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'Missing Women': Gender, ICTs And The Shaping Of The Global Economy

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**‘Missing Women’: Gender, ICTs And
The Shaping Of The Global Economy**

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Abstract

The agency of women as a force for change is one of the most neglected aspects of the development literature

(Drèze and Sen, 1995: 178).

In a recent key paper (Walsham and Sahay, 2005) outlining research on information systems in developing countries and suggesting potential areas for future research, a notable omission was the issue of gender and gender relations. In this paper we draw on the substantial gender and development literature to demonstrate the centrality of gender to our understanding of information systems in developing countries. In particular, we consider the relationship between gender, ICTs, and globalization to illustrate how changes in the global economy both impact on and are influenced by changing gender identities and roles

Key words

gender, gender relations, development, developing countries, information and communication technologies

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Introduction

In a recent paper, Walsham and Sahay (2005) set out the current landscape of research on information systems in developing countries, identifying gaps in the literature and suggesting some areas for further research. It is our intention here to extend this landscape to include consideration of the important analysis of gender issues, which are absent from their conceptual overview. Drawing on the gender and development literature, in this paper we aim to show how a political economy of development is interwoven with ICT capitalist productivity, and how the lives of women in particular are shaped by emerging global patterns in the feminisation of employment. Homogenized by their gender, far from opening up chances for women, the spatial clustering of global and local economics and the feminisation of employment limits job opportunities, disperses family members, lowers their level of pay and constricts their bargaining power.

In offering a gender framework, critical reflection is applied to how this political economy of development is woven in national and international governance, in business practices and concerns, in public and private employment configurations. As Walsham and Sahay (2005) flag, the absence of such reflection within the IS literature on development is a serious omission, and by extending the analytical tools of feminist theorizing we may open up debates on how culturally specific practices of ICT adoption and work processes impose specific ways of being and acting in local arenas subject to developmental control. A gendered lens help us to unravel the variances in local socio-economic, political, cultural and personal arrangements, the areas of tension between these arrangements that are experienced, and the relation of ICT capitalist productivity to them. Within this analytical framework, the array of differences that emerge may be juxtapositioned against the myths of homogeneity and equity that ICT infrastructure deployment is said to give rise to.

The paper will proceed as follows. The next section begins by briefly clarifying some of the conceptual apparatus that we employ, namely: gender construction, gender relations, and gender differences. Gender mainstreaming policies that seek to improve the visibility of women are then discussed and argued to be inadequate, since the logic of inclusion is based on homogeneity of outcome. The paper proceeds to outline a central exploitative relation between gender, ICTs and globalisation which takes the form of the feminisation of employment. Augmenting gaps in gender parity, the impact of ICTs on women’s work and lives is explored by charting a number of economic profiles. Briefly contextualising the historical expansion of manufacturing and service sectors in developing countries, gendered practices are highlighted and the characteristics of employment for women reflect inequities and limited opportunities. That which emerges is the value-added utilisation of their cheaper labour to support global capitalist development and productivity. Taking the example of the call centre phenomenon in India, the construction of an alien cultural identity to meet non-local callers’ culturally specific expectations neutralizes difference and aims to standardize in an attempt to provide homogeneity of service. Furthermore, the clustering of economic activity, which is predominantly city based, is linked to the reorganization of international companies pursuing operational cost-cutting and new markets, and this spatial reconfiguration of local markets means many women turn to home-based employment or telework. These informal employment activities, untouched by mainstreaming gender initiatives, provide key sources of income and hence degrees of independence, but supply capitalism with flexible, extremely cheap and unprotected productive labour. The prevalence of patriarchal structures and relations of domestic labour contour women’s bargaining power and social positioning as the household fluidly adapts to global trends. Finally, we offer some conclusions.

Gender Construction: Axes of Relational Difference

Given the paucity of studies in IS which consider the issue of gender, it is worthwhile outlining some key terms. Therefore, this section is intended to provide a summary of the meanings of gender, gender relations and gender differences, since these provide the conceptual tools for a gender, ICTs and development research focus.

