aA dash indicates the cross-loading is inferior to 0.5.

Table 4: Intercorrelation and discriminant validity of the IAI indicators

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IAI indicator** | **1.** | **2.** | **3.** | **4.** |
| 1. Internet for Communication | .73a |  |  |  |
| 2. Internet for Education | .54 | .88 |  |  |
| 3. Internet for Entertainment | .50 | .30 | .85 |  |
| 4. Internet for Transaction | .68 | .62 | .30 | .81 |

adiagonal: (AVE)1/2 subdiagonals: correlation = (shared variance)1/2

### Assessment of the measurement model

The second step in the data analysis consists in simultaneously estimating with PLS the measurement and theoretical models. The psychometric properties of both the formative and reflective construct measures are thus assessed within the context of the structural model.

Given that the usual reliability and validity criteria do not apply to a formative construct (Chin, 1998a), one must first verify that there is no multicollinearity among the indicators that form such a construct (Petter et al., 2007). This is verified with the variance-inflation-factor (VIF), the guideline being that this statistics should not be greater than 3.3 for any formative indicator (Diamantopoulos and Siguaw, 2006).[[2]](#footnote-2) As can be seen in Tables 5 and 6, this is true for all ten AGC indicators and all four IAI indicators.

Formative indicator validity is confirmed by a weight that is significant, in the right causal direction, and not less than 0.10. However, Cenfetelli et Basselier (2009) recommend examining the loading” (λ) of a formative indicator when its weight (γ) is weak or non-significant, so as not to underestimate its contribution to the construct’s content validity.[[3]](#footnote-3) In the case of the AGC construct, two of the ten formative indicators, namely Global mass media exposure – Mideast and Global mass media exposure – Asia, have weights and loadings that are both non-significant and weak (Table 5). Hence these two indicators are candidates for removal as they show no contribution to the AGC measure. In the case of the IAI construct, two indicators have weights that are not quite significant yet greater than 0.10 (Table 6), that is, Intention to Adopt Internet for Entertainment, and for Transaction. Given that their weights as well as their loadings are of adequate strength, these indicators’ absolute contribution to the IAI measure is such that they should be retained.

Table 5: Validity of Acculturation to the Global Culture (AGC) as a formative construct

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **AGC indicator (formative)** | **mean**  (1 - 5) | **s.d.** | **VIF** | **weight**  (γ) | **loading**  (λ) |
| Cosmopolitanism  English language use/exposure  Social interaction (Travel)  Exposure to multinationals’ marketing  Openness to the global culture  Self-identification with global culture  Global mass media exposure - America)  Global mass media exposure - Mideast (*removed*)  Global mass media exposure - Asia (*removed*)  Global mass media exposure – Europe | 4.0  2.0  3.6  3.8  2.4  2.7  3.5  2.5  1.7  2.5 | 1.0  1.2  0.9  0.8  1.0  1.0  1.0  1.0  0.9  1.0 | 1.4  1.4  1.5  1.3  1.1  1.6  2.0  1.3  1.4  1.7 | 0.16\*\*\*  0.24\*\*\*  0.26\*\*\*  0.15\*\*  0.18\*\*  0.20\*\*\*  0.22\*\*\*  -0.01  0.05  0.21\*\*\* | 0.57\*\*\*  0.55\*\*\*  0.69\*\*\*  0.54\*\*\*  0.40\*\*\*  0.69\*\*\*  0.74\*\*\*  0.17  0.21  0.65\*\*\* |

\*\*: p < 0.01 \*\*\*: p < 0.001

Table 6: Validity of Intention to Adopt the Internet (IAI) as a formative construct

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **IAI indicator (formative)** | **mean**  (0 - 5) | **s.d.** | **VIF** | **weight**  (γ) | **loading**  (λ) |
| Intention to Adopt the Internet for Communication  Intention to Adopt the Internet for Entertainment  Intention to Adopt the Internet for Education  Intention to Adopt the Internet for Transaction | 2.2  2.6  3.6  1.8 | 1.1  1.4  1.3  1.2 | 2.2  1.4  1.6  2.3 | 0.34\*  0.22a  0.50\*\*\*  0.19 | 0.83\*\*\*  0.60\*\*\*  0.86\*\*\*  0.80\*\*\* |

ap < 0.1 \*: p < 0.05 \*\*\*: p < 0.001

Having assessed the validity of the formative constructs, the unidimensionality and reliability of the reflective constructs must then be evaluated. As shown in Table 7, the fact that all item loadings on these constructs were greater than the 0.70 threshold confirmed their unidimensionality. The composite reliability coefficient values ranging from 0.92 to 0.96, above the 0.70 threshold, also provide strong evidence of the reliability of the three reflective constructs. There is also evidence in Table 7 of the convergent validity of the reflective constructs, as their AVE ranges from 0.69 to 0.80 in value, greater than the 0.50 threshold.

