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# Determinants of Telecommuting Among Women Workers in Penang: A Case Study

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## ABSTRACT

Telecommuting has been sought out from the women workers in Penang. This case study will identify the determinants that contribute to telecommuting acceptance among women workers. Interestingly, women workers did not indicate their acceptance toward the concept implementation. They will on consider telecommuting if they have to take care family matters. Therefore a huge efforts need to be carried out in making a paradigm change among women workers to accept the idea of telecommuting.

## INTRODUCTION

Telecommuting has been put in practice way back as early as 1950s, it did not become practical until the advent of personal computers and portable modems in the early 1970s (USDT, 1993; Hill et al., 1998). As for Malaysia, there has been a minimal study on the telecommuting. Therefore studies from Western researchers will be used as a basis in establishing the exploration of telecommuting on the women workers in Penang, Malaysia.

Telecommuting can be considered new to Malaysia. Women workers in the country have no exception towards the introduction of the telecommuting. In the context of the women workers in Malaysia, telecommuting needs to be exposed as the nation is going towards a develop country by the year 2020. Based on the Western studies, telecommuting does improve quality of work life; apart from that it also improve productivity, morale, teamwork, flexibility, and work hours.

The mobile workforce is relatively new towards the women workers. Proponents say telecommuting makes the work force more efficient, cut costs and even help protect the environment (CNN, 1996). Many companies are developing telecommuting programs as a way to draw new employees. With today's tight labor market, companies that offer flexibility may have an edge over those who require all works to be done on site (Meyers, 1998). With the advancement of communications and information technology (ICT), the ability to log on the company's network with ease from any location as well as the availability of devices like notebook computers, smart mobile phones, and handheld devices has given rise to a trend of mobile computing and telecommuting (Anonymous, 1999).

The motivation of the study is to identify the possible determinants that influence the telecommuting to be practiced by women workers in of Malaysia. As stated by Kurland and Bailey (1999), telecommuting can improve individuals' overall work-life quality; telecommuters may be more satisfied with their jobs. Do women workers in Malaysia will adopt the telecommuting?

## LITERATURE REVIEW

### Definition of Telecommuting

Various definitions of telecommuting or telecommuting can be gathered from literature reviews. Telecommuting meant that capability of individuals to work at home and communicate with their offices by using personal computers and communications equipment and software (Shelly et al., 1998). Williams et al. (1999) stated that computers and communications tools have led to telecommuting and telecommuting centers, the virtual office and "hoteling," and the mobile workplace. Further, Johnson (1999) discovered e-mail and newsgroups are the primary forms of communication. He also discovered that telecommuter needs to convince their bosses that phone conferences will work just fine.

Williams et al., (1999) stated that virtual office is an often nonpermanent and mobile office run with computer and communications technology. Knight and Westbrook (1999) supported and referred telecommuting as to employees who work predominantly outside of their home office, but are associated with a traditional office and may be used a traditional office for some administrative support and to hold physical meeting.

Moreover, the label "telecommuter" can fit anyone who works in a home or mobile office for an employer somewhere else-whether it's daily or weekly, at a few miles' distance or halfway around the world (Johnson, 1999). In the other word, telecommuter is an employee who worked not in a main office but from their home, car, or other new work sites.

Finally, this can be seen that telecommuting will promote workers to work from home or any remote places, and at any time as long as they can be connected to their main office or their superiors.

### Telecommuting Technology

As mentioned earlier, telecommuting has been promoted extensively in the US somewhere in the 70s as personal computer and portable modem had been made available (USDT, 1993; Hill et al., 1998). Telecommuting as defined by Williams et al. (1999) were as way of working at home with telecommunications – phone, fax, and computer – between office and home. It was the ability to connect computers to one another by modem or network and communications lines to provide online information access, such as the use of pocket pagers, portable computers, fax machines, and various phone and network services to conduct business.

Telecommuters often used other communications media such as electronic mail, personal computer links to office servers and fax machines (Kurland and Bailey, 1999). Finlay (1999) indicated that telecommuters need to have a main computer, a second computer, a phone, a network, and a printer to help them in their telecommuting. Meanwhile, Schilling (1999) indicated that employee gave up costly office space and communicates with their company and their customers remotely by telephone, computer, or other technological tools. Lovelace (1995) men-

tioned that people who regularly work from locations outside the office, telecommuting to the office by phone, fax, and modem.

