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Teleworking as a mode of working for women in Sri Lanka: Concept, challenges and prospects

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Abstract

Labor force participation of women in Sri Lanka has been continuously low despite their remarkable educational achievements when compared to men. Teleworking mode facilitates flexibility at work and work-family balance. However, developing countries encounter numerous challenges in making the teleworking mode a reality. This paper examines the possibilities of introducing teleworking mode for women in Sri Lanka. It understands that the government, technological institutions, work organizations, training institutions, outsourcing companies, career-counseling centers, teleworkers themselves and prospective teleworker associations have major roles to play in this endeavor.

Keywords: labor force participation, women, teleworking, challenges, prospects, Sri Lanka, a model

JEL classification: J24, M54, O15

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1. Introduction

Women's labor is becoming increasingly important in the economic development all over the world in line with the growth of female population and their educational achievements. Even developing countries experience the same reality. Thus, Sri Lanka is not an exception.

Women constitute more than half of the population (53.7%) in Sri Lanka (DCSSL, 2014). The literacy rate of women in Sri Lanka is 94.6 per cent (which is 2.3 below the rate of men) which has been a gradual increase during the past decades (e.g. the literacy rate of women has been recorded as 3.1% while the same for men was 29.8% in 1881) (DCSSL, 2014). Further, the rate of school enrolment (101.7 girls for 100 boys in 2012) and the rate of university entrants (62.2% in 2011/2012) are higher for girls in Sri Lanka. Further, educational achievements also evidence that girls' performances are above that of boys. For examples, the performances of grade five-scholarship examination record more girls above the cut off mark (10.70% of girls compared to 9.29% of boys). The GCE Ordinary Level examination, the qualifying examination for university entry, reports more female qualifiers (73.09%) than their male counterparts (55.29%). The percentage of candidates became eligible for university enrollment is also higher for females (66.10%) when compared to that of males (47.97%) (DCSSL, 2014).

However, interestingly, 74.9 percent of women belong to economically inactive population in Sri Lanka. The unemployment and underemployment rates are also higher for females (6.5%) when compared to that of males (3.1%). Table 1 below depicts the figures on unemployment and underemployment of men and women based on the level of education. It shows that the most unemployed women are the highest educated women, and further, underemployment is larger among the educated women than that of their male counterparts.

Table 1: Unemployment rate and underemployment rate of men and women in Sri Lanka in 2014 – by level of education (%)

Level of Education	Unemployment		Underemployment[1]	
	Men	**Women**	**Men**	**Women**
Below grade 6	4.63	3.22	23.8	19.4
Grade 6-10	43.64	30.36	56.1	46.6
GCE O/L	24.27	20.27	10.9	18.4
GCE A/L	27.46	46.15	9.2	15.6

Source: DCSSL (2014, p.89 & p.91)

Chowdhury (2013) found that female unemployment rates increase with the level of education in Sri Lanka. He reveals that women those holding tertiary degrees are likely to be out of labor force, and, women with no education or only primary education are likely to be in the labor force. Further, urban women are more proven to out of work than rural women are. In urban areas of Sri Lanka, 73 percent of married women with children are out of the labor force (in rural areas this rate is 68 percent) (Chowdhury, 2013). Chowdhury reports, "Married women especially with children and women with some secondary education and those residing in larger households or urban locations are the ones who are more likely to stay out of labor force" (p.12). As reported in the literature (e.g. Chowdhury, 2013; Ghani, Kerr, & O'Connell, 2013), childbirth, child caring, household responsibilities, and having a breadwinner (spouse) in the family are the most highlighted reasons for educated women to be out of the labor force, especially in developing economies.

Irani, Gothoskar and Sharma (2000) suggest that teleworking would be a good solution for women with multiple responsibilities when they need to perform their social roles and employment together. On these grounds, work from home or teleworking seems to be a possible mode of working for urban, educated women who seek work-family balance and flexibility at work. Ahundhkar et al. (2000) highlight that "women with small children who would normally have to give up their careers could continue to pursue them under the potential of convenient and flexible conditions of teleworking" (p.2290). Noonan, Estes and Glass (2007) find that mothers who work from home spend more on childcare, thus, proving

[1] As per DCSSL (2014), the considered underemployment is limited to visible underemployment and the underemployment is considered as those employed less than 35 hours per week (p.90).

teleworking a working mode especially for mothers.

Teleworking has become a cost effective strategy for work organizations too. Raiborn and Butler (2009) state, "Telecommuting (and the broader concept, teleworking) is one way to balance the need to cut costs while retaining talented people". Further, McNall, Masuda and Nicklin (2009) find that availability of flexible work arrangements seems to help experience enrichment from work to home and it is associated with higher job satisfaction and lower intention to leave. Even though critiques level against teleworking, based on wage discrepancies, Weeden (2005) finds that the wages of flexible-work employees are not less than that of fixed-location employees. When seen from a broader perspective, teleworking reduces daily commuting, and so, positively addresses the negative impacts of urbanization. Teleworking has a potential to change even the pattern of urbanization of a community (Mitter, 2000).

Developing countries have recently reported numerous attempts of the governments made to incorporate women's labor in to local development processes. Mainly these attempts have come through empowerment of women in socio-economic concerns. Thus, reducing wage differentials and aligned discriminations, encouraging women leadership through education and training and promoting practices for women's labor force participation have been among them (Ghani et al, 2013).

