

## EXPLORING UAE WOMEN'S EXPERIENCES WITH IT

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### Abstract

*This study explores the ways UAE women are using, benefiting from, and are affected by information technology (IT). IT has an important role for individuals, businesses, and societies. However, a great deal of published research is focused on business. In this paper, our focus is on the less researched aspect which is female individuals and the society they live in. A survey of female nationals at a local university in the United Arab Emirates (UAE) was conducted to collect the primary data for the study. The results clearly show an agreement among respondents on the importance of IT to their education and future careers. Female perception of IT's positive and negative effects for themselves and for their society is in agreement with comparable reports in the IT literature. Exceptions are perceptions of IT as a facilitator for increasing freedom, providing open and unrestricted access to information, and influencing thinking and beliefs. While such outcomes are often viewed positively in western cultures, respondents perceived these as negatives. This study sheds light on issues of IT and culture that are in urgent need of further understanding in the interconnected global environment we live in today.*

*Keywords: Information technology, women, perception of IT, United Arab Emirates (UAE).*

## 1 INTRODUCTION TO IT AND THE LOCAL CULTURE

The UAE is a relatively new country that was established in 1971 as a federation of seven emirates<sup>1</sup>. Since its foundation, the country has undergone significant social, economic, and cultural changes. This growth was triggered by revenues from oil which was discovered in the region in the late 1950s. These revenues were substantially supplemented by investments in many other areas. Any visitor to the region will notice the huge amount of construction work being undertaken to support developments in areas as diverse as tourism, manufacturing, retailing, exports, IT, logistics, and media. By 2007 oil revenues being were only 5% of all revenue in the Emirate of Dubai.

This rate of growth would not have been possible without the large expatriate labour workforce, which includes both skilled and unskilled workers. UAE nationals, who represent 15-20% of the population, have kept firm ties to their cultural traditions and feel very strongly about preserving their identity. Emiratis, being the minority in their own country, realize that strong cultural traditions should not prevent them from interacting with other cultures both locally and globally. For male Emiratis, these interactions are possible through mixing and learning from the expatriate community or from travel overseas for education, business, or holidays. For females, cultural traditions limit communication with people outside of their close family networks. These customs include: a female cannot show her face except to close family members, a female is not allowed to interact with others, neither male nor

female, without permission from her family, and a female is not allowed to touch or be touched by males (e.g., a handshake with a work colleague is not permitted).

Both secondary schools and the majority of universities are designed for single-sex classrooms (Martin, 2005). The government directive, since the foundation of the country by the late Sheik Zayed, is to encourage Emirati females to join the workforce and take leadership roles in running the country. The three main public universities offer free education for all Emiratis, contributing to making this transition to the workforce. In these higher education institutions, this is the first time for many females to interact with male instructors as all post-primary public schools have female only teachers. As a result, students need to adjust to this new environment. For this adjustment to be smooth, expatriate instructors are given intensive orientation about the culture, and its do's and don'ts. Furthermore, IT is used to facilitate greater interaction between instructors and students, across cultural boundaries.

Accessing IT knowledge, specifically the Internet, is creating a potential gap between the younger generation and the older, and may imply more fundamental changes in family, role of women and local society (Piecowye, 2003; Schvaneveldt, Kerpelman, & Schvaneveldt, 2005). However, the vast majority of literature published so far is embedded in western cultures and based on empirical evidence from western countries (Yusof & Zakaria, 2007). What intrigues us is the role IT plays in the lives of contemporary Emirati women. More specifically, how do Emirati women view IT, is IT important in their personal as well as their academic lives, and how does IT affect, both positively and negatively, their lives and their society. This research takes the first step to fill this gap by providing preliminary empirical evidence regarding the attitude and perception of Emirati women towards using IT, specifically the Internet. This study sheds light on issues of IT and culture that are in urgent need of further understanding in the interconnected global environment we live in today (Leidner, Alavi, & Kayworth, 2005).

The paper is structured as follows. First, we briefly review the literature addressing IT benefits and drawbacks. This is followed by a description of the method of data collection and then the survey results. In the subsequent discussion section, we identify certain themes and future research directions in this field.

