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Acculturation to the Global Culture, Ethnic Identification and the Adoption of Social Computing

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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 the academic community (Cleveland, 2006). There have been calls to address the issue of globalization and its cultural effects on the IS field (Myers and Tan, 2002). This paper contributes to filling this gap by reporting on the survey results of 171 members of the general public in a developing country which has been opening up to globalization in the last decade. The findings show that there is a significant direct relationship between acculturation to the global culture and the adoption of social computing and an indirect relationship mediated by subjective norms. There is no significant direct relationship between ethnic identification and social computing adoption; however, the relationship is significantly mediated by subjective norm.

Keywords (Required)

Acculturation to the global culture, ethnic identification, technology adoption, social computing, Internet.

CONTEXT

Culture has been studied at many levels: National, organizational, group, and individual. Therefore, it has been described as being layered like an onion (Straub, Loch, Evaristo, Karahanna, and Srite, 2002). In spite of critiques of Hofstede's model, it remains the most popular in the IS literature (Myers and Tan, 2002).

Another concept used in one stream of IS cultural research is the concept of acculturation (Loch, Straub and Kamel, 2003). Acculturation occurs when different cultural groups are in contact. It leads to the acquisition of new cultural patterns by one or more of the groups, with the adoption of some or all of another's culture (*The Oxford Dictionary of Sports Science & Medicine, 2007*). Sources of exposure to new cultures include the phenomenon of globalization. Currently, globalization is everywhere and may be a contributor to cultural change. 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, 4).

Recently there was a call in IS research to address the issue of globalization and its cultural effects (Myers and Tan, 2002). Even in other disciplines such as international business and marketing, this is an emerging topic (Leung, Bhagat, Buchan, Erez, and Gibson, 2005; Cleveland, 2006). This paper contributes to filling this gap by allowing us to better understand the role of acculturation to the global culture and ethnic identification in the adoption of social computing.

This paper is organized as follows: The theoretical background section introduces the concepts of culture, ethnic identification, and social computing. The research hypotheses, method and results are presented next. The paper closes with a discussion of the findings, limitations and future research directions.

THEORETICAL BACKGROUND

Dynamic vs. Static View of Culture

The definition of culture has not been agreed upon over time because culture has been viewed as general, abstract and complex (Cleveland, 2006; Straub et al., 2002). 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 label themselves as members of that group (Oetting, 1993). There is agreement that culture is learned, transmitted and shared. There are three core functions of culture: 1. Culture establishes rules of conduct; 2. Culture sets standards of performance; 3. Culture establishes ways of interpreting environmental inputs and interpersonal signals (Cleveland 2006).

Culture can be viewed as static, or as dynamic and changing (Myers and Tan, 2002; Leung et al., 2005). The best known static model of culture is Hofstede's model of national culture. He 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). Hofstede (1980) proposed four dimensions of culture: 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 been on national culture and has relied on Hofstede's dimensions (1980, and Bond 1991) to test and validate propositions relating to a variety of IS issues (Myers and Tan, 2002). However, Hofstede's conceptualization of culture has some weaknesses (Srite and Karahanna, 2006). Further, the concept of national culture has been criticized as having several problems including the fact that the nation state is a relatively recent phenomenon—it did not exist for the greater part of human history (Myers and Tan, 2002). Thus there is a need to explore other approaches to studying culture in IS research. Other approaches may include other dimensional models of culture, or taking a different perspective completely and using the dynamic view of culture (Leung et al., 2005).

The dynamic view of culture argues that culture is represented by cognitive structures and processes that are sensitive to environmental influences. Thus culture is seen as able to change in response to external forces (Leung et al., 2005). The main difference here is that cultural changes happen more frequently than has been assumed in the dimensional view.

Thus, culture is fluid and new cultural identities can be formed by acculturating to new cultures. Once a cultural identity is fully formed, one can speak of the strength of the cultural identification. An example of a fully formed cultural identity is that of ethnic identity. Considering the calls for studies related to culture and globalization (Myers and Tan, 2002), this paper adopts the dynamic view of culture and applies it to studying the acculturation to the global culture, ethnic identification and social computing adoption.

Acculturation to the Global Culture

The dynamic view of culture allows us to account for the effects of globalization on local cultures. Such an attempt has been made in conceptualizing the acculturation to the global consumer culture construct and the development of a measure for it (Cleveland, 2006). In an international study, Cleveland (2006) found that the adoption of communications and consumer electronics was dominated by the acculturation to the global culture influence. This finding supports the idea that acculturation to the global culture can have a positive influence on the adoption of social computing.

