ICTs AND THE COMPUTERISED HIJAB: WOMEN'S EXPERIENCES OF ICT IN THE UAE

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ABSTRACT
This paper discusses a grounded theory study of women's experience of ICTs in the United Arab Emirates (UAE). We were particularly interested in whether their gender, and the society in which they live, affected that experience. We identify three themes, ICT Use, Gender Perspective and UAE Society which together constitute an emergent theory of Women's ICT experience in the UAE. We conclude by engaging the emergent theory with individual differences theory. Our findings show that ICT use in the UAE is a profoundly gendered experience, shaped by the Islam based society in which the women live.

KEYWORDS
Women ICT, Arab World, Individual Differences

1. INTRODUCTION

Information Communications Technologies (ICTs) have become a potent force in transforming social, economic, and political life globally. As Hanna (2010) assert, ICTs have the potential to aid economic growth and the improvement of social conditions in the developing world. However, the transference of this vital knowledge to women in Islamic countries is hindered on two fronts, embedded gender structures within the society as well as inadequate ICT initiatives such as infrastructure, training and support from the government (Manochehri et al., 2012; Shirazi, 2012). Given the centrality and importance of ICTs, men and women need to have equal opportunities to access, use, and master them (Sandys, 2005). Aside from strengthening women's economic vitality, ICTs can benefit women in other ways. They can facilitate participation among women in different sectors and in different regions (Cecchini & Scott, 2003; Garrido et al., 2010). They can provide the information that women need to improve their own wellbeing and that of their families. ICTs allow the exchange of views, opinions and news that might not be possible in other media under government censorship and control (Huyer & Sikoska, 2003; Shalhoub-Kevorkian, 2011).

Technological change can also facilitate social change, turning patriarchy into a contested domain, rather than a sphere of cultural reproduction (Castells, 2007; Earl & Kimport, 2011). This could lead to a redefinition of gender relations and social, cultural norms in constrained contexts such as Islamic societies. It could be asked whether women in Islamic societies have equal access to these new technologies (Shakir et al., 2008). What are some of the promising new social, economic and political opportunities for women in the ICT sector? Or does ICT use replicate patterns of segregation seen elsewhere in society? What are the barriers that women, especially those in the Islamic world have to overcome to actively participate in the promise of these technologies? These are some of research issues that this paper endeavours to explore. Although developing countries such as those in the Arab world are eager to adopt new

technologies such as ICTs, their utilisation of ICTs has been far below that which has been achieved by developing countries (Al-Roubaie & Al-Zayer, 2006; Vodanovich et al., 2010). This disparity can to some extent be explained by the lack of infrastructure and the difficulties encountered in implementing adequate ICT training. However this, does not explain why affluent countries such as Saudi Arabia and Kuwait have also been laggard in their adoption of ICTs, although this is starting to change in recent years (Chatfield & Alhujran, 2009).

This paper explores these issues through a preliminary grounded theory analysis of interviews with women from the UAE about their experiences of ICTs. The paper aims to explore the following overarching research question: *What are women's experiences of ICTs in the United Arab Emirates?*

We also address the following specific research questions:

- How do women in the UAE use IT?
- How does their gender affect their relationship with ICT?
- How is their engagement with ICT affected by the society in which they live?

The next section discusses our literature review which takes the form of a sensitising device for the study. The third section explains our methodology, and provides some background on the context of our study, the UAE. The fourth section presents the major themes from our study, ICT Use, UAE Society, and Gender Perspective, which constitute an emergent theory of womens' use of ICT in the UAE. In the fifth and sixth section, we discuss those themes and engage them with two broader theories, structuration theory and individual differences theory. This is an essential step of grounded theory work - the need to engage an emergent theory with broader theories (Corbin & Strauss, 2014). Finally, we come to some conclusions about the particular ways ICTs are used by women in the UAE.

2. LITERATURE REVIEW

The framework (see Figure 1) discussed in this section is essentially a 'sensitising device' (Klein & Myers, 1999), used to sensitise researchers to the key research issues in the study. It provides a diagrammatic and synthesised view of the various issues covered in the literature review. This framework serves as a tool through which we can explore women's' use of ICTs in the UAE.

