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Telework Concept: An Exploratory Study – Learning from the Malaysia's Experience[1]

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ABSTRACT

The mobile workforce is relatively new concept towards the Malaysian workers in service industry. 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. Further with the extensive developments of telecommunication infrastructure in Malaysia, the telework concept can be materialized. This study will focus on the acceptance of telework concepts by Malaysian employees. A substantial number of respondents from the service industry workforces are taken into consideration in getting their views on the telework concepts. The results of the study will be used to gauge the Malaysian employers in preparing themselves towards the new workforces in the country.

INTRODUCTION

In the context of Malaysia, telework needs to be exposed as the nation is going towards a developed country by the year 2020. Based on the Western studies, telework does improve quality of work life; apart from that it also improves productivity, morale, teamwork, flexibility, and work hours.

The mobile workforce is relatively a new concept for the Malaysian workers. Proponents say telework makes the work force more efficient, cut costs and even helps protect the environment (CNN, 1996). Many companies are developing telework 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 work to be done on site

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(Meyers, 1998). With the advancement of communications and information technology, 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 teleworking (Anonymous, 1999).

Telework has been foreseen way back as early as 1950s, but 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 almost no study on the telework; therefore studies from Western researchers will be used as a basis in establishing the exploration of the telework concept.

This study will explore the factors that influence the telework concept to be accepted by employee in the service industry. As stated by Kurland and Bailey (1999), telework can improve individuals' overall work-life quality; telecommuters may be more satisfied with their jobs. Do employees in Malaysia will opt for telework?

LITERATURE REVIEW

Definition of Telework

The label "telecommuter" can fit for 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 other word, telecommuter is an employee who works not in a central office but from his or her home, car, and other new work sites.

Telework means the 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 telework and telework centers, the virtual office and "hoteling," and the mobile workplace. Further, Johnson (1999) discovered that email and newsgroups is the primary form of communication. He also discovered that telecommuter needs to convince the boss that phone conferences will work just fine.

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

Fortier (1998) in his article stated that "telework" (telework) occurs when employees carry out all, or part of, their jobs at remote locations, usually from home by computer. Robertson (1998) discovered an increase in the number of mobile teleworkers.

These are employees who are working anytime, anywhere using portable technology to allow them to perform their jobs from customer locations, their vehicle, or their home.

Lovelace (1995) mentioned that manager is part of the new mobile workforce: people who regularly work from locations outside of the office, "telecommuting" to the office by phone, fax, and modem. Today, that person is a pioneer - part of a growing social and technical phenomenon in which information is flowing to and from workers wherever their offices might be (Lovelace, 1995).

In conclusion, telework concept can be said to that of an employee working from any location at any time and communicating to the traditional office with the use of telecommunications and technology. Therefore, telework can be considered as the new way of working in this competitive business environment.

Equipments toward Telework

As mentioned earlier, telework has been promoted extensively in the United States somewhere in the 70s where personal computer and portable modem have been made available (USDT, 1993; Hill et al., 1998). Telework as defined by Williams et al., (1999) is a way of working at home with telecommunications – phone, fax, and computer – between office and home. It is 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 use 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 telework.

Schilling (1999b) indicated that employee gave up costly office space and communicate with the company and their customers remotely by telephone, computer or other technological tools. Lovelace (1995) mentioned that people regularly work from locations outside the office, telework to the office by phone, fax and modem.

From the review, it is obvious that telework concept can be materialized as an employee equipped himself or herself with a terminal, internet connection and modem. Further, with the support of other telecommunications and technological tools, the concept can be smoothly implemented.

Factors of Telework

As the case of Malaysia, the exploration needs to done in order to look for factors that contribute to telework concept. Furthermore, as employees in Malaysia are not exposed to the telework concept, the factors to be developed will be based on the literature reviews and finding by Westerners.