Comparatively, Sri Lanka has identified youth skill development as a solution to skill mismatch observed in the labor market (Labour and Social Trends in Sri Lanka, 2012). The Labour and Social Trends in Sri Lanka (2012) states, "Attempts should be made to expand the labour market by absorbing economically inactive population, particularly females". It further says, "Introduction of new technology, mechanization and automation of industries should be promoted to enhance productivity and to create value added employment" (p. xi).

The government of Sri Lanka, during the past decade, has taken efforts to develop the information and communication technology (ICT) sector in Sri Lanka. Particularly, ICTA[2] plays a major role in it. ICTA is the government arm for

[2] ICTA has become a permanent institution overseen by Ministry of Telecommunication and Digital Infrastructure, and a large number of Inter-Ministerial Committees in Sri Lanka.

developing ICT sector in Sri Lanka. It aims to develop a 'digitally competent society' and a 'digitally inclusive Sri Lanka'. The website reports, "This will directly contribute government policy on 'digitization of the economy' by promoting information technology (IT) education at all levels of education and make younger generations more accessible to global job opportunities. It also aligns with and contributes towards government education policy on "Facilitation to access to the digital world" (Website, ICTA). These efforts have shown positive signs of development in the IT sector of Sri Lanka in the future. Further, IT-related work opportunities have gained an increased popularity among work population in Sri Lanka recently. Mid-career and higher education institutions in the private sector too have emerged to capture the opportunities for fruitful capitalization in IT education in the country.

The possible macro and micro environmental conditions those promote teleworking for women in Sri Lanka at the backdrop can be envisaged as in Figure 1 below.

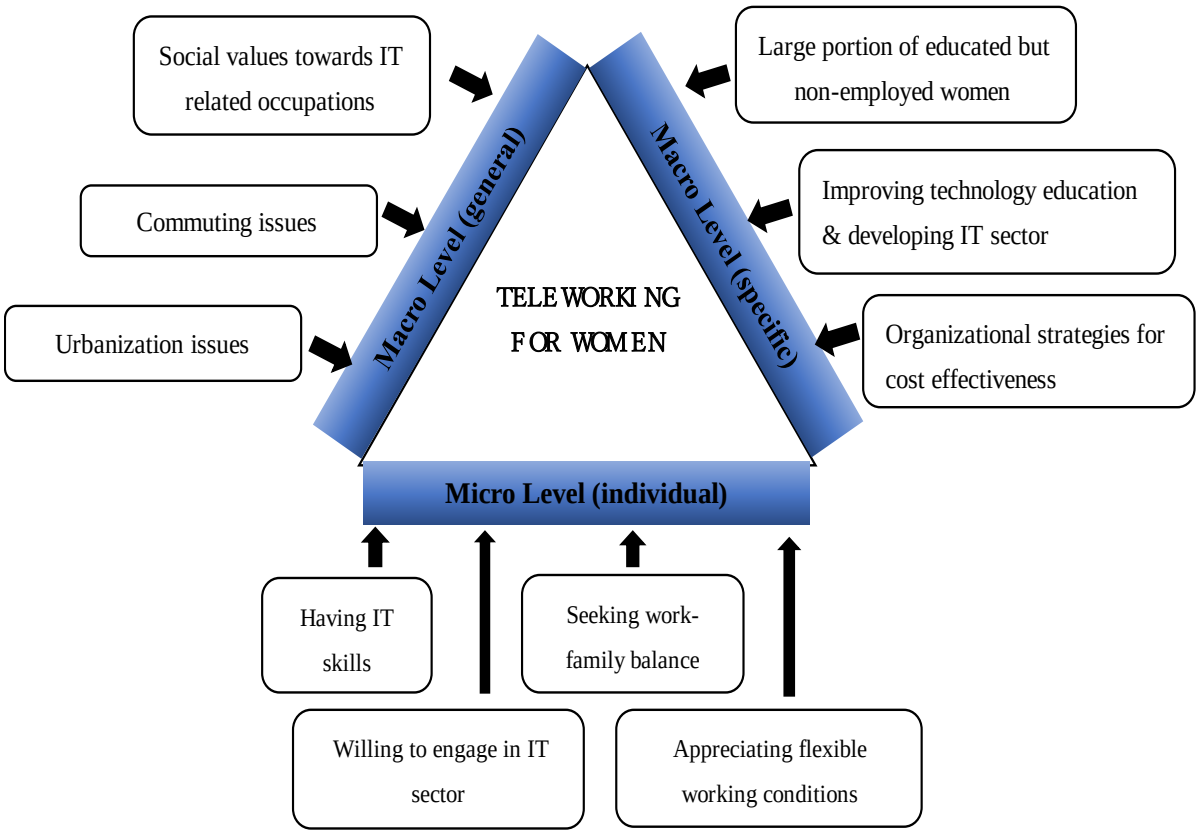

Figure 1: Enablers of teleworking as a mode of working for women in Sri Lanka

On the one hand, urbanization issues emerging at Colombo metropolitan area and other popular cities and continuously increasing commuting issues in the capital city and suburbs can be viewed as push factors, while increasing social values and admiration towards IT related occupations can be seen as pull factors at the (general) macro environmental level. On the other hand, the availability of a large portion of educated but non-employed women, improving technology education and developing IT sector, and organizational attempts for cost effectiveness can be viewed as the push factors at the (specific) macro environmental level. Possessing IT skills, seeking work-family balance at work, appreciating flexible working conditions, and willingness to engage in IT sector would be considered as the push factors triggering at the micro (individual) level.