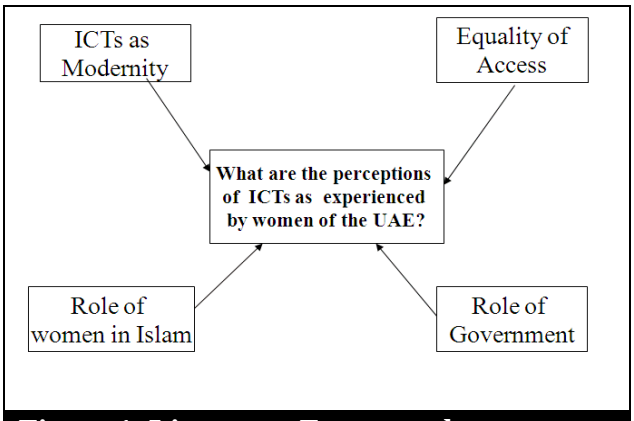

Figure 1. Literature Framework

2.1. ICTs as Modernity

ICTs are a potent symbol of modernisation in the UAE. Modernisation - the introduction into society of the artefacts of contemporary life such as communications, technology, or household

equipment - has permeated into virtually all societies including Muslim societies. But modernity, a way of thought and of living in the contemporary world and of accepting change, as part of political and cultural processes by integrating new ideas into society, may not always be present (Belk & Sobh, 2013). These modernisation artefacts interact deeply with society and culture, but the interactions involve mutual influence, substantial uncertainty and historical ambiguity, eliciting resistance, accommodation, acceptance, and even enthusiasm. These transport, communication, and merchandising technologies have created a "modern" experience, and they serve as one long argument for a technological framing of modernity (Kaya, 2004) . Modern technology and industrialization has resulted in "the increasing erosion of tradition and nature. The radicalisation of modernity means being forced to live in a more reflexive way, facing a more open and problematic future" (Giddens, 2013). This problematic future refers to the unbalanced pace of modernisation and development, which has led many Muslim countries into developmental crises. Modernisation has occurred rapidly, while appropriate development has not, resulting in certain paradoxes. Modernisation has become identified with Westernization and secularization (Munir, 2003). The question of the role of women exemplifies the conflict between modernity and Islam, because of the transformational potential that modernity has for women in Muslim societies (Kaya, 2004; Khurshid, 2015; Mehran, 2003). In this light it is not surprising that Islamism, as a counter-project to modernity, also assigns women a central place in its movement (Kaya, 2004).

2.2. Equality of Access

While there is recognition of the potential of ICT as a tool that could give a major boost to the economic, political and social empowerment of women, and the promotion of gender equality, a "gender divide" with respect to access and use has also been identified (Hargittai & Hsieh, 2013). Unless this gender divide is specifically addressed, there is a risk that ICT may exacerbate existing inequalities between women and men and create new forms of inequality (Sandys, 2005; Trauth, 2013). This phenomenon embracing the disparities in access and use of ICTs by women and men has also been named the "gender digital divide". Like any other technology, ICTs are socially constructed, and impact men and women differently (Huyer & Sikoska, 2003). This divide is exacerbated in some Islamic societies where women are more socially, religiously and politically constrained in relation to women in Western societies, generally speaking.

The most basic gender equality issue in ICTs is access, which is linked to the availability of the necessary infrastructure. Access to affordable services and availability of infrastructure is, without a doubt, a major requirement if ICTs are to be used for women's social, political and economic empowerment (Jorge, 2002). The Arab world recognizes the importance of improving ICT infrastructure and educational access for women. The former can be seen in the increasing deployment of ICT infrastructure improvement programs in this region (Aubert et al., 2013; Manochehri et al., 2012) . In addition, there is an increased emphasis on female education and IT literacy programs. In the UAE for example, there are separate universities for men and women, allowing women to attain higher education. There is also numerous Higher Colleges of Technology where the emphasis is on ICT related education and the majority of students are women (Al Yousuf et al., 2009; Vodanovich et al., 2010).

On the other hand there is still concern over issues of free access to technologies such as the Internet. In the UAE and other Arab countries, access to the Internet is tightly controlled and censored by the government in an effort to control the exposure of certain thoughts and ideas (Al-Saqaf, 2014). ICTs like the Internet and cell phones provide a new virtual space, where

communication, interaction and organization can take place "outside" the gaze of the all-seeing state (Al-Saqaf, 2014). For example, as Akbar et al. (2014) note the physical and theological concept of the *ummah* (the Islamic world) is changing in part due to globalization and the Internet.. The Internet gives space for non-traditional scholars to present their perspectives, which are sometimes more attractive presentations in content and accessibility than the work of the traditional *ulema* (Islamic clerics entrusted with the translation of the Koran) (Kort, 2005). Furthermore, the Internet also opens up dialogue between generations; fast communication is now possible between the old, traditional intellectual elite and the new, young intellectual Muslims from around the globe. This adds to the reconceptualization of *ummah* and *ulema* simultaneously (Kort, 2005).