## **2 IT BENEFITS AND DRAWBACKS**

IT plays an important role in the lives of many people today. It is an essential tool for communication, education, organization, entertainment, shopping, transport, and maintaining the quality of the living environment. Over the last 20 years, IT has gradually become so embedded in everyday life that it has become a great inconvenience for many people to function without it (Hoffman, Novak, & Venkatesh, 2004). The huge and rapid development that the UAE has experienced contributed to the introduction of IT not only to business but to all facets of life. With a high level of disposable income, access to IT resources has never been a problem for UAE nationals as it has been for many developing countries. Individuals or groups with limited resources were subsidized or sponsored by the government or not-for-profit organizations to ensure no one was disadvantaged.

The collective benefits of IT can be seen to contribute to the advancement and progress of society. IT can facilitate improved methods of conducting business operations, both nationally, and more importantly, across borders. IT also facilitates: flexible work or study arrangements, exposure to and interaction with people from different cultural backgrounds, and improvement in health, government, and business services. One of the key benefits of IT is that it can make interaction with others easier, faster, more effective, and efficient, irrelevant of time, location, and censorship (Haythornthwaite, 2005).

IT can be a double edged sword if abused. Many times we hear about how people took advantage of IT to steal money, form deceptive relationships, abuse, or harm others. Other IT drawbacks are: invasion of personal privacy, facilitation of unethical or illegal activities, isolation, addiction, and

inappropriate use of resources (Hilty, Som, & Kohler, 2004; Markus, 1994; Sanders, Field, Diego, & Kaplan, 2000; Young, 1998). Society can also be negatively affected by IT. Due to the fact that IT can be deployed easily and anonymously, it is often difficult to control the spread and diversity of shared information over digital networks. IT functions as a mass communication media similar to television and radio. Many times we hear stories of a flaming email that travelled from one side of the world to the other in a few hours or an abusive video posted online that received hundreds of thousands of hits in less than 24 hours. While many such incidents are harmless, some can have adversarial effects.

One negative issue associated with IT in the UAE society is loss of national identity due to easy, continuous, and uncontrolled exposure to foreign cultures (Agarib, 2006; Al-Ajmy, 2007; AL-Remhy, 2002). Most UAE nationals have very strong feelings about protecting their family, cultural, and religious values (Schvaneveldt et al., 2005). Many are upset when the new generation is exposed to and influenced by ideas that are in conflict with these values, whether this exposure is through IT or other mass communication media. However, the findings of an exploratory study of students' use of IT in a public university in the UAE reported that IT, if used skilfully, could reinforce these values (Piecowye, 2003). A similar finding was reported in a study of Internet use by undergraduate students in Pakistan (Suhail & Bargees, 2006).

Another negative issue associated with IT in the UAE is related to employment. The huge development the UAE is going through needs the services of IT skilled people. Hence, those without can be excluded and disadvantaged. This is now becoming a common a problem for middle-aged Emiratis as they struggle to compete for jobs with the skilled expatriate community.

### 3 METHODS

Female students in a UAE-based university were surveyed for their opinions on the following issues:

- Meaning of IT
- Perceived importance of IT, for both their personal lives and for their education
- Perceived IT benefits and drawbacks, for both personal life and for society
- Perceived influence of IT on family relationships

The survey included 157 students across seven programs as shown in Table 1. Exploratory survey questions were developed after reviewing related literature and considering both the feedback and findings of an exploratory study of UAE women working in IT (Hayat, 2007). The survey instrument was validated in four ways: (1) feedback from faculty working at the university where the survey was administered, (2) feedback from research collaborators conducting qualitative research in this area, (3) feedback from students<sup>2</sup> who administered the pilot survey, and (4) the pilot survey.

