What Women Want from IT: Views from Western Asia

Deborah L. Wheeler

This paper analyses the role that gender plays in shaping information societies in Western Asia. It starts by outlining the main factors that condition women's access to information technology - in terms of physical access as well as the the social and cultural constraints at play in women's lives - and also sketches a picture of the information society readiness of Western Asia in general. It then goes on to explore women's engagement with the information society in the region in more detail through case studies of Kuwait, Saudi Arabia, Bahrain and Jordan. In each case, an investigation of the country's e-readiness is followed by an exploration of women's narratives regarding their experiences with information and communication technologies in this context. The result is a rich portrayal of the motivations, challenges and opportunities (both realised and missed) that characterise women's relationships with information technology in the region. Using as a guide the wide range of women's voices thus explored, the paper concludes with a number of recommendations that aim to make IT policy and practice more compatible with what Western Asian women want.

Introduction

It has become commonplace in the twenty first century to link women's empowerment and information technology (IT), and many of these voices have come from women leaders in Western Asia. For example, Queen Rania of Jordan, addressing the Second Arab Women's Summit in 2002, observed that 'it is important for Arab women to make use of the latest technologies, particularly the Internet, to reshape their lives' (Jordan Times 2002). Similarly, Najat Rochidi, director of the Information and Communication Technologies for Development in the Arab Region (ICTDAR) programme at the United Nations Development Programme (UNDP) has stated that the Internet can be leveraged to expand women's leadership skills, provided that 'the "culture of machismo in Muslim countries" is also changed so that women are valued as "clever and accomplished people" in their own right "outside the tutelage of a father or husband" and not only "as mothers and caretakers"' (Rochidi, quoted in Sakr 2004, 143). The UNDP reinforced these views when in 2002, its Arab Human Development Report observed that failing to provide women with easy and equitable access to IT slows the development and progress of society as a

whole. This same report ranked expanding women's access to information technology as the third most pressing concern women in Western Asia face, preceded only by domestic violence and poverty (UNDP 2002).

Gender and IT Access

While great expectations are placed upon information technology as a tool for transforming women's lives, relatively little is known about why, how, and when such transformations take shape. This is especially true for the lives of women in Western Asia where, statistics suggest, Internet penetration rates among women are lower than in any other place on the globe.

Table 1. Women's Internet Usage by Country/Region, 2002

Region/Country	Percentage of all users
Arab States	6
China	37
European Union	25
Japan	18
Latin America	38
Russia	19
South Africa	17
United States	50

Source: Women's Learning Partnership, Technology Facts and Figures (www.learningpartnership.org/facts)

The problem of understanding women's relationship with information technology in Western Asia is compounded by an absence of current and reliable statistical data with which to grasp women's role in building regional information societies. The 6 percent or less access rate for female Internet users in the Middle East is a number that has been floating around the region (uncontested by new data) since a 1998 DIT-Net survey conducted for 'PC Magazine Middle East' generated it. Issues that complicate the measurement of women's access to the Internet (and other forms of IT) have to do with ownership. If the male head of household is listed as account owner by the Internet Service Provider, that does not tell us whether or not any women in the household use the same account. Similarly, women who have access to IT only via a community centre or Internet café are also difficult to count without more carefully targeted surveys designed to get at the gendered nature of IT access and use. When more gender sensitive assessments are performed, women may figure more equally in terms of the percentage of local individuals involved with building the information society.

Several international organisations, including the International Telecommunications Union, the World Bank, the United Nations and the World Summit on Information Society Gender Caucus, have acknowledged the need for more gender sensitive surveys of the information society (Hafkin 2003). These organisations have called upon the international community and local organisations to begin collecting data on the role that gender plays in information technology diffusion and use. Given the fact that empirical data has not kept pace with enquiry, key issues affecting our understanding of women's access to and use of IT in Western Asia remain an emergent framework. At this stage, qualitative data can serve to illuminate the richness of many West Asian women's IT lives as demonstrated below.

Qualifying Women's IT Access

Qualitative data gathered by the author throughout Western Asia (1997-2005) with the generous support of the United States Fulbright Programme, the Oxford Internet Institute, the United Nations Development Programme, the Zein al-Sharaf Institute for Development (Jordan) and the Digital Opportunity Trust (Canada) suggests that women play a much greater role in the regional information society than is presently understood.[1] When one juxtaposes our only extant statistical data (as indicated in the chart above, a mere 6 percent of users) with narratives of female Internet users throughout Western Asia, for example, it is clear that we have much to learn about West Asian women's IT practices. Emerging data, such as a recent survey of 125 female Internet café users between the ages of seventeen and forty eight, conducted in Jordan and Egypt in 2004, illustrates that many women in the region spend on average twelve hours a week in an Internet cafe (Wheeler 2006).[2] Typically, women in such cafés are accessing information they would not have access to otherwise (such as that relating to sensitive issues linked with relationships and health) as well as chatting online, which, some of those interviewed argue, allows them an ability to form and articulate a wider personal and political consciousness. The most common explanations for women's use of the Internet are chatting and the maintenance of email networks among family and friends. Such surveys, and the narratives below, suggest that women in Western Asia want access to IT, that they are getting access to IT, and that once they have access, such technologies provide paths of empowerment. It is also clear that access in itself - not to mention the paths to empowerment women take once they have access - is shaped by the local contexts of women's lives. This is especially clear in the results of the NetCorps Jordan 'IT and sustainable livelihoods' training program analysed later in this paper.

Regional Realities Challenge and Shape Women's IT Practices

There are a number of key development indicators which intervene in compounding women's access to IT and shaping the context and impact of use. For example, nearly 50 percent of women in the region over the age of fifteen cannot read and write. In terms of formal access to political power, only 3.5 percent of all seats in parliament in Western Asia are occupied by women. Most of these seats, including those held by women in Morocco, Egypt and Jordan, are only filled because the government has reserved key parliamentary seats for women. It is generally understood that without the quota system, women would not gain enough votes to be elected, if running directly against men. Illustrating the challenges women face in Western Asia in terms of grasping their full potential as leaders, a Jordanian observer notes, 'Our

community would not accept the idea of a woman to be a leader. It is difficult to convince men that this would be a good idea. Our community does not trust women's abilities'.[3]

In terms of access to the economy, men in Western Asia have three and a half times the purchasing power of women, and women constitute on average only 28 percent of the labour force. Many female activists in Western Asia argue that until women gain financial independence, their lives will continue to be dominated by dependence on men - brothers, husbands, fathers, sons, and beyond. These deeply entrenched relationships of patriarchy often severely limit and conscribe West Asian women's independent identity formation. Financial independence is a step towards the subversion of such limits on women's lives. As one observer notes, 'If a woman can achieve financial independence, she can achieve her full potential. If she stays financially dependent on a father, brother or husband, she will not be independent and it would be difficult for her to achieve her full potential'.[4]

Women also face significant legal challenges, especially in terms of rules regarding freedom of movement: many countries still require a male family member's permission to obtain a passport or to travel abroad, and divorce laws also do not favour women in many West Asian countries.

Unequal access to information technology is therefore just one of the many forms of challenges that women in the region face. Shaping all of these gendered inequalities are three main factors:

1. Social/cultural norms:

a. These norms define women's work generally in terms of care giving within the home - for husbands, for children, for elderly relatives, and for the sick.

b. Definitions of women's work as primarily linked with care for hearth and home discourage women from working outside of the home.

c. Financial dependence is maintained by discouraging women from working outside of the home.

d. Financial dependence deters women's independent identity formation and action.

e. Obtaining access to IT is shaped by these cultural norms, with access in the home being rare in Western Asia, and access at public centres often out of reach of women in conservative areas, who, in the words of one Jordanian observer, 'after the age of thirteen are discouraged from exiting the home, even for shopping'.[5]

f. At play in all of these gender-based social and cultural norms is the issue of women's honour, which is one of the mainstays of patriarchy, and constrains the small and large ways in which women, often at great risk to themselves, strive to challenge these norms.

2. The state:

a. Given strong social and cultural currents against redefining women's roles to include positions of leadership and work outside of the home, the state is constrained in its efforts to evoke change.

b. Pushing too hard to change women's social, political, and economic roles could encourage protest and unrest within West Asian societies.

c. Even if the state builds community IT access points for rural and outlying regions, it cannot force these conservative communities to change their attitudes about giving women access to technology, information, and public space.

3. Feminism/IT revolution as imperialism:

a. The idea of 'women's liberation' is often critiqued in Western Asia by those resistant to change as an imperialist plot to weaken the social fabric of local communities.

b. Mahnaz Afkhami and Erika Friedl (1997, xii) argue that 'the most obvious strategy for those who feel threatened' by the call for women's empowerment in Western Asia 'is to link women's rights to cultural imperialism'.

c. The fact that many of the technologies which define the information age are imagined, invented, produced and distributed by Western countries have left some critics talking about new forms of 'electronic colonialism'.[6]

d. Linking feminism and the IT revolution with imperialism discredits both in the eyes of those resistant to change within Western Asia.

