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### Women's ICT Sector Employment in Developing Countries: *Dualism of Rhetoric vs. Reality in the Case of Sri Lanka*

SHARON MORGAN

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University of Manchester, Arthur Lewis Building, Manchester, M13 9PL, UK  
Tel: +44-161-275-2800/2804      Email: [cdi@manchester.ac.uk](mailto:cdi@manchester.ac.uk)  
Web: <http://www.manchester.ac.uk/cdi>

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# **Women's ICT Sector Employment in Developing Countries: *Dualism of Rhetoric vs. Reality in the Case of Sri Lanka***

**Sharon Morgan**

Centre for Development Informatics  
IDPM, University of Manchester  
Manchester, M13 9PL, UK  
Email: sharon.morgan@manchester.ac.uk

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## **Abstract**

This paper reports on the institutional tensions faced by women in Sri Lanka pursuing a career as ICT professionals, with particular focus on the role of the ICT sector and its organisations. In considering the findings, a constant thread is conflicting tension – a rhetoric based on equality, diversity, professionalism and opportunity on one hand, the constraints of a traditional patriarchal social context on the other. This conflict can be characterised as a form of institutional dualism. The paper highlights the institutional drivers and forces affecting women's agency as ICT professionals through this dualistic lens, and argues for gender-focussed interventions from the ICT sector.

## A. Introduction

In recent years great interest has been generated within the development domain regarding the potential that ICTs can offer developing countries in terms of socio-economic progress (Chapman and Slaymaker, 2002; DOTForce, 2002; Hafkin and Taggart, 2001; Heeks, 2009; World Bank, 2006), and in their World Employment Report 2001, the ILO identified the greatest potential for global job creation to be within the core ICT sector (ILO, 2001). In India alone, the software sector generated almost US\$40bn a year in the late 2000s, of which around US\$30bn was in export earnings (Heeks, 2006; Upadhyaya, 2009).

With this background, many governments are looking to support their ICT industry as a strategy for development. Developing end-user skills in the labour-force (and adequate access to the technology) is only part of the picture - the need for an ICT professional workforce, to design, develop and maintain both the ICT infrastructure and its software content is key (Hafkin and Taggart, 2001). One of the main problems facing developing countries in this area is the usually young nature of their ICT sector and markets, and the infrastructure needed to support ICT development. This includes a crucial resource for which there is high demand: ICT professionals. The benefits to be gained from pursuing an ICT career are thus many and often lucrative (Walby, 2011). Due to the worldwide demand for ICT skills these professions also offer a potentially-sustainable career path.

Yet, despite this demand for ICT professionals, studies to-date indicate that a gender division of labour persists globally in ICT-related employment (D'Mello, 2005; Huyer *et al.*, 2005; ILO, 2001; Inglesias-Fernandez *et al.*, 2010; UNESCAP, 2002), with women by far in the minority and clustered in lower-level occupations (Howcroft and Richardson, 2008; Huyer *et al.*, 2005). A number of impacts of this situation include (Margolis and Fisher, 2003): first, women are missing out on educational and employment opportunities, along with the potentially high salaries and other benefits the professions offer; second, in a sector that depends on a skilled ICT workforce and where shortages exist, the pool from which to recruit is reduced and

developing countries are particularly disadvantaged by this skills shortage; third, ICT product design risks reflecting only male cultural models.

Although Trauth *et al.* (2006) and others (Griffiths *et al.*, 2006; Adam *et al.*, 2004) argue that there has been a neglect of the gender impacts of ICTs, particularly in the ICT academic community, the field has generated an increasing amount of research in the past 20 years or so, as the participation of women in the ICT professions has steadily declined (Adam *et al.*, 2004; CPSR, 2003; Faulkner, 2004; Griffiths *et al.*, 2006; Gurer *et al.*, 1999; Huyer *et al.*, 2005; Kelan, 2007a; Margolis and Fisher, 2003; Trauth, 2002; Turkle, 1988; Wajcman, 2004). Such research however, has predominantly focussed on western contexts. Equally, despite the increasing use of ICT indicators as a means to assess the state of ICT development at country level, such quantitative assessments lack an analysis of deeper issues and digital divides. For instance, Huyer *et al.* (2005) show evidence that countries with high level of ICT and internet penetration nevertheless may have a deep gender digital divide, and vice versa, and stress the importance of the specific country context in assessing the gender digital divide.

This paper reports on research that puts the spotlight on a developing country context - the case of Sri Lanka, where similar gendered impacts are indeed found in the ICT professional space. Also strongly evident across the institutional dimensions in this arena is a tension between a rhetoric based on equality, diversity, professionalism and opportunity on one hand, and the reality constrained by a traditional patriarchal social context on the other: a form of 'institutional dualism' (Brinkerhoff and Goldsmith, 2005). This paper asks what role the ICT professional arena plays in this gendered situation, with the intention to address this divide. To do this, the dualistic institutional forces emanating from this ICT professional arena are presented and discussed as factors affecting the career choices of Sri Lankan women ICT professionals.

The paper takes a feminist perspective, rooted in new institutional theory (North, 1990; DiMaggio and Powell, 1983; Scott, 1995) and technofeminism (Wajcman,

2004). The rationale for this is based on a critical realist view, where the goal is to highlight power inequities and seek strategies for transformative change (Orlikowski and Baroudi, 2002; Myers and Avison, 2002). Technofeminism acknowledges the 'difference' feminist approach (Cudd and Jones, 2003) whereby women's "different voice" is undervalued in society, and believes that technology offers the possibilities for changing the organisation of work to better suit the needs of women, of allowing them agency to participate in technoscience on their own terms (rather than as surrogate men). New institutionalism sees that preferences expressed by individuals (agency) are institutionally aggregated (Immergut, 1998), and although institutions are humanly-devised structures (constraints) that shape human interaction and agency, they are dynamic in nature. Despite individuals' agency to shape institutions, they are limited by 'cultural persistence' (Zucker, 1991), 'institutional stickiness' (Pierson 2000), and informal rules of behaviour becoming habitualised and 'sedimented' within the institution, limiting the scope of options that seem possible, leading to resistance to change. Additionally, isomorphism, another feature of institutions, adds to this resistance, where the institution in its efforts to seek legitimacy, appears more homogenous with other institutions in its field or environment (Avgerou, 2004). However, this 'institutional determinism' can be impacted by the capacities and motivations of individuals (Goetz, 1997; Heeks and Santos, nd): where conflict and tension with institutional norms occur, change can emerge, emphasising the non-passive role that individual actors play. Strategies to 'institutionalise' these changes involve developing adaptations to both values and practices to form a 'stable hybrid' (ibid), whereby the new values and practices can become embedded.

We begin by outlining the pertinent issues regarding gender impacts in the ICT professions in developing countries and the institutional forces at play. This is then used to frame an analysis and discussion of the Sri Lankan case after setting out the methodological setting for the research study. Finally, the paper argues for ICT sector organisations to take a strategic gender focus in supporting women ICT professionals.

## B. Setting the Scene: Gender, ICT Professions and Developing Countries

A number of issues have been raised in the academic literature, highlighting the gender impacts, influencing factors (or institutional forces), and dualistic tensions framing the agency of women ICT professionals in developing countries.

### Gender Division of Labour in the ICT Professions

As noted above, women globally are in the minority in their engagement with ICTs, and this picture also appears to be universal in terms of women's engagement as ICT *producers* (Arun and Arun, 2002; Derbyshire, 2003; Hafkin, 2006; Huyer *et al.*, 2005; Kelan, 2007a; Margolis and Fisher, 2003; Poggio, 2000; Queensberry and Trauth, 2007). Globally, women account for only around 25% of the ICT workforce (D'Mello, 2005). A sample of findings from the literature highlights this gendered picture, as shown in Table 1.

**Table 1: Women's Participation in ICT Professions**

Country/Region	Participation Rate of Women	Source
India	Women form only 21% of all software professionals	NASSCOM (2001 cited in Moore <i>et al.</i> , 2008)
Global	Less than one third of full time staff in telecommunications industry are women	ITU (2004); Mingers (2003).
Europe	Only 6% of networking professionals are women	Raghuram (2004).
South Africa	Approximately 20% of ICT workers are female	Sanders (2005).
UK	Women form only 20% of the ICT workforce and are concentrated in the lower-level operator and clerical roles, with only 15% of ICT managers and 11% of ICT strategy and planning professionals being female	Griffiths and Moore (2006)
USA	Women account for 32.4% of the overall ICT workforce	US Bureau of Labor Statistics (2005 cited in Queensberry and Trauth, 2007)
Switzerland	Women form 14-25% of the ICT labour force	Kelan (2007a)

Within the industry there appears to be a further gender division of labour (Hafkin and Taggart, 2001; ILO, 2001; Kelkar *et al.*, 2002; Randriamaro, 2002; Sanders, 2005), with women tending to work in 'softer' and 'less technical' areas rather than the more technically viewed areas of programming, network engineering etc.<sup>1</sup> Huyer *et al.* (2005) characterise the gendered nature of these professions in terms of both horizontal segregation (by discipline or sector) and vertical segregation (relating to retention and advancement within the industry). They argue that globally women scientists and engineers in general are not only under-represented, paid less than men, and less likely than men to hold management positions, but also they are more likely to leave their technical occupations or the labour force in general, than women working in other sectors. They add that "*these trends are reflected and in certain cases exacerbated in the IT sector*" (ibid:47).