While sex reflects biological difference, gender - although often based on biological sex - is a social construction (Adam, 2005; Elson, 1995; Kothari, 2002). Individuals are born and immediately classified as female or male, and over time acquire a gendered identity, that is, what it means to be feminine or masculine (Elson, 1995). Both gendered concepts are relational (Wajcman, 1998), that is they are construed in relation to each other by defining what the female is not in relation to the Western masculine norm; this varies from one environment to another and shifts over time. Reflective of Cartesian epistemology that categories the known world into dichotomist relations, conceptualisations of femininity and masculinity, developed and undeveloped, rich or poor, educated or non-educated present judgemental points of references for interpreting and responding to perceived qualities of sameness and difference.

Gender relations refer to the particular power dynamics embodied in our conceptualisations of difference and sameness, that is, unequal variances or assumed equalities between women and men. The gender regimes, or the array of *'institutional power relations between men and women where gender is a property of institutions and historical processes, as well as individuals'* (Wajcman, 1998: 3) is changing, from one which was based on women being predominately based in the domestic sphere, to one in which women are increasingly present in the public sphere, although frequently segregated to unequal positions (Walby, 1997). Therefore, the main focus of a gender, ICTs and development approach is not on women *per se* but the socially constructed relations between women and men. Importantly, it recognizes that women and men are positioned differently in society, and that not all women or all men share the same experiences. It recognizes that the development process has affected women and men differently, with women being increasingly marginalized (Elson, 1995; Kabeer, 1994). However, a gender perspective does not simply focus on differences between women and men, but considers how this differentiation acts as the basis for the unequal distributions of power (Wajcman, 1998; Pearson, 2006; Perrons, 2004).

How the gendering of work, economics, development, skills, technology, the household, and indeed many other aspects of social, political and economic life constitute individuals as different types of value-added labourers can be made visible by documenting cultural values, beliefs and activities which contribute toward identity formulations, roles and responsibilities configurations, and personal aspirations and opportunities. How these micro dimensions of every day existence are informed and reinforced by community and institutional hegemonic ideologies and practices that support the normalized status quo provide the sources and structures of inequitable power relations. In the development of global capitalism, which sees these issues being extended beyond the Western arena, there is a prevailing economic and social system which generates inequalities albeit to different degrees in different places. However, gender inequality is both significant and universal (Perrons 2004). Women, relative to men, are experiencing higher rates of hunger and malnutrition, illiteracy, overwork, and sexual violence (Kerr et al., 2004). More women than men live in rural areas of developing countries where the infrastructure is far less developed and within poor households, women are the poorest of the poor (Hafkin and Taggart, 2001).

In order to provide detailed understanding of these issues a gender, ICTs and development research focus needs to anticipate the differential effect on women and men of development interventions, which are linked to the socioeconomic aspects of people's lives. This foregrounds gender ideologies, structures, and norms, which shape the diverse positioning of

women and men (Pearson, 2006). For us, an appreciation of gender issues and relations also requires an understanding of the dynamics of the material world. Our approach draws on feminism since this challenges the existing canon, theorizes inequalities, and has a vision of political change. While some may have reacted against the incorporation of gender issues into the development agenda, arguing that it reflects a Western and imperialist bias, we concur with Pearson (2000) that its relevance to development policy and institutions transcends the local. We will now turn our attention to how gender issues have become ‘mainstreamed’ in development policy.

Gender Mainstreaming: Ephemeral Attempts at Homogenisation

Until the 1970s women were virtually invisible to development planners and policy makers (Elson, 1995; Kothari, 2002). Their economic activities were often ignored given that much of their labour was unpaid and undervalued as compared with men’s labour. Elson (1999) eloquently argues that labour markets are gendered in the way in which they operate at the intersection of how people earn a living and care for others. Economic activities which contribute to national production are seen as the ‘productive economy’, whilst unpaid caring activities – the ‘reproductive economy’ – although crucial for reproducing the future labour force, fail to be acknowledged. This trivializes women’s employment and ignores the gender division of labour where production outside the market and its contribution to economic productivity goes largely unacknowledged. This lack of validity for women as economic actors justified their absence from the framework of what constituted development.

More recently, the centrality of gender to economic and social change has been understood by many in development agencies and international organizations, such as the United Nations (UN) (Kothari, 2002; Perrons, 2004). Since 1995, gender has had a higher profile in world politics, notably with the Fourth UN Conference on Women in Beijing which specified a platform to which many countries subscribed (Perrons 2004). This effort is referred to as ‘gender mainstreaming’ and has required an increased representation of women at all levels and greater significance of gender issues in their activities, playing a more central role in discussions on labour markets, poverty and debt issues for example. As international agencies have mainstreamed gender, international aid has become conditional upon gender impact assessments resulting in many less developed countries taking gender issues far more seriously than some OECD countries (Perrons, 2004).