Signs that IT Leads to Empowerment

In spite of the challenges to women's identity articulation and empowerment outlined above, some have argued, including several of those women interviewed below, that information technology is enabling at least some women in Western Asia to increase their power and influence in both public and private spheres. Some of the paths to empowerment outlined by women in Western Asia include the ways in which ICTs, especially the Internet and mobile phones, give women a global voice. Many women in the region when interviewed claim that IT empowers them by giving them access to information regarding women's rights world wide, and access to advice and information on taboo subjects like marital satisfaction, divorce support, lesbianism and women's health issues. Some women have observed that the Internet and other forms of IT give them access to professional networks which might otherwise be inaccessible to them. Some celebrate the way in which Internet technologies especially downplay the role of gender in online social interactions, thus liberating them from key gendered social constraints that are present in face to face conversations. Some view the Internet as an important tool in saving family expenditure by reducing the cost of keeping in touch with friends and family members, especially those living and working abroad. Some women interviewed claimed that IT training had given them a marketable skill - familiarity with computers - which makes them more competitive in the job market or more indispensable in the jobs they currently hold. All of these factors and more, outlined below, indicate the importance of both analysing and promoting the role of IT in Western Asian women's lives. Together, these narratives reinforce Dale Spender's observation that computers are not toys, they are paths to power (Spender 1995).

The following pages provide a brief overview of the role that gender plays in shaping information societies in Western Asia. While the discussion focuses most on the role of ICTs for personal, social and political identity formation, the institutional context of such changes as well as connected issues of ownership and control over technology and its use for collective action for women's empowerment are also touched

upon. While the intention is to give a snapshot of women's informational lives in Western Asia as a whole, given the poverty of empirical data on this subject specific case studies are used to supplement the general overview with real stories. It is through the narratives of women in the region that we can glimpse the motivations, challenges and opportunities (both realised and missed) of women's relationships with information technology. The ultimate goal of this analysis is to provide recommendations for making IT policy and practice more compatible with what Western Asian women want, using women's voices from across the region and the social spectrum as a guide.

The victories outlined below may seem miniscule when considered objectively in terms of the strength of the patriarchies that regulate women's lives in Western Asia. While having access to IT will not automatically place women in new positions of power, it is often a fundamental first step towards enabling an environment where women can learn to 'debate, mobilise and lobby' in favour of their multiple interests (Afkami and Friedl 1997, xi). We must also remember that in Western Asia, women's interests are contextually shaped and potentially as various as women's lived experiences, meaning that what may seem like a small change in one woman's life could actually produce a significant alteration in power relations when judged from within the context of a particular woman's life and circumstances. For example, in a conservative village woman's household, permission from the patriarch to attend a computer class could produce a significant alteration of normal family behaviour, whereas for a liberal family from Amman, it might require a woman using her computer training to start her own business to see an equally significant alteration in power relations. Neither transformation should be discounted as less important than the other. Both should be taken as contextually shaped expressions of the diversity of women's lived experience in Jordan. Thus, we should not discount any form of empowerment narrated by women themselves and, instead, should understand the many contextually determined ways in which power relationships interplay in shaping women's identity and existence.[7]

The Macro-Picture of the Information Society in Western Asia

States throughout Western Asia are under great pressures, both from the world community, the global economy and their own populations (especially from the new middle classes), to move towards the development of information societies. E-education initiatives, e-government initiatives, community access information technology projects, targeted training in IT and sustainable livelihoods and various capacity building projects for the regional information society are common expressions of the top-down move to build connectivity throughout Western Asia. The proliferation of Internet cafés and the rapid rise in usership throughout Western Asia represent the bottom-up approach of building the information society. There is a direct correlation between state attitudes towards information technology and levels and sophistication of IT use within society. For example, in some West Asian countries, leadership structures attempted to discourage IT use within society, for fear of potential destabilisation and security risk if citizens were fully empowered to have easy access to IT. Tactics for diminishing a society's IT capacity include making Internet access illegal, as was the case for a number of years in Syria and Saudi Arabia. Once Internet use is legalised, states in Western Asia use a host of strategies for keeping use concentrated in privileged pockets of society, by keeping costs for Internet access and computers high; heavily filtering Internet content; and stalling the spread of high speed Internet access, thus making it frustrating and time consuming to surf over regular land lines. More draconian measures for slowing Internet spread include

arrest and harassment of Internet users who overstep the bounds of appropriate use. This definition of 'appropriate' use varies from state to state, but in the past, users have been arrested and punished in Syria, Bahrain, Tunisia, Egypt and Jordan, for oppositional or immoral purposes. In the words of an Algerian exile whose family is living in Tunisia, 'I cannot get my relatives to use the Internet to communicate with me here in the States. They say the government has conditioned the people to think that using an Internet café means that one is either surfing porn or trying to oppose the government, so people want to keep their reputations clean and stay away from public access sites'. Another tactic for slowing the growth of Internet use in Western Asia is maintaining a complicated and lengthy process for obtaining business licenses to open Internet cafés and other IT-related businesses. Many Internet café owners in Jordan when interviewed claimed that it took as many as three years to get their business licenses to open their cafés. Every state in Western Asia has used one or more of these strategies to keep IT penetration 'regionally appropriate', i.e. concentrated in the hands of those who need it - business men and women and the cosmopolitan elite - and out of the hands of those who shouldn't have it - like the poor and disenfranchised, Islamists, or any other groups/individuals who might use such empowerment to press for change.

The rapid growth in regional Internet connectivity, especially in the past two years, throughout Western Asia suggests that in spite of state reticence and security concerns, pressures from the population and from the global community are producing institutional change in information environments. For example, until 2000, the Internet was growing and spreading more slowly in Western Asia than in any other world region (perhaps because of the predominance of security concerns resulting in state tactics as described above). As of 2006, the Internet is growing and spreading more rapidly in Western Asia than in any other world region, thus suggesting that states in Western Asia are no longer adopting a 'wait and see' approach to the Internet and instead are giving in to social and global pressures to embrace the information age. Table 2 (see p. 58) illustrates the phenomenal pace of recent IT diffusion in the region.

In most cases in Western Asia, the nature of local and national information societies is as much a reflection of state attitudes towards information diffusion throughout society as it is a reflection of society's demand and capability for information resources. For example, in Jordan, where Internet access has grown in the last five years by more than 250 percent, King Abdullah II has played a defining role in promoting access to IT via the Knowledge Station project. With the support of the King Abdullah Fund, and the United Nations Development Programme, one hundred community knowledge stations have been established throughout the Kingdom. These community access points to IT have been especially important for the urban and rural poor, and are found in places like Ma'an and Tafeilah, as well as Eastern Amman. These places were identified by Jordan's regional Human Development Report for 2004 as ones with great pockets of poverty and a lack of opportunities to create sustainable livelihoods. In these IT centres, Jordanians can obtain International Computer Driving License (ICDL) certification, which, it is hoped, will enhance their employability. Apart from accessing Internet at these centres, citizens can also take up government subsidised computer training courses and, in some cases, courses in IT and sustainable livelihoods (as evidenced by the NetCorps Jordan programme profiled below). A high percentage of local women participate in such IT training programmes, with female participation often as high as 67 percent.

Table 2. IT Diffusion in West Asia

West Asia and North Africa	Size of Population (2005)	Number of Internet Users (2000)	Number of Internet Users (March, 2005)	Percentage of change 2000-2005
Algeria	32,557,738	50,000	500,000	900.0
Bahrain	707,357	40,000	195,700	389.3
Egypt	69,954,717	450,000	3,000,000	566.7
Iran	68,458,680	250,000	4,800,000	1,820.0
Iraq	26,095,283	12,500	25,000	100.0
Israel	6,986,639	1,270,000	3,040,000	139.0
Jordan	5,788,340	127,300	457,000	259.0
Kuwait	2,530,012	150,000	567,000	278.0
Lebanon	4,461,995	300,000	500,000	66.07
Libya	5,980,693	10,000	160,000	1,166.7
Morocco	31,003,311	100,000	1,000,000	900.0
Oman	2,398,545	90,000	180,000	100.0
Palestine (West Bank)	3,997,861	35,000	145,000	314.3
Qatar	768,464	30,000	140,800	369.3
Saudi Arabia	21,771,609	200,000	1,500,000	650.0
Syria	18,586,743	30,000	610,000	1,933.3
Tunisia	10,116,314	100,000	630,000	530.0
Turkey	73,598,181	2,000,000	6,000,000	200.0
United Arab Emirates	3,750,054	735,000	1,110,200	51.0
Yemen	19,600,009	15,000	100,000	566.7
Total for Western Asia	**459,112,545**	**5,994,800**	**24,660,700**	**411.4**

Source: www.internetworldstats.com

While access to the Internet has more than quadrupled over the past five years in most countries in Western Asia, when user communities are considered as a percentage of the population penetration figures are still low as measured by conventional techniques. In many countries throughout Western Asia, Internet access is still a luxury, with less than 5 percent of the population participating in this fundamental aspect of an information society when one counts users in terms of Internet service provider (ISP) data (e.g. in Syria, Saudi Arabia, Iraq, Egypt and Algeria). Increasingly, measures of Internet diffusion in Western Asia are being used as an indication of information society development and penetration. This is because it is one of the easiest and most basic measurements of information society readiness. Analysts are now attempting to expand such a focus by developing statistical databases on mobile phone access, PC penetration, as well as e-governance indicators. The United States Agency for International Development (USAID) has also begun funding projects which attempt to delineate the nature and power of the IT economy in the region, starting with a study of Lebanon. One of the most ambitious and comprehensive assessments of the information society in Western Asia was performed by the Economic and Social Commission for Western Asia as a form of preparation for the UN sponsored World Summit on Information Society. The study was designed to provide 'the necessary prerequisite for establishing national and regional plans for building the information society' (ESCWA 2003, iii). This document provides qualitative ratings of IT policies and strategies, legal and regulatory environments for ITs, IT infrastructure, IT capacity building, IT sector of the economy and IT applications in government, education, business and health care. However, gender and IT is not among the factors considered.