Various factors affect the acculturation to the global culture. The factors which have been found to be instrumental are related to the degree of cosmopolitanism of a person, 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 a person is exposed to also influence their acculturation to the global culture (Cleveland, 2006).

A concept similar to acculturation to the global culture has been studied in information systems before; it was referred to as technological culturation (Loch et al., 2003). Factors such as the extent of travel for business and pleasure, the extent of contact with family members residing abroad and reading in foreign technology journals had a significant impact on system outcomes. This finding gives more value to the idea that acculturation to the global culture influences the adoption of social computing as the factors affecting the acculturation to the global culture (specifically the social interactions with the world outside their country and exposure to the global mass media) resemble those affecting informal technological culturation, but are more comprehensive.

Ethnic Identification

Ethnicity is conceptualized as "…the character or quality encompassing several cultural indicators which are used to assign people to groupings" (Laroche, Kim, and Clarke, 1997). Ethnic culture is defined as culture pertaining to a group of people sharing common and distinctive characteristics. (Karahanna, Evaristo, and Srite, 2005).

Building on the definition of Karahanna et al. (2005), an ethnic culture is a culture pertaining to an ethnic group, where an ethnic group is a type of cultural collectivity, one that emphasizes the role of myths of descent and historical memories, and that is recognized by one or more cultural differences like religion, customs, language or institutions (Smith, 1991). Ethnic groups form ethnic communities which have the following attributes (Smith, 1991): 1. A collective proper name; 2. A myth of common ancestry; 3. Shared historical memories; 4. One or more differentiating elements of common culture; 5. An association with a specific 'homeland'; 6. A sense of solidarity for significant sectors of the population.

The more a given population possesses or shares these attributes, the more closely does it approximate the ideal type of an ethnic community (Smith, 1991). The ethnic community which contributed to this study is the Circassian community. Circassians have a myth of common ancestry, shared historical memories, multiple differentiating elements of common culture and an association with a specific 'homeland'—North Caucasus. A sense of solidarity for significant sectors of the Circassian population can be seen in the Circassian social and charitable organizations present in areas where significant numbers of the Circassian ethnic group are present.

Therefore, ethnic identification is the extent to which individuals view themselves as involved with an ethnic group along with their investment in or stake in that particular group's culture (adapted from Oetting et al., 1998).

Social Computing

Social computing refers to information systems which support social interaction and communication (Slack, 2007). These systems promote social interactions by placing the real space activities of humans as social beings at primary importance (Cheok, Yang, Ying, Billinghurst and Kato, 2002; Dryer, Eisbach, and Ark, 1999). They incorporate the sociological organization of interactive behaviour (Cheok et al., 2007).

Social computing systems are likely to contain components that support and represent social constructs such as identity, presence, and social roles. However, the hallmark of social computing is that it relies on the notion of social identity. It is not just the data that matters, but who that data 'belongs to' and how the identity of the data owner is related to other identities in the system (IBM Social Computing Group, accessed 27 February 2008).

Subjective norm is the person's perception that most people who are important to him/her think he/she should or should not perform the behavior in question (Theory of Reasoned Action—TRA, Ajzen and Fishbein, 1980, p. 57 and 272). Thus, subjective norm captures the individual's social impressions about behavior (Ajzen and Fishbein, 1980, p. 54). The hallmark of a social computing system is the social aspect. There must be others to interact with and thus subjective norm is of great importance to social computing adoption.

Although subjective norm proved to be an important antecedent in technology adoption (Srite and Karahanna, 2006), it is rare that subjective norm has been studied. Subjective norm was conceptualized, but not tested, as a mediator between culture and technology adoption (Karahanna et al., 2005). This conceptualization will be adopted for this paper.