2.3. Role of Government

The role of government policy in the UAE is also relevant to our study. Public policies and ICT training that are required to sustain and support gender neutral access to education, economic and political empowerment, are in themselves gender biased. Jorge (2002) suggests that these policies should address the differential impact of ICT on women and men, and consequently respond to the different needs and realities of women. They should also focus on creating universal opportunities for accessing ICT through education, training and information. Lastly, they should recognize the diversity of women and the roles that they can play as producers and consumers of ICT.

Gender equity policies can become mere rhetoric, where the inclusion of such policies is simply there to placate the international community and are rarely converted into reality. While this may be true for some Islamic countries, there is a huge push in the UAE for the attainment of higher education for women and this is reflected in the fact that there are more women than men enrolled in tertiary institutions, especially in IT related areas. The government in the UAE supports the employment of women through its numerous policies. There is a policy requiring equal pay for equal work and equal benefits for working women.

2.4. The Role of Women in Islam

The role of women in Islam is another important factor impacting on their ability to use ICTs. It is still true to say a woman's position in most Islamic societies is segregated and restricted to some degree (Mathew, 2010). While some countries like Turkey have extensively and decisively dealt with women's emancipation (Dholakia et al., 2004), Saudi Arabia and other Middle Eastern countries still struggle with religious equality for women. In these societies, the cultural articulation of patriarchal structure, social mores, laws and political power is justified by reference to Islam or Islamic doctrine (Badran, 2014; Shirazi, 2012).

Even though they are legally and politically encouraged to pursue higher education and employment, women in Middle Eastern countries are still required to maintain their primary roles as a wife and mother. To this end, girls' and women's ability to access IT is shaped largely by socio-cultural norms that determine female behaviour and interests (Khurshid, 2015). For example, cultural norms discourage interaction between women and men outside their family and women may also be unfamiliar and thus uncomfortable with interaction with men, due to sex segregated classrooms or schools, which are common in many Middle Eastern countries (Mehran, 2003). Gender equality will remain a distant, unattainable dream unless a substantial number of women believe that they must push for recognition of their rights and governance. This needs to start with the recognition of the internalized oppression by the patriarchal nature of

Islamic society and continue with a collective effort by women to improve their situation?. Currently, laws in the Middle East, including the UAE, are differentiated along gender lines. Khurshid (2015) conclude that in the Arab context, cultural issues such as patriarchal ideologies, structural issues such as responsibility for domestic and child care duties and action issues related to women's sense of agency will all influence career opportunities for women

As the framework suggests, in spite of these new freedoms and new possibilities afforded by ICTs, the technology is not necessarily free of influence from existing systems of economic, political, and social inequality that exist within Islamic societies. Such Islamic societies have assumed that there were two different doors of knowledge, one for each gender (El Louadi & Everard, 2006; Gallant & Pounder, 2008). In some ways the introduction of ICTs has the ability to enforce this doctrine of "separate and unequal". Under the new technology the computerized *hijab* is at hand: women can more easily stay at home while continuing to participate in a computerized workplace. And yet, on the other hand, by gradually abolishing the distinction between home and the workplace, Internet technology may also give women the opportunity to integrate themselves into the economic and political global community.

3. METHODOLOGY

The methodology chosen was an exploratory interpretive case study based on five interviews with UAE women. Secondary data sources such as UAE government policy documents were also drawn upon for the study. The participants were employed in various IT-related jobs in public and private sector businesses in the UAE. Walsham (2006) asserts that interviews should be the primary data source as these provide the best insights into the participant's interpretations, views and values of what is going on around them. As the 'official' documentation of events in the Middle East is often quite different to the realities being faced by individuals in the society, this rich data source was relied heavily on by the authors. While the sensitising device presented in the previous section was used as a starting point for exploring the research problem, as well as the foundation for the formulation of the interview questions, it was also viewed as a 'non-committal' literature review (Urquhart & Fernández, 2013). Thus the emergent theory would determine the relevance of the sensitising device, and it was expected that the research would reveal new constructs. The research used a theory building approach (Eisenhardt & Graebner, 2007). The interviews were analysed using grounded theory method (Glaser & Strauss, 2009). Open coding, selective coding, and theoretical coding (where the relationships between constructs are considered) were carried out on the interviews. Relationships between constructs were also elaborated on using theoretical memos (Glaser & Strauss, 1967).