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

Retention & Job Flexibility

Knight and Westbrook (1999) stressed that greater emphasis are 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 telework 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. Telework has become a valuable tactic in the fight to hire and retain skilled workers (Fister, 1999). Telework provides staffing flexibility where the staffs are able to work regardless of weather or traffic peaks (Langhoff, 1996).

Fortier (1998) indicated that employees need flexibility and a balance between their work lives and their personal lives. Kurland and Bailey (1999) mentioned another reason to implement telework that it widens the talent pool available to the organization. It also may stem turnover by providing workers with flexibility that allows them to keep their jobs in the face of external demands or desires.

Productivity

Kurland and Bailey (1999) mentioned home-based telework that provides an opportunity to improve workplace productivity. Because telework 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 telework programs often report that telecommuters take fewer sick days, are absent less, have higher job satisfaction, and have higher work performance ratings. These factors may positively affect productivity. Telecommuters have relatively distraction-free environments, as they are more open to receiving interruptions while at the traditional office (Kurland and Bailey, 1999). Together, these factors, relating to the location of work, the timing of work, and the quality of work life, can increase productivity.

Productivity of a company improved substantially due to telework. Subsequently, telework will improve productivity on the jobs (Fister, 1999; Ervin, 1998; Fortier, 1998; Hill et al., 1998; White Paper, 1997; Shellenbarger, 1997; Janal, 1991). The improvement ranges between 20 to 70 percent as claimed by Ervin (1998). This also supported by

Hawkins et al. (1997), CNN (1996), Langhoff (1996) and Pacholczyk et al. (1995) as they stated that telework improved productivity and their organizations benefit from the practice.

Sullivan (1992) in his study showed that you could be more productive than you are in the office. Further, coworkers should be able to reach you easily, and you should receive information and deliver work to the office without causing unusual disruptions of work patterns (Sullivan, 1992). He also mentioned that it is not hard to show a productivity gain; since you'll have fewer distractions, you'll produce more.

Job Satisfaction

Telecommuters typically work longer hours and more workdays than the average employee does (Langhoff, 1996). Even there were times when telecommuters were too sick to come in to the office but were not too sick to work from home.

Fitzgerald (1995) discovered that the number of companies going mobile is impressive. He stressed that it is the challenge for an organization to provide support for the road warrior and telecommuter who required job flexibility and job satisfaction.

Work Transfer & Relocation

Factor of location of work and long commutes may cause workers to reconsider relocating (either to a new job or to a new neighborhood). Then telework may saves employees from the associated expenses and upheaval of such major change (Kurland and Bailey, 1999).

Schilling (1999a) mentioned of his view on telework as an added benefit, employees are less likely to switch jobs, reducing the company’s recruiting and training efforts. This supported by Lovelace (1995), as he indicated that home base teleworking also eliminate relocation and associated expenses and accommodates people who would be reluctant to disrupt their lives by moving.

Real Estate & Office Overhead

Telework saves companies money (Schilling, 1999a). Employers initiate a telework program to save on leasing costs (Gage, 1998). Robertson (1998) indicated that mobile teleworkers 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 give up costly office space and communicate with the company and their customers remotely by telephone, computer or other technological tools.

Fortier (1998) indicated telework can help alleviate the office space crunch and are a great alternative to expensive new buildings. Further, Girard (1997) discovered that companies should save as they implement telework. This 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.

Personal and Family Matters

Fortier (1998) stated that telework can help reduce absenteeism 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 telework can 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. Telework and new technologies could help those women to better adjust their work schedules with motherhood.

Environment Issue

Telework programs enable firms to comply with regulations such as the Clean Air Act and the Americans with Disabilities Act (Kurland and Bailey, 1999). An application of telework, is becoming an attractive option for both employees and employers.

Employees want a working environment in which they can concentrate and be more productive (Lovelace, 1995). Further, he added that telework can avoid long commutes on congested highways or city streets, and to adjust their workday according to their needs, unbounded by traditional office hours.