Telecommuting has been blessed with the advancement of the information and communications technology (ICT). The ICT does make the difference to workers whom are telecommuting from their home or any remote locations to their main office.

### Benefits of Telecommuting

As the case of women workers in Malaysia, the exploration needed to be carried out in order to look for determinants that contribute to the introduction of telecommuting. Further, as employees in Malaysia are not exposed to the telecommuting, the determinants will be developed based on the literature reviews and findings by Westerners. Based on the literature reviews, many companies are developing telecommuting programs (CNN, 1996). The studies showed that telecommuting can provide.

Western studies indicated that telecommuting does improve quality of work life; apart from that it also improve productivity, morale, teamwork, flexibility, and work hours. Telecommuting has been foreseen way back as early as 1950s, it did not become practical until the advent of personal computers and portable modems in the early 1970s (USDT, 1993; Hill et al., 1998). Further, as firms in Malaysia were not exposed to the telecommuting, determinants will be developed based on the reviews and findings by Westerners.

Based on the literature reviews, many companies were developing telecommuting programs (CNN, 1996). The studies showed that telecommuting could provide a substantial competitive advantage in workforce recruitment and retention, productivity, real estate and office overhead, customer service, and corporate image and goodwill (Anonymous, 1998).

Knight and Westbrook (1999) stressed that greater emphasis were been placed on hiring and retaining qualified workers, which often means dipping into a labor pool that requires greater flexibility, such as working parents and people with limited mobility. They also discovered that telecommuting helps attract new employees, especially those who need flexibility, increases retention rates, reduces sick time and absenteeism, increases productivity and increases job satisfaction. In order to retain qualified workers, the organizations should allow people to telecommute from home, whether on a part-time or full-time basis. Telecommuting had become a valuable tactic in the fight to hire and retain skilled workers (Straton, 2001).

Fortier (1998) indicated that employees need flexibility and a balance between their work lives and their personal lives. Meanwhile, Kurland and Bailey (1999) mentioned another reason to implement telecommuting that it widens the talent pool available to the organization. It also might stem turnover by providing workers with flexibility that allows them to keep their jobs in the face of external demands or desires. Telecommuting provided staffing flexibility where the staffs are able to work regardless of weather or traffic peaks (Langhoff, 1996).

Home-based telecommuting provided an opportunity to improve workplace productivity (Kurland and Bailey, 1999 and Lovelace, 1995). Because telecommuting employees experience greater schedule flexibility, they can work when they prefer, and thereby improve their productivity. Further, Kurland and Bailey (1999) stated popular press accounts of successful telecommuting programs often report that telecommuters take fewer sick days, are absent less, have higher job satisfaction, and have higher work performance ratings. These determinants might positively affected productivity.

Telecommuters had relatively distraction-free environments, as they are more open to receiving interruptions while at the traditional office (Kurland and Bailey, 1999). Together, these determinants, related to the location of work, the timing of work, and the quality of work life, can increase productivity. Subsequently, telecommuting improved productivity on the jobs (Hill et al., 1998). The improvement ranged between 20 to 70 percent (Khairallah, 2001; Straton, 2001; and Verespej, 2001). This also supported by Hawkins et al. (1997) and CNN (1996) as they

stated that telecommuting improved productivity and their organizations benefited from the practice.

Telecommuting saved company's money (Schilling, 1999a). Employers initiated a telecommuting program to save on leasing costs. Further, mobile telecommuters are able to help the organization improve their level of customer service by reducing cost associated with office space and daily travel to the corporate office. Therefore, employees gave up costly office space and communicate with the company and their customers remotely by telephone, computer or other technological tools. It is also discovered that telecommuting can help alleviate the office space crunch and are a great alternative to expensive new buildings.

Companies should save as they implement telecommuting. This was supported by Martin (1994) as he indicated that expense reduction for the corporation has been a major impetus for this large increase in the virtual office. Straton (2001) indicated that their company had decreased office space by 35% nationwide resulting in annual cost savings of over \$3 million dollars. Meanwhile, the annual cost savings on rental was as much as 25%. AT&T saved about \$25 million in real-estate costs through telecommuting (Khairallah, 2001).