Grounded theory was considered appropriate for this study for two main reasons; grounded theory is inductive by nature so is extremely suitable for interpretive research, especially when little research or literature exists in the area under study, or the existing literature does not explain the phenomena satisfactorily (Eisenhardt & Graebner, 2007). Literature on the Middle East and specifically about the UAE is sparse, especially in reference to the 'real' experiences of Arab women and ICTs (Shakir et al., 2008; Shen & Khalifa, 2009; Vodanovich et al., 2010). Secondly, the emphasis on theory development inherent within grounded theory made it very suitable for the research.

3.1. Case Study Context

The sovereign state of the United Arab Emirates (UAE) is located in the Middle East and is bordered by the Arabian Gulf to the north, Saudi Arabia to the south and west, and the Sultanate

of Oman and the Gulf of Oman to the east. The population of the UAE is over two million although only 20% of the total are UAE nationals. The UAE is a Muslim country, and Emiratis see their religion as an integral part of daily life. Accordingly, national dress is a symbol of national identity and virtually all Emiratis wear it. National dress for males consists of a white ankle length shirt, a white or red chequered head cloth with a twisted black coil to hold it on. Women wear a full length dress often covered with very elaborate embroidering and over this is worn a block robe covering the body from head to foot. The head is always covered, generally with a black shawl or scarf. The UAE adheres to the Islamic law, the *Shariah*, as well as the legal principles of the western world.

3.2. Interviewees

We interviewed five women who are currently working in the IT industry in the UAE. The names of people and organisations have been removed or masked throughout the paper to ensure participant anonymity.

4. FINDINGS

Three main categories or themes emerged from the data during the coding and analysis phase of this research. The analytical framework in the figure below (see Figure 2) provides a high level overview of how the categories relate to one another. Each of the boxes represents a category. The categories' properties or sub-categories are listed inside each box, and arrows are used to identify the relationships between categories. In the next section we will discuss each category as well as the relationships between the themes and their properties, as it is these relationships between the themes or concepts that build theory (Dey, 2002).

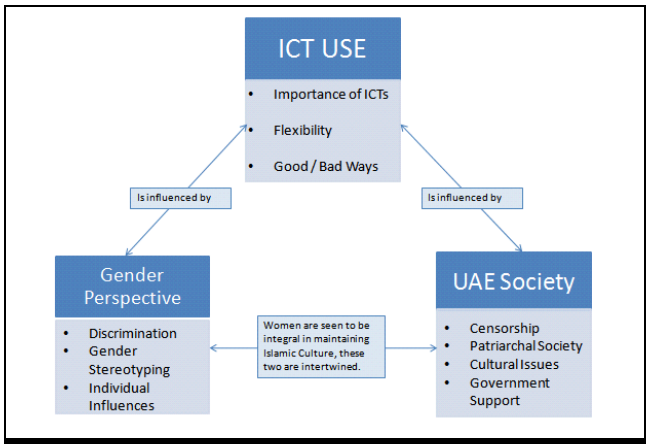

Figure 2: Emergent Analytical Framework

4.1. ICT Use

The *importance of ICTs* was a prevalent topic of discussion by all interviewees. Without exception, the interviewees considered ICTs to be *ubiquitous* and more than one interviewee confessed to *feeling lost* without the use of familiar ICTs such as email, mobile phones and the Internet. They also recognised the *importance of ICTs* in so far as it gave them an *opportunity* to u*pdate their knowledge base* and give them access to a wider range of information.

> *I use in the work, in my daily life and when I was a student here and the outlook maybe was Internet using and in the conference we are using the camera. Even in everyday life you have to communicate with your manager in work and your friends and the Internet and these kind of technology*

The interviewees felt that one major *benefit of ICTs* was *the level of flexibility* it afforded to them, especially given the lack of flexibility they experience in society. Two interviewees in particular mentioned that their *education and knowledge in IT* gave them more *freedom* and an opportunity to be more *interactive*. Again, two things which are not otherwise available to women in the UAE.

> *I think ICT complements these relationships, because you will use it to take advantage from these tools of ICT. Because like mobile phones is an ICT, yes? So it make our lives easy, you can talk to your mother and let them know that you are fine and then you can be relaxed at home with the knowledge that your daughter or son is fine. More freedom, it's more about trust, you can know where your daughter is anytime of the day*

The last sub-category refers to the widely held *dichotomous views* of using ICTs by the interviewees. As can be seen in the table 1 above nearly all interviewees saw two main ways to use ICTs, *a good way* and a *bad way*. Some of the good ways of using ICTs was defined as the efficiency and convenience they provided in communicating with their colleagues, friends and people around the world. On the other hand, the bad ways of using ICTs was more difficult to define for the women interviewed. A few of the issues referred to was the lack of face-to-face communication which they felt was an important part of their culture, the time wasted on using ICTs for entertainment rather than educational purposes as well as cultural boundaries that are sometimes challenged by the wide range of information available through the Internet.