METHODOLOGY

The purpose of this study is to explore the factors that contribute telework concept to be accepted by employees. Studies of factors by Westerners will be replicated and used in carrying out the research. Further, the study will explore the Malaysians' acceptance towards telework.

Independent Variable

The independent variables in the study were derived from various reviews that were discovered. After going through the Factor Analysis, twenty variables were grouped into five factors:

1. Factor 1: Savings and Environment.
    a. Cost savings in overhead costs (Schilling, 1999a; Gage, 1998; Shellenbarger, 1997; Girard, 1997; Martin, 1994).
    b. Cost savings in office space (Shchilling, 1999a; Schilling, 1999b; Fortier, 1998; Gage, 1998; Robertson, 1998).
    c. Congested city streets (Lovelace, 1995).

d. Environmental issues (Kurland and Bailey, 1999; CNN, 1996; Lovelace, 1995).
e. Traveling costs (Fortier, 1998).
f. Conducive working environment (Kurland and Bailey, 1999; Ervin, 1998; CNN, 1996; Sullivan, 1992).

2. Factor 2: Decision Making and Productivity.
   a. Decision making through telephone conferencing (Johnson, 1999).
   b. Communication through email (Johnson, 1999; Schilling, 1999a).
   c. Work productivity (Kurland and Bailey, 1999; Fister, 1999; Ervin, 1998; Fortier, 1998; Hill, 1998; Anonymous, 1998; White Paper, 1997; Shellenbarger, 1997; Hawkins et al., 1997; Langhoff, 1996; Pacholczyk et al., 1995; Sullivan, 1992; Janal, 1991).
   d. Communication through telephone/cellular (Kurland and Bailey, 1999; Schilling, 1999a).
   e. Working from home/mobile office (Fister, 1999; Lovelace, 1995).
   f. Absences from office as trouble free (Sullivan, 1992).

3. Factor 3: Job Flexibility and Satisfaction.
   a. Job flexibility (Kurland and Bailey, 1999; Knight and Westbrook, 1999; Fortier, 1998; Meyers, 1998; Langhoff, 1996).
   b. Job satisfaction (Kurland and Bailey, 1999; Langhoff, 1996; Fitzgerald, 1995).
   c. Distractions while at work (Sullivan, 1992).

4. Factor 4: Working Conditions
   a. Long commutes to work (Fortier, 1998; Lovelace, 1995).
   b. Regularly work outstation (Knight and Westbrook, 1999; Gage, 1998; Lovelace, 1995).
   d. Work transfer/relocation (Kurland and Bailey, 1999; Schilling, 1999a; Lovelace, 1995).

5. Factor 5: Family and Personal Matters.
   a. Take care of family matters (Kurland and Bailey, 1999; Fortier, 1998; CNN, 1996).
   b. Take care of personal matters (Fortier, 1998).

Dependent Variables

The dependent variables in this study will focus on the equipment availability, which encourage telework concept. The equipments related to telework concept are:

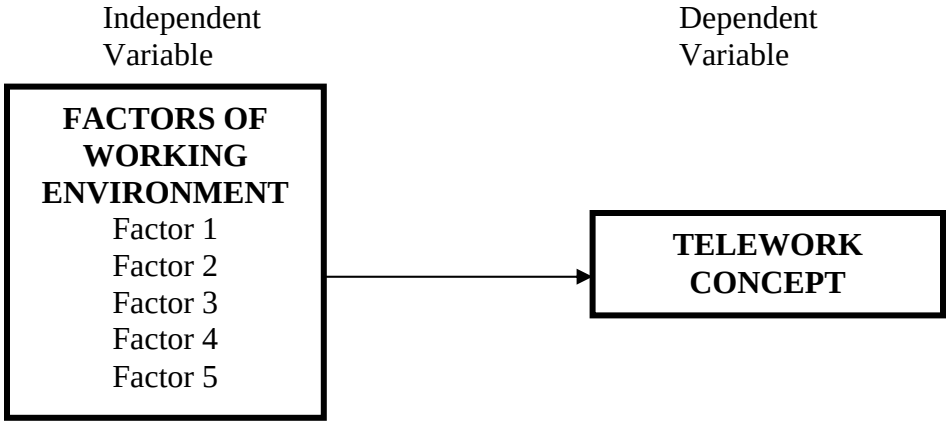
1. Computer (Williams et al., 1999; Finley, 1999; Shelley et al., 1998; Robertson, 1998).
2. Internet access (Johnson, 1999; Lovelace, 1995)
3. Computer with fax capability (Williams et al., 1999; Lovelace, 1995).