It is reasonable to understand that there can be unemployed women, still having a greater interest in entering to the world of work, even without having basic skills for working through an ICT mode. If they are willing to perform work in isolation while experiencing flexible conditions and entertaining work-family balance, the teleworking mode would be a platform for them to participate in the labor force, in a facilitated institutional environment. On these grounds, the IT enabled teleworking mode seems to be more appropriate for enhancing labor force participation of women in Sri Lanka.

Currently, the service sector has been prominent in contributing to the GDP of Sri Lanka. Teleworking eases more of back office operations in the service sector, such as editorial work in publishing, client billing and ticketing in travelling, market survey and campaign planning in sales, investor servicing, telebanking and client correspondence in banking, medical transcription and claim processing in health care (Gothoskar, 2000; Irani et al., 2000; Mitter, 2000; Rajan, 2000). Thus, a teleworking workforce has prospects in enhancing the performance in the service sector. If teleworking can attract more women labor, it would subsequently bring back the outcomes of free education to the economy, accelerate the achievement motivation of women, strengthen the labor market, and reduce gender disparities in the labor market in Sri Lanka.

However, developing countries encounter numerous challenges in making the teleworking mode a reality. They may surface at macro environmental level as well as at micro individual level (Ahundhkar et al., 2000; Irani et al., 2000; Mitter, 2000).

Therefore, it is timely important for Sri Lanka to examine the possibilities of introducing teleworking mode for women while identifying the necessary institutional changes or reforms for its facilitation. Thus, while inviting relevant discussants for deeper speculations present paper aims to discuss the challenges and prospects of realizing the teleworking mode for women labor force in Sri Lanka.

Following the brief literature review on the mode, suitable occupational sectors and the women's engagement in teleworking, the paper presents its discussion on challenges in introducing teleworking for women in developing countries in both from the view of work organization and from the women teleworker. Next, positioning the women labor market and the intermediaries in teleworking, the paper presents a model of realizing teleworking in Sri Lanka while elaborating the role of each agent in the model. The discussion ends with concluding remarks for future research and practices.

2. Literature review

2.1 Teleworking as a mode of working

Teleworking may take different modes; working from home, working while traveling, and working in satellite offices (Microsoft Developer Network, 2016). It is "a work form when the duties are being performed using ICT outside the premises of the employer, e.g. at home, in the library or other suitable premises" (Vitola & Baltina, 2013, p.254). According to Sato (2013), who focused on the nature of work, teleworking is, "A form of labor that consists of all or a part of production, processing, or sale of information at non-conventional workspace assuming the practical use of the information and telecommunication equipment" (p.56).

Teleworking has been identified as a revolution in the inter-relationship between paid work and personal life of people, which provides a location-independent and technology-enabled new way of working (Messenger & Gschwind, 2016). Teleworking creates multiple flexibilities for work organizations (Eriksson & Karlsson, 2009). Numerical flexibility increases an organization's ability for making labor adjustments (the number of workers) to fluctuations in its outputs, while functional flexibility enhances organization's capacity to deploy workers among different tasks for making a fit with changing workloads, production systems, or technologies. Then, temporal or working time flexibility allows organizations the

use of variable working hours to match demand fluctuations, while spatial flexibility eases organizations to negotiate with its workers on the place of work (Lähteenmäk, 2002, p.223).

2.2 Sectors of employment and types of telework

Literature shows the tasks and the occupational segments enabled for teleworking as follows.

Table 1: Occupational segments and tasks enabled for teleworking

Occupational Sector	Type of Activity
• Medical	- Medical transcription
• Insurance	- Claim processing
• Banking	- Deposition summaries - Client correspondence - Investor servicing - Home banking - Telebanking
• Media / Journalism	- Media planning
• Publishing	- Copy editing
• Education	- Teaching - Course development
• Research work	- Data collection - Data entry - Data conversion - Data analysis
• Counseling service	- Counseling
• Airline service	- Ticketing, client billing - Back-office operations
• Marketing	- Campaign planning - Market survey - Sales function
• Software development	- Programming - Developing software
• Product development	- Product planning and development
• Process development	- Process mapping and development
• Information systems	- Information processing

management	- Generation of MIS reports - Geographical information systems planning
• Legal	- Client consultancy
• Editorial work	- Text editing
• Secretarial work	- Documentation, scheduling - Report writing
• Graphics	- Graphics designing
• Architecture	- Architecture designing

(Source: Gothoskar, 2000: Irani, et al., 2000; Mitter, 2000; Rajan, 2000)

2.3 Benefits

The individual workers, organizations, labor market and the entire economy as a whole may entertain benefits of teleworking. Vitola and Baltina (2013) claim that teleworking offers economic, social and personal benefits in terms of saving time and costs, growth of productivity and more flexibility for workers. According to Microsoft Development Network (2016), teleworking offers room for work-life balance and flexibility at work for individuals. Further, it offers a cost effective working mode for organizations, ensuring business continuity even at economic downturns. A South African study (Baard & Thomas, 2010), examining employee perceptions of personal benefits of teleworking, reported that teleworking benefitted employees and organizations through improved productivity, increased job satisfaction, organizational loyalty, decreased stress and improved work-life balance. Moreover, at a macro level, teleworking increases job opportunities thus engaging and employing more people, and revitalize regional economies and reduce environmental impacts (Microsoft Development Network, 2016).