RESEARCH MODEL

To study the influence of culture on technology adoption, specifically social computing adoption, we will take an approach similar to that which has been proposed by Karahanna et al. (2005); and, to capture the dynamic view of culture, we propose that acculturation to the global culture and ethnic identification are antecedents to subjective norm with the dependent variable being social computing adoption (Figure 1).
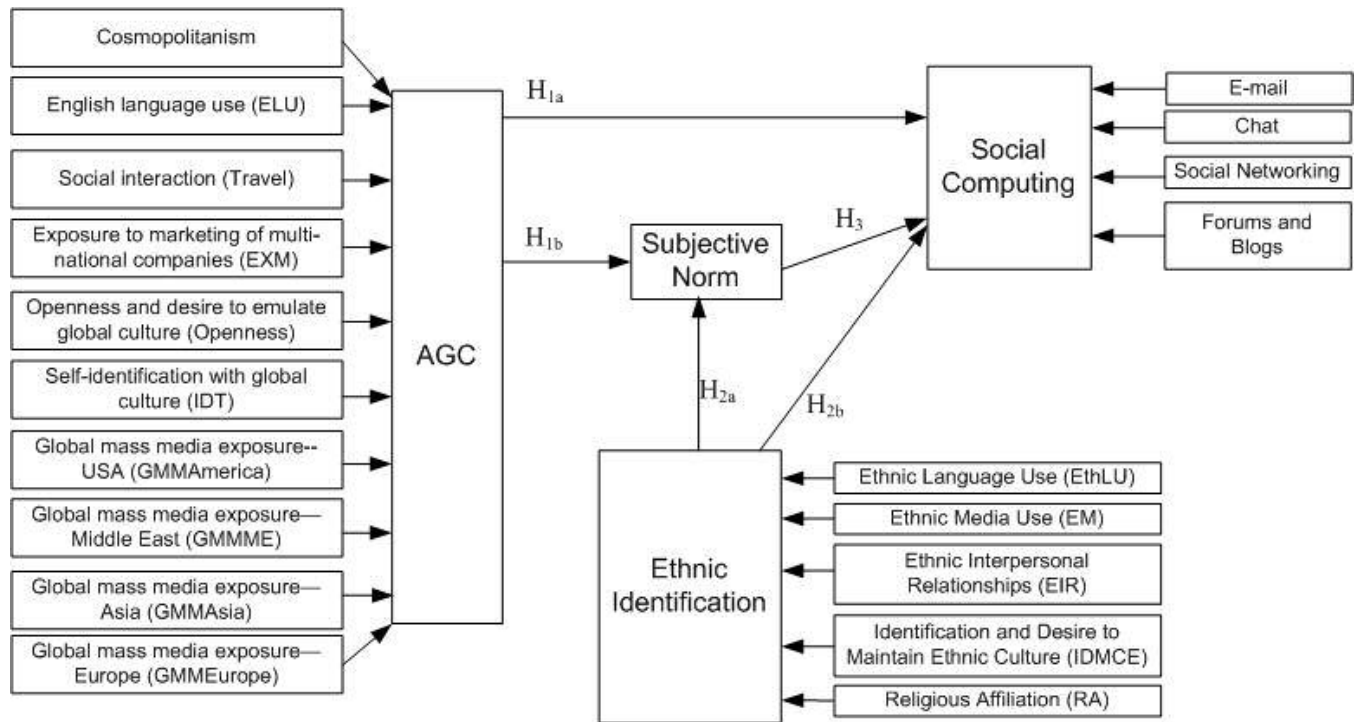

Figure 1. Research Model

Hypothesis

Culture defines the social environment (Srite and Karahanna, 2006; Oetting, 1993) and sets the rules of behavior for a group of people. This influences perceptions of desired behaviors. Thus we propose that the acculturation to global culture can influence the perceptions of desired behaviors represented by social norms. Furthermore, acculturation to the global culture can influence social computing adoption directly and positively, as was found by Cleveland (2006) in the case of communication and consumer electronics adoption. Therefore, the following hypothesis is proposed:

H_{1a}: *Acculturation to the global culture will have a positive influence on social computing adoption.*
H_{1b}: *Acculturation to the global culture will have a positive influence on subjective norm.*

Hofstede found that the Arab world has a collectivist culture with strong, cohesive in-groups (Hofstede and ITIM, accessed 3 March 2008). Collectivist cultures are expected to induce a positive effect on subjective norm (Srite and Karahanna, 2006). Therefore,

H_{2a}: *Ethnic identification will have a positive influence on subjective norm.*

Social computing relies on, and supports, the notion of social identity. Therefore, social computing's facilitation of social interaction makes it attractive to groups in increasing their cohesiveness. Thus, ethnic identification is seen as a significant positive influence on social computing. Thus,

H_{2b}: *Ethnic identification will have a positive influence on social computing adoption.*

Consistent with TRA, subjective norm is expected to have a positive influence on social computing adoption as it has been found to be a significant antecedent to behavioral intention to adopt a technology in past studies (Srite and Karahanna, 2006). Therefore,