Fortier (1998) stated that telecommuting can help organization to reduce absenteeism among employees due to illness, childcare, eldercare, and the need to be home to take care of personal business – all of which can average several days per year. Further, he stated that telecommuting could mitigate business disruption during strikes, floods, bad weather, and other emergencies. In addition, CNN (1996) mentioned that those who could benefit most are women. By the turn of the century, an estimated four out of five women of childbearing age will be in the work force. Telecommuting and new technologies could help those women to better adjust their work schedules with motherhood.

Telecommuting could improve organization's concern on the social responsibility towards the environment. As indicated by Lovelace (1995), telecommuting could avoid long commutes on congested highways or city streets, and to adjust their workday according to their needs, unbounded by traditional office hours. Meanwhile, society also benefits from telecommuting such as energy consumption, environmental degradation, reduce traffic congestion, and reduce pollution (Straton, 2001). Moreover in London, telecommuting solved the chronic overcrowding by 25% reduction in the number of public transport users, cars, and people (Khairallah, 2001).

In conclusion, telecommuting does promote various benefits from its practice. Most reviews stated that telecommuting promotes the increase in workers productivity. Moreover, telecommuting allows workers to reap its beauty of working from home or any remote locations.

### RESEARCH DESIGN

The purpose of this study is to identify the determinants that contribute telecommuting to be practiced by women workers in Malaysia. The respondents of this study will be women workers in Penang, Malaysia. From the reviews, studies of determinants will be replicated and used in carrying out the research. Questionnaires was distributed and administered toward women workers. The questionnaires were divided into two parts that sought demographic information and possible determinants on telecommuting.

Twenty-six variables were listed amount face-to-face required, empowerment given, ability to control work flow, quality of work delivered, co-worker's inputs, work discipline, desire on around people, result oriented, concentration and peace at work, care of sick child or spouse, improve productivity, improve staff retention, improve staff recruitment, congested city streets, environmental issue, working from home or mobile office, absence from office as trouble free, job flexibility, job satisfaction, distractions at work, long commutes to work, work outstation, work transfer or relocation, take care of family, and personal matters.

Table 1. Important Concern of Women Workers

Concern	Mean	SD
Concentration and peace at work	5.00	1.07
Discipline regarding work	4.76	0.95
Quality of work delivered	4.72	1.13
Improved productivity	4.52	1.21
Desire or need to be around people	4.43	1.09

## RESULTS AND DISCUSSION

Twenty-nine respondents were under this case study. Based on the organizations, 77% (n=20) was from public and 23% (n=6) from private; meanwhile 3 respondents did not indicate their work sector. Highest concern of working women is listed in Table 1. They indicated that concentration and peace to do the work as the highest mean of all variables in relation to telecommuting implementation. Further, they indicated that discipline regarding work and concern on quality of work delivered were also their main concern. This indicated that women workers regarded their work as high and important to them.

From Table 1, it can be concluded that women workers in Penang can be regarded as a workers with high concern on their work. They look for concentration in doing their work. Even women workers, rate discipline as high concern in getting their work done. Quality and productivity on work also their main concern in their work life of these women workers.

Moreover interesting enough those women workers indicated a high concern on their desire or need to be around people (4.43). This indicated that they will not regard telecommuting to be viable for them in the working world. In other words, the women workers cannot think of themselves to be at home and working a small room office in their own house. This also reflects that women workers would want to be in real office although they are given the chance of telecommuting.

On the other hand, women workers indicated their least concern determinants toward telecommuting as indicated in Table 2. The least important determinants were absences from office as trouble free, regularly work outstation, long commute to work, environmental issues, and work transfer. Women workers do not see that by telecommuting, this will eliminate the fact of them not being in the office. Overall women workers' concern can be regarded as that they are not interested to be in the telecommuting program.

Further based on the acceptance on the telecommuting to be implemented at their work place, women workers indicated a low acceptance to the idea. The mean for working from home or mobile office was 2.89 from a scale of 1 to 5. Thus this scenario indicated that these women workers need to be exposed to the benefits of telecommuting; even they need to inculcate a paradigm change towards the concept.

Based on independent t-test between women workers of public and private organizations, result indicated that quality of work delivered as significant (.004). Specifically, women workers in private organizations indicated a high mean (5.17) against those working in the public organization (4.50). This can be concluded that regardless of their working place may it in public or private organizations, these women workers will regard their work as important and with quality. Thus this can imply that they also expect a high quality of work from their colleagues and even from their subordinates.