It should not be surprising that gender specific indicators of the regional information society are scant at best, given the fact that IT indicators for West Asian society as a whole are still emerging. We know that as late as 2002, estimates were that only 6 percent of all women in the region had regular Internet access (reliable statistics segregated by gender are difficult to obtain). While connectivity for women must surely have grown along with the phenomenal spread of the technology indicated above, more careful attention to statistics about women's IT access is desperately needed. Without having such figures disaggregated along gender lines available, it is difficult to know what percentage of women participate in the emerging information society.

Another important complication for measuring women's IT access in Western Asia, and most likely for society as a whole, is the fact that a large percentage of those connected - as much as 80 percent by some estimates - has regular access to computers, the Internet and other forms of information technology only via a community access point or an Internet café. The standard method for measuring Internet users as an indication of information society development and penetration is to count the number of Internet accounts via Internet service provider data. Because in most countries in Western Asia there is only one main pipeline for Internet connectivity, which is mostly controlled by the state, counting the number of accounts via an ISP is a relatively reliable and easy process. On the other hand, measuring access via an Internet café or community centre is difficult to gauge. In most cases, regular ISP data is just multiplied by an arbitrary factor, generally between four and six, to reach at a figure for the number of people accessing Internet through these centres. In Internet cafés, for example, it is not uncommon for a small café with ten to fifteen computers to have as many as three hundred clients a week. Recent interviews with Internet café staff in Jordan and Egypt suggest that there are an equal number of men and women who form the clientele (Wheeler 2005b, 2006). The hours of use, however, are highly gendered, with women forming the majority of users before 8 pm and males forming the majority of users in the late evenings.

Understanding the importance of communal access points for women's IT empowerment, this analysis of information society in Western Asia pays particular attention to data, gathered in 2004-2005, that documents women's access to, attitudes toward and use of community Internet access points in Jordan (Wheeler forthcoming). Along with the other case studies offered below (Kuwait, Saudi Arabia and Bahrain), the analysis provides an intimate look into the informational lives of women in Western Asia. Use of the Internet by women in Western Asia is also a key focus of this analysis, as this is one of the IT tools that provides the greatest opportunity for empowerment.

Contextualising the Information Society in Western Asia: Voices of Empowerment

Kuwait

In terms of ICT policy and strategy readiness, Kuwait was ranked as level 2 of 4 (4 being highest) in the United Nations Economic and Social Commission for Western Asia (ESCWA) information society regional survey.[9] This means that Kuwait's ICT policies and strategies 'indicate articulated vision and existence of a national strategy and display a somewhat operational implementation plan and initiative'. ICT infrastructure is also at level 2 of 4, which means that Kuwait is connected to the global Internet backbone, Internet access is on the rise and PC dissemination is also on the rise. Between 2000 and 2005, Internet use in Kuwait increased by 278 percent, jumping from 150,000 users in 2000 to 567,000 users in 2005. Kuwait University was the first university in the Arab world to provide full Internet access to its students for free. A survey of Internet access by Kuwaiti students in 1997 revealed that female students constituted more than 50 percent of Internet users.[10] The Internet is an important part of youth sub-culture in Kuwait, especially for young women as profiled below. In Kuwait, men and women do not mix freely in public, but in cyberspace easy communication across gender lines with little social risk makes the Internet an important space for women to interact with the opposite sex. The ability to cyberdate is one of the main appeals of the Internet to young Kuwaiti women. In fact, the desire to join chatrooms is one of the main forces drawing young women online. It is not uncommon, however, to find that professional women in Kuwait over the age of thirty have no familiarity with computers. Many do not know how to type, and have administrative staff who type and use the computer for them. Given the fact that many professional women are not required by their jobs to use computers, they remain a minority among women users of the Internet; perhaps over time, as more young female Internet users enter the work place, this situation will change.

Examining the Internet practices of Kuwaiti women can give us important insights about IT and paths to empowerment in Western Asia. The following interviews were conducted by the author during 2001 and 2002.

Buthayna[11] is a Kuwaiti college student completing a BA degree. She is twenty years old.

> Interviewer: Why do you think the Internet is so popular among young Kuwaiti women?
>
> Buthayna: Well, I have been told that you have lived for a while in Kuwait, so I would gather you are familiar with the way in which the Kuwaiti society is built. There is a

> somewhat double standard, and there are many gray areas in terms of the two sexes mingling with each other. Therefore I think the most common place for both sexes to mix with each other is through the Internet. Girls, especially, cannot form relationships with boys even as friends in many families in Kuwait, so the Internet is a 'safe' place, I guess, for them to do so. And the fact that the two sides don't know each other, they feel safer to voice their concerns, ideas … without having their reputations ruined or without it affecting their social life.

Buthayna is drawn to the Internet because it provides a neutral ground on which females can interact with males without fear of social consequences. A woman's reputation is something to be carefully guarded in these societies, and interacting too freely and openly with the opposite sex is a sure way to blemish one's social standing as a 'respectable woman'. Men are not subject to the same rules. If they talk with other women, it is the woman who is at risk, not the man. Thus, the Internet, according to Buthayna, is a place for Kuwaiti women in which to overcome this 'double standard'.

> Interviewer: Do you think the Internet has any special significance for Kuwaiti women?
>
> Buthayna: The Internet indeed is different for a woman than it is for a man, in many ways. As I have said earlier, due to the society that we live in, women are still bound by so many (more) rules than men are, even if people in Kuwait are not willing to admit it. Therefore, the Internet makes it easier for a woman to experience much of what she might not be able to experience in real life, even though this may just be virtual. In terms of (doing) research, it is also different, for there are many subjects in our society that are considered taboo, whether sexual or not, so the Internet makes it easier to delve into many worlds, sometimes answering questions that cannot be asked, or just opening new horizons.

Buthayna celebrates the Internet's ability to provide women access to information that may be considered socially or politically sensitive. Women in the region appear eager to enhance their access to information, uncensored by the government or strict social norms which are apparently in place to protect their 'honour and reputations'.

Sabiha[12] is a nineteen-year-old Kuwaiti college student finishing a BA degree. Her testimony is similar in character to Buthayna's. She also stresses that the major impetus behind Internet use among young Kuwaiti women is the desire to communicate with members of the opposite sex. Illustrating the conservative nature of Kuwaiti society, Sabiha finds that there is a difference between chatting online, which is relatively harmless, versus having a relationship with someone online, which she observes 'isn't possible' nor advisable, for reasons explored below.

> Interviewer: Why do you think the Internet is so popular among young Kuwaiti women?
>
> Sabiha: The main reason the Internet is so popular with the Kuwaiti youth is because it's the most effective way for boys and girls to communicate with each other. Mostly they use the Internet to chat with people from the opposite sex because, to them, it is easier

> to communicate with a name and not a face. Very rarely, if ever, do they use the Internet to do any research.
>
> Interviewer: Do you think Internet use has a positive or negative affect on women in Kuwait?
>
> Sabiha: In some ways there is a positive affect on women because they are more able to communicate with guys and it's a way for them to know that guys are not so bad. The bad thing is that some girls try to have relationships with someone online, and that isn't possible. Many guys think this is possible and wind up having something like three or four, if not more, girlfriends online. Then there are the girls who try and do the same thing. Of course this causes the problem that girls wind up not wanting to trust guys and visa versa. So this is a major problem.