2.4 Teleworking and women

In addition to the multiple flexibilities (Eriksson & Karlsson, 2009) enjoyed by work organizations through teleworking, workers too have been able to experience time, spatial and content flexibilities with teleworking. Thus, teleworking is proposed for women and other minority segments of workforce especially due to the nature of ‘flexibility’ embedded in this working mode. Irani et al. (2000) writes, “Teleworking could be a good solution for women and other people with caring and multiple responsibilities in performing their social roles along with their employment”

(p.2274).
Keidanren (2014) recognizes the need of 'telecommuting schemes and discretionary working-hour systems' for enabling diverse and flexible work styles. It emphasizes that "The government should swiftly create an environment conducive to such approaches by amending relevant laws". Further, it recommends that girls should be given a proper education in science and engineering without making them feeling that they are unsuited to science and engineering.

Women's role of mother and the responsibility of child caring are expectations of any civil society. It is normatively understood that women give priority to family over the work, especially in Asian societies. Consequently, working women's career is discontinued at their marriage and/or childbirth at their own will. Aundhkar (2000) points out that teleworking is an avenue for women to continue work after childbirth. The author further notes that "(teleworking) has the potential to create convenient and flexible working conditions (for) women with small children…" (p.2290).

Teleworking being a timesaving mode of working (due to reduced commuter time), its appropriateness for women is highlighted in light of its ease for work-family balance (Rajan, 2000). Further, this timesaving factor has been related to enhancement of women's community life too (Aundhkar, 2000).

Seeing the scenario differently, some research findings suggest that teleworking will not be a better employment choice for women because it limits their interaction with the world. They find that women need to work for their own sake, be able to get out from home, be able to know the outside world, and get to know different people (Gothoskar, 2000; Mitter, 2000). The 'relationship need' has kept people satisfied even at work and has served as a mechanism for releasing stress (Robbins, Judge, & Vohra, 2013). However, enhancement of collective strength of women teleworkers (Gothoskar, 2000) and arrangement of meetings with the employer or supervisor at certain time intervals (Rajan, 2000) have been suggested to mitigate the repercussions of such alienation issues arisen in teleworking.

3. Challenges in introducing teleworking for women in developing countries

Teleworking necessarily requires certain conditions to be met in order to setting the grounds for organizations as well as teleworkers getting into the particular mode of

working. Some of such major conditions are reviewed below.

3.1 Challenges encountered by organizations

3.1.1 Infrastructure related issues

The most important and inevitable condition to be met in introducing teleworking mode in organizations is the infrastructural arrangements which enable remote working mode for both the organization and the worker. The teleworking mode is fully dependent on an effective communication network system, which connects the organization, the worker, and even the clients. Thus, well developed information communication technologies (ICT), effective telecommunication service, uninterrupted connectivity, machines, terminals, and peripheral devices become the central needs of a teleworking system (Aundhkar et al., 2000; Mitter, 2000).

It is well noted that developing countries experience underdeveloped infrastructural facilities. Accordingly, high cost of telecommunication service, poor access to telecommunication infrastructure, small capacity, high cost for telecommunication equipment and machines, power failures and subsequent interruptions to connectivity have been the major challenges encountered when implementing teleworking mode in organizations in the developing countries (Irani, Gothoskar & Sharma, 2000). Aundhkar et al. (2000) note that the government of these nations have to play a strong role in providing infrastructure and related facilities for teleworking. It is their suggestion that government policies should be liberalized for companies to adopt teleworking. In that, they suggest reducing custom duties for essential equipment, reducing service charges, ensuring fast transmission, enhancing the quality of services, upgrading telecommunication and related infrastructure up to international standards, and facilitating joint ventures with telecommunication companies and other needy sectors (p. 2290).

3.1.2 Work-related issues

Organizations have confronted with the issue of ensuring the quality of the work performed through telework, due to its remote nature and lack of close monitoring. Subsequently, ensuring worker productivity and managing their responsibility have also been understood as problematic in teleworking assignments (Mitter, 2000). Rajan (2000) opines that teleworkers' efficiency highly matters to their work organizations as the network establishment cost is high, and thus, the organizations have to cover it through employee productivity. In addition to these, some empirical findings have revealed that worker skills and abilities also significantly affect the

effectiveness of teleworking. Accordingly, computer-related skills, remote processing skills, time management skills, ability to work in isolation and ability to handle assignments independently have been concerns of organizations when adopting the teleworking mode (Irani, Gothoskar & Sharma, 2000; Mitter, 2000). Rajan (2000) emphasizes the need of training of teleworkers in order to overcome the behavior and performance related issues of teleworkers. Mitter (2000) views that formal educational institutions have to train students to undertake assignments independently and ability to work in isolation (p.2244).

Due to lack of supervision at teleworking, the lack of secrecy of the data or information dealt with by teleworkers has been a major concern of work organizations. This is noted especially when dealing with sensitive data under certain circumstances (Mitter, 2000). Further, the reliability of data produced by this workforce is also being doubted (Aundhkar et al., 2000). However, it is noted that the organizations should decide the kind of jobs or tasks suitable for teleworking (Rajan, 2000). Different to these, Rajan (2000) highlights the need of managerial control on teleworking assignments, especially in the areas of checking inputs and time sheets. Further, the need of regularizing feedback systems and systems for maintaining daily performance records have been identified as notable requirements for better teleworking arrangements.