Within the ICT higher education (HE) sector where ICT professionals are largely trained, we see a similar poor participation rate of women globally (CRA-W, 2003; Derbyshire, 2003; Galpin, 2004; Huyer, 2006; Isaacs, 2006; Sanders, 2005; Tjomsland, 2009)<sup>2</sup>, with declining rates in many countries (Hafkin, 2006). Morley's (2005) study of several Commonwealth countries, found that women are underrepresented in senior academic and management positions, and also significantly here, that while the number of women undergraduates is increasing, they are underrepresented in science and technology.

Of course, some women are engaged as ICT professionals and many enjoy successful careers. Once in the sector, research indicates that their needs and values change at different stages in their career (Griffiths and Moore, 2006; Queensberry and Trauth, 2007). These studies highlight the importance that factors other than purely job role play in women's career choices – the importance particularly of balancing work and family life and juggling their triple gender roles (Moser, 1993) of being a daughter/wife in their community, an employee and income provider to the household (productive), and a mother (reproductive).



## Organisational and Sector Influences

Much research shows that the ICT professional culture is a 'chilly' one for women (Chase, 2008; Faulkner, 2004; DTI, 2005; Gillard and Mitev, 2006; Griffiths *et al.*, 2006; Inglesias-Fernandez *et al.*, 2010; Raghuram, 2004), particularly when women are of childbearing age:

*"The ICT industry, renowned for its youthful, masculine techno-culture, is a hard and unfriendly environment for women to enter and succeed in... despite equity and diversity legislation."* (Gillard and Mitev, 2006:196).

Arun and Arun's (2002) study of the ICT sector in Kerala, India, concluded that although the market-driven growth of this sector has created opportunities which benefit some women, the sector reproduces the gender inequalities of the wider society – once again disputing the 'gender-neutral' image of the industry. What is it about the ICT industry that makes it such a chilly environment for women to work in?

Upadhyia (2006, 2009) argues that part of this work culture is a symptom of 'global systems of management', with less hierarchical structures and where teamwork is crucial with control exercised via 'normative' techniques. Productivity depends on the internalisation of company goals and work ethics, and discipline is imposed via peer pressure and enhanced individual personal responsibility to complete work. The industry tends to measure projects by 'man-hours' which are renowned for being under-estimated, resulting in the actual extra work needed to meet a deadline being taken up by the workers themselves (*ibid*). In the ICT industry, long hours are legitimised by flexible working hours, which are however in practice ignored due to the need for the individual to appear 'keen' and 'at work', leading to long and often unsociable work hours, constant 'on-call' availability, and so on. This 'workaholic' and 'presenteeism' culture (Huyer *et al.*, 2005) can cause particular problems for women, since globally women have higher demands on their time from domestic work than men (*ibid*; Kantor, 2002).

Raghuram (2004) argues in her study of Indian women ICT professionals working in consultancy firms, that the higher-value consultancy work demands flexibility and mobility, which sits *"...uneasily with gender norms, which demand women's participation in and taking responsibility for the running of geographically fixed households."* (ibid , p174)

Acker (1998) reinforces such findings, arguing that organisations have a 'gendered understructure' and efforts to impose organisational change can often have limited effect. She gives as example instances where state regulation has imposed the rights of workers to flexible working hours (for instance in Scandinavia), where she argues employers reinforce gender segregation by *informally* resorting to categorising employees and jobs according to their expectations about who will use them. Hence no employee wants to take up the flexible working option since it may impact on career prospects. Acker (1998) further argues that this understructure is caused partly by the values that see economic organisations (work) privileged over other areas of life, and work organisations not expected to be responsible for reproduction and survival of human beings. Despite Walby and Olsen's (2002) evidence of the benefits of implementing family-friendly policies in organisations, they find few examples of employers implementing them.

### **Dualistic Tensions in Organisations: Equality vs. Gender-Blind**

As well as these factors affecting women's career choices in ICTs, the research indicates evidence of dualistic behaviour that exacerbates the gendered impacts in the ICT professional environment. These tensions can be classed as examples of institutional dualism, defined by Brinkerhoff and Goldsmith (2005) as a tension between intended new performance-enhancing institutions and old practices. Each institutional force appears to be tussling between the often conflicting values, norms and practices of the 'traditional' (predominantly local) and the 'modern' (predominantly global), resulting in a tension between rhetoric and reality. Such tension can be particularly evident in developing country contexts.

Several studies have indicated that ICT organisations can display a degree of dualism regarding their stance on equality. For instance, Woodfield (2000) argues in her study of employees at a UK-based international software house, that despite the rhetoric of supporting the principle of equity, the organisational practices in place encompassed “...systematic rules of social and occupational prejudice” that were “more expressive of the ... most powerful group’s taste than professionally defensible choices.” (ibid:191) which ultimately failed women workers. Other studies (Huyer *et al.*, 2005; Margolis and Fisher, 2003) found that women find it harder to be taken seriously in the field than men, their contributions tend not to be readily recognised, and they receive less credit for experience than men. Upadhya (2006) also argues in her study of the Indian ICT sector, that:

*“...the objective conditions of work in the software industry present greater obstacles to women than men, and that official policies on gender neutrality tend to obfuscate these gender issues.”* (ibid:74).

This dualism is also evident in organisations’ recognition of soft and hard skills: despite rhetoric of the growing importance of soft skills (Castells, 1997; Moore *et al.*, 2008; Woodfield, 2000) and their legitimisation in organisations, employers tend to treat employees differently when such skills are demonstrated, rewarding men yet expecting women to have them ‘by default’ (D’Mello, 2006)

So here we can see evidence that suggests organisations in the ICT sector exhibit some dualistic behaviour regarding their views of themselves as gender-neutral spaces, whilst fostering (in practice) a gendered understructure. Such dualistic tendencies are also evidenced in the research on ICT HE regarding gender (Bailyn, 2003; Morley, 2005).

Overall, the research indicates that a gender division of labour exists globally in the ICT sector, despite the opportunities the sector offers and the needs of developing countries in particular. The apparent career choices of women ICT professionals are affected by a number of organisational and sector institutional forces<sup>3</sup>, and many of these can be exacerbated by dualistic tensions evident in the ICT professional

environment. This leaves us with two questions in this paper: (i) are similar forces and tensions evident in the Sri Lankan context? (ii) what are the causes/drivers of these tensions? The Sri Lankan ICT industry, although small in a global sense, is growing and its importance is recognised by government as key in its National Development Plans (Department of National Planning, 2006). It may also be seen as typical of the situation in, or aspirations of, many developing countries. Despite this, little research has been carried out into the ICT professional workforce, and particularly women's participation. The research reported here aims to identify potential sites of transformation to better support the Sri Lankan female ICT professional.

### **C. Sri Lanka's ICT Sector**

Using a new institutionalist (North, 1990) perspective rooted in technofeminism (Wajcman, 2004), a cross-sectional gender analysis of the Sri Lankan context was conducted. A multi-level enquiry was carried out to examine factors at three levels affecting women's agency as ICT professionals (macro level: national and regional institutional forces surrounding women ICT professionals; meso level: organisations and universities where women are employed/trained, plus their community and family; micro-level: women ICT professionals themselves). Data was collected via a variety of methods (interviews, focus groups, documentary analysis) and addressing multiple stakeholders throughout 2005-2007, but concentrated fieldwork took place between November 2006 and February 2007. In total 54 interviews were conducted in the field in Sri Lanka with various stakeholders including:-

- women working and studying in the ICT professions;
- managers from a selection of organisations in the ICT industry, from public and private sector organisations employing ICT professionals, and higher education organisations training ICT professionals;
- government ministers/representatives, donor and civil society organisations responsible for ICT policy, gender policy, labour, and education.

This paper presents an analysis of the findings relating to the practical ICT professional arena: the organisations employing and training ICT professionals plus the women ICT professionals themselves. Some evidence from other stakeholders is drawn upon in places, but the main focus here is on the organisations (and sector).

To help set the scene, a brief overview of the Sri Lankan ICT context is now presented.

## The Sri Lankan Context

Sri Lanka is an island in South Asia, whose economy has been affected by ethnic conflict, which lasted almost 30 years to 2007. The economy has transformed structurally to a predominantly service-based economy (Sarvananthan, 2007; Central Bank of Sri Lanka, 2007), and since 2002 the government has focussed efforts to develop a national ICT policy to support development.

*"[Sri Lanka]... has a modest but thriving ICT industry, and boasts many state-of-the-art ICT capabilities. At the same time, it is primarily a rural, poor country where a large percentage of the citizens cannot avail themselves of any of these modern capabilities. Access to telephone and electricity is rare for a large part of the population."* (Greenberg ICT Services, 2002:p.v)

This paints an accurate picture of Sri Lanka in the early 2000s – elements of a thriving ICT sector competing globally for business and a government vision to use ICTs to drive development further, coupled with a divided nation in terms of access and opportunity to participate in the ICT industry. The Sri Lankan software industry showed an annual average growth rate of 40% between 1996 and 2001 (UNDP, nd) and Government plans for growth of the ICT sector were 20-25% of GDP yearly between 2006-2016 (Department of National Planning, 2006), higher than any other sector. Tables 2 and 3 show some relevant ICT indicators and employment indicators of the Sri Lankan ICT workforce for the period under investigation, though little research has been conducted into the makeup of the ICT sector in detail.