Program	Total response	Percent %
English Language	12	8
General Education	22	14
Arts and Sciences	20	13
Business	31	20
Communication and Media	21	13
College of Education	23	15
Information Technology	28	18
Total	157	100

Table 1. Student respondents and the programs they are enrolled in

The pilot test involving 33 student respondents was conducted 8 weeks prior to the final survey and used a paper-copy survey instrument. Data collection procedures were explained to the 33 students enrolled in the management information systems (MIS) course during a 50-minute induction session. During this session, students were divided into three groups. One group stayed in class and interviewed each other. The second group left the class and interviewed students in the English Language Program<sup>3</sup>. The third group also left the class but interviewed students from colleges other than the ones they were enrolled in. The pilot test helped to identify issues such as: (1) respondents' confusion because of similar questions; (2) respondents' confusion about the meaning of words that they were unfamiliar with, particularly a problem for students in the English Language Program (e.g., pornography); (3) a need for both longer interview time and translation of questions to Arabic when interviewing students in the English Language Program.

Both survey questions and interview procedures were revised and the final survey was conducted by the same 33 MIS students over a two week period in Nov-Dec 2007. Each student was instructed to use a web-based survey instrument to collect data from five students with one from either the English or the general education programs, and the other four from four different colleges. The students used their wireless laptops to access the survey form online. The web survey was briefly tested in class to resolve technical problems and ensure that the students who would be collecting the data were familiar with the web-based instrument. Not all the students conducted the five interviews assigned. This resulted in a total of 157 responses instead of the 165 expected.

#### 4 ANALYSIS OF SURVEY RESULTS

The majority of the students perceived IT to be important for both their personal lives and for their education. However, their perception about the importance of IT for education was relatively higher (see Table 2).

Importance of IT	Personal life		Education	
	Total response	Percent %	Total response	Percent %
Very important	65	41	96	61
Important	64	41	50	32
Fairly important	23	15	9	6
Neither important or unimportant	4	3	2	1
Not important	1	1	0	0
Total	157	100	157	100

Table 2. Importance of IT for personal lives and for education

When the students were questioned on how they would apply IT, it was clear from the results that education, communication, and searching for information were the top three drivers of IT use (refer to Table 3). At the bottom of the list were online publishing, working, and shopping. Still even at the bottom of the list, each of these three was used by around 40% of the respondents. This shows how extensive IT use is within the student population.

Application of IT	Percent %
Education (for example: work for my study)	96
Communication (for example: send and receive email or chat with friends)	90
Search for information	86
Entertainment (for example: games, music, movies, photos)	76
Reading (for example: online newspapers, books, magazines, or forums)	62
Socializing (for example: make new friends or interact and network with existing friends)	52
Organizing (for example: managing task, class, or appointment schedules)	47
Publishing (for example: writing in blogs, online forums)	39
Shopping	39
Working	39
Other	1

Table 3. Application of IT by female UAE students

When the students were asked about how they would personally perceive benefits in relation to IT, education again came at the top of the list, followed by future careers (refer to Table 4). This list of benefits was extended and refined using the results from the pilot survey - in particular, using the responses to an open-ended question regarding IT benefits. This probably explains the high percentage attributed to each of the benefits in Table 4.

IT benefits	Percent %
IT helps with my university education	87
IT helps me develop skills I need for my future career	86
IT helps me keep up-to-date with the news	75
IT helps me interact with people all around the world	69
IT helps me stay in touch with family and friends	67
IT improves my opportunities for getting an education	62
IT helps me learn another language	56
IT helps me express myself	48
IT gives me more freedom	35
IT helps me maintain my culture and heritage	31
Other, please list	2

Table 4. Perception of IT benefits on a personal level

As for female students' perception of IT drawbacks on a personal level, the responses show an awareness of some common problems such as adverse health effects, plagiarism, loss of privacy, addiction, loneliness, and theft (refer to Table 5). Other drawbacks, which were identified from open-ended responses to pilot survey questions, were unrestricted access to information, communicating with strangers, and the influence IT usage might have on changing thinking and beliefs.