The last property to be verified is discriminant validity. It shows the extent to which each construct in the research model is unique and different from the others. Here the shared variance between a reflective construct and other constructs must be less than the average variance extracted by a construct from its indicators. Table 8 shows this to be the case for all three reflective constructs in the research model. For the two formative constructs, the fact that each shares less than 50% variance with any other construct (inter-construct correlation inferior to 0.70) is evidence of discriminant validity (MacKenzie et al., 2005).

**Table 7: Reliability, unidimensionality and convergent validity of the reflective constructs**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Subjective Norm**  c.r.a = 0.92 AVEb = 0.69 | | | **Perceived Usefulness**  c.r. = 0.95 AVE = 0.74 | | **Perceived Ease of Use**  c.r. = 0.96 AVE = 0.80 | |
| item mean s.d. | loading (λ) | | item mean s.d. | loading (λ) | item mean s.d. | loading (λ) |
| SN1 3.8 1.1  SN2 3.4 1.3  SN3 3.4 1.3  SN4 3.9 1.1  SN5 3.9 1.1 | | 0.84\*\*\*  0.82\*\*\*  0.81\*\*\*  0.86\*\*\*  0.82\*\*\* | PU1 3.9 1.1  PU2 3.4 1.2  PU3 3.4 1.2  PU4 3.4 1.2  PU5 3.7 1.2  PU6 3.6 1.2 | 0.73\*\*\*  0.87\*\*\*  0.92\*\*\*  0.88\*\*\*  0.90\*\*\*  0.87\*\*\* | PEoU1 4.2 1.0  PEoU2 4.0 1.0  PEoU3 4.0 1.0  PEoU4 3.9 1.0  PEoU5 3.7 1.1  PEoU6 3.9 1.0 | 0.82\*\*\*  0.90\*\*\*  0.90\*\*\*  0.91\*\*\*  0.92\*\*\*  0.91\*\*\* |

acomposite reliability = (Σλi)2/((Σλi)2+Σ(1-λi2))

baverage variance extracted = (Σλi2/n)

\*\*\*: p < 0.001

Table 8: Inter-construct correlation and discriminant validity

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Construct** | **1.** | **2.** | **3.** | **4.** | **5.** |
| 1. Acculturation to the Global Culture | -a |  |  |  |  |
| 2. Subjective Norm | 0.33 | 0.83 |  |  |  |
| 3. Perceived Usefulness | 0.40 | 0.43 | 0.86 |  |  |
| 4. Perceived Ease of Use | 0.35 | 0.38 | 0.41 | 0.89 |  |
| 5. Intention to Adopt the Internet | 0.45 | 0.27 | 0.49 | 0.50 | - |

adiagonal: (AVE)1/2 [not applicable to formative constructs (Chin, 1998)]

subdiagonals: correlation = (shared variance)1/2

### Assessment of the structural model

The research hypotheses are tested by assessing the path coefficients (β) estimated by PLS, as presented Figure 2. While PLS does not provide model fit indices, the performance of the structural model can be ascertained by the strength and significance of the path coefficients and by the proportion of construct variance (R2) that is explained (Chin, 1998b). Moreover, one should consider as truly significant only those path coefficients greater than 0.20, as PLS tends to underestimate structural paths when compared with covariance structure-based techniques such as LISREL or EQS (Chin, 1998a).