3.1.3 Human issues

Teleworking refutes the face-to-face interaction of people involved. Thus, isolation created by the teleworking mode is unavoidable. Further, teamwork is not a possibility in traditional teleworking assignments. Golden, Veig, and Dino (2008) revealed that professional isolation negatively affects job performance. Further, they found correlation between the professional isolation's impact on work outcomes and the amount of time spent on teleworking. Thus, they point that face-to-face interactions and access to communication-enhancing technology would tend to decrease the negative impact of professional isolation. The isolation and lack of personal touch lead to loss of emotional bond, which ultimately result in worrying, neglecting work, and lack of loyalty to work organization. Further, lack of identification with the work organization may lead to being loyal to different organizations (Rajan, 2000). Researchers have found that interaction between the supervisor or employer and the teleworker is needed for effective outcomes, thus, organizations need to look for mechanisms to get frequent interaction with

teleworkers (e.g., Aundhkar et al., 2000; Mitter, 2000). Security and comfortability of teleworkers is an important aspect to be looked in to. 'Ambiguity in the range of job duties' (Sato, 2013, p.57) also has created uncomfortable conditions for teleworkers. Further, Aundhkar et al. emphasize the need of creating work cultures for isolated work (2000). Accordingly, 'how to increase the quality of work life of employees' has become an important question to be addressed by teleworking organizations.

3.1.4 Human Resource Management (HRM) issues

HR managers have faced several issues in performing certain HR functions vis-à-vis teleworkers. Measuring performances (under current traditions), calculating overtime payments, arranging training programs (Baard & Thomas, 2010; Mitter, 2000) have been difficult for teleworkers. Moreover, lack of legal framework for addressing health issues and grievances is well evident in developing countries (Irani, Gothoskar & Sharma, 2000). Irani et al. (2000) view the need of establishing associations of teleworkers for labor protection and grievance handling endeavors. Further, they suggest the need of arranging training for teleworkers as per the requirements of the particular industry while formulating legal framework to sufficiently deal with health and grievance issues. Job insecurity and exclusion from company benefit programs, such as pension schemes, have been another issue coming under the purview of HRM. Result-oriented performance measures (Aundhkar et al., 2000), in-depth training for various activities, periodical training and re-training for keeping teleworkers up-to-date (Rajan, 2000), regulatory framework for protecting employees from manipulations (Aundhkar, 2000) are some of the suggestions made for addressing above issues. Moreover, Irani et al. (2000) states that barriers for teleworking (factors impeding its operationalization) "should be dealt with at a broader policy or legislative changes" (p. 2274). Bernardino, Roglio and Corso (2012) suggest that, "In telecommuting, HRM practices should be decentralized, giving the line managers great autonomy to make decisions particularly related to staffing and performance appraisal" (p.303).

3.2 Challenges encountered by workers themselves

The ideality of introducing teleworking for women has been challenged by the reality that "women do not prefer to home-based work" and "they want to go out to work" (Mitter, 2000, p. 2244). Thus, the loneliness (alienation) confronted at the

telework has to be carefully and sufficiently addressed by work organizations in order for utilizing so far untapped women labor in the labor market. Accordingly, social, cultural and psychological factors on getting work done from women call the attention of organizational practitioners. Identification at the job or workplace has been a motivating factor as well as an attitude leading to commitment (Robbins, Judge, & Vohra, 2013). Psychological processes such as organization-related identification is questioned in teleworking (Thatcher & Zhu, 2006). Thatcher and Zhu (2006) note that 'recognition of telecommuter's organization-related identities by management and co-workers is very important' (p.1088).

The access to basic infrastructure for teleworking has been a challenge for women in developing countries. High telecommunication cost, high cost of telecommunication equipment, ineffective telecommunication network (e.g. interrupted connectivity) and non-supportive infrastructure are some of the issues, which negatively affect the women's efforts of getting in to teleworking. These issues need to be resolved with the interference of government and respective work organizations (Aundhkar et al., 2000).

Knowledge on technology or computer literacy alone would not be sufficient for successful completion of teleworking assignments. Thus, lack of complete knowledge and skills for teleworking refrain women from getting in to this mode of working. Accordingly, obtaining an appropriate training for teleworking (Rajan, 2000) has become a necessity for prospective teleworkers.

Job insecurity, income insecurity, irregular assignments, and irregular flow of income (Mitter, 2000) have become points of dissatisfaction of teleworkers. Proper education and training (Rajan, 2000) for time management, assignment management, and individual financial management would help teleworkers in this point.

With respect to American workplace, Noonan, and Glass (2012) indicates that telecommuting has increased the work hours, which creates 'work devotion schema' (p.45). A study conducted in South Africa (Baard & Thomas, 2010) also found the increase of working hours as a challenge in the teleworking mode. Sato (2013) notes that, 'Spread of teleworking is again changing home into the place of labor' (p.66). Thus, it shows that telecommuting has not eliminated work hours but relocated them.

4. Prospects: A model for Sri Lanka

In the backdrop of challenges encountered by work organizations and employees in teleworking assignments, the possibilities, essential changes and reforms would be apparent in a given context. At the outset, the labor market conditions and its intermediaries need the attention for understanding the prospects of teleworking in Sri Lanka.

4.1 Women labor market for teleworking and the intermediaries

Educated, but economically inactive women comprise the prospective labor market for teleworking assignments in Sri Lanka. The 'Graduate Output' shown by the university statistics – 2016 (UGC, Sri Lanka, 2017) reveals that there is an increase of female graduates of Computer Science (bachelor's degree)[3] 2from 2015 (44.9%) to 2016 (50.5%) (p.88). The postgraduate output in 2016 shows 42.3 percent women graduates in Science/IT stream (UGC, Sri Lanka, 2017, p.96). The Open University graduates of Science/IT stream too in 2016 show a comparatively higher number of women graduates in certificate courses (61.4%), diploma courses (100%), bachelor's degrees (78.5%) and postgraduate degrees (50%) thus making its total women graduates more than 73 percent (UGC, Sri Lanka, 2017, p.98). The external degree in Computer Science (offered by the University of Moratuwa) shows 42.8 percent women graduates in 2016 (UGC, Sri Lanka, 2017, p.99). Thus, more specifically, women university graduates and postgraduates (in Science / IT / Computer science streams) and women high school graduates (in technology stream) together with any other educated women who wish to undertake teleworking would be in this category.