**TABLE 2: COMPARATIVE E-READINESS RANKING AND INDICATORS 2007**

Country	Rank (out of 69)	Score (out of 10)	Connectivity & Tech Infrastructure Score (out of 10)
Pakistan	63	3.79	2.9
Sri Lanka	61	3.93	1.8
Philippines	54	4.66	2.7
India	54	4.66	2.9
Thailand	49	4.91	3.1
Malaysia	36	5.97	5.3

*Source: Economic Intelligence Unit (2007)*

**TABLE 3: SRI LANKAN ICT INDICATORS**

Indicator	2001	2004	2006	nd	2007
Adult Literacy			91%		
Female Literacy			90.6%		
English Literacy				3-5%	
Computer Literacy		10%			
Government Prioritisation of ICT (out of 7)				4.8	
Teledensity (fixed+mob)	8%		29%		
Telephone Mainlines			9.5%		
Mobile Subscribers	3.60%		27.2%		
Pop. Covered By Mobile Telephony			85%		
Internet Users		2.80%			
PC Ownership		3.80%			
PC Density (PCs per 100 persons)				7.9	
Telecoms Revenue (% GDP)			2.6%		
ICT Expenditure (% GDP)			5.4%		
Software Industry Average Annual Growth	40%				
			30120		
Total IT Workforce (as % of employed)			(4%)		
Women as Percent of ICT Workforce			21%		
Predicted Demand For Extra ICT Workforce					7672
Predicted Shortfall In New ICT Graduates					44%

*Sources: World Bank (2008); UNDP (nd); IFIP (2005); Satharasinghe (2004); SLICTA (2007)*

Attrition rates for the ICT workforce doubled between 2004-2006 to 13%, particularly for those with more than four years experience (SLICTA, 2007). 76% of business process outsourcing (BPO) firms plan expansion and market development<sup>4</sup>; they estimate employment in this sector to increase by 30%, but see one of the major obstacles is finding suitable personnel (LIRNEasia, 2006), with higher education consistently providing less than half the number of ICT graduates that

industry demands (ibid; Senewiratne, 2011). Government and donor estimates on ICT human resource capacity needs verify that a shortage exists.

*"Against the backdrop of increasing demand, the key challenge the IT Industry faces is finding trained IT professionals to fill those vacancies" (SLICTA, 2007:5)*

and this

*"...may negatively impact the long term competitiveness and growth of the sector." (LIRNEasia, 2006).*

The average starting salary for ICT professionals has been Rs.10,000-20,000 (US\$92-185) per month, but new recruits can receive as much as Rs.61,000 (US\$570) and highly experienced ICT professionals with over eight years experience can earn between Rs.100,000 (US\$920) to 300,000 (US\$2,763) per month (SLICTA, 2007). Compared against the national average for monthly income<sup>5</sup>, this is a high salary. However, Jayaweera and Wanasundera (2006) found a gender difference across all salary bands amongst ICT professionals, with a larger percent of women than men in the lower pay bands. Even in Colombo in the highest wage bracket, only 14% of the women sampled earned such salaries compared to over 77% of men.

Women make up only 21% of the overall ICT workforce (SLICTA, 2007), and research shows (Jayaweera and Wanasundera, 2006; Gamage, 2004) that gendered patterns of employment exist, with women tending to be concentrated in lower skilled ICT jobs (making up over 72% of employees in clerical jobs but only 21% of those in management roles). As with elsewhere (Inglesias-Fernandez *et al.*, 2010), evidence of some level of 'glass ceiling' for women is also apparent: although 80% of women sampled in Jayaweera and Wanasundera's (2006) study had an 'advanced ICT qualification', only 4% of employees in management roles were women and in terms of decision-making bodies in the ICT sector, again we see an absence of women (ibid; Wanasundera, 2005), as highlighted in Table 4.

**TABLE 4: FEMALE POLICY MAKERS/MANAGERS IN SELECTED INSTITUTIONS**

<b>Institution</b>	<b>Total</b>	<b>Female</b>	<b>% Female</b>
Telecommunications Regulatory Commission of Sri Lanka (Commission Members and Director General)	4	0	0
Sri Lanka Telecom Ltd.(Chairman and Board of Directors)	9	0	0
Information and Communication Technology Agency (ICTA)			
- Board of Directors	6	0	0
- Senior managers	11	1	9
Sri Lanka Institute of Information Technology	12	1	8.3
National S&T Commission	7	1	14.2
National Science Foundation	10	1	10
Govt-supported Telecentre managers	-	-	5

*Sources: Jayaweera and Wanasundera (2006); Wanasundera (2005); Interviewee10*

So we can see that a career as an ICT professional in Sri Lanka can reap great rewards and sustainable livelihoods for families. However, the situation is currently gendered with women clustered in more 'service sector' ICT work and in fewer management roles than men, with a general male environment predominating.

## **D. Institutional Dualism at Play**

In terms of the Sri Lankan context, the findings suggest the influence of several institutional forces driving the rhetoric surrounding the ICT professional arena. Equally, other forces based largely on the traditional social context and status quo can be seen as competing and impacting on practice. Significantly, sometimes the same institutional force exhibits dualistic behaviour. For employers and ICT HE, this manifests itself as the often conflicting values, norms and practices (predominantly global) of the 'modern' 'professional' organisation with those of the 'traditional' (predominantly local) realities. These organisational characteristics evident in this ICT professional space are now discussed through this dualistic lens.



## **Equality at Work: Recruiting Women**

Despite employers regarding themselves as modern organisations valuing 'equal opportunity', several views and behaviours contradicted such values. First, their attitude to recruiting women can be argued to be gender-blind.

Employers generally hold a particularly optimistic view or perception of female participation rates despite evidence contradicting this. For instance, Interviewee28 estimated that women make up 40% of their workforce (in a private-sector ICT organisation), whereas in fact the perception of women interviewed there was that they are vastly in the minority (and no statistical data was available). Similarly, one university manager (Interviewee18) commented that they had lots of female teaching staff, yet in the Department of IT Services there were no women. When questioned, he commented that all the jobs in that section are hardware-based – and hence by assumption not suited/of interest to women. Such contradictions resonate with 'rationalised myths' (Meyer and Rowan, 1977) as features of institutional resistance to change.

Several stakeholders interviewed believed that an ICT human resource shortage is holding back the ICT sector (eg. Interviewee07), yet no evidence was found of any formal strategy to actively recruit women or of a need to consider this. Recruitment strategies of many ICT employers tends to be based on informal networks and targeting particular universities for new graduates. Recruitment at university is based solely on school academic qualifications and regional quotas (and evidence indicates that women are disadvantaged in gaining entry to ICT HE<sup>6</sup>). At no point in the chain is any initiative taken to address gender, despite all these institutions espousing the principles of equality. Positive action of any form appeared to be universally rejected, with senior interviewees believing that the professional workspace (and therefore their organisational policy and practice) is gender-neutral and based on equality – when one could argue it is gender-blind.

Even in the public sector, we see similar 'gender-blind' views despite a rhetoric of equality at work. For example, due to the *e-SriLanka roadmap* and the Reengineering Government Programme (ICTA, 2006), the government ICT Agency (ICTA) is encouraging government to expand its IT Service (Interviewee05). Yet no formal policy to actively recruit women was evident, despite employment statistics indicating women form only 36% of the government ICT workforce (SLICTA, 2007).

Another (Interviewee51) emphasised the 'never fulfilled demand' for new ICT professionals and quoted figures of 50-60% of all ICT graduates who leave the country, and Interviewee27 believed that retaining ICT staff after four years is a major problem. This perception is supported by the SLICTA (2007) survey discussed above. We can see that Sri Lanka seriously needs to widen the pool of ICT professionals to draw from to fill its labour-force needs. Encouraging more women into this field is one such mechanism, yet no such strategy was evident in any of the organisations (private, public and HE) covered in this research.

Low participation rates by women were not seen as something the organisations should (or could) 'fix'. One private-sector software house in the study, employing 45 staff, had only one female software engineer and three women working in technical writing and quality assurance. The CEO (Interviewee52) believed that the organisational culture of the open-source community (within which they work) is very 'direct' and may put women off applying (particularly in the Sri Lankan cultural context), but as an employer he simply seeks young energetic employees with a "passion" and an "instinct" for programming, regardless of gender. Similar desired employee skills were also voiced by Interviewee27 from another ICT company. Yet, despite this rhetoric of equality, the organisation had few women and no apparent intention to address this, regarding instead the 'fault' to lie with the inherent culture of the technology not being 'woman-friendly' rather than something that can be changed.

Employers' perceptions on women as potential ICT workers run along similar lines. One stakeholder from an employment agency (Interviewee42) believed that ICT

employers prefer to employ males because 'extra facilities' are needed for women employees, such as restricted working hours, transport home etc., due to the prevalent social norms in Sri Lanka regarding women. He emphasised that he believes this is not based on sexist views of technology – simply practicalities. This view was supported by other stakeholders including one manager at a private sector ICT consulting company (Interviewee37), who admitted she prefers to employ men since they are more versatile and less problematic – they can lift equipment, find hardware spare parts if needed, and travel easily.

### **Equality at Work: ICT Sector Working Conditions**

As noted earlier, the reality of global ICT sector professional practice has been shown to be 'chilly' for women. Organisations in Sri Lanka appear to 'inherit' these global practices and believe that ICT staff need to meet business needs and operate within a global ICT market based on western ICT industry 'standards' (Interviewee05; Interviewee12; Interviewee43; Interviewee27; LIRNEasia, 2006). For example, only 10% of BPO sector companies offer part-time employment and 61% work in shift patterns (LIRNEasia, 2006).

Organisations do not see that such gendered conditions result in an unequal 'playing field' for women employees. In the Sri Lankan context, these practices have significant gendered impacts due to the local cultural gender norms including:

- impacts on family commitments (women are the primary care-givers),
- traditionally it is not acceptable for women to be out late or away from home independently,
- security issues surrounding women.