<b>IT drawbacks</b>	<b>Percent %</b>
IT is the cause for some of my health problems (for example: bad eyesight or aching back)	67
IT facilitates plagiarism (through cheating in exams or finding someone to write assignments for me)	55
IT facilitates interaction with bad or dangerous people in an unsupervised environment	53
IT facilitates the loss of my privacy (information about me is made public without my knowledge)	53
I waste a lot of time using IT	51
IT facilitates access to information I don't want to see	48
IT makes me feel lonely (I use computers more than I interact with people)	22
IT facilitates the loss of money (money is wasted, lost, or stolen)	20
IT negatively influences my thinking and beliefs	18
IT makes me more violent	11
Others	1

Table 5. Perception of IT drawbacks on a personal level

During the feedback discussion session that followed the pilot survey, many students were confused about whether to classify freedom as a positive or a negative aspect of using IT. When an explanation was given by the instructor that more freedom means "being able to do more things using IT than you normally would - considering cultural limitations," students started to accept freedom as a benefit (freedom is an option for the IT benefits question as shown in Table 4). As the results here show, freedom is at the bottom of the list for the personal benefits of IT. This shows that unrestricted access to either people or information is often viewed as negative as opposed to positive which is the norm in western cultures.

Perceptions of IT's positive and negative effects on society were also explored. Equal access to information by everyone topped the list of benefits (refer to Table 6). In a society that is growing very rapidly, there is an agreement that IT facilitates efficiency in business operations, improves the rate of progress in social development, and enables business operations across borders.

<b>IT benefits</b>	<b>Percent %</b>
IT makes information available to everyone	83
IT enables doing the job faster and cheaper	81
IT brings progress to our society	78
IT facilitates doing business globally	76
IT improves services in health, education, government, and business	73
IT provides different ways for people to communicate	73
IT facilitates flexible work arrangements	65
IT helps in introducing our culture and religion to other parts of the world	64
IT facilitates our understanding of other cultures	62
IT promotes the development of ideas and new ways of thinking	62
IT decreases discrimination	19
Other, please specify	0

Table 6. Perception of IT benefits for society

Other benefits were facilitating understanding of other cultures and promoting the development of new ideas. The “IT decreases the discrimination” was at the bottom of the benefits list with a relatively low percentage. This may have been because many respondents had difficulty understanding the use of “discrimination” - in the local culture, discrimination is not considered to be negative - and “Wasta” or decisions based on personal favours to friends and relatives are common (Whiteoak, Crawford, & Mapstone, 2006); or because IT was not perceived as an enabler of less discrimination.

There is a lot of overlap between IT’s negative influence at the society level (refer to Table 7) and at the personal level (Table 5). One of the interesting negatives identified in Table 7 is IT being a deterrent to future employment. The reason for this being that people with minimal or no IT skills will have a harder time securing employment in the future as all jobs will require a compulsory set of IT skills.

IT drawbacks	Percent %
IT teaches people some bad habits	70
IT facilitates illegal activity	67
IT encourages isolation and lessens social interaction	57
IT promotes western ideas that may not work in this country	57
There are many health risks associated with the use of IT	56
IT facilitates unethical activity	53
IT facilitates developing relationships with strangers outside of the family-school-work circle	52
IT contributes to losing our identity	49
IT conveys an unrealistic understanding of our culture and religion	48
IT promotes an incorrect understanding of other cultures	45
IT facilitates the communication of information related to violence and/or terrorism	38
Lack of IT skills limits UAE nationals’ chances of finding jobs	34
Other, please specify	0

Table 7. Perception of IT drawbacks for society

## 5 DISCUSSION: THEMES OF IT AND CULTURE

Some of the interesting themes that emerged during the process of data collection and analysis are discussed here. Issues related to these themes started to emerge during the pilot survey so were included in the answer choices of the final survey. The themes were further explored in the answers to the open-ended question about IT’s influence on family relationships. These themes, which are related to the respondents’ value systems, are: family, freedom, and identity.

### 5.1 IT and the Family Bond

It was obvious from the responses that the students saw *family* as an important cornerstone of their social lives. When questioned on the relationship between IT and family, students often associated IT as having a negative effect on the family. Issues such as isolation, IT addiction, and spending too much time on the computer limits the time the students can spend with their families. The traditional Emirati family values regular social interaction which often involves members of the extended family. The following is a sample of responses to the open-ended question about the relationship between IT and family:

“IT can affect some parts of my relationships with my family very much because I do not spend time with my family as before.”