Employment agencies, which come in the form of labor outsourcing companies (labor outsourcing service-providers) or labor dispatch agencies seem to be an important intermediary part in teleworking. The triangulated relationship emerged among employment agency, outsourced workers and the client work organization help find teleworkers their prospective work organizations (or it helps work organizations find appropriately skilled workers).

Performing teleworking assignments may need certain skills alike efficient time

[3] Even though the number of women graduates in engineering is comparatively less (24%), the number of women in science and management & commerce streams have been above the average (58.6% and 64.7% consecutively) (Total Graduate Output of Bachelor's Degree 2016, UGC, Sri Lanka, p.85).

management, ability to handle tasks independently and in isolation, and problem solving (Rajan, 2000). Thus, public and private training institutes would play the role of training teleworkers towards such skills. The Vocational Training Authority of Sri Lanka (VTA), which is currently operating as a network of training centers (with district level and national level Vocational Training Centers), seem to be a prospective arm of serving training needs of teleworkers in Sri Lanka. Even private sector training institutes would serve the purpose.

The individual sin the labor market may directly approach the work organizations or reach through employment agency or a training institute as the case may be. Continuous professional relations between labor outsourcing companies and the training institutes, and both with the work organizations would ensure uninterrupted supply of skillful teleworker resources for the industry.

Accordingly, the prospective labor market and the immediate intermediaries for teleworking industry can be identified as below.

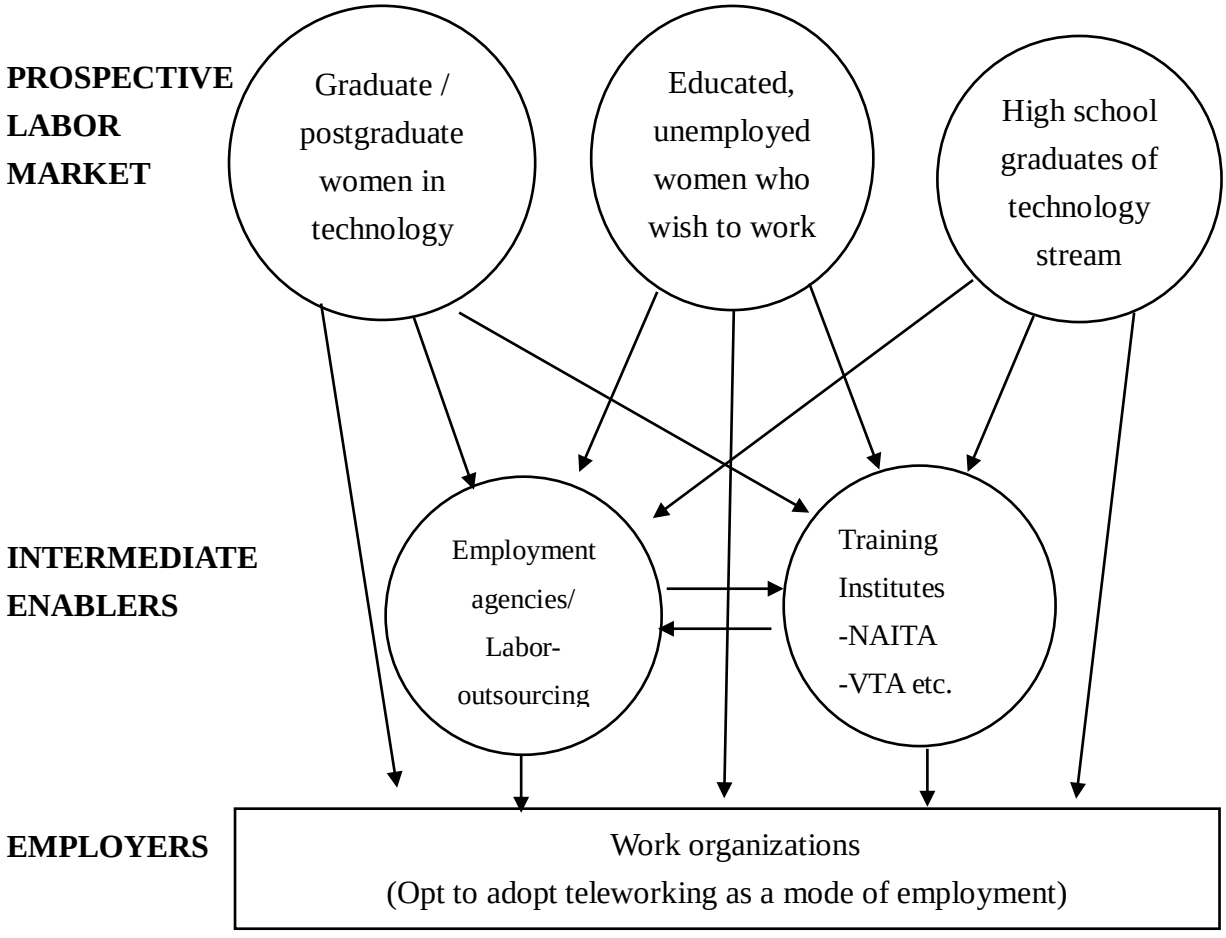

Figure 2: Women labor market for teleworking and its intermediaries

However, teleworking industry has to be enabled in a wider network of agents beyond the above immediate intermediaries. The government, technological institutions, work organizations, training institutions (public and private), outsourcing companies, career-counseling centers, teleworkers themselves and prospective teleworker associations would have to identify their specific role to perform in this endeavor. Thus, Figure 3 below depicts possible major actors in such a network.