These practices were seen by almost all interviewees as a main barrier to women's employment as ICT professionals. So, despite the rhetoric, the reality is gendered.

Further contradictions also appeared in the views versus practice of employers' other work practices. On the one hand, support for flexible working hours is given as a potential model of working in an industry where telecommunications and 'virtual

group work' are well established practices in the global ICT sector. One private-sector ICT company which uses such practices finds that workers have higher commitment (Interviewee27). Interestingly, the SLICTA survey (2007) found that employers themselves see that offering flexible hours is a high factor in retaining staff at all stages in their work lifecycle. Yet, cultural norms appear to prevent most employers offering this in practice, with managers appearing to believe that Sri Lanka is 'not ready' for some of these practices. For instance, some stakeholders said that if such work practices were offered in Sri Lanka then 'skiving' will take place (Interviewee07) and such practices would be harder to penetrate into the public sector (Interviewee12). As a result, women who may benefit from such practices, seem reluctant to push for them as they may appear 'uncommitted' to their employers.

No stakeholder consulted in the fieldwork could cite a case of a man taking advantage of flexible working hours or other family-friendly practices (where offered), and all women who had children talked of childcare being primarily their responsibility. Even senior ICT women talked of how their career moves had been dictated by family events including their husbands' careers.

Organisations generally adhere to legal requirements regarding maternity leave entitlements in Sri Lanka, arguing this supports legislation on gender equality. However, several interviewees expressed the belief that maternity leave requirements put some private-sector employers off employing women (eg. Interviewee44). Other employment support mechanisms such as childcare facilities were seen as available to a few private-sector ICT organisations, yet one manager from an ICT organisation talked a lot about supporting women's family responsibilities as mothers but little about men's roles as fathers – reinforcing the view that childcare is primarily a woman's responsibility.

This treatment of these gender issues is a further indication of dualistic behaviour on the part of organisations. On the one hand they espouse the rhetoric (and honour legal requirements) of equality at work, in line with the values of international

agencies, western firms and management practices, yet appear reluctant to address gender issues in any formal way in terms of employment support mechanisms. Whilst most managers appeared to value equality and to be sensitive to traditional and cultural restrictions placed on women, they do not appear to see that changing work culture may be necessary (or possible), and try instead to accommodate *informally* the constraints facing individuals. For instance, Interviewee30, a Software Quality Controller in a large IT company, praised her manager for 'allowing' her to stick to 'regular' working hours on her return to work after maternity leave, despite the organisation normally expecting her to resort to 'normal' shift patterns.

Evidence also shows however that this informal recognition of gendered differences often has a negative impact on employability and promotion of women. For instance, one manager in an ICT consulting organisation commented:

*"As an employer, the male employees are easier to handle than the females...When it's a girl I am more conscious of the safety aspect...If they have to work really late at night or overnight, I'm sensitive about it. ... certain environments that we send people to... are not conducive to females working overnight. This problem will always be there."* (Interviewee37)

This dependence on informal arrangements leads to a heavy reliance by women on sympathetic managers, which can lead to uncertainty and insecurity and a general lack of control to be felt by women.

## **Equality at Work: Gendered Roles and Promotion**

Several women raised the point that they feel they have had to prove themselves more compared to their male counterparts. Interviewee53 is a software engineer in her second job. She loves software development and declares *"Java is my home"*. Yet when asked about her future plans she said she wants to move into management but not in software development because:

*"Constantly having to prove your point... I think coming from a girl...I think you have to request it ten times more than coming from a guy. ... I'm not that bold a person."*

This point was also made by several other interviewees. For instance,

*"You have to be assertive and fight your corner – I didn't know that..."*  
(Interviewee54)

Another interviewee recounted an incident at her organisation where the management were considering some promotions to Senior Software Engineer. One young woman was not considered despite her good performance: the management's preconceptions (and expectations) of the women staff made them assume that she wouldn't be able to perform:

*"I think they always think because she is a girl she won't be able to take lead on some things... [the women staff] are shy... they aren't very vocal."*  
(Interviewee29)

She convinced the organisation to consider the young woman for the job, but it took some persuasion.

The findings also show evidence of employers 'guiding' women into particular job roles on the 'softer' side of computing such as technical writing, quality assurance and training, even when those women voice interest and desire to work in more 'technical' areas such as programming. For instance, one interviewee (Interviewee54) wanted to work in software engineering and showed a passion for Java programming. Although she works in a modern, dynamic, young software house where programming skills are highly regarded and important to the organisation, she found herself in a role of technical writer. Despite this job involving wide technical know-how, she commented,

*"one of my concerns is I'm not sure if my job title is seen as such..."*

and felt undervalued in the organisation and particularly among her (male) peers. Her role was chosen by her boss. This could be seen as examples of 'gender scripting' (Bailyn, 2003) in assessing these women's capabilities.

These behaviours impact on career progression for these women since despite an apparent recognition that 'soft' skills are important in ICT professionals, the findings indicate that women perceive that their organisations reward technical know-how above such 'soft' skills. As a result, these women felt they lose out on career opportunities that male counterparts have open to them. This resonates with findings from elsewhere (D'Mello, 2006; Moore *et al.*, 2008; Woodfield, 2000).

## ICT Sector Culture

The ICT culture itself seems to have a 'global' makeup, which was regarded by all stakeholders as 'professional', dynamic, and egalitarian. Local ICT organisations take on the values and practices of the global (or western) sector in order to achieve legitimacy and be seen as professional (Upadhya, 2006, 2009). Hence, as discussed above, work practices that are new in Sri Lanka are adopted and taken for granted as requisite.

The use of standards and recognition of 'accepted' technical skills and training reinforce this 'professional' global influence<sup>7</sup>. This has some advantages for women in that it makes an ICT career attractive for the potential global career opportunities it can offer (plus implications on marriageability). However, the impact of this culture on the organisations and individuals operating within the local context, where local cultural norms are very different, can cause tension.

For example, Interviewee37 talked of the impact of an ICT career on a woman's multiple gender roles when asked what advice she would give to young women:

*"IT is a good career ... BUT ...you have to be willing to compromise and sacrifice:...delaying your marriage...delaying having children... a spouse who understands your circumstances."*

Other impacts of this global ICT culture clashing with the local realities in Sri Lankan culture include many that have been found elsewhere. For instance, the ICT culture experienced elsewhere of "male territory" (Margolis and Fischer, 2003:p4) and a

'geeky' image of ICT workers, is also at odds with the Sri Lankan cultural female identity. One interviewee, an employee of a software company, commented she finds :

*"...the atmosphere like a boys' club... they have their own language."*

(Interviewee54)

Interviewee27 (head of HR at a leading ICT company) also used the term "boys' club" when describing the ICT industry as a male environment, and this view was echoed by several other interviewees.

The impact of this gendered identity within the ICT culture is that women find themselves torn with the pressure of wanting to belong while at the same time wanting to maintain their feminine (and cultural) identity. Strategies they adopt tend to be reformist in approach, trying to 'fit in': for instance, dressing for confidence (Interviewee06), learning to speak up more (Interviewee08), maximising support mechanisms (Interviewee29, Interviewee53), and 'managing' the cultural hurdles (Interviewee21, Interviewee30, Interviewee37). This results in what Kelan (2007c) refers to as 'doing gender'; thus reinforcing the status quo.

## Summary

Tables 5 and 6 summarise the detailed findings. The overall perception is that organisations see any problems that women face in participating as equals in the ICT industry as due to the cultural context in Sri Lanka and therefore something which the organisation itself should simply informally accommodate. In other words, since the ICT professional workspace is believed to be gender-neutral, then any sexism is not structural. Strategies to 'accommodate' remain informal and therefore not institutionalised or embedded (Heeks and Santos, nd). This contradiction between the organisations' valuing equality and principles of corporate responsibility and professionalism on one hand, yet refusing to be critically reflexive regarding gender equity on the other, is interesting.



Similar dualistic phenomena was also found in studies of the Indian software industry (D'Mello, 2006; Upadhy, 2006, 2009), a UK-based international software organisation (Woodfield, 2000), and in IS organisations in Switzerland (Kelan, 2007b).

*"While the structural factors that operate to create gender discrimination are sometimes recognized, more often the blame is placed on individuals or on society at large. As a result, IT companies do not see a role for themselves in creating a more conducive working atmosphere for women (and men), despite claims to being 'responsible corporate citizens'. ...In clinging to the principles of meritocracy and gender neutrality... these companies abdicate any responsibility for countering gender inequalities in the workplace."*  
(Upadhy, 2006:81-84)

Further, Woodfield (2000:191) argues,

*"....the belief that individuals were perceived as ungendered equals failed [the female workers] because it masked the operation of powerful informal social hierarchies."*

Acker's (1998) discussion of the 'gendered understructure' within organisations also appears to be relevant to the Sri Lankan case, where informal practices again reinforce gender segregation.