4.2. UAE Society

Given the earlier definitions of the good and bad ways of using ICTs, *censorship* was seen by most of the women interviewed as a *vital* if somewhat cumbersome function in UAE society. They believed that given the newness of ICTs into society they required someone else (i.e. the government) to decide the *best way* to use them. Therefore *censorship* in the form of *monitoring and controlling* the use of ICTs was required until the people of the UAE learnt the *right and wrong ways* of using these new technologies.

> *Yes censorship is useful, because it depends according to our customs and our religion. Because we didn't use to use in our lives so you can say it's a new thing so you have to explore everything in this tools yeah? So we have our people who are not aware of using it in the right way, so we have to teach them and restrict it for them*

The UAE is undoubtedly a *patriarchal society*; most of the women interviewed recognised this as a given part of life. There was a strong emphasis on the level of *dependence* on their *parents* and *husband's approval* of their day to day activities. One woman asserted that though a career in IT was not disapproved of, it was frowned upon to make a career a priority, as it is still a widely held belief that a woman's primary role is a wife and a mother.

> *Yes she will struggle, for example if she found a job and they say you have to still till 5 and you have to come in on Saturday which is weekend, of course her parents or her husband will not allow her.*

Maintaining a patriarchal society is just one of the *cultural issues* touched upon by the interviewees. They also believed that the *use of ICTs* should be according to *local culture and customs*. Therefore in order to use ICTs within the *frame of their culture* a level of *cultural translation* or *adaption* is required before ICTs can be used effectively in UAE society.

> *What I found in the end was that yes it's kind of true that culture impacts the way you use the web like as a Muslim for example some things are completely unacceptable to you.*

In terms of government support for ICT use was touched upon by some of the interviewees. While one woman believed that the general political framing of support for women in IT gave her all the support and encouragement she needed for her career in IT. Conversely, another woman asserted that an increase of women in IT was dependant on the individual management style of each company as well as the presence of females in senior management.

Even though the *importance of ICTs* was widely recognised by all the interviewees, so to was the importance of a regulation of them. The interviewees recognised ICTs as a tool to propel the UAE forward but noted that c*ultural issues* such as their h*eritage* and c*ultural background* needed to be accommodated so as to not impose w*esternization* on them. They both accepted that c*ensorship* by the government was a valid means of achieving this. That is not to say they always agreed with the level of censorship practised by the government. There was a sense of *frustration* from both Basheera and Wardah, who criticized the sometimes unnecessary *censorship* of useful sites.

4.3. Gender Perspective

Discrimination faced on an *individual basis* was an issue of concern especially for one participant. She felt that though UAE society was *slowly changing*, IT was still a tough career choice for women. On the other hand both Lubna and Wardah considered ICTs and IT to be one of the few things in society that did not *discriminate between men and women*. To some extent this was a surprising, almost *idealistic view* of the world held by these two women given the amount of discrimination that Humera experienced in her workplace.

> *The problem with being an IT woman is that they don't obey me as they would a man. If a man tell them, they would accept it. But from my side if I tell them this is the rule, they just laugh. They believe IT for male, they believe they for the technical side, men can do and woman can't do it. And most of the males at my work underestimate my skills. They say to me "You are a girl, why are you in IT, change your job". But my senior colleagues are proud of me, they say "Yes, Humera can do this!, she is an IT girl, she can do it", but the males, some of them don't believe this.*

Gender Stereotyping was another finding that heralded two different points of view; on the one hand, one participant felt that her personal and work experience in IT illustrated just how much women are *negatively stereotyped* against in the world of IT, where she is *regularly challenged* on her abilities because she is a woman. On the other hand, another participant, while

recognising that there are strong gender stereotypes present in society, she believed that it was up to *the individual women* to take responsibility for herself and her career and *fight* against these stereotypes.

This brings us to the last sub-category of *Individual influences.* As we have already discussed one participant for example believed that it is the responsibility of individual women to push herself forward for anything that she wants to achieve. In contrast another participant discussed individual influences in different workplaces predisposed the level of responsibility given to women and the speed of their advancement in that workplace. Overwhelmingly, the interviewees asserted that ICTs were extremely important for women. The presence of ICTs helped them overcome *barriers* they faced in everyday society, but for very different multiple purposes.. One interviewee talked about women setting up home businesses from the comfort of their own home through the internet. Another interviewee mentioned the *importance of educating women in ICT* so as to make them a better wife, mother and daughter.