Cyberdating, although it is common, is viewed as 'a major problem' by Sabiha. Because there are no face-to-face responsibilities and accountabilities between the parties and no firm commitment to a single partner relationship, online relationships are said to be breaking down the trust between the sexes. Chatting, on the other hand, is viewed by Sabiha as a positive way for girls to understand that guys 'are not so bad'. This perspective is interesting as it implies a degree of female solidarity as well as a gendered separation common in Islamic societies. Women's attitudes towards men in the Islamic world are often conveyed in terms that one might see applied to foreigners. Men are clearly an 'out-group', with strange thoughts, desires and appearance. Only within marriage will these mysteries and this sense of foreignness be breeched. Cyberspace is also a ground for such breeching, and it is possible that providing some data with which to access the mysteries of the opposite sex will transform young people's attitudes towards dating and marriage. At present, parents are considered the best judges of suitability in marriage. Moreover, love, it is said, will grow out of a 'good' union. Until engagement, knowledge of one's future spouse is superficial, and love is something that is understood to grow as the couple takes steps towards marriage. With the Internet, young people are increasingly empowered to explore knowledge of the opposite sex, oftentimes choosing a spouse outside of a parent's influence and often knowing more about their future spouse via chatting than was ever before possible within the confines of society's norms and values, which place great emphasis on keeping men and women separated outside of marriage and family relationships.

When asked if she considers the Internet as holding any special significance for women, Sabiha responds:

> One thing that I see changing is that women try to do research on women's suffrage which is a major issue in Kuwait at the moment. So women try and find a way to convince the government to let women vote, and the Internet is helping them do this.

Sabiha is one of the few women interviewed who saw an overt political importance associated with Internet use. One of the mysteries of the spread and impact of the Internet in Western Asia is why so few citizens choose to use the tool for political purposes. Can and will the Internet serve to promote civil society, women's activism and empowerment, and a retreat of the state in public life, or is the culture of authoritarianism too firmly established at present to allow for such risk taking? As discussed above, the risks can include arrest if the state finds one's 'activism' a threat to security. This issue deserves further study, especially in light of women's networks and processes of democratisation in the region. The section

on collective action later in this paper examines some new trends in women's IT-supported activism in Western Asia, of which an especially powerful instance is the use of IT in women's struggle for full political rights in Kuwait. Sabiha was prescient when she predicted that women in Kuwait would use IT in the future to obtain their full political rights. She was interviewed in 2001, while the IT-enabled political struggles for women's full voting rights in Kuwait occurred in 2005, under the leadership of Rola Dashti.

Saudi Arabia

Unlike Kuwait, Saudi Arabia is ranked in tier 1 of 4 in terms of policy and leadership readiness for the information society. This lowest ranking possible means that Saudi Arabia, unlike many of the other countries in Western Asia, has no clearly articulated policy vision or national strategy for building the information society in the Kingdom, nor are there any clear plans to do so in the near future. This lowest tier ranking puts the Kingdom on par with relatively ICT-impoverished Yemen and Syria in terms of policy and planning. Since the infrastructure factor seems to have significant connection with government vision and policy factor, the factor slowing the progress of the information society in Saudi Arabia is the fact that ICT infrastructure was relatively slow to emerge and spread, with public Internet services not becoming available until 1999. This low penetration is also a result of state policies which made the Internet illegal to use in the Kingdom until the late 1990s. In order to maintain the security of the network and to discourage misuse, all connections to the Internet are routed through a state server located at King Abdul Aziz City for Science and Technology. This connection is managed by the Internet Services Unit (ISU) at the City for Science and Technology. ISU does not service end users. Instead, connectivity is provided to universities and licensed commercial ISPs, who in turn provide service for faculty, staff, government, and commercial users. The Ministry of Information web site provides a list of licensed Internet service providers in the Kingdom, of which there are twenty eight at present. They have provided service for more than 112,000 users in 1999, 490,000 users by 2001, and 1,500,000 by March 2005. In spite of a lack of state leadership preparing the Kingdom for the information society, the phenomenal rapidity with which Internet use is spreading (650 percent growth between 2000 and 2005) suggests that Internet use is an increasingly important aspect of everyday life in the Kingdom.

Data provided by the Ministry of Information surveys reveal that Internet access grows by at least 20 percent annually in the Kingdom. Eighty three percent of Internet users are between the ages of twenty and thirty five. More than 78 percent of all Internet use in Saudi Arabia is by males. The average Internet user uses the Internet for approximately three and a half hours a day. Some users, an estimated 6 percent, go online from one of the two hundred or more Internet cafés in the Kingdom; while as many as 78 percent of Saudi Internet users have access to the Internet at home (this is a high percentage). Carrying on from the above point, does the government actively neglect community access possibilities? Community access in the Gulf is mostly for expatriate workers. In spite of this, access costs are relatively high (sometimes as much as five to ten times the cost of Internet café access in Jordan or Egypt). As of May 2001, Saudi authorities at the ISU were censoring on average 200,000 web sites, most of which were pornographic or contained materials critical of Saudi or Gulf regimes. Forty five percent of all Internet use in the Kingdom takes place from Riyadh, the capital. In terms of use, 93 percent of Internet users surf the web, 72 percent use email, and 32 percent engage in Internet chatting. Fifty six percent of Internet users in Saudi Arabia have bachelor degrees.

The following narrative is provided by Feda',[13] a twenty-year-old college student from a prominent Saudi family.

> Interviewer: How and when did you become an Internet user?
>
> Feda': I learned to use the Internet in the early 1990s (1993-94). I got a computer a few years prior by winning a bet with my father - I was able to grow my hair half way down my back. A representative from the company who did technical support from my father's workplace came to my house after strenuous nagging on my part and explained how to connect (via Bahrain, there was not yet Internet access in Saudi Arabia, so the phone bill was ridiculous!) and use e-mail.

Here we see that a very feminine act contributed to bringing this young woman online: she grew her hair! Long hair is an important manifestation of female beauty; concealing this beauty is one reason for veiling. Most importantly, connectivity was provided by parental consent, and access to technical support from a parent's business. Moreover, the family could afford expensive long distance phone calls to Bahrain, which used to be required when the Internet was officially banned in Saudi Arabia. These aspects of the narrative separate this young woman's experience from the masses of women in the region who are poor, uneducated and lack access to centres of business and political power.

When asked about her use, Feda' observes:

> When I first began using it, I frequented chatrooms and met as many people as I could online. I then discovered that I could also use it for getting information for papers I needed to write in school. I now use it for much of my research papers, to keep connected with my friends and family, and the various consumer products available online.

Her use patterns are typical for wired youth in the region and parallel the narratives provided in the Kuwaiti case. The greatest attraction of the Internet for young women in the Gulf is chatting, second is shopping and third is to obtain information, especially data that might be censored otherwise.

When asked about the impact of the Internet in Saudi Arabia, Feda' notes:

> Because of the nature of the Saudi society, I feel that people have abused the openness of chatrooms. I think that it has done wonders for some, where they have even met their husbands online. And for others, like a friend of mine I was talking to earlier today, it has ruined their lives. This girl got in a fight with a colleague of hers, and apparently the colleague spread the girl's phone number in chatrooms. She claims she got phone calls and obscene messages from all around the world, which led to her to get in trouble with her family, and she eventually changed all of her phone numbers. I also think that many women are also discovering the amount of useful information that is available online, and many women are using it for medical information, as well as shopping.

Feda's narrative once again highlights a common theme: that the Internet can have both a positive and a negative impact on women's lives and society in general in Western Asia. The technology promotes the

unprecedented flow of uncensored information: even if the Internet is censored in Saudi, Feda' notes in other conversations that it is really impossible to filter everything, and there are companies which offer software to break through firewalls that is commonly available in the Kingdom.[14] The Internet promotes young people's freedom of movement and interaction across gender lines. In this case, Feda' explains that the Internet can also be used to harm a young woman's 'reputation', creating a considerable negative impact on her live. Moreover, Feda' explains that she thinks some people in Saudi Arabia abuse the freedoms provided by chatrooms and the Internet. Her explanation is the nature of 'Saudi society', meaning that given the restrictiveness of the culture, when people are awarded freedoms like those available via the Internet, some are unable to control themselves or to conduct themselves properly. In the same way that hunger can interrupt table etiquette in the case of a starving child that is given access to a lavish buffet, Internet freedoms can bring out unaccustomed behaviours, including what would be considered 'misuse' of the Internet given Saudi social codes. Joshua Teitelbaum has analysed uses of the Internet in Saudi Arabia and summarises the ambivalence of local attitudes towards the technology via a quote by the Minister of the Interior, Prince Nayef bin Abdal-Aziz. Prince Nayef was addressing a gathering of imams from local mosques when he observed, 'the Internet, while containing much negative material, could be used as a tool to inform the world about Islam in Saudi Arabia' (Teitelbaum 2002, 7).

When asked about Internet use among women in Saudi Arabia, Feda' notes:

> I think that less than half (of the female population in Saudi Arabia) uses the Internet. Those who do are mainly the elite, but they are beginning to introduce the Internet to students in private schools (which could widen access).

We know from figures provided by the Ministry of Information that female Internet users constitute just over 20 percent of all Internet users in Saudi Arabia. In terms of what percentage of women have access, we have no figures, but Feda' highlights a common pattern in Western Asia, that users tend to be part of the elite and tend to have gone to private schools (this is changing in Jordan, as analysed below, with more rural and urban poor women gaining IT access and training in community knowledge stations).