**Table 5: Institutional Forces and Impacts for Sri Lankan Women in ICT Professions: Organisations**

Source	Institutional Structures	Effect Values	Practices	Impact on Women
Organisation <i>Employers, Universities</i>	Normative	<ul style="list-style-type: none"> <li>-ICT staff need to meet business needs.</li> <li>-Recognition of the importance of cultural norms regarding work practices.</li> <li>-Recognition that Western “professional” ICT organisations offer flexible working conditions BUT tension with Sri Lankan culture which does not.</li> <li>-Emphasis on team work and the individual for management control.</li> <li>-Recognition of importance of assertive, driven, and experienced staff.</li> <li>-Recognition of importance of soft skills.</li> <li>-Importance placed on technical ‘knowhow’ in a constantly changing field.</li> <li>-Gendered views of work roles.</li> </ul>	<ul style="list-style-type: none"> <li>-Reactive to market demands (can lead to some flexibility).</li> <li>-Women are not treated same as males when travel/late work is needed.</li> <li>-Wherever possible, transport home provided for shift/late night staff.</li> <li>-Rhetoric of flexible working conditions being available though inappropriate for some work in practice. Sometimes offered but not consistently or commonly used – some perception that staff will be skiving.</li> <li>-Male environment predominates.</li> <li>-Reward for technical skills.</li> <li>-Employees expected to keep up-to-date.</li> <li>-Need for project-driven work hours.</li> <li>-Control exercised via peer perception.</li> <li>-Reward for ‘committed’ and confident employees.</li> <li>-Support from fellow women peers, role models etc.</li> </ul>	<ul style="list-style-type: none"> <li>-Perception of a gender division of labour.</li> <li>-Tension of needs of ICT employers for assertive staff yet women traditionally not encouraged to be confident.</li> <li>-Tension between being one of the girls or one of the boys.</li> <li>-Tension between desire for flexible working conditions and fear of being seen as skiving or “trouble” so a general reluctance to push for it.</li> <li>-Pressure to develop technical skills and to be technically valued by peers.</li> <li>-Pressure to be available and ‘at work’ despite flexi-time.</li> <li>-Drive and agency to succeed despite being a woman in a male culture.</li> <li>-Pressure to stick to certain job roles and react to opportunities rather than plan career path.</li> </ul>
	Regulative	<ul style="list-style-type: none"> <li>-Equality at work and in society.</li> <li>-No need to address gender &amp; ICT since the problem is supply not demand (women do not apply) and an optimistic view of female participation exists.</li> <li>-Problems of inequality are society’s or individual’s, not the organisation’s.</li> <li>-Legal framework on maternity leave should be respected.</li> </ul>	<ul style="list-style-type: none"> <li>-Blatant gender discrimination not allowed – however some evidence that women are not treated the same as male peers.</li> <li>-Maternity leave generally honoured but amount of flexibility offered varies. No evidence of paternity leave/flexibility.</li> <li>-Gender-neutral and gender-blind regulation.</li> </ul>	<ul style="list-style-type: none"> <li>-Gender blindness of organisations and their managers regarding ICTs.</li> <li>-Reliance on supportive managers by women making use of maternity leave – control lies with the manager.</li> <li>-Perception that regulation may work against women in practice.</li> <li>-Individualisation of the ‘inequality problem’ by women, resulting in a ‘self-selected glass ceiling’ or moving to self/alternative employment.</li> </ul>

**Table 6: Institutional Forces and Impacts for Sri Lankan Women in ICT Professions: Other Sector Institutions**

Source	Institutional Structures	Effect Values	Practices	Impact on Women
Other External <i>Global market, ICT industry, Technology</i>	Normative	<ul style="list-style-type: none"> <li>-Focus on customer service and needs.</li> <li>-Focus on organisational efficiency.</li> <li>-Global competition exists.</li> <li>-Capitalist market principles.</li> <li>-Value placed on up-to-date technology.</li> <li>-Gender-neutral view of technology.</li> </ul>	<ul style="list-style-type: none"> <li>-ICT organisations expected to be 'available' 24/7.</li> <li>-Technology constantly changing.</li> <li>-ICT training grounded in science and technology.</li> <li>-'Engineering' focus on problem-solving towards a product.</li> </ul>	<ul style="list-style-type: none"> <li>-Pressure to work 'as needed' regardless of other life responsibilities and be a 'work-focussed' employee.</li> <li>-Women disadvantaged by a lack of S&amp;T background.</li> <li>-Perception of a 'boys club' culture where women are outsiders.</li> <li>-Perception of a 'geek' image to ICT workers and project-driven work practices.</li> <li>-Perception that men are intrinsically better at technology.</li> <li>-Perception of masculinisation of ICT workers (rewarding male-associated behaviour).</li> <li>-Need for female solidarity and role models, mentors and confidence-building for women workers.</li> <li>-Apparent 'self-selecting glass ceiling' for women workers.</li> </ul>

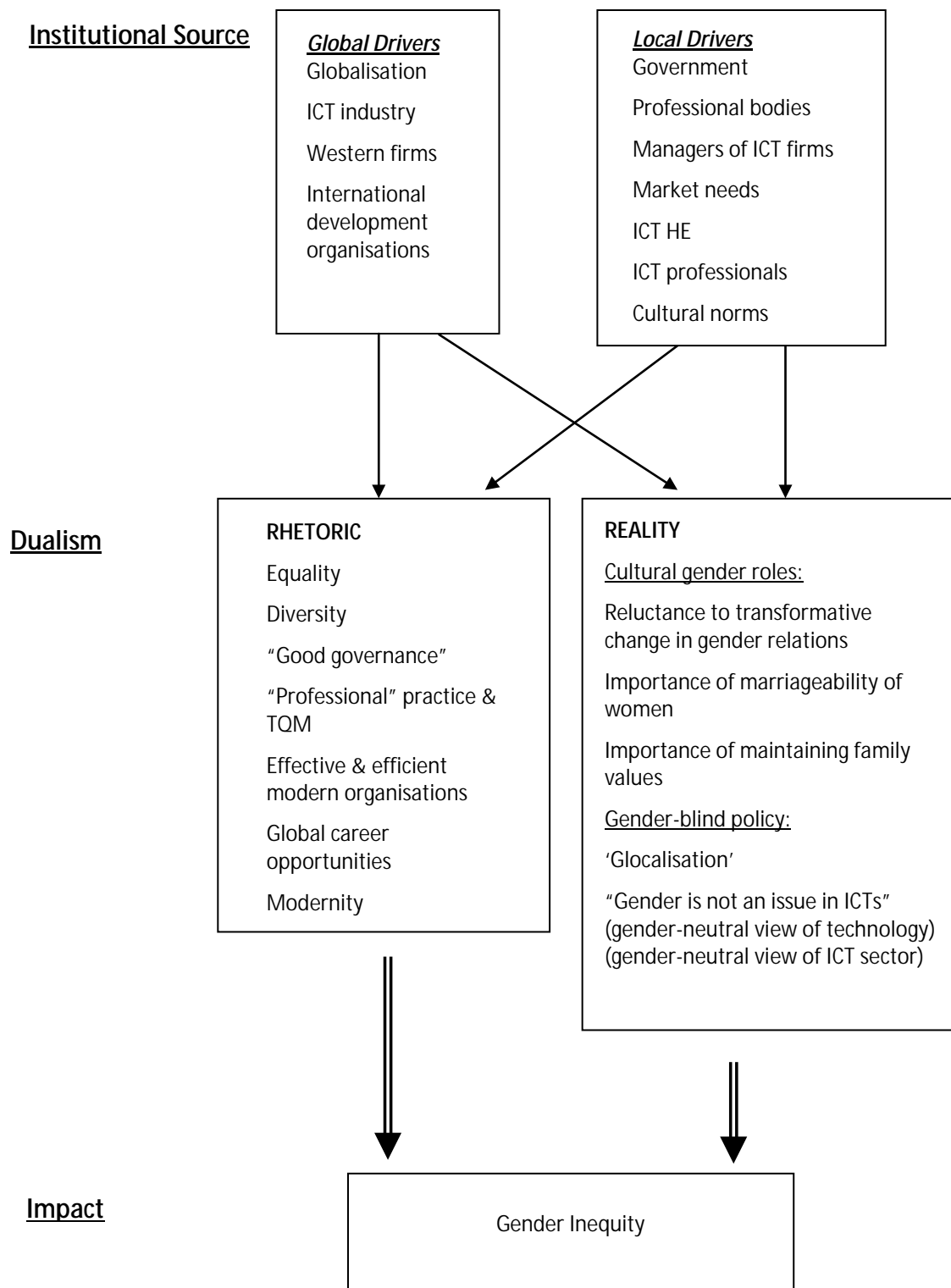
## **E. Discussion**

In light of the overall research findings, several gender impacts of the ICT employment culture for the Sri Lankan context can be identified, some driven by local institutional drivers (including the local political and cultural environment), while others are rooted in global drivers (including the global ICT sector plus development agencies acting as government advisors and funders). These forces generate sometimes dualistic drives in the need to practically reconcile the global and the local, resulting in dualistic impacts. Figure 1 captures some elements of this dualism. Discussion of all of these drivers is beyond the scope of this paper, however, the ICT industry itself (rooted in western capitalist principles) and the local ICT organisations are clearly key sites of influence. The result of these institutional forces and the tensions generated, is that a gender division of labour exists, both vertically and horizontally in the Sri Lankan ICT sector. The chilly climate for women reported elsewhere is evident in this context. These tensions are now discussed.

### **Technological Culture: Being 'One of the Girls' vs. 'One of the Boys'**

The general image of technology as a "boys' toy" also seems to prevail culturally in Sri Lankan society, perhaps leading women to distance themselves to some extent. Even once women enter the field, unfortunately this view appears to be reinforced by their experiences as employees and students in a predominantly male domain, where the culture prizes technical expertise and a typically 'geek' image of that expertise prevails. This perception comes through not only in the women's views but also in their experiences of male peers' behaviour and reaction to them. This leads to women being torn between wanting to be 'one of the boys' yet wanting to maintain their femininity (and adhere to their cultural norms of female behaviour) and relate to their female peers as 'one of the girls'; and ultimately 'doing gender' to navigate through this gendered ICT workspace.