Despite progress, there are some concerns. Pearson (2006) notes, that regardless of efforts to place gender at the heart of development activity, it remains ‘*a marginal and optional add-on*’ (p. 190). There is evidence to suggest instrumentalization of these issues with projects that do not necessarily serve feminist goals or may in fact be in conflict with them (Bernería, 2003). While this ‘efficiency approach’ is important for women’s advancement, the primary goal falls short of concerns with women’s wellbeing (Beneria and Sen, 1981; Elson, 1991; Pearson, 2006; Sen, 1999). As many Western corporations and governments attempt to recognize and validate difference through diversity policies in an attempt to address the failures of earlier equality initiatives, they in fact leave the power mechanisms of conformity unchallenged and intact, individualize the inequities, bypass tensions of co-existence and actually reinforce and homogenize difference (Wajcman, 1998; Gillard et al., 2006). Some of these initiatives and programmes have been described as an ‘add women and stir’ approach (Harding, 1987), as they fail to question gender-based power relations.

Gender mainstreamers within or close to the UN system and G8 have had a modest impact because this area of policy is seldom well resourced, and non-compliance to gender policy is tolerated (Hambly Odame 2004). They fail to factor in the recalcitrance of organizational practices, the dependency on willingness, the costs or time factors of implementation, or indeed the weaknesses of the legal foundations which rest on the capriciousness of politico-

economic climates (Gillard, 2006). Predicated on normatively defined measures of equity and difference, on Caucasian, male, middle class, heterosexual, familial and other mainstream ethics, gender mainstreaming tokenizes difference and validates sameness, with women's individual rights and responsibilities tenuously oscillating on such policy trends. Evidence from gender mainstreaming in the European Union has shown that what may first appear as a radical way forward, in reality is far more concerned with the participation of women in the labour market *regardless* of low pay, poor working conditions, tensions between working and domestic life, and other trappings of social injustice and inequality.

Therefore gender mainstreaming is ephemeral, particularly in the context of gender and ICT policy in examples such as UN ICT Task Force, the International Telecomms Union (ITU) and World Summit on the Information Society (WSIS) (Hambly Odame, 2005). ICT's are often seen as key to promoting development, offering opportunities for women to enter the workforce and become involved in enterprise (Morgan et al 2004). Yet there are vastly exaggerated claims about the likely 'impact' of new technologies on social, economic, cultural and working lives (Huws, 2003; Woolgar, 2002). Technology generally and ICT's in particular are often touted as an instrument for bridging the gap between developed and developing countries, yet these assumed economic and social gains, often perceived within a market regime, are dubious at best (Avgerou, 2003).

Gender, Icts and Globalization: The Feminisation of Employment

Changes in the global division of labour that came into existence in the 1970s have been facilitated by continued improvements in ICTs and have contributed to the feminization of employment¹ (Perrons, 2004). International trends have been for female labour force participation to rise, while the male participation rates are falling (Standing, 1999; Standing, 2006). Between 1975 and 1995, 74% of developing countries and 70% of developed countries had increases in women's economic activity rates, while during the same period male activity rates decreased in 66% of developing and 95% of developed countries (Standing 1999). This has been in parallel with the processes of labour market regulation and flexibilization arising from neoliberalism (Bernería, 2003), which has led to institutional changes at the micro level, including outsourcing and changes in the composition of the workforce. The new international division of labour and the accompanying structural, material changes are gendered, with differential consequences for women and men (Bernería, 2001). There has been an emphasis on the key role of women's labour to deal with international competition and global markets, as large numbers of women workers from developing countries entered both the formal and informal labour force. Feminisation is used to characterize the activities associated with 'women's work': ideologically constructed and with fluid definitions according to the role of the family within global capitalism and fulfilling the specific requirements of the local labour market at any given time. It also refers to the pattern of employment, which results in increasing numbers of women occupying certain jobs².