“As a daughter, I feel that I cannot see and talk with my parents because I always spend my free time using Internet. ... I have no time sitting with my sisters and brothers.”

“As mother and wife, I’m neglecting my husband and my children because I spend a lot of time on the computer. “

“IT lessens the physical interaction with my family. ... Plus, there is a gap between me and my grandparents because they don’t know much about IT.”

While the majority of the responses associated IT with negative influences on family life, some students valued IT as a means of keeping in touch and for supporting the education of other family members:

“She can use IT to help her brothers in doing their school work.”

“As a sister and daughter, it helps me to communicate with my family very well.”

“IT makes me keep in touch all the time with my parents even if I am travelling. .... IT helps me to contact my family who are living in another country.”

“IT is one way to contact my relatives who are living in other countries.”

## 5.2 Freedom from Emirati Women’s Point of View

The second theme is that of freedom. The concept of freedom was identified in the open-ended questions of the pilot survey. When this concept was discussed in class during the feedback session with the students who administered the survey, there were many disagreements on whether to classify the freedom enabled by IT as positive or negative. In Emirati society, it is common practice to limit female interactions with the outside world. Interactions that are allowed are often censored by the elders or male members of the family. Any violations of these conventions is then viewed as inappropriate and would negatively affect the reputation of the daughter, sister, or wife as well as her family. As a result, many students considered freedom to be negative as it would violate common practices within Emirati society. This definition of freedom was tested in the survey as a positive outcome of IT. However, the low response (35%) supports the student view of freedom

## 5.3 Identity: Who We Are?

The third theme is that of identity. Similar to freedom, this theme started to emerge in the responses to the open-ended questions in the pilot survey. Students were concerned that IT would negatively contribute to the loss of their national identity. Students thought that the dominance of the English language in web content and long term exposure to western ideas would facilitate the assimilation of ideas not fit for Emirati society,. Students were also concerned about the impression web content could convey to others about their country and religion. While there was an agreement that the Internet could be used to promote better understanding of their country, students had concerns that this was not always true. Some content on the Internet could have a destructive influence on foreigners’ understanding of the UAE because of intentionally or unintentionally misinformation. Some students had the impression that they might be stereotyped as terrorists only because they are Muslims or Arabs.

## 6 CONCLUSIONS

This study explored the role IT plays in the lives of contemporary Emirati women. Using a combination of structured, semi-structured, and open-ended survey questions, the study investigated how Emirate women view IT, the importance of IT in their personal as well as their academic lives, and ways in which IT affects, both positively and negatively, their lives and their society. Not surprisingly, IT was found to be very important in the lives of the undergraduate student respondents, particularly for their education and future careers. The students showed high levels of awareness of IT's positive and negative effects. Three main themes that relate to Emirati females' relationship with IT were identified; family, freedom, and identity. There is a need for further investigation of these themes to understand how Emirati females interact with technology on personal, social, academic (Wooldridge, Keino, & Mayers, 2006), and more importantly, professional levels (Bilal, Hassan, & Martin, 2006). This study highlighted issues of IT and culture that are in urgent need of further understanding in the interconnected global environment we live in today (Leidner et al., 2005).

A comparative study involving females from other cultures is suggested as a direction for future research. The study would shed light on points of similarities and differences in females attitudes towards information technologies (Hofstede & Hofstede, 2005) and highlight the uniqueness in the Arabic culture. We believe that such a study could open the door for further exploration of the cultural influences on users' attitudes and behaviour.