Figure 1: Institutional Dualism in the Sri Lankan ICT Sector



## **Employment Culture: Flexible Working Conditions vs. Presenteeism**

Globally, the work culture (and study culture) in ICTs is demanding, with long hours, deadline-driven schedules, and a constant need to keep learning. Many of the features of this work culture are particularly difficult for women in a country like Sri Lanka, where the socio-cultural context puts many restrictions on a woman's freedom of movement. The issue of managing their job demands within the restrictions and expectations of their culture was the most talked about 'problem' the women interviewed felt they faced.

Despite the 'promise' of flexible working conditions going hand-in-hand with this work culture, the reality is different and a presenteeism culture predominates. The local Sri Lankan context appears to be at odds with such 'modern and flexible work practices'. Whilst managers recognise the local restrictions that women employees face, they accommodate them informally, rather than formally recognising and addressing them. This dependence on informal arrangements also leads to a heavy reliance by women on sympathetic managers, which can lead to uncertainty and insecurity and a general lack of control to be felt by women. Along with the demanding working conditions, this may contribute to the 'apparent self-selected glass ceiling' that women seem to face – many either giving up on promotion or moving to a perceived less stressful and demanding work environment<sup>8</sup>.

## **Equality: Gender-Neutral vs. Systematic Sexism**

At the organisational level, in both the ICT employment sector itself and in the ICT higher education sector, a lack of gender awareness persists. No gender-focussed policy is in place and the views and values of stakeholders appear to perceive the ICT arena as gender-neutral. Several managers and 'key leaders' voiced an overly-optimistic perception of ratio of women to men in their departments, despite data contradicting this, indicating a denial of the problem. When acknowledged, the low participation of women is seen as a symptom of Sri Lankan culture, and not anything to do with institutional sexism in the organisations themselves.

Additionally, these organisations appear to see no responsibility on their part to try to address the situation, other than via informal and piecemeal mechanisms ‘on the ground’. While some of these mechanisms are welcomed by women to ease some of their immediate practical needs (Moser, 1993), it does nothing to address longer term transformative change and can result in even greater dependency of women on ‘male’ managers and husbands, potentially exacerbating the situation. So here we have a gender-neutral perception (or rhetoric) that is actually gender-blind in practice with gender-unequal impacts.

The gender-neutral perception of itself is also a common feature in the global ICT sector. Despite a wealth of statistical and qualitative data in numerous cultural contexts showing the gendered nature of the ICT workforce, vertically and horizontally across professions, and their career trajectories, the sector regards itself as egalitarian and appears to be doing little to address the reality. Some individual initiatives have been attempted by ICT organisations in other parts of the world (such as by Cisco (2003) in Southern Africa) and by the various professional bodies to strategically target and support women, but again no industry-wide effort to seriously look at gender is apparent. Due to the nature of the ICT sector operating in a global context, work practices and the ICT culture itself seem to transcend national borders. While women ICT professionals in different countries operate within their specific context, this common gendered ICT culture appears to be a shared phenomenon that they all have to address, and ICT organisations in Sri Lanka and elsewhere seem to hold this dualistic view of themselves: egalitarian and gender-neutral in theory, yet unwilling to address inequality apparent within themselves.

Bailyn (2003) distinguishes between the notions of gender equality and gender equity, arguing that

*“[equity] is based on the realization that equal opportunity, even if it exists, is not equitable if constraints are very unequal. ...an equitable situation should entail equal opportunities and equal constraints.”* (ibid:139-140).

She therefore argues that for organisations to truly address gender inequity an ‘integrated gender lens’ must be taken which recognises (and legitimises) the public

sphere as well as the private sphere. In other words, rather than *informally* address constraints that women face in their family lives, these should be more *formally* recognised and addressed.

These drivers along with locally specific factors (particularly the cultural environment) put particular pressure on women engaging in the ICT professions, and produce a situation where many Sri Lankan women in the ICT professional arena adopt a reformist stance to transformative change. This preference for a more compromised strategy for change does appear to achieve some short term solution, based on informal practices. Indeed, as Heeks and Santos (nd) argue, if these informal values and practices can become embedded (or institutionalised) to produce a 'stable hybrid' between the 'traditional' (influenced largely by local culture) and the 'modern' (influenced by the global and market drivers), then longer-term sustainable change, or institutionalisation of the new, may follow. However, the lack of formalisation of such values and practices, through formal policy and regulation, threatens the extent and sustainability of change.

## **F. Conclusion**

This study has highlighted the important role that employers play in the career development of women ICT professionals. It has also highlighted the dualistic behaviour of many organisations in dealing with issues they regard as gender features of the cultural context. This is based on their belief that as an organisation they are gender-neutral spaces and governed by ethics of equal opportunity. We have seen the use of 'rationalised myths' to describe themselves as gender-neutral spaces, in contradiction to the evidence. In their efforts to legitimise themselves they adhere (formally) to global standards and values of the ICT sector (a form of isomorphism), while addressing informally the local realities. Yet the sector where they operate is based on a global standard of western management practices, which has been shown to result in an androcentric environment. The resulting 'glocalisation' (Swyngedouw, 2004) results in a gendered understructure remaining.



It is important that employers recognise their contribution to the workplace culture and take responsibility to address the reality that exists for all of their employees. Based on an analysis of the research literature, Kalev *et al.* (2006) argue that the most promising strategy for addressing gender inequity in the workplace is via organisational and management policy. True gender equity involves investigating the conditions and constraints under which individuals operate: for instance, a particular management position may be open to both men and women in an organisation, but women may not be able to (or may not feel they are able to) apply for it (such as, because they have domestic responsibilities that may prevent them, or they may not feel confident enough to apply; or they feel their male colleagues will not accept them as their boss).

It is insufficient for ICT sector organisations to ignore the cultural context within which they operate, and informally 'get around' particular barriers employees face, rather than seriously looking within and addressing institutional sexism that may exist. Perhaps, finding what Walsham (2001) refers to as a "negotiated culture" for the organisation is the way forward<sup>9</sup>, and may result in more 'local to global' change in the ICT organisational culture (Robertson, 1995).

As sites of intersection between global and local institutional forces, these ICT organisations are key for transformative change. They carry the most promise for being instrumental in effecting change for women ICT professionals in Sri Lanka.

## References

- Acker, J. (1998) 'The Future of Gender and Organisations: Connections and Boundaries', *Gender, Work and Organisations* **5**, 4, 195-206.
- Adam, A., Richardson, H. and Howcroft, D. (2004) 'A Decade of Neglect: Reflecting on Gender and IS', *New Technology, Work and Employment* **19**, 3, 222-241.
- Arun, S., and Arun, T. (2002) 'Gender, ICTs, and Development: the case of Kerala, India', *Journal of International Development* **14**, 1, 39-50.
- Avgerou, C. (2004) 'IT as an institutional actor in developing countries', in S. Krishna and S. Madon (eds.), *The Digital Challenge: Information Technology in the Development Context*. Aldershot: Ashgate Publishing. Website: <http://eprints.lse.ac.uk/2580/>.
- Bailyn, L. (2003) 'Academic Careers and Gender Equity: Lessons Learned from MIT', *Gender, Work and Organisations* **10**, 2, 137-154.
- Brinkerhoff, D. W. and Goldsmith, A. A. (2005) 'Institutional Dualism and International Development: A Revisionist Interpretation of Good Governance', *Administration and Society* **37**, 2, 199-224.
- Castells, M. (1997) *The Information Age: Economy, Society and Culture – Volume II: The Power of Identity*. Oxford: Blackwell Publishing.
- Central Bank of Sri Lanka (2007) *Sri Lanka Socio-Economic Data 2007*. Colombo: Central Bank of Sri Lanka.
- Chapman, R. and Slaymaker, T. (2002) 'ICTs and Rural Development: Review of Literature, Current Interventions and Opportunities for Action', *ODI Working Paper 192*, London: Overseas Development Institute.
- Chase, N. (2008) 'An Exploration of the Culture of IT: Focus on Unrelenting Change', *Journal of Information, Information Technology and Organizations* **3**, 135-150.
- CISCO (2003) *Gender Best Practice*. CISCO Learning Institute Gender Initiative. Website: <http://gender.ciscolearning.org>.
- Corneliussen, H. (2004) 'I don't understand computer programming because I'm a women!' Negotiating Gendered Positions in a Norwegian Discourse of Computing', in K. Morgan, C. A. Brebbia, J. Sanchez and A. Voiskounsky (eds.), *Human Perspectives in the Internet Society: Culture, Psychology and Gender*. Southampton: WIT Press.
- CPSR (2003) *Gender Pages*. Website: <http://cpsr.org/issues/womenintech/>.
- CRA-W (2003) *CRA-W Statistics on Women in Computer Science and Engineering*. Website: <http://cs.smith.edu>.
- Cudd, A. E. and Jones, L.E (2003) 'Sexism', in R. G. Frey and C. H. Wellman (eds.), *A Companion to Applied Ethics*. Oxford: Wiley-Blackwell Publishing.
- Department of National Planning (2006) *Mahinda Chintana: Vision for a new Sri Lanka. A Ten-Year Horizon Development Framework 2006-2016. Discussion Paper*. Colombo: Ministry of Finance and Planning.