Gender perspective was also found to be conversely influenced by *ICT use*. Education in IT enabled these women to form a more even playing field with their male counterparts. One interviewee mentioned that her education in IT meant that there was more confidence in her abilities by her parents especially when compared to her brother who also had a degree in IT. Most of the interviewees found that ICTs gave them the ability to improve their *flexibility* and overcome *gender stereotypes* and *discrimination*

There was found to be significant cognitive dissonance present between the outward message from the *government* concerning equality in the workplace and *personal experience*. On the one hand Lubna asserted that the political vision of *equality between men and women* in society was becoming a reality in the workforce and provided a frame of support for her as a woman in IT. On the other hand Humera emphasized that it was up to *individual influences* in the workplace that transformed this concept into reality. Although Humera was promoted to a supervisory position based on the official policy of equality between men and women, she still faced difficulties arising out of a *gender segregated* and *patriarchal society.* Her personal experience was that of negative *gender stereotyping* and *discrimination.*

As women are perceived to be an integral part of observing Islam (Kort, 2005), the relationship between these three categories is unmistakable. A major part of ensuring that the UAE society does not transform into a Western society as opposed to a Modern society is ensuring that their culture is maintained especially in the way that ICTs are used. As women play a big part of that culture, the relationship between ICT Use, Gender Perspective and UAE Society becomes precarious. This dichotomy was subtly referred to by the interviewees, one the one hand there was an emphasis on the recognition of c*ultural issues* that surround the implementation of new ICTs and on the other hand there was identification of the *opportunities* that ICTs could provide for women. The latter emerged in so far as the belief that ICTs *are not discriminative* towards women and provide them with *flexibility* that is perhaps not available to them elsewhere in society.

Moreover, an interesting contradiction emerged from the interviews where the participants consistently referred to the i*mportance of ICTs* and the o*pportunities* and *flexibility* they provide for women as discussed above, however they also supported the need for *censorship* to regulate the *good* and *bad ways* that ICTs are used. That is, there is a *Virtual World* available to women that overcome the restrictions faced by them in society; however there is also a recognition of the need for government control of its contents and regulation of the constitution of it, which tampers with the freedom afforded by this *Virtual World*.

5. DISCUSSION

One of the essential aspects of a grounded theory study is the engagement of the emergent theory with the existing literature (Urquhart & Fernández, 2013). Eisenhardt and Graebner (2007) suggests that at this point in the research it is important to consider the findings in light of existing literature. "An essential feature of theory building is comparison of the emergent concepts, theory or hypotheses with the extant literature." (Eisenhardt, 1989). This involves considering both conflicting and complementary literature to the key findings.

ICT use was an important construct of the emergent theory as it demonstrated the both ubiquity of ICTs in the UAE society and the many different dimensions of use especially when compared to ICT use by women in the West. Sharma et al. (2015) suggests that ICTs can be seen to provide new opportunities for women's economic empowerment by creating business and employment opportunities for women as owners and managers of ICT-accessed projects. This is portrayed in the example that an interviewee gives of a recent IT graduate who has helped her mother set up an online shop to sell her handiwork. El Louadi and Everard (2006) and Ameen and Willis (2016) maintain that ICT spaces such as the Internet allow women to engage in entrepreneurial activities such as those described by Lubna, without transgressing the socially constructed cultural values and norms such as those where men and women are not encouraged to mingle.

One of the main findings for this theme was the level of *flexibility* that the participants felt through their use of ICTs such as the Internet. One of the most democratizing aspects of the Internet has been the creation of private online spaces for women, enabling them to enjoy freedom of expression and privacy of communication (Jorge, 2002; Marino, 2013). Basheera for example asserted that most women in UAE society did not have the opportunity for much *interaction* in the local society and found a substitute for this interaction through the numerous forums and online groups available on the internet. Galbraith (2003) analyses the limitless possibilities that virtuality represents, especially in its capability to offer a wide-range of experiences and expressions of self that may be far more difficult in the physical world. Most interviewees expressed the level of freedom and flexibility they found on the internet to freely search for a wider range of information and the ability to update their knowledge and skill base without being under the watchful eyes of their families and educational institutions. It has been suggested that in these forums that women develop a confidence in themselves and their interactions, which is absent when they are subjected to male scrutiny that is common in societies like the UAE (Ajjan et al., 2014; Badran, 2014; Huyer & Sikoska, 2003).