Further, correlation indicated that these women workers will consider working from home or mobile office as they have to take care their family matters (.40,  $p < .05$ ). Other than that none of the determinants will contribute or motivate them to consider working from home or

Table 2. Least Concern of Women Workers

Concern	Mean	SD
Absences from office as trouble free	2.86	1.20
Regularly work outstation	2.97	1.38
Long commutes to work	3.11	1.29
Environmental issues	3.21	1.29
Work transfer or relocation	3.31	1.34

mobile office. Thus this can imply that women workers will only consider telecommuting if they have to take care family matters.

## CONCLUSION

Interestingly enough that women workers in Penang did not regard them in accept telecommuting – working from home or mobile office. This notion was supported by their need to be around people at the work place. Moreover, these women workers have no concern on the contribution from telecommuting implementation towards environmental issues, traffic congestion, green effects, and others.

Another step closer for women workers in Penang to consider telecommuting is to expose them to the benefits of the concept implementation. Various agencies and government bodies need to work together in getting the notion of telecommuting to be considered by these women workers. This study can be improved if the research is carried out at other major cities such as Kuala Lumpur, Ipoh, Seremban, and Johor Bahru. Moreover the move to various major cities can pull the number of women workers to participate in future research on telecommuting acceptance among women workers in Malaysia.

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## REFERENCES

- Anonymous (1998). "The 3 Whys of Telecommuting," TSI Services, Apr 7.
- Anonymous (1999). "Demand for Mobile Devices on the Rise," *Computimes Malaysia*, September 30.
- [CNN] Cable News Network (1996). "Despite Its Advantages, Telecommuting Slow to Catch On," September 11.
- Finley, M. (1999). "Making a Telecommuting Wish List," *Computer User*, Minneapolis, August, Vol.8, Issue 8.
- Hill, J.E., Miller, B.C., and Weiner, S.P. (1998). "Influences of the Virtual Office on Aspects of Work and Work/Life Balance," *Personnel Psychology*, Durham, Autumn, Vol.51, Issue 3.
- Johnson, D. (1999). "Flexible Hours, Flexible Rules," *Home Office Computing*, Boulder, July, Vol.17, Issue 7.
- Khairallah, K. (2001). "Get a Life, Leave London," *New Statesman*, Vol.130, Issue 4526, 02/26/2001.
- Knight, P.J. and Westbrook, J. (1999). "Comparing Employees in Traditional Job Structures vs. Telecommuting Jobs using Herzberg's Hygiene & Motivators," *Engineering Management Journal*, March, Vol.11, Issue 1.
- Kurland, N.B. and Bailey E.D. (1999). "Telecommuting: The Advantages and Challenges of Working Here, There, Anywhere, and Anytime," *Organizational Dynamics*, New York, Autumn, Vol.28, Issue 2.
- Lovelace, G. (1995). "Creating the Framework for a Mobile Workforce," *Telesis*, Ottawa, October, Issue 100.
- Martin, E.W. (1994). *The IBM-Indiana Telecommunication Project*, Bloomington, Indiana: Indiana State University, School of Business.
- Meyers, J. (1998). "Free-From Office Work," *Sacramento Business Journal*, November 16.
- Shelly, G.B., Cashman, T.J., Waggoner, G.A., and Waggoner, W.C. (1998). *Discovering Computers 98: A Link to the Future*, Course Technology, Massachusetts, USA.
- Schilling, S.L. (1999). "The Basic of Successful Telecommuting Network," *HR Focus*, New York, June, Vol.76, Issue 6.
- Straton, M.C. (2001). "Public and Private Approaches to Telecommuting," *FDCH Congressional Testimony*, 9/6/2001.
- [USDOT] U.S. Department of Transportation (1993). "Transportation Implications of Telecommuting," Washington DC: Author.
- Verespej, M.A. (2001). "The Compelling Case for Telecommuting," *Industry Week*, September.
- Williams, B.K., Sawyer, S.C., and Hutchinson, S.E. (1999), *Using Information Technology: A Practical Introduction to Computers & Telecommunications*, 3<sup>rd</sup>. Edition, Irwin McGraw-Hill, United States of America.

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