- Derbyshire, H. (2003) *Gender Issues in the Use of ICTs in Education in Africa*. Paper presented at: ICTs in African Schools: a Workshop for Practitioners and Policymakers, Gaborone, May 2003. Website: <http://imfundo.digitalbrain.com/imfundo/web/learn/documents/GenderReport.doc>.
- DiMaggio, P. and Powell, W. (1983) 'The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields', *American Sociological Review* **48**, 147-160.
- D'Mello, M. (2005) 'Thinking Local, Acting Global': Issues of Identity and Related Tensions in Global Software Organisations in India', *Electronic Journal on Information Systems in Developing Countries* **22**, 2, 1-20.
- D'Mello, M. (2006) 'Gendered Selves and Identities of Information Technology Professionals in Global Software Organisations in India', *Information Technology for Development* **12**, 2, 131-158.
- DOTForce (2002) *Digital Opportunities for Africa*. Website: <http://www.dotforce.org>.
- DTI (2005) *Women in the IT Industry: Phase 2 Research: How to Retain Women in the IT Industry*. Website: [http://www.intellectuk.org/component/option,com\\_docman/task,doc\\_download/gid,254/](http://www.intellectuk.org/component/option,com_docman/task,doc_download/gid,254/).
- Economist Intelligence Unit (2007) *The 2007 e-Readiness Rankings: Raising the Bar*. Website: [http://a330.g.akamai.net/7/330/25828/20070420195432/graphics.eiu.com/files/ad\\_pdfs/2007Ereadiness\\_Ranking\\_WP.pdf](http://a330.g.akamai.net/7/330/25828/20070420195432/graphics.eiu.com/files/ad_pdfs/2007Ereadiness_Ranking_WP.pdf).
- Faulkner, W. (2004) *Strategies for Inclusion: Gender and the Information Society*. University of Edinburgh/European Commission IST Programme. Website: [http://www.rcss.ed.ac.uk/sigis/public/documents/SIGIS\\_D08\\_Final\\_Public.pdf](http://www.rcss.ed.ac.uk/sigis/public/documents/SIGIS_D08_Final_Public.pdf).
- Galpin, V. (2004) 'Women in Computing around the World', *SIGSCE Bulletin* **34**, 2, 94-100.
- Gamage, G. (2004) *Gender and ICT: A Sri Lankan Perspective*. Paper presented at: 9th Nation Convention on Women's Studies, March 2004, Colombo. Colombo: Centre for Women's Research.
- Gillard, H. and Mitev, N. (2006) 'Women and ICT Training: Inclusion or Segregation in the New Economy?', in E. M. Trauth, D. Howcroft, T. Butler, B. Fitzgerald and J.I. DeGross (eds.), *IFIP Volume 208, Social Inclusion: Societal and Organizational Implications for Information Systems*. Boston: Springer.
- Goetz, A. M. (1997) 'Introduction: Getting Institutions Right for Women in Development', in A. M. Goetz (ed), *Getting Institutions Right for Women in Development*. London: Zed Books.
- Greenberg ICT Services (2002) *Country ICT Survey for Sri Lanka*. Stockholm: Swedish International Development Agency. Website: [http://www.sida.se/shared/jsp/download.jsp?f=SIDA26636en\\_SriLanka.pdf&a=21636](http://www.sida.se/shared/jsp/download.jsp?f=SIDA26636en_SriLanka.pdf&a=21636).

- Griffiths, M., Keogh, C., Moore, K., Richardson, H. and Tattersall, A. (2006) 'Inclusion Through the Ages? Gender, ICT Workplaces, and Life Stage Experiences in England', in E. M. Trauth, D. Howcroft, T. Butler, B. Fitzgerald and J. I. DeGross (eds.) (2006) *IFIP Volume 208, Social Inclusion: Societal and Organizational Implications for Information Systems*. Boston: Springer.
- Griffiths, M. and Moore, K. (2006). 'Issues Raised by the WINIT Project', in E. Trauth (ed), *Encyclopedia of Gender and Information Technology*, Hershey: Idea Group Inc.
- Gurer, D., Camp, T. and Simons, B. (1999) 'Increasing the Numbers of Women in Computing: Goals and Activities of the ACM-W', in *The Resource Book for the Summit on Women in Engineering*. National Academy of Engineering, USA.
- Hafkin, N. (2006) 'Women, Gender and ICT Statistics and Indicators', in N. Hafkin and S. Huyer (eds.), *Cinderella or Cyberella? Empowering Women in the Knowledge Society*. Bloomfield: Kumarian Press Inc.
- Hafkin, N. and Taggart, N. (2001) *Gender, Information Technology and Developing Countries: An Analytic Study*. Washington D. C.: United States Agency for International Development.
- Heeks, R. (2006) 'Using Competitive Advantage Theory to Analyze IT sectors in Developing Countries: A Software Industry Case Analysis', *Information Technologies and International Development* 3, 3, 5-34.
- Heeks, R. (2009) *Worldwide Expenditure on ICT4D*. ICTs for Development Blog. Website: <http://ict4dblog.wordpress.com/2009/04/06/worldwide-expenditure-on-ict4d/>.
- Heeks, R. and Santos, R. (nd) *Institutions, "Compensating Tactics" and Sustainability of Information Systems in Developing Countries: An Inter-Organisational Case Study from Brazil*. Manchester: Institute for Development Policy and Management.
- Henwood, F. (1993) 'Establishing Gender Perspectives on IT: Problems, Issues and Opportunities', in E. Green, J. Owen and D. Pain (eds.), *Gendered Design? IT and Office Systems*. London: Taylor & Francis.
- Howcroft, D. and Richardson, H. (2008) 'Gender matters in the global outsourcing of service work', *New Technology, Work and Employment* 23, 1-2, 44-60.
- Huyer, S. (2006) 'Understanding Gender Equality and Women's Empowerment in the Knowledge Society', in N. Hafkin and S. Huyer (eds.), *Cinderella or Cyberella? Empowering Women in the Knowledge Society*. Bloomfield: Kumarian Press Inc.
- Huyer S., Hafkin, N., Ertl, H. and Dryburgh, H. (2005) 'Women in the Information Society', in G. Sciadas (ed.), *From the Digital Divide to Digital Opportunities: Measuring Infostates for Development*. Montreal: Orbicom. Website: <http://www.orbicom.uquam.ca>.
- ICTA (2006) *Using ICT to Transform the Nation and Empower its People*. Colombo: ICTA. Website: <http://www.icta.lk>.
- IFIP (2005) *Sri Lanka Country Report*. Website: <http://www.ifip.org>.

- ILO (2001) *World Employment Report 2001: Life At Work in the Information Economy*. Geneva: International Labour Organisation.
- Immergut, E. (1998) 'The Theoretical Core of the New Institutionalism', *Politics and Society* **26**, 1, 5-34.
- Inglesias-Fernandez, C., Llorente-Heras, R. and Duenas-Fernandez, D. (2010) 'ICT employment, over-education and gender in Spain. Do information and communication technologies improve the female labour situation?' *New Technology, Work and Employment* **25**, 3, 238-252.
- Isaacs, S. (2006) 'We Have Womb' – Engendering ICTs in Education', in N. Hafkin and S. Huyer (eds.) *Cinderella or Cyberella? Empowering Women in the Knowledge Society*. Bloomfield: Kumarian Press Inc.
- ITU (2004) *World Summit on the Information Society (WSIS): ICTs and Gender*. Website: [http://www.itu.int/osg/spu/wsis-themes/ict\\_stories/ICTsandGender.html](http://www.itu.int/osg/spu/wsis-themes/ict_stories/ICTsandGender.html).
- Jayaweera, S. and Wanasundera, L. (2006) *Gender and ICT in Sri Lanka: an overview*. Paper presented at: 10th National Convention on Women's Studies, April 2006, Colombo. Colombo: Centre for Women's Research.
- Kalev, A., Dobbin, F. and Kelly, E. (2006) 'Best Practices or Best Guesses? Assessing the Efficacy of Corporate Affirmative Action and Diversity Policies', *American Sociological Review* **71**, 589-617.
- Kantor, P. (2002) 'Gender, Microenterprise Success and Cultural Context: The Case of South Africa', *Entrepreneurship: Theory and Practice* **26**, 4, 131-144.
- Kelan, E. K. (2007a) 'Tools and Toys: Communicating Gendered Positions Towards Technology', *Information, Communication and Society* **10**, 3, 357-382.
- Kelan, E. K. (2007b) 'I don't know why' – Accounting for the Scarcity of Women in ICT Work', *Working Paper 3/2007*. London: London Business School. Website: <http://www.london.edu/womeninbusiness.html>.
- Kelan, E. K. (2007c) 'Gender Fatigue – the Ideological Dilemma of Gender Discrimination in Organisations', *Working Paper 5/2007*. Lehman Bothers Centre for Women in Business, London Business School. Website: <http://www.london.edu>.
- Kelkar, G. and Nathan, D. (2002) 'Gender Relations and Technological Change in Asia', *Current Sociology* **50**, 3, 427-441.
- Kelkar, G., Shrestha, G. and Veena, N. (2002) 'IT Industry and Women's Agency: Explorations in Bangalore and Delhi, India', *Gender Technology and Development* **6**, 1, 63-84.
- King, J. L., Gurbaxani, V., Kraemer, K. L., McFarlan, F. W., Raman, K. S. and Yap, C. S. (1994) 'Institutional Factors in Information Technology Innovation', *Information Systems Research* **5**, 2, 139-169.
- LIRNEasia (2006) *A Baseline Sector Analysis of the Business Process Outsourcing Industry in Sri Lanka*. Colombo: Information and Communication Technology