No country has industrialized without mobilising large numbers of women workers (Standing, 2006) and studies have documented a preference for women workers in different sectors, particularly in export-oriented, labour-intensive industries relying on low-cost production for global markets. Women predominate in industries where profit margins are protected by reducing labour costs, extending working hours or reducing the number of formal workers (Standing, 2006). The feminisation of employment expanded initially with the manufacturing sector, and more recently with the internationalisation of services, especially call centres and data entry. This phenomenon is most marked in Asia, but has also affected much of Latin America, with the growth of the service sector contributing toward greater polarization of earnings between highly paid 'knowledge' workers and poorly remunerated generic employees in the caring, cleaning and catering industries (Perrons, 2004).

These structural developments have affected women's work in developing countries in a number of ways (Mitter and Rowbotham, 1997; Perrons, 2004):

- By altering the process of production in manufacturing and service industries through automation, deskilling of workers, and augmenting skills of key jobs;
- By the introduction of new products and services into the market, such as electronics or computer peripherals;
- By shifting production to locations that are distant from the main sites of commercial units or to home-based workers.

We will now focus on these material changes by outlining a number of different economic profiles, illuminated by a gender analysis of global change.

A Manufacturing Sector Profile

With regard to the manufacturing sector, women now represent more than a third of the labour force in developing countries and almost one-half in some Asian countries (Mehra and Gammage, 1999). The greatest increases occurred in countries which focused on low wage production for export – export-processing zones (EPZs) and informal employment in low-wage, labour-intensive manufacturing (Bernería, 2003) which were often exempt from labour regulations (Mehra and Gammage, 1999). Export-led industrialisation is based on significant inequalities, particularly as regards the gender division of labour and the gender wage gap (Bernería, 2001). At the heart of low-cost production for global markets is 'flexible production' and women are seen as the most flexible labour supply in terms of their willingness to accept temporary contracts and unstable working conditions. Evidence of this discrimination can be seen in the report from the United Nations in 1995, which found that in none of the 37 countries for which data was available did women's wages in manufacturing equal that of men (Standing, 1999).

In the first phase of global migration to Asia in the 1970s, IT-related jobs were labour intensive, contingent, primarily assembly line or semi-skilled, low-wage, with long hours and harsh conditions (Castells, 1996; 1997; Mehra and Gammage, 1999). Much of the production focussed on low technology consumer goods, such as radios and televisions. Over the last 20 years, however, the pattern has changed from *making* IT to *using* IT in nearly every manufacturing industry (Hafkin and Taggart, 2002). Today, globalized manufacturing still demands cheap labour, but with greater technical and cognitive skills than in the first phase. Therefore the skills of female 'nimble fingers' become redundant and are replaced by (primarily male) skilled technicians and engineers. For example, as the technology advances in Malaysia and Latin America, men are replacing lower skilled women in the electronics industry resulting in an overall reduction in female employment. The need for specialist skills translates into a demand for male labour as firms are opting to employ younger, inexperienced men from technical schools rather than retrain their existing female workforce, often despite a history of long service. As work becomes more specialized and technological the labour force shows a trend towards defeminisation (Mehra and Gammage, 1999). Although conditions in manufacturing in the 1970s were far from ideal, nevertheless women do not want to be forced out of these jobs and have to return to their prior situations. Any gains that women may have achieved through working in the manufacturing sector are now appearing to be short-lived as women are forced out or marginalized within the sector (Mehra and Gammage, 1999).

A Service Sector³ Profile

The rapid formation of the female labour force across the globe has been tied, in particular, to the rapid shift from agriculture and to the growth of the service sector (Bernería, 2003; Mehra and Gammage, 1999). The restructuring of the labour market and the labour process has seen moves to transfer some aspects of service sector work to less developed countries as firms

search for cheaper and more flexible ways to accumulate capital. The first wave of IT-enabled service sector jobs in developing countries was in online export-oriented information processing (especially medical transcription, banking, insurance and airline data entry) and these jobs were done almost entirely by women. For example, for the past 30 years, large numbers of female data entry workers have been employed in Barbados and Jamaica, and in the West Indies 99% of these workers are female (Hafkin and Taggart, 2001). More recently, female data entry workers have come to predominate in China, India, Singapore and Vietnam.