One of the most interesting findings of this theme was the dichotomous view of ICT use. Consistently, the interviewees defined the use of ICTs as 'good' or 'bad', or 'right' or 'wrong'. Bad ways of using ICTs included the level of isolation and lack of face-to-face communication that ICTs encouraged, the use of the Internet for entertainment rather than educational purposes, and health issues arising out of constant use of ICTs. The first example can be supported by studies carried out which found that Arabs prefer face-to-face communication in personal interactions (Al Omoush et al., 2012; Tubaishat & Lansari, 2011). Similarly, Omera refers to some of the other bad ways that ICTs are used and the challenges they provide to the strict cultural barriers imposed on UAE society, especially towards women. Even though ICT Use allows women to transcend physical boundaries (El Louadi & Everard, 2006; Shalhoub-Kevorkian, 2011); they are still constrained by other boundaries which are specific to their own cultural and social context (Nandhakumar & Jones, 1997; Vodanovich et al., 2010).

The relationship between ICT Use and the Gender Perspective themes was interesting. For instance, the interviewees found that ICTs helped them overcome barriers they face in a gender segregated, patriarchal society. Gender was seen to influence ICT use, as education in IT was seen as providing women with the opportunity to level the playing field with their male counterparts. It has been suggested that women's empowerment in the information society requires a constant examination of how gender relations as a dynamic cultural process are being negotiated and contested, in relation to the technology environment (Gurumurthy, 2004).

The gender perspective theme showed that the interviewees experienced ICTs in a very different way to their male counterparts. UAE is still a heavily gender segregated society, where although many women are studying in Universities, a very small percentage actually go on to enter the workforce after earning their degrees. Some interviewees found that *discrimination* based on *gender stereotyping* was still prevalent in the workplace and in their personal lives. Some interviewees' workplaces were more proactive in encouraging the advancement of women in IT than others.

Wardah experienced discrimination in her workplace that was contrary to the government policies recently announced in the UAE that guarantee equality of both men and women. Wardah maintained that the basis of this discrimination was the prevailing attitudes and gender stereotypes that emphasize that IT is still a male dominated field and one where women in supervisory positions like Wardah are not taken seriously, especially by her male colleagues.

This type of gender discrimination based on gender stereotypes which emphasize a women's role in the home as well as her innate differences in her ability when compared to a man, does to some extent exist in the in the West as well (Haynes & Heilman, 2013; Heilman & Eagly, 2008). Omera mentions that she may not continue in her current job much longer because of the level of commitment her workplace demands in terms of hours worked, which can sometimes extend to working in the weekends as well and how this will be in conflict with her personal time with her husband and family. Women in the West often face this dilemma as (Dipboye & Colella, 2013). However, there appears to be less support from legislative means to prevent discrimination from occurring in the UAE. Even though the UAE has signed on to the United Nations Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) in 2004 (with some reservations) unofficial forms of gender discrimination on the basis of upholding traditional gender stereotypes still exist in the workplace.

While some women such as Lubna and Omera find the Internet to be a source for freedom and a place where they are equals to men, others like Wardah find themselves in a position where they face obstacles in realizing the full potential promised by the advent of ICTs. The theme of UAE society revealed a number of contradictions. There is immense pressure within and without the UAE to transform itself into a *modern* and IT-literate knowledge economy (Gallant & Pounder, 2008; Madichie, 2011). One of the ways this has been realised is through policies towards women and *education* that have slowly shifted the focus away from tribal and limited education for women to education policies that are specifically focused on increasing the IT literacy for all its citizens and especially women. On the other hand however, we can see that the reach of Islamic cultural beliefs and values still negatively affect the transference of ICTs to women. The relationship between themes of Gender Perspective and UAE society revealed an interesting juxtaposition between the political rhetoric espousing equality between genders by the UAE government and the reality that the interviewees faced in their day to day lives.

In the UAE, access to the Internet is tightly controlled and censored by the government in an effort to control the exposure of certain thoughts and ideas. When the interviewees did refer to the level of censorship present in the UAE they thought that the government used censorship to eliminate any *negative elements of ICTs* and also maintained they should be responsible for teaching the citizens of the UAE the *right way* to use ICTs. This is an interesting echo of the 'good way' and 'bad way' to use ICTs in the theme of ICT Use.

Although equality of status for UAE women is present in political rhetoric, UAE women are still affected and bound by the frame of their culture with regards to marriage, family life and education (Shakir et al., 2008). These factors will invariably affect their experience in the IT industry. Cultural Issues therefore are a very important part of ICT experiences for women. As Lubna asserted, ICTs cannot be used in the UAE as they are in the West simply because UAE nationals want to use them in the frame of their own culture and traditions. An example of a cultural issue that was consistent in both the literature and the findings from this research was the lack of face-to-face communication in the new computer era as discussed above (Al Omoush et al., 2012; Bhatti et al., 2005).