- Agency of Sri Lanka. Website: <http://lirneasia.net/projects/2006-07/base-line-sector-analysis-of-the-bpo-industry-in-sri-lanka/>.
- Margolis, J. and Fisher, A. (2003) *Unlocking the Clubhouse: Women in Computing*. London: MIT Press.
- Meyer, J. and Rowan, B. (1977) 'Institutionalized Organizations: Formal Structures as Myth and Ceremony', *American Journal of Sociology* **83**, 340-363.
- Myers, M. D. and Avison, D. (2002) *Qualitative Research in Information Systems: A Reader*. London: Sage Publications.
- Mingers, J. (2003) 'The Paucity of Multi-Method Research: A Review of the Information Systems Literature', *Information Systems Journal* **13**, 233-249.
- Moore, K., Griffiths, M. and Richardson, H. (2008) 'Gendered Futures? Women, the ICT Workplace and Stories of the Future', *Gender, Work and Organisation* **15**, 5, 523-542.
- Morley, L. (2005) 'Gender Equity in Commonwealth Higher Education', *Working Paper 6: Research Findings*. London: Institute of Education, University of London. Website: <http://www.ioe.ac.uk>.
- Morrison, Z., Bourke, M., and Kelley, C. (2005) "'Stop making it such a big issue': Perceptions and Experiences of Gender Inequality by Undergraduates at a British University', *Women's Studies International Forum* **28**, 150-162.
- Moser, C. (1993) *Gender Planning and Development*. London: Routledge.
- North, D. C. (1990) *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press.
- Orlikowski, W. J. and Baroudi, J. J. (2002) 'Studying Information Technology in Organisations: Research Approaches and Assumptions', in M. D. Myers and D. Avison (eds.), *Qualitative Research in Information Systems: A Reader*. London: Sage Publications.
- Phipps, A. (2006). "'I can't do with whinging women!' Feminism and the Habitus of 'Women in Science' Activists', *Women's Studies International Forum* **29**, 109-226.
- Poggio, B. (2000) 'Between Bytes and Bricks: Gender Cultures in Work Contexts', *Economic and Industrial Democracy* **21**, 381-402.
- Queensberry, J. L. and Trauth, E. M. (2007) 'What do Women Want?: An Investigation of Career Anchors Among Women in the IT Workforce', *Proceedings of ACM SIGMIS Conference on Computer Personnel Research April 2007, St. Louis, USA*. Arizona: ACM Press.
- Radwan, I. and Fernando, G. (2006) *Offshore to Sri Lanka: Finding Sri Lanka's Offshoring Niche*. Washington D. C.: The World Bank.
- Raghuram, P. (2004) 'Migration, Gender, and the IT Sector: intersecting debates', *Women's Studies International Forum* **27**, 163-176.
- Randriamaro, Z. (2002) *The NEPAD, Gender and the Poverty Trap*. Website: <http://www.web.net/~iccaf/debtsap/nepadgender.htm>.



- Robertson, R. (1995) 'Glocalisation: Time-Space and Homogeneity-Heterogeneity', in M. Featherstone, S. Lash and R. Robertson (eds), *Global Modernities*. London: Sage Publications.
- Sanders, J. (2005) *Women and IT: Fast Facts*. Presented at: International Symposium of Women and ICT: Women and ICT: Creating Global Transformation, June 2005, Baltimore, USA.
- Sarvananthan, M. (2007) 'Economy of the Conflict Region of Sri Lanka: From Embargo to Repression', *Policy Studies* 44. Washington D. C.: East-West Centre. Website: <http://www.eastwestcenter.org/fileadmin/stored/pdfs/ps044.pdf>.
- Satharasinghe, A. (2004) *Computer Literacy Survey of Sri Lanka 2004*. Colombo: Dept. Census and Statistics, Government of the Republic of Sri Lanka. Website: <http://www.statistics.gov.lk>.
- Scott, R. (1995), *Institutions and Organizations. Foundations for Organizational Science*. Beverly Hills: Sage Publications.
- Senewiratne, H.H. (2011) "'Lanka needs more graduates for IT industry growth" - Madu Ratnayake', *The Island Newspaper*, Colombo: Upali Newspapers (Pvt) Ltd. Website: <http://www.island.lk/>
- SLICTA (2007) *National ICT Workforce Survey*, Colombo: Sri Lankan ICT Association.
- Swyngedouw, E. (2004) 'Globalisation or 'Glocalisation'? Networks, Territories and Rescaling', *Cambridge Review of International Affairs* 17, 1, 25-48.
- Thioune, R. M. (2003) *Information and Communication Technologies for Development in Africa: Volume 1 - Opportunities and Challenges for Community Development*. Ottawa: CODESRIA/ International Development Research Centre.
- Tjomsland, M. (2010) 'Women in Higher Education: A Concern for Development?', *Gender Technology and Development* 13, 3, 407-427.
- Trauth, E. M. (2002) 'Odd Girl Out: An Individual Differences Perspective on Women in The IT Professions', *Information Technology and Society* 15, 2, 98-118.
- Trauth, E. M., Queensberry, J. L. and Huang, H. (2006) 'Cross-Cultural Influences on Women in the IT Workforce', *Proceedings of ACM SIGMIS-CPR, April 2006, California*. USA: ACM Press.
- Turkle, S. (1988) 'Computational Reticence: Why women fear the intimate machine', in C. Kramarae (ed.), *Technology and Women's Voices – Keeping in Touch*. London: Routledge.
- UNDP (nd) *ICT Profile – Sri Lanka*. UNDP Asia-Pacific Development Information Programme. Website: <http://www.wapdip.net/projects/dig-rev/info/lk>.
- UNESCAP (2002) *Issues, Policies and Outcomes: are ICT Policies Addressing Gender Equality?* New York: United Nations. Website: <http://www.unescap.org/esid/GAD/Publications/Issues.pdf>.
- Upadhyaya, C. (2006) 'Gender Issues in the Indian Software Outsourcing Industry', in A. Gurumurthy, P.J. Singh, A. Mundkur and M. Swamy (eds.), *Gender in the*

- Information Society: Emerging Issues*. New Delhi: UNDP-APDIP, Elsevier. Website: <http://www.apdip.net/publications/it4d/GenderIS.pdf>.
- Upadhyay, C. (2009) 'Controlling knowledge workers: Power and agency in India's Software Outsourcing Industry', *New Technology, Work and Employment* 4, 1, 2-18.
- Wajcman, J. (2004) *TechnoFeminism*. Cambridge: Polity Press.
- Walby, S. (2011) Is the Knowledge Society Gendered? *Gender, Work and Organisations* 18, 1, 1-29.
- Walby, S. and Olsen, W. (2002) *The Impact of Women's Position in the Labour Market on Women's Pay and Implications for UK Productivity*. London: DTI Publications.
- Walsham, G. (2001) *Making a World of Difference: IT in a Global Context*. Chichester: Wiley.
- Wanasundera, L. (2005) *Expanding Women's Capacities Through Access to ICT: An Overview from Sri Lanka*. Presented at: Seminar on Gender Perspectives on the Information Society South Asia Pre-WSIS, April 2005, Bangalore. Website: <http://www.itforchange.net/media/leelangi.doc>.
- Westrup, C. and Liu, W. (2008) 'Both Global and Local: ICTs and Joint Ventures in China', *Information Systems Journal* 18, 4, 427-443.
- Woodfield, R. (2000) *Women, Work and Computing*. Cambridge: Cambridge University Press.
- World Bank (2006) 'ICT and Gender Equity', *Gender and Development Briefing Notes*. Washington DC: World Bank.
- World Bank (2008) *ICT at a Glance: Sri Lanka*. Washington D. C.: The World Bank. Website: [http://devdata.worldbank.org/ict/lka\\_ict.pdf](http://devdata.worldbank.org/ict/lka_ict.pdf).
- Zucker, L. G. (1991) 'Postscript: Microfoundations of Institutional Thought', in W. Powell and P. DiMaggio (eds.), *The New Institutionalism in Organisational Analysis*. Chicago: University of Chicago Press.



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<sup>1</sup> See Sanders (2005) for more statistics and Kelan (2007a) for more discussion.

<sup>2</sup> Hafkin (2006) notes that it is still not possible to obtain national sex-aggregated data on ICT-related formal and non-formal education in most developing countries.

<sup>3</sup> Other forces beyond the scope of this paper include, cultural views of women as ICT professionals (Griffiths *et al.*, 2006; Kelan, 2007b; Kelkar and Nathan, 2002; Margolis and Fisher, 2003; Moore *et al.*, 2008; Thioune, 2003; Trauth *et al.*, 2006), the culture of ICTs (Corneliussen, 2004; Faulkner, 2004; Henwood, 1993; Kelan, 2007c; Turkle, 1988; Wajcman, 2004), and the individual themselves (Phipps, 2006; Kelan, 2007b; Margolis and Fisher, 2003; Morrison *et al.*, 2005; Trauth, 2002).

<sup>4</sup> BPO Labour costs in Sri Lanka are estimated to be lower than Mexico, Thailand, China, Philippines and India at USD 0.60 per day (Radwan and Fernando, 2006).

<sup>5</sup> With inflation rate at approximately 17% (Dept. Census and Statistics website 2008), this equated to around Rs. 5000 (US\$46) per month in 2006.

<sup>6</sup> Discussion of this is beyond the scope of this paper but the research findings indicate such gender impacts.

<sup>7</sup> See King *et al.* (1994) for more discussion on this.

<sup>8</sup> Findings from other country contexts show similar perceptions among women ICT professionals. For instance, Griffiths *et al.*'s (2006) study of women ICT professionals in the UK found the perception that ICT work in public sector is less stressful than private sector and a viable alternative that women consider, despite offering a lower salary and perhaps less interesting work.

<sup>9</sup> See also Westrup and Liu (2008) for an example of such compromised 'glocalisation' in the Chinese ICT context.