H_3: *Subjective norm will have a positive influence on social computing adoption.*

RESEARCH METHOD

Research Setting

To study the effects of globalization, one would need to look at a culture which has been opening up in recent years. Jordan provides an excellent example of a country whose culture has been opening up to globalization in the last ten years. For example, in 1996 the ministry of information in Jordan was in charge of censoring any written material entering the country. Now, the ministry of communication and information technology (ICT) is actively implementing e-government projects (Ministry of ICT, Jordan, Website, 2007). These projects not only automate the internal work of government departments, but also develop an e-services portal for the general public. Unfortunately, Internet adoption is low among the general public (Farawati and Robertson, 2007).

There are currently many efforts at improving Internet adoption rates. One project is designed to help those in the poorer parts of Jordan adopt Internet technologies by providing them with fully equipped knowledge stations (personal communication with Jordan's Ministry of ICT officials; and Knowledge Stations Website, 2007). Since Internet adoption is a pre-requisite to the adoption of social computing, the availability of such projects is encouraging.

	Construct	Number of Items	Formative / Reflective	source
	Acculturation to Global Culture (AGC)	10 dimensions	F	Cleveland, 2006
Acculturation to Global Culture	*Cosmopolitanism*	6	R	
	English language use/exposure (ELU)	12	R	
	Global mass media exposure (GMM) for America, Europe, Middle East and Asia	6 x 4	R	
	Exposure to the marketing activities of multi-national companies (EXM)	7	R	
	Openness to and desire to emulate global consumer culture (Openness)	3	R	
	Self-identification with global consumer culture (IDT)	6	R	
	Ethnic identification (Ethnic ID)	5 dimensions	F	
Ethnic identification	*Ethnic language use (EthLU)*	12	R	
	Ethnic media use (EM)	5	R	
	Ethnic interpersonal relationships (EIR)	5	R	
	Identification and desire to maintain ethnic culture (IDMCE)	11	R	
	Religious affiliation (RA)	8	R	Eid, 2003
	Subjective norm	5		Srite and Karahanna, 2006
	Social computing adoption	4 dimensions	F	Ajzen and Fishbein, 1980, p. 46 and 47
Social computing	*Chat*	6	R	Ajzen and Fishbein, 1980, Appendix A
	Forums and blogs	4	R	
	Social networking	2	R	
	E-mail	2	R	
All items were measured using a 5 item Likert scale ranging from 1 - *strongly disagree* to 5 - *strongly agree*				

Table 1. Operationalization and sources

Data Collection

The study consisted of a field survey. The pre-tested survey was translated back and forth, from English to Arabic, to ensure accuracy (Karahanna et al., 2002). The translation ensured that if survey respondents are not fluent in English, they will have no problem answering the survey in Arabic.   The pre-testing led to the inclusion of the marketing dimensions of the AGC construct.

The population targeted for the study was the general public, thus the best way to reach this population was to go through social clubs and associations. An administrative volunteer of a Circassian social club agreed to distribute 300 surveys. 90 surveys were returned blank, 174 completed, of which 171 were useable.

RESULTS

The research model was analyzed using PLS (Partial Least Squares using SmartPLS 2.0 beta, Ringle, Wende, and Will, 2005). PLS allows for the assessment of the psychometric properties of the model and gives the direction and strength of the relationships. PLS allows for the use of a small sample size as long as the sample is ten times the largest construct. Second level latent variables were assessed using a two step approach. The first order latent variables were aggregated, and then their scores were used to estimate the second level latent variables. This procedure was applied to: acculturation to the global culture, ethnic identification and social computing adoption.

The Measurement Model

For reflective constructs and dimensions, the measurement model must meet convergent and discriminant validity. (Petter, Straub, and Rai, 2007). Convergent validity verifies that each item in a construct actually measures what it is theoretically supposed to measure. This is achieved by only including constructs with reliability values higher than 0.70 using the rho coefficient. Further, average variance extracted (AVE) must be higher than 0.50 (Fornell and Larker, 1981). This process led to the loss of 1 item from travel, which did not load on its construct (travel).

Discriminant validity reflects the degree to which each construct is unique. It is verified in two ways. First, items associated with a construct should correlate more strongly with each other than with other constructs in the model. Second, the square root of each construct's AVE should be notably larger than its correlation with other construct (Straub et al., 2004).