6. GROUNDING THE EMERGENT THEORY

We now briefly discuss how our emergent theory could be engaged with Individual Differences Theory (Morgan et al., 2004; Trauth, 2006; Trauth et al., 2004). The individual differences theory is comprised of three general constructs that, together, explain women's decisions to enter and remain in the IT field (Trauth et al., 2004). The personal identity construct includes both personal demographic items and professional items. The shaping and influencing construct includes personal characteristics and personal influences. The environmental influence construct includes cultural attitudes and values, geographic data and economic and policy data (Trauth, 2006).

With respect to the personal identity construct, it could be seen that the most influential demographic was their Muslim faith. For instance, two of the interviewees explicitly expressed that there are ways to use ICTs such as the Internet and messaging tools like Facebook or MSN Messenger that are completely unacceptable to a Muslim person, even though they may be acceptable to other cultures. Age also had an influence, one of the youngest interviewees was much more constrained in her view of ICT use whereas an older interviewee felt that censorship was only in place to guide the younger generation.

With respect to the shaping and influencing construct, differences in personal characteristics were mostly visible between three of the interviewees. Two of the interviewees were bright, bubbly and enthusiastic in their personality and these characteristics were reflected in their attitudes about their careers in IT and the ubiquity of ICTs. Whereas, the third interviewee was more subdued and conservative in her personality which was reflected in her rather bleak outlook towards her career ambitions in IT. As a result of these differences in personalities, the first two interviewees were both more willing to contest negative stereotypes about women in IT, while the third interviewee demonstrated an almost fearful outlook on what ICTs offered and was very apprehensive about the idea that working in IT may conflict with her obligations to her family and future husband.

From the perspective of environmental influences, the most relevant parts of this construct for this research seemed to be cultural attitudes and values, as well as the governmental and individual management policies towards women in IT. Firstly, the prevalent cultural attitude towards women in IT seemed to be attached to strong gender stereotypes. For instance, even

though it had become more acceptable for women to work and have a career, it was still expected that a woman's primary responsibility was towards her family. Another gender stereotype touched upon by two of the interviewees was the negative attitude especially from males towards women in IT.

7. CONCLUSION

This paper has described a preliminary exploratory grounded theory study of women's experience of ICT use in the UAE. We discussed three themes that emerged from the research, ICT Use, Gender Perspective, and UAE Society, to form a tentative theory on ICT Use by women in the UAE. We found that ICT Use was decidedly gendered and also very much determined by the UAE society within which the women live. Key findings included the idea that there were 'good' and 'bad' uses of ICTs, and the degree of constraints women found when pursuing a career in IT.

We found individual difference theory (Trauth, 2013) very helpful in explaining the different perspectives of the interviewees, while Structuration theory (Jones & Karsten, 2008) illuminated how ICT use is shaped by society, and is constrained in some instances. The individual differences theory is comprised of three general constructs that, together, explain women's decisions to enter and remain in the IT field .The personal identity construct includes both personal demographic items and professional items. The shaping and influencing construct includes personal characteristics and personal influences. The environmental influence construct includes cultural attitudes and values, geographic data and economic and policy data. We would contend that these women's faith as Muslims is a major factor in personal identity.

Our findings make a contribution to IS literature as one of the first exploratory studies of ICT use by women in the UAE. We hope that we have demonstrated the unique perspective on gender in Islamic societies and how this is then played out in ICT use. This study also makes a contribution to the IT for development literature as it gives a window on an affluent, yet developing country, where IT has been historically under studied. While we make no claims for larger generalisability, our exploratory study marks a small step in this direction. We were able to achieve a number of analytic generalisations from our case study as suggested by Walsham (1995). First, we were able to obtain some rich insights from these women. Second, we have developed concepts, that we hope other researchers will find useful. We also took care to theoretically integrate our findings and emergent concepts, with a relevant theory, in the manner suggested by Urquhart et al. (2010).

We hope other researchers will take up the challenge of researching ICTS and women in developing countries, especially in the Middle Eastern context, where the influence of Islam profoundly shapes gender roles. From our perspective, this study demonstrates how ICT use is embedded in the societal context, and also how within the same society, ICT use can be distinctly gendered. We look forward to seeing other studies of women and ICTs in many varied settings. For instance, a logical next step would be to carry out interviews with women from a variety of public and private sector IT firms in the UAE, using the concepts associated with our framework - ICT Use, Gender Perspective and UAE Society - to theoretically sample using 'slices of data'.

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