Figure 2: Assessment of the initial structural model



The first result of assessing the structural model allows us to conclude that hypothesis 1a, referring to the direct positive influence of an individual’s Acculturation to the Global Culture (AGC) upon his or her Intention to Adopt the Internet (IAI), is supported (β = 0.24, p < 0.01). Hypotheses 1b, 1c, and 1d, referring to the positive influence of AGC upon Perceived Ease of Use (PEoU), Perceived Usefulness (PU) and Subjective Norm (SN) are also supported (β = 0.33, p < 0.001; β = 0.22, p < 0.05; β = 0.36, p < 0.001). Hypothesis 2a, referring to the direct positive influence of SN on IAI, is not supported (β = -0.05). However hypothesis 2b, referring to the positive influence of SN on PU, is supported (β = 0.28, p < 0.001). Hypothesis 3, referring to PU influencing IAI, is also supported (β = 0.29, p < 0.05). Hypothesis 4a, referring to PEoU positively influencing IAI, is supported (β = 0.31, p < 0.01). Finally, hypothesis 4b, referring to PEoU influencing PU, is supported (β = 0.23, p < 0.01). Overall, these results provide conclusive evidence of the research model’s empirical validity.

To further confirm the validity of the preceding results, the structural model was revised and reassessed after removing the two non-significant AGC indicators and the non-significant path from SN to IAI initially hypothesized (H2a). As shown in Figure 3, the results of testing the revised model remain essentially the same in terms of path coefficients and proportion of variance explained, that is, 38% for Intention to Adopt the Internet, 14% for Perceived Ease of Use, 30% for Perceived usefulness and 11% for Subjective Norm.

Figure 3: Assessment of the revised structural model



Given the study’s focus on Acculturation to the Global Culture, its total effect upon Intention to Adopt the Internet was further analyzed by breaking it down into both a direct effect (H1a) and an indirect effect, that is, an effect mediated by Subjective Norm, Perceived Usefulness and Perceived Ease of Use. The results presented in Table 9 indicate that for both the initial structural model and the revised model, more than half of the total effect of AGC on IAI is direct. Consequently, an individual’s acculturation to the global culture would definitely influence his or her behavioral intention to adopt the Internet, irrespective of the extent to which he or she is influenced by others or perceives the Internet to be useful and easy to use.

**Table 9: Breakdown of Acculturation to the Global Culture’s effect on Internet Adoption Intention**

|  |  |  |  |
| --- | --- | --- | --- |
| **Effect of AGC on IAI** | **Direct effect** | **Indirect effect** | **Total effect** |
| Initial structural model | 0.24  (53%) | 0.21  (47%) | 0.45  (100%) |
| Revised structural model | 0.23  (51%) | 0.22  (49%) | 0.45 (100%) |

Discussion and Contribution

Our results suggest that there is a positive and significant effect of an individual’s acculturation to the global culture upon his or her intention to adopt the. This relationship is also positively mediated by the perceived ease of use and usefulness of the Internet, and partially by the subjective norm regarding Internet use.

The main relationship between acculturation and Internet adoption can be explained by the most significant dimensions of each construct. Our results indicate that acculturation to the global culture seems to be the reality for Jordanian people who can easily understand, speak, and write English. These individuals would tend to travel more, taking some of their vacations outside Jordan, and would be more open to foreign cultures. They would also demonstrate greater openness to other lifestyles and believe themselves to be similar to others of the same age. Interestingly, the dimensions of global mass media exposure related to the Mideast and to Asia both had non-significant and weak weights and loadings. This may be explained by looking through the eyes of the respondents in our sample, as Jordanian might not see the Middle Eastern and Asian mass media as part of the globalization phenomena but rather as part of their local culture. In contrast, the mass media of Europe and the United States would be seen as the main if not the sole contributors to the global culture.

As indicated above, education and social applications are the most significant dimensions of Internet adoption. These are applications that facilitate interaction with others and acquisition of new knowledge. Therefore, the positive and significant link between acculturation to the global culture and the Internet adoption intention indicates that individuals who have already been exposed to other cultures tend to be more open and people-oriented, and in turn are more inclined to adopt the Internet which facilitates their social networking and learning experience.

Acculturation to the global culture affects positively and significantly the Internet adoption intention through the perceived ease of use and perceived usefulness of this technology. Our results indicate that once the use of Internet is perceived as something useful and easy to use, those who are looking for new tools to facilitate their communication with others and enhance their learning experience will be more prone to adopt the Internet. These results show that the TAM holds for this study’s particular technological context and cultural setting.

Furthermore, acculturation to the global culture is positively and significantly linked to subjective the norm with regard to Internet use. However this norm was found here to have no influence on an individual’s intention to adopt the Internet. The subjective norm measures the influence that a significant person may have on someone’s decision to behave in a certain way, in this case to use the Internet. The subjective norm thus intensifies the social aspect of acculturation.