A popular example of this type of employment concerns call centres, particularly those based in India. These are subsumed within two broader categories of IT Enabled Services (ITES) and Business Process Outsourcing (BPO). These centres are being globally located via outsourcing and offshoring in the hope of taking advantage of different time zones and lower wages. Without doubt, the overriding factor that is driving this migration of call centre work to developing countries is the promise of substantial cost savings. They combine front-office (voice) and back-office work, with the former carried out mainly at night and the latter during the day (Taylor and Bain, 2004). Much of the 'front-line work' (Frenkel et al., 1999) is carried out by women since their social and emotional skills are often designated as gender attributes (Belt et al., 2002) and women are often considered cheaper and more flexible. These skills are often unrecognized and unacknowledged, but they are arguably gendered and indeed perpetuate the 'gender ghetto of women's service work' (Webster, 2004). In this context, gender becomes embedded in the restructuring of global service production and is mobilized as an economic resource for companies.

Within the workplace, technology is also used to automate and facilitate work restructuring, as service sector employees interact as advisors, assistants, carers or message-takers. There are contradictory pressures as much of the work process is standardized and routinized, yet at the same time employees are required to satisfy the customer. Many of the types of calls that are handled in India are low-level transactional enquiries, which are fairly repetitive, with short cycle times (between 30 and 180 seconds). This intense activity of call handling for overseas customers occurs at night, often during shifts of between 8-10 hours duration, six days a week (Taylor and Bain, 2004).

In addition to these difficulties associated with workforce performance, employers within the global service sector demand a constructed cultural identity, which may sit uneasily with cultural identity within the host location. A key challenge that call centre workers face in India is the neutralisation of their diction and the cultural assimilation that is assumed (Taylor and Bain, 2004), as they adopt anglicized names while 'smiling down the phone'. Mirchandani (2004) describes the psychological tensions that are experienced as workers adopt Western identities and are expected to conceal the location of the call centre. Despite the assembly-line nature of the work, employers try to instil the idea of professional status by enforcing 'pink collar' dress codes of skirts and high heels (Freeman, 2000). For many women workers within the service sector these local and global tensions become embedded within their everyday lived experience, varying between types of service work and across different locations, depending on the contextual specificity.

Although skill requirements in this aspect of service sector work are not especially high (keyboard and language skills), they are far higher than those required in the first phases of feminized manufacturing jobs. As women become increasingly displaced in traditional manufacturing jobs, it is unlikely that they are able to move to service industry jobs, especially as these jobs tend to be numerically fewer. Service sector employers prefer young, single women, with a good education (Hafkin and Taggart, 2001). Underlining the assembly-line nature of the work, employers require flexible working with shifts, which frequently prevents women with families from taking jobs during off-peak hours. So while globalization may have brought new opportunities to young women with familiarity in English in the new

service sector jobs, it has imposed homogeneous and culturally specific work practices, and made large numbers of older women redundant in the manufacturing sector.

As the service sector generally offers higher wages and greater job security than the agricultural sector, these trends are seen to reflect broad improvements in the quality of women's employment (Mehra and Gammage, 1999). Yet, within the service industry itself, particularly banking, finance, and insurance, women are predominantly based at the lower paid and less skilled employment levels, with few occupying positions in management (Standing, 1999). If women enter the workplace at the level of clerk there are limited opportunities provided for training and career advancement (Hafkin and Taggart, 2001). However, as ITES jobs come to reflect the movement towards the so-called knowledge economy, skill requirements are advancing and demands on women workers will be higher. Women may have made notable progress into highly skilled work such as software programming in Brazil, India and Malaysia, yet nowhere are these jobs held by a majority of women; women working in these areas comprise a small, educated elite (Hafkin and Taggart, 2001).

An IT/ICT workforce Profile

The IT/ICT workforce is a fairly new professional sector, particularly in many developing countries, yet women occupy a minority of positions and gender inequalities that are well established in many other sectors are being replicated in the IT/ICT industries. In India women comprise 19% of the IT workforce and 37% of employees in ITES (www.hindubusinessline.com), while in Brazil, women make up 20% of the software industry. They tend to be concentrated in particular occupational areas, which are generally the lower skilled IT jobs related to data entry, and they comprise a small percentage of managerial, design, and software personnel (Hafkin and Taggart, 2001). Yet, as increasing numbers of women enter the IT or ICT professions, there is a drop in salaries, status and working conditions. The domain of masculinity becomes increasingly feminized.