When asked about the potential long term effects of the Internet on Saudi society and its relationship with the global community, Feda' optimistically observes:

> I believe that having a portal to the world is extremely necessary in the world we live in today. I do believe that being able to access information from all around the world does help build tolerance and understanding. I also believe that it can be harmful, not only because of the instance I mentioned earlier, but because it is still very difficult to control the information that is available online, and any charismatic psychos are able to mislead the weak into flying airplanes into buildings. I hope that by seeing that an open society online functions on a normal level, which hopefully it can prove to do, Saudis will begin to consider transforming their closed and very limited social activities. I think that interaction between the sexes, especially in the workplace, is inevitable in the future, and I think that the Internet may be the only means to proving that decent and respectable interaction is possible. Hopefully the good will overcome the evil that is spread online, and people can see that the glass really is half full.

Feda' refers above to the Al-Qaeda movement, which has Saudi roots and has made liberal-minded Saudis eager to illustrate to the world that extremist views are not the norm in the Kingdom. Feda' also celebrates the Internet's ability to provide incentive for Saudi society to be less insulated from the world. She hopes that exchanges of communication via wired technologies can help to promote global understanding.

Bahrain

The information society in Bahrain shares many features with that in Kuwait and Saudi Arabia. Bahrain, like Kuwait, is in the second tier of information society readiness in terms of policy and leadership preparation. In terms of ICT infrastructure, Bahrain, Saudi Arabia and Kuwait are all second tier countries, meaning that ICT infrastructure is experiencing a rapid expansion, but still the countries' ICT sectors are regulated and state controlled to the degree that they are lagging behind Western Countries in terms of access and diffusion. The Internet was made publicly available in Bahrain beginning in 1995. From 2000 to 2005, Internet access grew by 389 percent, but there are still just under 200,000 users and Bahrain still has a single ISP, Bahrain Telecommunications Company or Batelco, the state's majority-owned telecommunications firm.[15] Internet access was provided initially to serve the business community. At the same time, access is closely monitored by the state, for which the explanation given is the need to ensure that connectivity does not undermine state security.

The government does block access to some sites. For example, the Bahrani Freedom Movement web site (www.vob.org) was blocked by Batelco because it was considered by the government to incite sectarianism. In 1997, Sayyid Alawi Sayyid Sharaf, a Batelco engineer, was arrested and detained for two years without charges for allegedly using the Internet to transmit information to political opposition groups (HRW 2001, 2). In spite of some evidence of censorship and monitoring, the Internet is a powerful force in business, education and entertainment in Bahrain. Bahrain University, like Kuwait University, offers all of its students free email accounts and access to the World Wide Web. An Information Technology Centre provides access and training at Bahrain University for students, faculty and staff. Incorporation of computers and Internet use into instructional objectives is encouraged. Even in government high schools, there is a commerce track which requires training in Internet use and content development as well as other forms of IT literacy for business. Since the government continues to monopolise the ISP market in Bahrain, the cost of access is unlikely to drop until competition is allowed. Among those who are active Internet users, the most popular portals are www.inet.com.bh, www.accessgcc.com, www.zawya.com, and www.tradearabia.com.[16] While we do not have figures with which to understand women's contributions to the information society in Bahrain, the following narratives suggest that women do participate in the information society, and their numbers are increasing.

Haya[17] is a government employee in her mid-twenties. When asked about the characteristics of Internet use in Bahrain, Haya replies:

> Internet use in Bahrain is especially widespread. Most business women here are Internet savvy, as are many housewives and self-employed women. Internet in the workplace is an integral part of work (email, research), so for business purposes, it is widely used. Chatting is also hugely popular. From first-hand observation, the age range of eleven to thirty years, I would say, likes to chat on the net.

From Haya's observations, we can conclude that Internet usage in Bahrain closely parallels the Kuwaiti and Saudi cases in terms of young people's use of the Internet for chatting. Moreover, her observation that Internet use is common in the workplace resonates with the idea that getting online is also often associated with work-related demands. What is distinct about Haya's observation is her comment that Internet use in Bahrain is widespread. Figures cited in the introduction to this paper indicate that of all the cases considered in this analysis, Bahrain has one of the highest Internet penetration rates per capita, with nearly 30 percent of the population having access.

When asked about the possible impact of the Internet in Bahrain, Haya notes:

> Socially, it is also interesting that there seems to be an undocumented rise in the number of marriages that start off as Internet romances. I think this is especially true in the Gulf, and probably mainly for twentysomethings, who don't have the opportunity to date all that much. Email is also used quite a bit as a chat up method- it isn't uncommon to get random emails from strangers telling you that they have seen you somewhere and would like to get to know you (again, over email!!). Instant messaging is also hugely popular.

These observations resonate with those made in Kuwait and Saudi Arabia, that the Internet is a common forum for cyberdating, especially for the young. Most of the observers seem to find this 'interesting' or 'curious' or 'liberating' rather than to be concerned about the undermining of more patriarchally and matriarchally controlled forms of courtship, common in the region.

When asked about women's access to the Internet in particular, Haya states:

> I think that what started off as a rich woman's technology is now becoming increasingly mainstreamed. I know that in Bahrain, a lot of schools are improving their connectivity - some at a faster rate than others, but we are getting there.

Bahrain's approach, according to Haya's observations, is to improve connectivity and IT training by providing for it at government schools. As a relatively wealthy country with a relatively small population and relatively high literacy rates, Bahrain can realise positive results over a short period of time, with the right kind of enabling environment provided by the state.

In terms of the impact of the Internet in her own life, Haya comments:

> For me personally, the Internet has just sped things up. Whether its work related or for pleasure, my ability to stay in touch with people, send and receive information, obtain information over the web, keep in touch with goings-on at my alma mater, etc., the speed and ease of access to all of these have made the desire to maintain connections with people easier to realise.

Again we see that for women who do have access to the Internet, their use fits a global pattern, in that Internet is making life faster paced, more connected globally, and more information driven.

Fatima[18] is a professional woman in her mid-twenties and a friend of Haya's. In this interview, Fatima decided to contextualise her narrative of the Internet's use and impact in Bahrain in her own personal experiences. She explains:

> Speaking only for myself, I use the Internet everyday at all times and for all purposes. I rarely chat. I book plane tickets and hotels, buy groceries, use it for work related research, obtain directions, book movie tickets, buy theater tickets, read news ... . (My) uses are many and varied. I have an ADSL line so I can use it 24/7.

Fatima's use patterns fit those of other mid-career professionals - in Western Asia, and abroad for that matter. She uses the technology 'everyday ... and for all purposes' which is testimony to the advanced development of Internet culture in Bahrain. We see through her narrative that e-commerce is not only possible, but practical in Bahrain, where one can buy groceries, movie and theatre tickets and airline tickets online. In spite of her own use patterns, Fatima notes below that e-commerce still has much room for growth in Bahrain, as most companies don't use their web sites to transact business, but rather as a form of advertising. Fatima's narrative also suggests that some of the speed and ease of her use of the Internet stems from her regular access to an ADSL line, which gives her reliable and quick home access. Wide access to ADSL also distinguishes the Bahraini case. In most West Asian nations, including Oman, Jordan, Yemen, Iraq, Saudi Arabia, Syria, Jordan and Lebanon, high speed Internet connections are scarce, and this has been a significant factor in slowing the emergence of an information society. E-governance, e-commerce, and e-education all require high speed bandwidth to be widely available to run smoothly and efficiently.

In terms of the broader use and impact of the Internet in Bahrain, Fatima observes:

> My thoughts on Internet usage are that it is, probably, currently a phenomenon of the wealthy rather than the poor, for the following reasons:
>
> - The high transaction costs associated with acquiring a computer/getting and paying for an Internet phone line - most Gulf countries do not have freely accessible and cheap/ free broadband telephone networks and computer penetration, and literacy tends to be higher among the more educated.
> - The wealthier tend to have more ease with English (which is vital for Internet use); even those who can read Arabic may not know how to type Arabic quickly, which would make computer usage more difficult.
> - Gulf countries tend to censor traditional media, so to the extent that the usage is to obtain news, users would tend to be people who are politicised and/or are interested in obtaining several different points of view; I don't know how that cuts in terms of usage.
> - There are currently not many local Internet commerce opportunities (i.e., businesses treat their web pages as an advertisement, not as a medium to transact business), so I assume from that that the utility of the Internet is likewise somewhat curtailed.

Fatima's observations regarding barriers to more widespread Internet use in the Gulf and beyond parallel those offered by others in the region: information society transitions are inhibited by the cost of connectivity, education and literacy factors, and lack of public interest or demand except among isolated pockets of society - the rich, the young and rich, the politically active and the urban professionals. In its present state, even in Bahrain, connectivity is inhibited by all of the factors which account for the digital divide

world wide. If we take Fatima's and Haya's narratives together, they present a clear snap shot, indicating that for the elite, Internet use is widespread. For other social classes, its use is limited.