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## References

- Agarib, A. (2006, 14 January). Majority of UAE youth addicted to the Internet. *Khaleej Times*. Retrieved January, 2008, from [http://www.khaleejtimes.com/DisplayArticle.asp?xfile=data/theuae/2006/January/theuae\\_January293.xml&section=theuae](http://www.khaleejtimes.com/DisplayArticle.asp?xfile=data/theuae/2006/January/theuae_January293.xml&section=theuae)
- Al-Ajmy, W. (2007, 18 March). IT is controlling our social life [translated from Arabic]. *Al-Jazirah Newspaper - Telecom & Digital World Magazine* Retrieved January 2008, from <http://www.al-jazirah.com/digimag/18032007/lit14.htm>
- AL-Remhy, M. (2002, 22 July). The effect of IT on family relationships [translated from Arabic]: Al Jazeera - for women only program. *AMAN*. Retrieved January, 2008, from [http://www.amanjordan.org/aman\\_studies/wmview.php?ArtID=535](http://www.amanjordan.org/aman_studies/wmview.php?ArtID=535)
- Bilal, S. S., Hassan, F., & Martin, C. D. (2006). Ethics and professionalism for an IT professional in the UAE. *ACM SIGCSE Bulletin*, 38(2), 6-7.
- Hayat, S. (2007). Same but different: Exploring women's experience of ICTs in the Muslim world, *Unpublished Honours Dissertation*: University of Auckland.
- Haythornthwaite, C. (2005). Social networks and Internet connectivity effects. *Information, Communication and Society*, 8(2), 125-147.
- Hilty, L. M., Som, C., & Kohler, A. (2004). Assessing the human, social, and environmental risks of pervasive computing. *Human and Ecological Risk Assessment*, 10, 853-874.

- Hoffman, D. L., Novak, T. P., & Venkatesh, A. (2004). Has the Internet become indispensable? *Communications of the ACM*, 47(7), 37-42.
- Hofstede, G. H., & Hofstede, G. J. (2005). *Cultures and organizations: Software of the mind*. New York: McGraw-Hill.
- Leidner, D., Alavi, M., & Kayworth, T. (2005). The role of culture in knowledge management: A case study of two global firms. *International Journal of e-Collaboration*, 2(1), 24.
- Markus, M. L. (1994). Finding a happy medium: Explaining the negative effects of electronic mail on social life at work. *ACM Transactions on Information Systems*, 12(2), 119-149.
- Martin, C. D. (2005). Removing the veil: Personal reflections on educating women in Dubai. *ACM SIGCSE Bulletin*, 37(4), 30-33.
- Piecowye, J. (2003). Habitus in transition? CMC use and impacts among young women in the United Arab Emirates. *Journal of Computer-Mediated Communication* 8(2), from <http://jcmc.indiana.edu/vol8/issue2/piecowye.html>
- Sanders, C. E., Field, T. M., Diego, M., & Kaplan, M. (2000). The relationship of Internet use to depression and social isolation among adolescents. *Adolescence*, 35(138), 237-242.
- Schvaneveldt, L. P., Kerpelman, L. J., & Schvaneveldt, D. J. (2005). Generational and cultural changes in family life in the United Arab Emirates: A comparison of mothers and daughters. *Journal of Comparative Family Studies*, 36(1), 77-91.
- Suhail, K., & Bargees, Z. (2006). Effects of excessive Internet use on undergraduate students in pakistan. *CyberPsychology & Behavior*, 9(3), 297-307.
- Whiteoak, J. W., Crawford, N. G., & Mapstone, R. H. (2006). Impact of gender and generational differences in work values and attitudes in an Arab culture. *Thunderbird International Business Review*, 48(1), 77-91.
- Wooldridge, D., Keino, L., & Mayers, G. (2006). Development of a unique, culturally focused family science program in the UAE. *Journal of Family and Consumer Sciences*, 98(3), 67-71.
- Young, K. (1998). Internet addiction: The emergence of a new clinical disorder. *CyberPsychology and Behavior*, 1(3), 237-244.
- Yusof, S. A. M., & Zakaria, N. (2007). Islamic perspective: Virtual worlds as a western-centric technology. *Data Base for Advances in Information Systems*, 38(4), 100-103.

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<sup>1</sup> Ras al-Khaimah, the seventh Emirate, joined the federation later (in early 1972).

<sup>2</sup> The students were enrolled in a Management Information Systems (MIS) course at the university where the survey was administered. Students were required to administer both the pilot and final surveys as part of their MIS project course work.

<sup>3</sup> The English Language Program (or Academic Bridge Program) is a 3 months to 2 years pre-university program the students need to undertake to improve their English language skills. Students are tested when they enroll at the university and according to their results are placed in the appropriate level. Students with good results can enroll in the first year of university directly.