Our results indicate that the TRA did not to hold in our research setting as no significant direct relationship could be found between the subjective norm and the intention to adopt the Internet. Our is not the first study to report such a finding, yet, the influence of the subjective norm with regard to Internet use is still important. Indeed, this influence is indirect rather than direct as the subjective norm has a positive and significant effect on perceived usefulness which in turn has a positive and significant effect on the Internet adoption intention. As shown by Ventakesh and Davis (2000), the subjective norm influences the perceived usefulness of a technology. This has once again proven to be true in the Jordanian cultural setting.

Our general findings indicate that acculturation to the global culture is positively and significantly associated to the adoption of Internet applications, be it as a direct relationship or through the perceived ease of use and usefulness of the Internet. Our results also indicate that the direct effect of acculturation to the global culture on the intention to adopt the Internet is in fact stronger than its indirect effect. The addition of this antecedent to the behavioral intention provides a new and potentially fruitful addition to the TAM.

The major theoretical contribution of our study to the IS research domain thus lies in its elaboration and validation of the concept of acculturation to the global culture as a direct antecedent to IT adoption in the developing world. Notwithstanding the “digital divide” that still exists between developed and developing countries, our research has brought the complex notions of globalization and culture from the background to the foreground of IT adoption and innovation research. In particular, one important contribution of our research from an academic standpoint is to have successfully applied a dynamic perspective of culture, as this has rarely been done in the IS field. In the process, this study has helped to uncover some of the effects of globalization on Jordan’s citizens. Results indicate that those who are familiar with the English language, who visit foreign countries and think that people have similar lifestyles despite their countries, are the ones who will be more inclined to adopt some Internet applications for their social, entertainment and educational needs. The acculturation construct is sufficiently dynamic to capture the recent environmental influences that bear upon the Jordanian people.

One practical implication of our results are for emerging countries is that if they wish the Internet to have a greater penetration rate among their citizens, they must allow them to be exposed to other cultures, to learn other languages, to travel and study abroad, to read foreign magazines and newspapers, and to have access to foreign media. Our results also suggest that exposing the general public to the English language would obviously be one first step in facilitating the adoption of Internet applications. Some actions are currently being implemented at “knowledge stations” across Jordan to provide English language education and exchange programs which would allow for travel and social opportunities in which cultural exchanges can take place.

Limitations and Future Research Directions

The cross-sectional survey method used in our study occasions some limitations in its potential contribution. Since acculturation is a process of developing new cultural identities, a longitudinal approach may have yielded richer results. In addition, such an approach combined with a qualitative method may also increase our understanding of the impact of Internet adoption on cultural identities. Other mutually co-existing cultural identities may also influence technology adoption, including Internet adoption. Such cultural identities may include ethnic and national cultural identities, among others. More research in this area is therefore needed. Another possibility of furthering this line of research is to use a more sophisticated measure of normative beliefs which also considers the motivation of a person to comply with the social pressures of normative behavior (Zolait and Sulaiman, 2008). While the items measuring each of the five research constructs were placed in separate parts of the questionnaire to mitigate autocorrelation effects, other sources of common method or mono-method biases may yet remain in the survey instrument (Podsakoff et al., 2003).

Our research could be replicated in other less developed communities of the world to further investigate the adoption and use of Internet applications in such contexts. For example, conducting a similar research in other countries that have been less exposed to the global mass media or to the multinational company’s advertising may reveal different results. A more diversified sample would be important for the generalization of this study’s findings. This work sets the stage for further research in the IS field in the world at large. Internet adoption is a first step in the use of web technologies. Further research could attempt to connect more specific cultural trends with specific Internet applications such as social networking and electronic business. Furthermore, there are many other possibilities of using the dynamic view of culture in trying to further understand the process of technological adoption and appropriation, by exploring how individuals engaged in various culturally expected behaviors, such as ethnic identification or religiosity. Finally, the concept of acculturation can be applied to different levels of culture such as organizational culture or group culture, in order to examine and better understand dynamic cultural phenomena.

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Appendix

Part I: Acculturation to the Global Culture Instrument

(adapted from Cleveland, 2006, and Cleveland and Laroche, 2007)

### Cosmopolitanism

(COS1) I enjoy exchanging ideas with people from other cultures or countries.

(COS2) I am interested in learning more about people who live in other countries.