Jordan

The Jordanian case offers the most promising example of how a country with relatively few natural resources can build a successful information society, not just in the capital but throughout the country. With the support of King Abdullah II, the information technology community and policy makers in Jordan developed the REACH initiative, the implementation of which has distinguished Jordan as among the most information society ready countries in the region. Jordan ranks on par with the United Arab Emirates in terms of leadership, policies and vision, and in terms of legal and regulatory readiness for the information society. Jordan is a second tier country, ranking on par with Kuwait and Saudi Arabia, in terms of ICT infrastructure. For example, connectivity to the Internet has grown over the last five years at a rate of more than 250 percent. Several organisations are responsible for promoting the diffusion and use of IT in Jordan, including the National Information Centre, which helps to support use of IT in public sector organisations and projects, and the Ministry of Information and Communication Technology, which spearheads such high profile projects as the Jordan Education Initiative, the e-Village project, and the Jordan e-Government initiative. The promotion of IT and sustainable livelihoods in the private sector is supported by the Information Technology Association of Jordan. The United Nations Development Fund for Women (UNIFEM) regional headquarters in Jordan is also playing a significant role in assessing women's access to and use of IT in Western Asia by making, in the words of one local observer, 'ICT policies and forums more gender sensitive' (Abdel Khaleq 2004, 5). King Abdullah II has also helped to spread IT use and access in Jordan through the Knowledge Stations project, which has established one hundred information technology access and training centres throughout the Kingdom in poor and rural communities. The ubiquity of Internet cafés also promotes community access. Jordan is in the 'Guinness Book of World Records' for having the highest concentration of Internet cafés in the world. In Irbid, on University Avenue, across from Yarmouk University, more than one hundred and fifty Internet cafés exist within an expanse of a few city blocks. The same phenomenon can be observed on University Avenue in Amman, across the street from the University of Jordan, where more than seventy five Internet cafés exist within a few city blocks. Women form a majority of Internet users in cafés and community access points in Jordan (Wheeler 2005b, 2006, forthcoming).

In order to more fully grasp women's role in the emerging information society, this section draws on data gathered in 2004-2005 to profile the narratives from Jordanian women who participated in the NetCorps Jordan project. NetCorps Jordan is a project launched in 2002 via a partnership with the Digital Opportunity Trust of Canada (DOT) and the Zein al-Sharaf Institute for International Development. The project attempts to use information technology for development at the community and national level by training interns in IT and sustainable livelihoods and placing such interns in their local community knowledge stations throughout the country. The interns are trained to raise awareness of ICT in their local communities by offering training courses in ICT and sustainable livelihoods. The NetCorps Jordan programme was funded by the Digital Opportunity Trust of Canada, the Jordanian Ministry of Information and Communication Technology (MOICT) and the Achieving Market-Friendly Initiatives and Results programme (AMIR) which is funded by the United States Agency for International Development (USAID).

All of these organisations saw great potential in the NetCorps model for helping Jordanians to spread IT literacy, sustainable livelihoods and the knowledge economy. Narratives of the participants suggest that the NetCorps Jordan project was in particular a path to ICT-enabled empowerment for Jordanian women.

When explaining why she enrolled in the NetCorps Jordan programme, Maha, a woman aged forty, observes:

> The reason I registered for this course was to learn computer skills, which was a challenge for me. I was always asking my son, who is a tenth grader, questions about computers and their uses, and I used to have some information but it was not enough. I had to work more on that. My son used to answer me by telling me he does not have time, he was busy, and he used to trivialise my questions, which actually motivated me to register for this course, to know more about computers and to learn on my own without his help. My goal was to better supervise his usage of the computer, as a mother. Moreover, the nature of my work requires me to have computer skills for report writing and indexing. This also constituted a motivation, to learn something my work expected from me, so I would not need to keep asking people, especially people that are not always free or there to guide or help me. Ultimately, I wanted to develop myself, to not feel ignorant over something which all people around the world know how to use, computers and (the) Internet.

Often 'IT for development' projects focus upon empowerment via enabling women's access to public centres of power - the knowledge economy, parliament, policy making communities, etc. Maha's narrative suggests that IT can also be a path to empowerment even for more traditional women who view IT training as a path towards more effective parenting. In Maha's case, her IT training in the knowledge stations via the NetCorps Jordan project also empowered her by making her more effective at work.

Again highlighting the role that IT can play in advancing the interests of Jordanian women, twenty-three-year-old NetCorps intern Noor observes the following when assessing her most important achievements as a NetCorps volunteer:

> One of my clients was a thirty-nine-year-old woman with a seventh grade education. She knew nothing of computers before taking my NetCorps training session. Her husband has an electric and tool shop, while she is a dressmaker. After she took the power point course, she did a slide show of pictures promoting her husband's business and displayed it on a screen in his shop. Now when a client enters the shop, he sees the screen and the pictures as well as the actual products. I really liked what she did and I felt that being able to influence change in her life was an achievement for me. Also, since she is a tailor, she started searching on the Internet for different dress styles that are the latest fashion, in order to benefit when she is making clothes for people.

Noor's narrative is important because it highlights the fact that even women with limited education can benefit from IT training. Noor's student used her IT skills to improve the quality of her designs as a tailor. Likewise, Noor's student shared her IT skills with her husband by using IT for marketing in his electric and tool shop.

The link between IT and empowerment featured prominently in interviews with NetCorps participants. The following list highlights some of the most important IT-enabled paths towards empowerment for women participants who formed the majority of NetCorps interns and clients:

1. Rimah, twenty five, from Jarash, states that her NetCorps training 'widened her vision and made her more strategic in her thinking, made her decide she did not want to be a housewife, led to more volunteer experiences and ultimately to employment'. She now works at a handicapped rehabilitation centre in Jarash.

2. Inas, twenty one, from Amman, gained new employment opportunities which enabled her to find a profession where she could fulfil her dreams of using IT to help people achieve their full potential. Via NetCorps, Inas gained complete financial independence and gained deep respect from her father when she was invited to deliver a speech in front of King Abdullah II (Young Entrepreneur of the Year Award).

3. Niveen, twenty four, states that 'NetCorps allowed us to recognise things in ourselves that we might not have known. Things which we might actually make good use of, like I did not know that I have the ability to prepare and train people. I never thought in my whole life that I would become a teacher. I didn't know that I had the energy to deal with children. I also made new friends, and this is a major step, because I do not get along with people easily. I also became more social and active in family visits'.

4. Hanadi, twenty four, observes that 'NetCorps taught me how to be more organised, how to be a leader and more creative. I became pickier about my future career. I aim to improve myself more. I know after the NetCorps experience that I love to work'.

5. Al'a, twenty four, from Amman, notes, 'I consider NetCorps Jordan as an introduction phase for professional life. What I have learned and practised in NetCorps is what I am doing now on the job. I now work with the Fredrisch Norman Foundation in a community development programme, working with local communities at the household level. NetCorps prepared me for this career'.

6. Maha, forty, from Sweleh (and profiled above), says that NetCorps helped her earn more respect from her children and encouraged a family learning tradition (her husband signed up for a distance learning course following her NetCorps experience). She also gained skills that helped her at work, including more professional presentation skills. Her knowledge of power point, for example, led to her being invited to address an international conference on her organisation's behalf.

7. Sayada, fifty two, from Amman, gained more independent mastery of technology, expanding and strengthening family and friends networks with enhanced IT use.

8. Ibtisam, thirty, from Ajloun, was inspired by her NetCorps training to volunteer for the Al Arz Cultural Centre where she helps with the organisation's word processing needs. She hopes that her training and volunteering will lead to employment in the near future.

9. Safa, thirty, from Zarqa, notes that 'her life has completely changed after the training'. She was able to supplement her income by finding a job doing freelance typing and editing for students and the

general public. She placed ads for her services at bookshops near the University of Jordan. Word of mouth is spreading news of her services, and she is earning good money now. One of her client's father works at a Middle East research centre, and he asked her to type and translate documents from Hebrew to Arabic, further augmenting her income.

10. Basma, forty five, from Amman, explains that she used her computer skills, gained during the 'IT and sustainable livelihoods' NetCorps training, to enhance her teaching at Sunday School and during her Tuesday women's meeting at the church. She notes, 'I also got a part time job because of my computer skills. I was volunteering for four years at this place, the Daily Arabic Women Office, but now I am actually paid for my work. I used to send them hand written articles, but now I type my own articles and add photos and send it to them by email. Now they just have to post it on the website magazine. Because I save them time and the quality of my articles is better, they offered me a part time job. I was also selected as one of four in the Middle East and North Africa to participate in a distance learning seminar called Folk Bildung, a Swedish educational institute. I will get a certificate at the end of the course. They accepted me in part because of my newly acquired IT skills. Without NetCorps, none of this would have happened. I also save lots of money on books, newspapers and educational materials, because now I use the Internet for reading and research'.

Ownership: Can Women Shape the IT Revolution in Western Asia?