The majority of the newly created technology and telecommunication jobs in developing countries are in the private sector, but the lack of benefits available means that women are unlikely to pursue these types of employment, instead having to opt for public sector work that is more likely to offer childcare provision, flexible hours and maternity leave. As some governments legislate for such benefits, the full responsibility for providing them often falls on private sector employers who are then inclined to discriminate against employing women in order to avoid the financial cost of providing these services and benefits. In a recent case study on network engineer training programmes in Britain running the Cisco Certified Network Associate (CCNA) module (Gillard, 2006), it was found that employment opportunities commensurate with their expertise were considerably restricted for women in general, but particularly so for lone parents. Reiterated by Hafkin and Taggart (2001), CCNA programme managers, instructors and students found that employers were reluctant to recruit women, perceiving them as poorly qualified and lacking critical work experience. Employers frequently maintained that not only were the supposed physical and computational demands of job too exacting, but also that it was too risky to permit inexperienced personnel to tinker with the vital network infrastructure. Preferring to hire men, this blatant stereotyped discrimination in skills recognition was also encountered by female instructors and students in the Philippines, Romania and Russia, with job ads for computer technicians frequently specifying male candidates (Hafkin and Taggart, 2001). In the training programme however, women performed as well as, if not better, than their male colleagues (Gillard, 2006).

A Spatial and Organizational Restructuring Profile

Increasing globalization and the pursuit of international competitiveness have made labour costs more important in determining changes in the geographical location of production and

employment and also in determining which groups of people are employed (Standing, 1999). In the quest for increasing profit, new markets and new commodities are explored, labour is sought in cheaper localities, the labour process is intensified, and neo-liberal policies deregulate trade and financial transactions. Globalization has facilitated a reduction of the core size of the firm as the periphery is expanded to new outsourced sites in other countries (Bernería, 2001). The development of ICTs, dematerialized products, and the standardisation of work imply that service work operations can take place at any time, any place and anywhere. However, there are significant reasons for the clustering of economic activity, including cost advantage and incentives, the environmental infrastructure, and the availability and ease of retention of people and skills. For example, regarding ITES, there are significant city-based clusters with Manchester in the UK, Bangalore in India and Brno in the Czech Republic consistently appearing in the top 5 global locations (King 2006). In India call centres tend to be based in Delhi and in the largest city and principal commercial centre, Mumbai (Taylor and Bain, 2004). So, while some may claim that we are in a transformational and global knowledge economy, virtual work in services tends to be both location less (and global) and location specific (and local). While the increasing adoption of ICTs may appear to enable work to be conducted 'anytime anywhere' the reality is that key employers are still based in major capitals or large urban conglomerates. The geographical location has an influence on women's ability to participate in the workforce since their mobility is much more constrained due to familial obligations.

These politico-economic capitalist activities have social implications for both communities and people affected by the mobility of international companies seeking greater valorisation of their products and services, with ICT productivity often at the forefront of development and equalizing initiatives (Gillard et al., 2006). Narrated as improving global interconnectedness between geographically dispersed regions, ICTs may contribute toward degrees of cultural homogenization through technical standards and implementation processes for example, but as Perrons (2004) and D'Mello (2006) note, local variances exist and flourish. Yet these differences are often airbrushed by the discourse of globalization and alleged democratic opportunities offered through ICT's as the zones and countries targeted for development are highly regulated by the terms and conditions set by key international agencies such as the IMF and the World Bank. Tied into financial contracts which change production, trade and economic activity and thereby affect social relations, the power behind these agencies lies with key Western nation states and corporations. This multidimensional consortium of power has a vested interest in capitalizing on homogeneity; nevertheless our world is not the same.

An Informal Sector Profile

Two of the major changes to the spatial reorganization of women's work arising from the use of ICTs in developing countries are home-based work and teleworking, both of which are based on subcontracting arrangements. ICTs are used to enable distance working whereby employees or freelancers work either at a site that is geographically separated from corporate headquarters (often located in a developed country) or work from within the home. Many of these types of extended production networks, which emphasize 'flexible working', allow corporations to legitimately pay lower wages while bypassing the provision of benefits and protective legislation (Ward and Pyle, 2000).