(COS3) I enjoy being with people from other countries to learn about their unique views and approaches.

(COS4) I like to observe people of other cultures, to see what I can learn from them.

(COS5) I like to learn about other ways of life.

(COS6) I find people from other cultures stimulating.

### English Language Use/Exposure

(ELU1) I mostly carry on conversations in the English language everyday.

(ELU2) In general, I speak the English language.

(ELU3) I speak English regularly.

(ELU4) I always use the English language with my friends.

(ELU5) I always speak/spoke English with my parents.

(ELU6) I always speak English with other family members.

(ELU7) I mostly speak in English at family gatherings.

(ELU8) I feel very comfortable speaking in English.

(ELU9) Many of the books that I read are in English.

(ELU10) Most of my writing is in English.[[4]](#endnote-1)

(ELU11) My thinking is done in English. [[5]](#endnote-2)

(ELU12) I prefer to watch English language T.V. than any other language I may speak.

### Social Interaction (Travel)

(TRAV1) I prefer spending my vacations outside of the country that I live in.

(TRAV2) While vacationing, I would prefer to stay in my home country, rather than visit another country.

(reverse coded)

(TRAV3) Visiting foreign countries is one of my favourite things.

(TRAV4) I have travelled extensively outside of my home country.

(TRAV5) I often think about going to different countries and doing some traveling.

(TRAV6) When travelling, I like to immerse myself in the culture of the people I am visiting.

### Exposure to Multinational Companies’ Advertising

(EXP1) When I am watching T.V., I often see advertising for products that are from outside of my country.

(EXP2) When I am watching T.V., it seems that the number of advertisements for foreign brands is quite

high, when compared to the number of advertisements for local brands.

(EXP3) Ads for foreign or global products are everywhere.

(EXP4) The magazines that I read are full of ads for foreign or global products.

(EXP5) When I read a newspaper, I come across many advertisements for foreign or global products.

(EXP6) Many of the T.V. commercials I see are placed by multinational companies.

(EXP7) In my city, there are many billboards and advertising signs for foreign and global products.

### Openness and Desire to Emulate Global Culture

(OPE1) I think people my age are basically the same around the world. For example, a 20-something in

Jordan is basically the same as a 20-something in the U.S., Italy, or anywhere else.

(OPE2) I think that my lifestyle is almost the same as that of people of my age-group in other countries.

(OPE3) I think my lifestyle is almost the same as that of people of my social class in other countries.

### Self-identification with the Global Culture

(IDT1) Advertising by foreign or global brands has a strong influence on my clothing choices.

(IDT2) I identify with famous international brands.

(IDT3) The way that I dress is influenced by the advertising activities of foreign or global companies.

(IDT4) I try to pattern my lifestyle, way of dressing, etc. to be a global consumer.

(IDT5) I pay attention to the fashions worn by people in my age-group that live in other countries.

(IDT6) I like reading magazines about the fashion, décor, and trends in other countries.

### Global Mass Media Exposure (America)

(GMMAmerica1) I enjoy watching films from **America** (e.g. Hollywood’s American movies).

(GMMAmerica2) Some of my favourite actors/actresses are from **America.**

(GMMAmerica3) I often watch **American** T.V. programs.

(GMMAmerica4) I enjoy listening to music that is popular in **America.**

(GMMAmerica5) I enjoy reading magazines from **America.**

(GMMAmerica6) I like to read magazines that contain information about popular celebrities from **America.**

The previous six items are repeated for each of the following:

**Global Mass Media Exposure** (**Middle East)**

**Global Mass Media Exposure** (**Asia)**

**Global Mass Media Exposure** (**Europe)**

Part II: Subjective Norm, Perceived Ease of Use and Perceived Usefulness

### Subjective Norm

(SN1) People who are important to me think that I should use the Internet.

(SN2) People who influence my behaviour think that I should use the Internet.

(SN3) My relatives think that I should use the Internet.

(SN4) My friends think that I should use the Internet.

(SN5) My colleagues think that I should use the Internet.

### Perceived Usefulness

(PU1) Using the Internet in my personal life would enable me to accomplish tasks more quickly.

(PU2) Using the Internet would improve my personal life.

(PU3) Using the Internet in my personal life would increase my productivity.

(PU4) Using the Internet would enhance my effectiveness in my personal life.