In each country in Western Asia, signs of women's ownership of the IT revolution can be grasped. For example, in Jordan, Doha Abdel-Khaleq is a Managing Partner at ESKADENIA Software Solutions; in Egypt, Magda Ismael was head of the Ministry of Information and Communication Technology's E.Commerce initiative; in Kuwait, women are prominent members of the IT community as trainers and business owners; in Bahrain, women are visible in the management structure of BATELCO. In spite of this visibility, the majority of women in Western Asia are far from such positions of power and ownership in the IT arena. A recent study by Dr. Zeinab Karake Shalhoub, Associate Dean of the American University of Sharja, points out that in the United Arab Emirates - where literacy rates are high, Internet access rates are high, and a female-only IT University exists to train women for the information economy (Zayed University) - women still constitute less than 12 percent of those trained for technology-related fields. Dr. Shalhoub (undated), herself a woman, gives several explanations which are representative of the general problems women face throughout IT sectors in Western Asia:

1. A 'glass ceiling' and old boys' network keep women from advancing in the IT professions. A lack of advancement for women means a lack of incentive for other women to join the IT professions.

2. The intense work and time demands of the IT field are incompatible with the social and family demands placed on women throughout Western Asia. If women have to choose career or family, they tend to place family higher and thus do not enter the IT profession.

3. Self doubt and timidity among women in Western Asia make them risk averse and thus discourage them from taking the risks to enter the IT field.

These observations are more representative of the lives of elite women in Western Asia who may be struggling to break into all-male domains. Among other classes, women's access to and use of IT and

training opportunities are limited by many other contextual and cultural constraints on their participation in public life and educational opportunities. Participants in the NetCorps Jordan project identified the following constraints on IT empowerment for rural and/or poor women in Jordan:

1. Maha observed that traditions which concern a woman's honour, her safety and not 'courting trouble' by working late hours are a barrier to women's full participation in the work force (in the IT industry and beyond).

2. Majeda claimed that community scrutiny is a barrier to women's advancement. She stated that 'society is small and closed, so everyone knows everyone else's business. People gossip and this can harm a woman's reputation. Complications happen when women do actions against cultural norms'.

3. In terms of IT education and empowerment, Fayza explained, 'I would love to continue my education, even though I am older now … but my dreams need to be within the limits acceptable for the community. People talk, and this could affect our reputation'.

4. Stereotypes and local cultural identities also play a role in women's empowerment or lack thereof. Along these lines, Hakmeh observed, 'Women's roles are usually associated with the kitchen'!

5. Again, stressing the role that stereotypes and cultural constraints play on women's empowerment in Western Asia, Liana observed, 'Society perceives that women should not work but rather stay at home and take care of the house management, children and husband'.

6. Safa added to Liana's observations when she stated, 'The women in my neighbourhood face challenges, and their biggest challenge is their husbands: husbands treat them as slaves, their wives have to spend their life cooking, washing clothes and taking care of children'.

7. Rimah had a different opinion. She stated that women's advancement is limited by women themselves. She stated, 'The problem is within women themselves, because when a woman wants something she can achieve it. A woman is able to accomplish whatever she puts her mind to. Will and determination are the key'.

Traditions, lack of will or determination, a non-supportive family or husband, too many domestic responsibilities, communal pressures, lack of education, or all of these factors together combine to limit women's ownership of the IT revolution in Western Asia. Add to these factors the issues of women's illiteracy and poverty and it is easy to understand why women face potential marginalisation from emerging information societies.

Collective Action and Institutional Transformation: Using IT to Reshape Women's Lives

In spite of the challenges women face in becoming IT literate, in advancing in the IT professions, and in reshaping their lives with IT, important signs of women's empowerment via IT do exist in Western Asia. For example, the NetCorps Jordan programme as profiled above illustrates clear links between women's IT training and empowerment.

Moving beyond this case study, we can see throughout Western Asia examples of women using IT to create paths towards empowerment. One of the most telling examples of this process occurred in the spring of 2005, when women in Kuwait used cell phone technology and the Internet to mobilise protesters and public opinion in favour of granting women full political rights in Kuwait. Ultimately their IT-enabled campaign helped to persuade the Kuwaiti parliament to extend full political rights to women. One of the activists, Rola Dashti, hopes to run for office in the next election. During the campaign, Dashti was often the target of critical text messages. In one such message, circulated by the Islamist camp, her ancestors' Persian and Lebanese heritage were used as a form of insult, to call into question her identity as a Kuwaiti (Coll 2005, 1). Throughout Western Asia, especially in the oil rich Gulf but also in the recent protests against Syrian occupation of Lebanon, women (and men) are using text messaging 'to mobilise followers, to dodge authorities and swarm quickly to protest sites' (Coll 2005, 1). Electronic channels of participation expand the realm of women's activism. For example, in Kuwait, the suffragists like Dashti note that 'Kuwaiti women organising protests for voting rights said that they had been more effective during their 2005 campaign than during their last serious effort five years ago because text messaging had allowed them to call younger protesters out of schools and into the streets' (Coll 2005, 2). Similarly, in March 2005, the Lebanese used text messaging to encourage friends to attend demonstrations. One example of such a message read, 'This is the last card they are playing, and we are moving faster to freedom - no one should stay home Monday - please forward' (Mitchell 2005, 1). Using IT to organise and coordinate demonstrators resulted in hundreds of thousands protesters storming the streets of Beirut. With such mass demonstrations and the flow of such images across borders and global communities, processes of empowerment are encouraged as 'messages of protest and hope are transmitted from one country to another' (Mitchell 2005, 1).

Conclusion

This study of women and IT in Western Asia suggests that IT offers women in the region access to what they may not have in the real world: opportunities for self-expression; abilities to interact with people from different cultural, political and social backgrounds; and opportunities to network, to improve their job prospects or to find support for issues that trouble them. IT enables West Asian women to recreate social space as they want it, with enhanced freedoms of expression, expanded choices for social interaction and opportunities for experiencing people and places that are beyond their reach in the real world. For those online, experiencing new freedoms has spillover effects in their day to day lives, whether it's just making them more confident and better able to express themselves or less isolated when they refuse to submit to strict social sanctions on their character. If we take these micro victories to the macro level, we can argue that IT policy definition and implementation can be more gender aware and effective in Western Asia if it takes into account the various patterns of women's empowerment illustrated above - from IT-enabled village women who use their new skills to better teach their children to be computer literate (Jordan), to more elite women who leverage IT in their quest for full political enfranchisement (Kuwait).

Socio-Cultural Context of IT Empowerment: The Role of the State

As illustrated above, although the state's IT policy is an absolutely crucial piece in solving the regional information society puzzle, it is a necessary but not sufficient variable in enhancing women's access to the

technological infrastructure once it is established. At this stage, contextual variables like social and cultural norms regarding women's status, more than the state, help to shape women's IT experiences. If a husband or male relative does not want a wife or daughter or sister to have access to information technology (hardware and/or training), then it is local patriarchies rather than the state that ultimately keep women from participating in the information age. If the price for becoming an active participant in the IT world is a woman's honour, then the cost may be too high for most to risk. In the NetCorps Jordan study, 100 percent of the women interviewed stated that their ability to participate in the programme was facilitated by a supportive spouse and/or son. With male family support, women could overcome communal gossip which took aim at their reputations in an attempt to correct a breech of local communal norms and values. The state can build community access points; it cannot guarantee that society will allow women access, especially in towns and villages far from the capital city. There are some who will orient their behaviour in line with the policies of progressive governments, and it is these individuals who will be swayed by public information campaigns about the importance of computer literacy for all citizens, including women. In the NetCorps Jordan study, some participants cited King Abdullah's wish that all Jordanians should be computer literate as a reason for joining the programme. So, the state can have an effect on spreading the information society, even if it remains difficult to change local cultural perceptions of women's ideal role within such transformations. Some strategies which the state can pursue to enhance the place of women in the information society include:

1. Reducing the cost of PCs by removing tariffs on imports and, better yet, by developing local computer production/assembly capabilities, which also lowers costs. Some governments, like Egypt, have also introduced low interest loans for Egyptian families to purchase a PC through their 'PC for Every Home' programme.

2. Expanding IT training programmes to go into homes at the village level so that women will not have to face what may be considered a public stigma of attending classes in the community (often with male trainers).

3. Expanding the number of female IT trainers so that women do not have to learn computing and other IT skills from men (which can attract social sanction).

Context Shapes Method and Outcome of IT Empowerment: From Micro Processes to Macro Results

It is clear from this study and the other work done by the author on IT and gender in Western Asia that context plays a significant role in shaping women's IT experiences. For example, women who grow up in regional capital cities, who are moderately to well educated, who are employed in professional fields, have IT existences which are part of a global pattern - IT is a fundamental part of their everyday life, from e-commerce to e-governance to email and telecommuting. For these women it is almost as if life without IT is a life that cannot function normally. We especially see such patterns in the IT narratives provided by West Asian women in Bahrain, Kuwait and Saudi Arabia. Unfortunately, these cosmopolitan cyberelites constitute a small minority of West Asian women. The majority of women live life in a different set of circumstances. Many have less than a high school education, are functionally illiterate (more common in Egypt and other parts of North Africa than in Jordan and the Gulf, with the exception of Yemen and

interior Oman), were married young, have on average three children or more, don't work outside of the home, and are discouraged by their neighbours, their husbands and sons from advancing their education, including learning IT skills. These women make up the bulk of female West Asian society. It is these women who need the most attention when states expand the boundaries of the information society.