A key feature of flexibilization has been a relative and absolute growth in non-regular and non-wage forms of employment. Homebased work provides an important source of employment throughout the world, especially for women, and homebased workers comprise a substantial proportion of the workforce in key export industries (Chen et al., 1999). Globally, the female work force is greater than the male work force in the informal sector (Chen et al., 1999) yet gender differences are often ignored (Standing, 1999). There is a considerable gap in the literature on women's employment in the informal sector (Chen et al., 1999; Elson, 1999; Standing, 1999) despite providing more employment more consistently for women than

the formal sector. Almost all women workers in low-income countries such as Tanzania and Ghana are concentrated in informal sector employment, while in middle-income countries a large proportion of women are concentrated here, notably 76% in Thailand and 80% in Turkey (Standing, 1999).

Teleworking is one of the most rapidly growing forms of flexible labour which is absorbing far more women than men and involves less secure working conditions (Standing, 1999). Informal sector employment is assumed to be compatible with characteristics that are deemed stereotypical of women workers: irregular labour force participation, willingness to work for low wages, static jobs requiring little or no career advancement. By outsourcing work to the informal sector corporations reduce costs, as women are employed without fixed contracts and lack the rights and benefits associated with regular employment based on company premises: comparable pay, promotion, pensions, training, unionisation and paid leave. As noted, one of the paradoxes of industrialisation, is that homeworking flourishes (Hafkin and Taggart, 2001).

These types of informal economic activities have traditionally been seen as a strategy for economic survival for women and used in addition to formal labour and household activities. In the literature during the 1970s and 1980s the informal sector was seen as transitory (Bernería , 2001) but the reality for many women is that this type of employment is far from evanescent (Standing, 1999) and indications reveal that the informal sector is growing in magnitude and significance as the formal sector shrinks (Bremán, 2006). Conceptually, the formal and informal sectors were viewed as highly separate, despite studies showing levels of interconnectedness, particularly through subcontracting (Bernería , 2001). There is an increasing trend whereby even large-scale enterprises have been informalising their labour process in the industrial and service sector in order to increase their competitiveness and profits (Bernería and Roldán, 1987). In this respect, these two key areas of employment are highly linked and connected as the formal sector intensify their involvement with informalized production through outsourcing and subcontracting (Bernería , 2001). Therefore, rather than be absorbed by the formal sector, informal economic activity is on the increase and is instrumental to global competitiveness and profit maximisation. The informal sector is an integral part of the global market economy (Steans, 2000), being both dependent upon and subordinate to the formal sector (Bremán, 2006). Core firms engineer a principal role in the generation of informality and poor working conditions, via chains of subcontracting and outsourcing. As Standing (2006) notes, a trend in many developing countries is that so-called 'formal' enterprises (modern, large) have been informalising their labour, by outsourcing, and by using more casual labour and contract labour. Consequently, it has become increasingly difficult to identify where the formal market ends and the informal begins. Given the feminization of the labour force over the last three decades, coupled with the drop in formal employment, women have been central to these informal activities.

The Household: The Negotiation of Domestic Work

In order to have some understanding of the interconnectedness of gender, ICTs and development, the totality of women's working lives requires examination. Much of the gender and development research has emphasized the need to redefine work to incorporate paid labour in the formal sector, paid informal sector work, and unpaid labour in the household (Ward and Pyle 2000). Households take different forms in different societies, yet the majority of women in the world work in two to three of these categories, aptly called 'the triple shift' (Hossfield, 1990). Under researched outside of feminist scholarship, this public/private nexus of work organization often means that whether or not it is managed by family members or paid personnel, domestic chores generally remain the responsibility of women. Despite a common assumption that equalitarian households are on the rise, many women have to sacrifice their career or employment choice to manage these practical caring

tasks. Whilst the heterosexual married couple format remains the homogenising norm in many societies, familial units are changing; partly in response to shifting social aspirations and greater acceptance of varied sexual identities, but also to absent parents. The male breadwinner assumption is turned around by the rise in dual-earning and single parent families, both in Europe and in many developing countries such as the African continent where HIV/AIDS related illnesses, for example, have decimated not only families but whole communities. This restructuring of the household has implications for not only employment patterns, but also mobility, opportunity and well being. As the intensification of work filters through to globalized local arenas, long and anti-social hours cut into private lives and whilst the affluent can afford to buy in, or contract out, domestic services to save time or effort (Wajcman, 1998), the poor can not do so. Drawn from the lower strata of societies, in the West this domestic labour profile increasingly reflects a high proportion of Eastern European, Central and South American or Asian women (Hafkin and Taggart, 2001).