4.2 Roles of institutions

There are specific roles to be played by the actors in the major institutional network for enabling teleworking in developing economies. Previous research studies have identified several such actors as government and policy-making bodies, private sector and professional associations, the work organizations, training institutes, trade unions, telecommuter support centers, and social organizations supporting teleworking (e.g., Aundhkar et al., 2000; Baard & Thomas, 2010; Bernardino et al., 2012; Irani et al., 2000; Mitter, 2000; Rajan, 2000). In line with the suggestions appeared in the literature, the Figure below depicts the network of major institutional actors needed for facilitating teleworking in the Sri Lankan context.

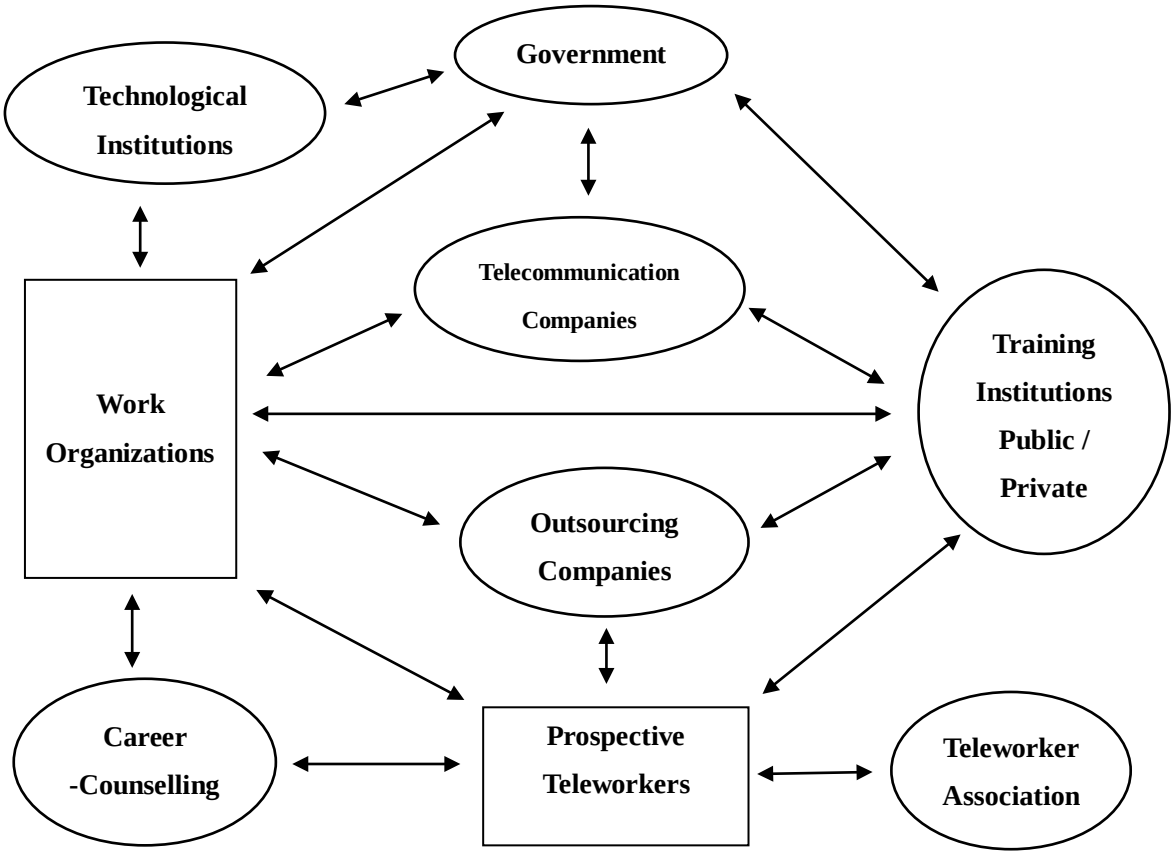

Figure 3: Major institutional actors needed for facilitating telework

The roles of each actor are discussed in the following section under the three sub-sections; intermediaries, work organizations, and prospective teleworkers.

4.2.1 Intermediaries

Government: The government plays a major role in enabling teleworking in developing economies (Aundhkar et al., 2000) as the center of formulation of legislations and facilitation for infrastructural development. Mitter (2000), referring to the existing scholarly work, noted the need of a regulatory framework and cyber laws vis-à-vis teleworking as points for consideration for policy makers. Bernardino, Roglio and Corso (2012) state, "It is important to use a specific labor contract for telecommuters, which protects the company against legal issues", and they propose that it needs to analyze the existing labor laws (p. 303) in the process of implementing and managing teleworking.

At the same time, the government is responsible for fostering an environment in which work organizations and prospective teleworkers could easily get into work. Thus, it has to formulate and enact necessary legislations for allowing organizations to implement teleworking while protecting the rights of teleworkers at the same time. Further, the governments in developing economies ought to take initiatives in developing infrastructural requirements for teleworking, focusing on the organizations and the teleworking communities in both urban and rural locales. The governments' portion of responsibility is huge in this regard due to the reason that the other service providers vis-à-vis teleworking are not matured enough or not sufficiently developed yet in developing countries. The facilities will include the access to internet facilities, networks, and equipment for both work organizations and the general community through which a teleworking community will derive. Thus, tax concessions and duty reductions on required products and services would help both employers and the employees. Further, developing the IT sector and enabling technological institutions and work organizations to get into partnerships is also at the hand of the government. In addition to these, the government should take initiatives through its arms of vocational training and apprentice institutions to facilitate prospective teleworkers via training and other educational programs such as extension courses. Awareness of the nature of teleworking, its benefits and

available opportunities should be initiated through government authorities at the national level. It will create wider awareness on the teleworking among the general public of all strata in the society.