Some policy strategies for softening the effect of contextual variables on non-elite women's IT lives include the following:

1. Enhancing public information campaigns which stress the value of IT for strengthening family ties (via email) and better preparing younger generations for the knowledge economy as well as the importance of computer literacy for accessing e-government and e-education programmes. These public information campaigns should be mediated by leaders with authority within local communities.
2. Creating networks of women teaching women IT. These networks will be most effective if trainers are drawn from within local communities. A household-women-to-household-women network will be most effective in conservative communities.
3. Linking IT training with employment opportunities and other sustainable livelihood strategies will help provide incentive for training and incorporating IT into households at the village level.
4. Developing a series of micro finance loans so that women can put ideas for IT-enabled sustainable livelihood projects into action without risking already limited household funds. Such funds could be used to purchase a computer, to buy monthly Internet connectivity or to expand or create a home business. Many women involved in the NetCorps Jordan project stated that they gained from the Internet valuable information with which to enhance or create a business, including ideas for hair styling, access to the latest fashion trends (especially important for seamstresses) and access to networks through which to market handicrafts and homemade foods/baked goods.
5. Targeted education strategies for gender sensitisation of men, so that changes in women's lives and roles can be better accepted and discussed within local communities and thus will be more likely to take root. Such training sessions should be endorsed by local leaders respected within the community.

Ownership: Overcoming a Barrier to Women's IT-enabled Advancement

It is clear that women will not own the information revolution until they become more active participants within it. The methods for expanding women's participation include increasing the number of women who work outside of the home and reducing the price of IT so that more families can purchase PC's and other high tech tools, thus giving women who do not work wider access. Also important to widening women's role in the information society is providing gender sensitive forms of IT training. Also key to women's advancement in the IT economy is enabling more women to break through the 'glass ceiling' in these emerging markets.

Some policy steps to increase women's ownership of the IT revolution in Western Asia, in addition to those already outlined above include:

1. The implementation of female targeted IT industry internships through which women can access positions of leadership within this emerging field.

2. The creation of female targeted IT management training seminars linked with entry into leadership roles within the information economy.

3. A government/private sector supported venture capital fund to support women-owned IT businesses or businesses with an employee base of 50 percent female staff, including equal representation in corporate and upper level management positions.

Collective Action and Institutional Transformation: The High Profile Signs of Women's IT-enabled Empowerment

For the majority of West Asian women, the personal costs of being an activist for gender related change are too high to take such risks. Once again, those women who do leverage IT in their struggle for equitable social change as discussed above are part of an elite minority. Although the results of such activism make headlines, the roots of such activism do not spread far and wide within West Asian societies. They are instead the legacy of a handful of well educated, well placed elite women armed with IT. IT enhances their public voice and extends their global reach in their quest for change. The narratives above suggest that the anonymity of cyberspace is broadening the scope of women who are experimenting online in terms of expressing their opinions, debating political and social issues, and taking risks that would too dangerous to pursue in real life. One of the legacy effects of the information age is that a growing contingent of women may be enabled by IT in overcoming the risks to their reputations that activism can bring. Cyberactivism plays a role in change and, according to the narratives above, it is not considered by West Asian women as being as 'risky' as directly acting in the public sphere.

It is the bravery and boldness of IT-enabled cyber chatters, as much as it is the growing chain of IT literate village women, that hold the real keys to hope in this region. Each woman who takes information technology into her own hands, fashioning it to fit her contextual circumstances, makes a step towards personal and communal growth; it is she who illustrates the clear links between IT and empowerment. Women, leveraging IT to break through the norms which constrain them, provide the keys to the IT revolution budding and blooming in Western Asia.

Endnotes

1 See, for example, Wheeler (2001, 2004, 2005b).

2 The interviews upon which this research is based were conducted in Arabic by two Jordanian female research assistants in 2004 and 2005. Part of the research was supported by the Digital Opportunity Trust of Canada.

3 Interview with NetCorps Jordan intern, 10 January 2005.

4 Interview with NetCorps Jordan intern, 15 December 2004.

5 Interview with NetCorps Jordan participant, 15 December 2004.

6 When I met with a group of Moroccan journalists and intellectuals during a lecture tour in Rabat and Fez in 1997, several of the participants said that they intended to resist the information age because it was a form of electronic colonialism. For more on this view, see Mboka (2003).

7 In some cases, IT acts to enhance traditional roles, such as in the case where a woman desires IT training in order to be a better mother, more educated in regulating a child's IT use.

8 Interview with Hassan (a pseudonym), Washington, D.C., March 2006.

9 http://www.escwa.org.lb/information/publications/edit/upload/ictd-05-1.pdf

10 Survey conducted by Seif Abbas, at the time Professor of Political Science at Kuwait University, and used with permission. For more on women's Internet use in Kuwait see, Wheeler (2005a, 105-32).

11 Interview, 29 October 2001.

12 Interview, 30 November 2001.

13 Interview, December 2002.

14 For more on censorship of the web in the Arab World, see Goldstein (1999).

15 http://www.batelco.com.bh

16 Email correspondence with a Batelco employee, 30 March 2002.

17 Interview, 15 April 2002.

18 Interview, 10 April 2002.

References

–. 2002. Queen launches Arab Women's Summit. *Jordan Times*, November 5.

Abdel-Khaleq, Doha. 2004. When Jordan UNIFEM speaks up. Packet: Quarterly Update on Jordan's ICT Sector 7.

Afkhami, Mahnaz and Erika Friedl. 1997. Introduction. In *Muslim women and the politics of participation: Implementing the Beijing Platform*, ed. Mahnaz Afkhami and Erika Friedl. Syracuse: Syracuse University Press.

Coll, Steve. 2005. In the Gulf, Dissidence goes digital. *Washington Post*, March 20.

Economic and Social Commission for Western Asia/Regional Profile of the Information Society in Western Asia.

Goldstein, Eric. 1999. The Internet in the Middle East and North Africa: Free expression and censorship.

Hafkin, Nancy. 2003. Some thoughts on gender and telecommunications/ICT statistics and indicators. Paper presented at the ITU World Telecommunications/ICT Indicators Meeting, 15-17 January, in Geneva, Switzerland.

Human Rights Watch. 2001. The Internet in the Middle East and North Africa.

Mboka, Abu Karim. 2003. Virtual imperialism and colonialism: An analysis of globalisation. MA diss., Arizona State University.

Mitchell, Andrea. 2005. Technology fuels democracy in the Middle East: Text messages, satellite TV spread ferment. http://msnbc.msn.com/id/7141338?print/1/displaymode/1098

Sakr, Naomi. 2004. *Women and media in the Middle East: Power through self-expression*. London: IB Tauris.

Shalhoub, Zeinab Karake. Women and ICT: Challenges facing UAE Women. Unpublished manuscript.

Spender, Dale. 1995. *Nattering on the Net: Women, Power and Cyberspace*. Toronto: Garamond.

Teitelbaum, Joshua. 2002. Dueling for Da'wa: State vs. society on the Saudi Internet. *Middle East Journal*, 56(2), 222-39.

United Nations Development Programme. 2002. *Arab Human Development Report 2002*. Oxford: Oxford University Press.

Wheeler, Deborah L. 2001. New technologies, old culture: A look at women, gender and the Internet in Kuwait. In *Culture, technology and communication: Towards an intercultural global village*, ed. Charles Ess and Fay Sudweeks. Albany: State University of New York Press.

Wheeler, Deborah L. 2004. Blessings and curses: Women and the Internet in the Arab World**.** In *Women and the media in the Middle East: Power through self-expression*, ed. Naomi Sakr. London: IB Tauris.

Wheeler, Deborah L. 2005a. *The Internet in the Middle East: Global expectations/local imaginations in Kuwait*. Albany: State University of New York Press.

Wheeler, Deborah L. 2005b. Gender matters in the Internet age: Voices from the Middle East. In *Technology in a multicultural and global Society*, ed. May Thorseth and Charles Ess. Trondheim: Program for Applied Ethics, Norwegian University of Science and Technology.

Wheeler, Deborah L. 2006. Women, IT and empowerment in the Arab world: Lessons from Internet cafés and beyond. Paper presented at the Gender and ICTs Workshop, Sam Nunn school of International Affairs, Georgia Tech, 28 March, in Atlanta, USA.

Wheeler, Deborah L. Forthcoming. Gender sensitivity and the drive for IT: Lessons from the NetCorps Jordan Project. *Ethics in Information Technology*, 8(3), 131-42.