Construct (R^2)	AGC*	Ethnic ID*	Nubjective Norm **Rho =0.88**	Social Computing*
AGC	*			
Ethnic ID	0.23	*		
Subjective Norm (0.1)	0.24	0.25	0.77	
Social Computing (0.26)	0.43	0.13	0.36	*

* AGC and INT are formative constructs and thus have no AVE or Rho values. (Bollen and Lennox, 1991).

Table 2. Convergent and Discriminant Validity (CFA of major constructs)

The formative construct assessment and validation follows the 2 phases summarised by Petter et al. (2007). Phase I is before data collection. First formative constructs are identified by asking if the dimensions predict the construct; if dropping a dimension would change what the construct is measuring; if a change in one dimension of the construct is independent of changes in other dimensions; and if the dimensions have different antecedents and consequences. Acculturation to the global culture, ethnic identification and social computing adoption were identified as formative constructs. Content validity is assessed by asking if the dimensions under specify the domain of the construct and by using expert validation methods. This was done for the acculturation to the global culture and ethnic identification by Cleveland (2006). Although there are many social computing applications (thus the risk of under specification), the pre-test indicated that the applications covered were adequate for Jordan.

Phase II is after data collection. Construct validity is assessed using item weights (Petter et al., 2007) for the dimensions (tables 3, 4 and 5). Non significant dimensions are retained to preserve content validity (Bollen and Lennox, 1991). Construct reliability is assessed by verifying the absence of multi-collinearity using the VIF values (tables 3, 4 and 5). VIF values must be less than 3.3 for formative constructs. This condition is met for all formative constructs.

Dimension	Mean	Std. Deviation	VIF	Weights T-Values
Cosmopolitanism	3.98	1.05	1.18	1.07
ELU*	2.54	1.02	1.28	1.91
EXM	3.83	0.79	1.23	0.08
GMM America	3.67	1.01	1.81	0.34
GMM Asia	1.77	0.88	1.26	0.63
GMM Europe	2.91	1.13	1.77	0.82
GMM Middle East	2.41	1.00	1.24	1.57
IDT*	3.07	1.07	1.64	1.71
Openness	2.64	1.13	1.20	0.57
Travel	3.81	0.82	1.34	0.49

Significance: * $p < 0.05$

Table 3. Acculturation to the Global Culture

Dimension	Mean	Std. Deviation	VIF	Weights T-Values
EIR	4.34	0.84	1.26	0.99
EM	1.92	1.08	1.79	0.89
ETHLU	1.63	1.48	1.81	0.12
IDMCE	4.70	0.54	1.34	1.00
RA	3.96	0.74	1.09	1.39

Significance: * $p < 0.05$

Table 4. Ethnic Identification

Dimension	Mean	Std. Deviation	VIF	Weights T-Values
Chat*	2.29	1.29	1.49	2.18
Forums and Blogs	2.39	1.32	1.19	0.32
Social Networking	3.38	1.67	1.24	1.61
e-mail			1.24	0.32

Significance: * $p < 0.05$

Table 5. Social Computing

Assessment of the Structural Model

The structural model assessment results are presented in figure 2. Hypotheses 1a and 1b, referring to the effects of AGC and subjective norm on social computing respectively, are supported (path = 0.374, p<0.001; path = 0.192, p<0.05). Hypothesis 2a, indicating a significant positive influence by ethnic identification on subjective norm, is supported (path = 0.205, p<0.05); however, hypothesis 2b, referring to the direct influence of ethnic identification on social computing, is not supported. Hypotheses 3, referring to subjective norm influencing social computing adoption, is supported (path = 0.275, p<0.01).
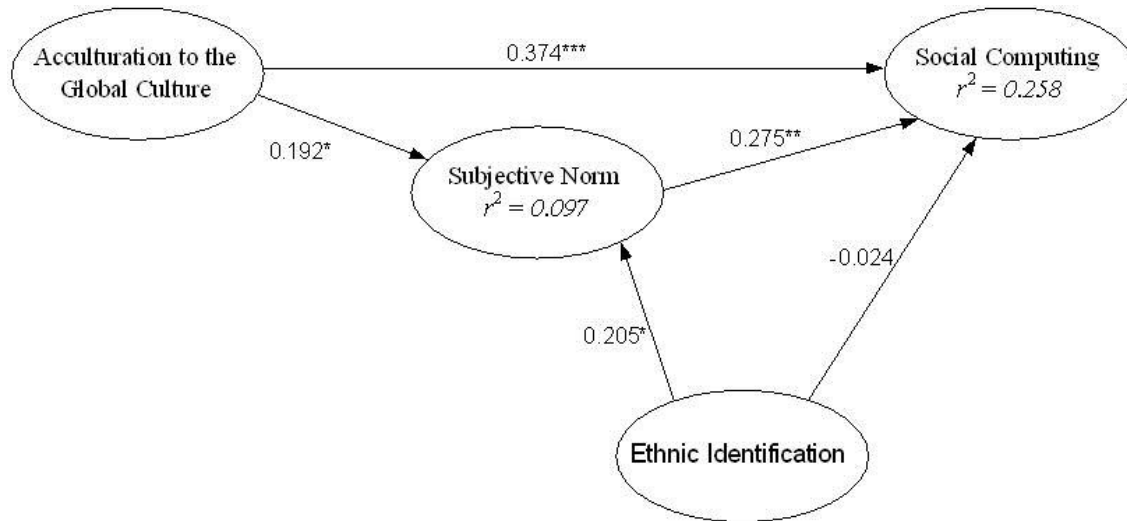