Technological institutions: It is the role of the technological as well as telecommunications institutions to facilitate the teleworking mode in the country by developing the IT sector in general and developing systems required for it in particular. On one hand, they can help the government in developing necessary infrastructure for teleworking at national level. On the other hand, they can support work organizations by developing and maintaining ready-made systems for adopting and maintaining teleworking mode. Further, their service is immensely needed for maintaining uninterrupted telecommunications network systems at national level and as a service provider for organizations in network solutions.

Telecommunications companies: The dedicative service of telecommunications companies in the public and private sector is inevitable for teleworking. These organizations may have to negotiate with and positively respond to the government proposals for increasing client access throughout the country. They may have to coordinate closely with the work organizations too for necessary facilitation.

Training and apprentice institutions: Public and private training institutions play a role in serving the training need of employers and the prospective employees in the nation. Thus, it is their responsibility to identify the job market of teleworkers and their training needs. They may have to design appropriate training programs to educate the prospective teleworkers in line with the need of work organizations. For that, they may develop relations with the work organizations and get required information, and subsequently assure the supply side of job market of sufficiently educated and trained teleworkers. They may be running in line with the agenda given by the government on fulfilling the national training need, at the same time fulfilling the needs of the work organizations and the labor outsourcing organizations as well.

Labor outsourcing companies: Outsourcing companies have been successful in opening avenues for educated women in rural sector (Jensen, 2012). Labor outsourcing companies get a role to play here being the intermediator between work organizations and the prospective individual teleworkers, if and when necessary to

act in that manner. They may have to deal with both work organizations and the training institutions for obtaining information for performing their job.

Career counseling centers: The existing or new career counseling centers would have to play the important role of helping prospective teleworkers by sharing information and allowing self-reflection for selecting the most appropriate working mode and work opportunities for their clients.

Teleworker associations: Teleworking associations need to be formed to serve the teleworkers and work organizations the purpose of securing a proper work environment and work relations for effective teleworking and assuring the quality of work life of teleworkers.

4.2.2. Work organizations

Work organizations themselves have a role to play as the employers of the teleworking workforce. There are certain categories of jobs that could be well suited for teleworking, and there are particular competencies that should be borne by teleworkers. The findings of Boell, Cecez-Kecmanovic and Campbell (2016) points out the importance of looking in to the diversity and nature of work undertaken and the perceived differences in the suitability of different tasks when understanding telework from a practice perspective. Thus, it is the role of work organizations to identify the suitable jobs to be assigned to teleworkers, and declare the required knowledge, skills, and attitudes to be held by such workers. Further, they may need to maintain constant relations with supportive agencies alike training institutions, IT organizations, and outsourcing companies. Information sharing with such organizations will be immensely beneficial to work organizations in recruiting correct candidates timely for teleworking assignments and obtaining infrastructural solutions for teleworking. They themselves have to conduct awareness programs appropriately for approaching the correct candidates. In addition to these, work organizations are bound to create comfortable work relations with teleworkers and handle the human resource related matters of this workforce, which appears different to those of regular workforce. Thatcher and Zhu (2006), stating that, “Managers must provide psychological and structural support for telecommuters” (p.1086) indicate the need of organizational management to look beyond the job contents of teleworking. Bernardino, Roglio and Corso (2012) point out the need of analyzing

external environment such as the market conditions, the customers' needs, and the labor pool of the organization before teleworking assignments are implemented.

4.2.3 Prospective teleworkers

It is the role of prospective teleworkers to identify the teleworking opportunities, which are matching with their desires. They may consult career-counseling centers, and if required, they may approach labor-outsourcing organizations too. Otherwise, they may directly approach work organizations through available channels. Further, it is their role to have a self-reference of their-own competencies, and develop any more knowledge, skills and attitudes towards the effective performance as teleworkers.

5. Conclusion and directions for further research

Elaborating the existence of economically inactive but educated female labor force in contemporary Sri Lanka, and identifying the enablers of teleworking at macro and micro levels, this paper attempted to discuss the challenges and prospects for realizing the teleworking as a working mode for women in Sri Lanka. Accordingly, it reveals the important intermediaries and the wider network of actors with their prospective roles for making teleworking a possible working mode for women. The government, technological institutions, work organizations, training institutions (public and private), outsourcing companies, career-counseling centers, teleworkers themselves and prospective teleworker associations have major roles to play in this endeavor.

Even though the number is not high, organizations those adopting teleworking as a mode of working do exist in the current Sri Lankan work context. Thus, present speculation would be furthered with an empirical investigation to examine the nature and content of telework arrangements, recent trends, problems and potentials prevailing in the industry for women teleworkers. Further, an examination of the opinions of all stakeholders those who are already in the teleworking exercise would provide rich information for further deliberations. Accordingly, senior management, HR practitioners, and existing teleworkers and prospective women teleworkers themselves need to be approached for obtaining first-hand data for further analysis

of the current topic. An opinion survey of female students in the technology stream and other streams too would be beneficial for progressing in this area.

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