(PU5) Using the Internet would make it easier to do many things in my personal life.

(PU6) I would find using the Internet useful in my personal life.

### Perceived Ease of Use

(PEoU1) Learning to operate Internet applications would be easy for me.

(PEoU2) I would find it easy to get Internetapplications to do what I want them to do.

(PEoU3) I would find my interaction with Internetapplications would be clear and understandable.

(PEoU4) I would find Internetapplications to be flexible to interact with.

(PEoU5) It would be easy for me to become skilful at using Internetapplications.

(PEoU6) I would find Internetapplications easy to use.

Part III: Intention to Adopt the Internet

### Internet for Communication

(INTC1) I intend on using **e-mail** within the next six months.

(INTC2) During the next six months, I plan to experiment with or regularly use **e-mail**.

(INTC3) I intend on using **text chat** within the next six months.

(INTC4) During the next six months, I plan to experiment with or regularly use **text chat**.

(INTC5) I intend on using **voice chat** within the next six months.

(INTC6) During the next six months, I plan to experiment with or regularly use **voice chat**.

(INTC7) I intend on using **video conferencing** within the next six months.

(INTC8) During the next six months, I plan to experiment with or regularly use **video conferencing**.

(INTC9) I intend on using **news groups** within the next six months.

(INTC10) During the next six months, I plan to experiment with or regularly use **news groups**.

(INTC11) I intend on using **blogging** within the next six months.

(INTC12) During the next six months, I plan to experiment with or regularly practice **blogging**.

(INTC13) I intend on using **social networking** utilities or web sites (such as Facebook or MySpace)on the

Internet within the next six months.

(INTC14) During the next six months, I plan to experiment with or regularly use **social networking** utilities

or web sites.

### Internet for Entertainment

(INTE1) I intend on using **Internet games** within the next six months.

(INTE2) During the next six months, I plan to experiment with or regularly use the **Internet** for playing

**Internet games.**

(INTE3) I intend on using **Internet** sourced **entertainment** within the next six months.

(INTE4) During the next six months, I plan to experiment with or regularly use the **Internet** for

**entertainment** (watch movies; listen to music; look at art, etc.).

### Internet for Education

(INTED1) I intend on browsing the web to search for information within the next six months.

(INTED2) During the next six months, I plan to experiment with or regularly browse the web to search for

information.

(INTED3) I intend on using **e-learning** within the next six months.

(INTED4) During the next six months, I plan to experiment with or regularly use **e-learning**.

### Internet for Transaction

(INTT1) I intend to **buy goods** on the **Internet** within the next six months.

(INTT2) During the next six months, I plan to experiment with or regularly use the **Internet** to **buy goods**.

(INTT3) I intend **to buy services** on the **Internet** within the next six months.

(INTT4) During the next six months, I plan to experiment with or regularly use the **Internet** to **buy services**.

(INTT5) I intend **to access e-government services** through the **Internet** within the next six months.

(INTT6) During the next six months, I plan to experiment with or regularly use the **Internet** to **access**

**e-government services**.

(INTT7) I intend **to** **access e-health services** on the **Internet** within the next six months.

(INTT8) During the next six months, I plan to experiment with or regularly use the **Internet** to **access**

**e-health services**

(INTT9) I intend **to access e-finance services** on the **Internet** within the next six months.

(INTT10) During the next six months, I plan to experiment with or regularly use the **Internet** to **access**

**e-finance services**.

1. It is important to note that constructs “are not inherently formative or reflective in nature”, as the terms “formative” and “reflective” rather describe the relationship between a construct and its indicators, based upon the researcher’s conceptualization of the construct (MacKenzie et al., 2011, p. 302). [↑](#footnote-ref-1)
2. VIF*i* = 1/(1-R*i*2) where R*i*2 is the unadjusted R2obtained when component*i* is regressed against all other components of the formative construct. [↑](#footnote-ref-2)
3. The “weight” of a formative component is a relative weight, akin to a beta coefficient in a multiple regression, whereas this component’s “loading” is an absolute weight, akin to a zero-order correlation coefficient (Cenfetelli and Basselier, 2009, p. 697). [↑](#footnote-ref-3)
4. This item has been taken from ARSMA-II (Cuellar et al., 1995) [↑](#endnote-ref-1)
5. This item has been taken from ARSMA-II (Cuellar et al., 1995) [↑](#endnote-ref-2)