Figure 2. Assessment of the structural model

DISCUSSION

Our results suggest that there is a positive and significant effect by the culture of globalization on social computing adoption. The effect is both direct and indirect through subjective norm. The direct effect is much stronger than the indirect effect, showing that subjective norm is only somewhat instrumental in social computing adoption. Ethnic identification also affects social computing adoption, however, the effect is only through subjective norm and not direct. It is interesting that subjective norm is more instrumental as a mediator of the ethnic identification relationship with social computing than it is instrumental as a mediator of the acculturation to the global culture relationship with social computing. This observation may be related to the behavioral norms of the Circassian culture. Qualitative research may help explain this finding.

Subjective norm is a significant influence on social computing adoption. This finding supports TRA in that subjective norm is an antecedent to behavioral intention. Further, there are two antecedents to subjective norm: acculturation to the global culture and ethnic identification. This new finding contributes to an area which is not well covered by the IS literature.

Further, it is interesting to note that many dimensions of the acculturation to the global culture did not prove to be significant. Most significantly, it is speaking the English language and identification with the global culture that contribute to the acculturation to the global culture. The importance of the English language use dimension may be a reflection of the language of the Internet's social computing applications. Perhaps there is a need for more Arabic language applications to encourage social computing adoption by non-English speakers. Furthermore, the significance of the identification with the global culture dimension is important as social computing is designed to represent and support identity (IBM Social Computing Group).

Although ethnic identification is significantly related to social computing through subjective norms, none of its dimensions were significant. Clearly however, retaining the 5 dimensions was instrumental in exposing the relationship between it and subjective norm.

Chat was the only significant dimension of the social computing construct. This result may be a reflection of the low Internet adoption levels in the Jordanian general public. The use of forums, blogs, and social networking applications is a relatively new Internet phenomenon. Perhaps it is a matter of time for these technologies to become better known. It is also possible

that these results are a reflection of culture. Chat is a synchronous social computing application offering a higher personal presence whereas e-mail, forums, blogs and social networks are more asynchronous and thus offer only delayed gratification and lower personal presence.

Our general findings indicate that by acculturating to the global culture, it is possible to increase one's chances in using social computing applications. If we consider one dimension of this construct, English Language Use for example, it becomes clear how such changes can be brought about. It would be relatively easy to encourage social computing through the provision of English language education and exchange programs. This exposure may influence the degree of identification with the global culture; however this should be studied further. Some of these ideas are currently being implemented at "Knowledge Stations" across Jordan. Thus it is clear that the approach taken by the knowledge station executives is sound. These ideas can be replicated in other less developed communities to further encourage the adoption and use of social computing applications.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

A bigger and more diversified sample would be important for the generalization of the findings of this study. This sample is limited to one cultural group (Circassian) within one country (Jordan). Future research should consider multiple cultural groups from multiple countries.

Another possibility to improving 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 behaviour (Zolait and Sulaiman, 2008).

This work sets the stage for further research on social computing and culture. Social computing is a first step to the use of the web technologies which would be needed for distributed collaboration in knowledge based work. Further research could attempt to connect more specific cultural trends with specific social computing applications such as social networking. 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. Perhaps the process also works in the opposite direction with technology adoption changing culture. Finally, the concept of acculturation can be applied to different levels of culture such as organizational culture to examine dynamic cultural phenomena.

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