The commodification or negotiation of domestic work presents a key site of tension for public roles and responsibilities (Wajcman, 1998; Perrons, 2004). Better paid men may abdicate commitment, perhaps believing their financial contribution is sufficient, or justifying ad hoc obligation to the household(s). Few women have such choice or flexibility, and only those with stronger bargaining positions, such as income or robust extended networks, are the ones who tend to have greater determination of their own and their children's interests (Perrons, 2004). However, whilst it may be possible to negotiate fallback strategies with the aid of these and other support mechanisms, it can not be assumed that women have complete control over their wage. Kinship ties and sexual politics may requisition all or part of their income, restricting their bargaining power and increasing their dependency on additional wages as public or private health, education and water services, for example, escalate in cost.

Domestic structures and practices are recalcitrant to change and considerably contribute toward unequal gender relations in the household and in employment, and their cultural variances affect women and men in very different ways. In the quest for economic survival, family members disperse to productive cities or countries and as the household fluidly adapts, it is women who bear the brunt. For, if patriarchal processes are challenged by the growing globalization of the feminisation of employment in local market settings, women may be subject to stigmatisation as loose, neglectful of their domestic duties and too independent for their own good as they shape and negotiate their public employment (Perrons, 2004; D'Mello, 2006). These and other cultural practices not only weaken their economic power, but contour the diversity of their lives by influencing degrees of effort required to negotiate their tenuous social positioning and bargaining scope.

Conclusion

In this paper, we have attempted to show some tensions in the globalization discourse of democratic equality and opportunity through ICT production. We have built on the conceptual research framework put forward by Walsham and Sahay (2005) by highlighting the importance of gender. This is not simply to be considered as an additional dimension, which humanizes mainstream development studies, but rather we hope that the centrality of gender as a universal organizing principle of all human activity is evident from our discussion. Our critical analysis is intended to expose the tensions and contradictions evident in the way in which ICT's are used to 'promote' development. Drawing on the gender and development literature, we have highlighted the neglected topics of gender, identity and the tensions between the home, work and community; the evident contradictions of global capital demanding feminization of work; the gendering of the knowledge economy and women's engagement with ICT's, alongside continued absence of women in the design and control of ICT's; and increasing standardization with de-personalization and 'cultural cleansing' of identity. By focusing on the push/pull dynamics of homogeneity and heterogeneity, we have

flagged the strengths of feminist theorising and research. If the dichotomous conceptualisation of developed or undeveloped is viewed as two sides of the same coin, each co-dependent and mutually constitutive, then the capitalist quest for global unification risks imposing homogeneous values and practices, and distorting heterogeneous realities and experiences.

This political economy of development, where deregulation of markets, standardization of ICT employment activities and rigid classification of gendered social and economic relations are constituted and reconstituted to meet capitalist requirements and practices (Gillard, 2006), is not the only way forward to improve issues of poverty, disease, malnutrition and societal exclusion. Whilst attention should be drawn to the social implications of these neo-liberal policies, ideologies and practices and their offshoots such as gender mainstreaming or diversity initiatives, the absence of challenges to the political and economic status quo or the lack of tackling why and how it is that those who struggle to survive continue to be exploited and devalued, must be also be addressed. Shifting the onus from requirements to fit into normative, homogenizing practices, and rethinking work and life from women's perspectives may offer alternatives for reorganizing and improving human existence and activity. Realigning public work to the 'rhythms and pulses' of private life may begin to provide concrete heterogeneous ways in which women are supported and empowered to engage more fluidly with their families, their locales, their employment, and their particular circumstances.

¹ The term was intended to highlight the irony of integrating women as equals into the labour market at a time when women have been pushed into more precarious forms of work.

² Elson (1999) argues that rising labour force participation is in part a statistical artefact, arising from improvements in accounting practices of women's economic activity. Perrons (2004) also queries the extent to which the statistics represent material change.

³ The service sector also includes prostitution and related services and domestic and day-care workers. Given the focus of this paper is on gender and ICTs the focus will be on 'pink-collar' offices and work broadly defined as clerical, sales, and services.

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