4. Fax machine (Williams et al., 1999; Lovelace, 1995)
5. Telephone/handphone (Williams et al., 1999; Schilling, 1999a; Lovelace, 1995)
6. Pager (Williams et al., 1999).

Theoretical Framework

The aim is to demonstrate the factors of telework concept. The model underlying this research is depicted in Figure 1.

Figure 1: Theoretical Framework



Based on the theoretical framework, the following hypotheses are generated:

$H1_1$: Factor 1 leads to telework concept.
$H1_2$: Factor 2 leads to telework concept.
$H1_3$: Factor 3 leads to telework concept.
$H1_4$: Factor 4 leads to telework concept.
$H1_5$: Factor 5 leads to telework concept.

Design of the Instrument

A structured questionnaire was developed based on the evidence from the literatures. Twenty independent variables were used to measure the factors of telework. A 5-point Likert scale is developed to identify the degree of agreement of the working factors on an individual. To measure the telework concept, individuals were asked by indicating either “yes” or “no” to the listed equipments. The indicators of telework concept are the equipment availability by an individual. In order to get the total score of telework concept each equipment was given the individual score that computer at home (20 points), computer with internet access (30 points), computer with fax capability (40 points), fax machine (10 points), telephone/handphone (20 points), and pager (10 points).

By the way, demographic information of the respondents' (i.e. individual workers) were asked to indicate their gender, ethnic, age, profession and equipments availability such as computer, internet access, computer's fax capability, fax machine, handphone and pager. A survey was conducted on workers from private and public sectors. A total of 200 questionnaires were distributed over 10 organizations of service industry in Penang that were selected randomly.

RESULTS

Out of the 200 set of questionnaires distributed to employees, 64 responded which give a response rate of 32%. The majority of the respondents were male (60.9%) as compared to female (39.1%). By ethnic group, Malay was represented by 62.5%, Chinese was 21.9%, Indian was 14.1%, and others were 1.6%. The respondents are grouped into 3 categories according to their years in age. By profession, the respondents were grouped into 4 categories according to their rank in the office.

Equipments availability with respondents were computer at home, internet access, fax capability, handphone, and pager. Equipments inquired were considered related to telework concept. Majority of respondents owned a computer at home (95.3%), a handphone (89.1%), and had an internet access and email (66%).

A factor analysis was conducted on 20 variables in this study. The variables were grouped into 5 factors (refer to methodology).

The overall mean score by the respondents on each factors of telework concept are illustrated as in Table1. In summary, the degree of agreement on 5 factors of telework was largely positive. The standard deviations were quite high, indicating that the dispersion was widely spread a distribution. Meaning that the factors of the telework were approximation to a normal distribution. The score for telework concept as shown in Table 1 was 70. This indicates that respondents were in favor of the telework concept.

Table 1: Mean for each Factors of Telework and the Score of Telework Concept

	Mean	Standard Deviation	Min	Max
Factor 1	3.4870	0.6609	1.00	5.00
Factor 2	3.7187	0.5901	2.33	5.00
Factor 3	4.0000	0.5939	1.33	5.00
Factor 4	3.3490	0.7821	1.33	5.00
Factor 5	4.1250	0.7292	2.50	5.00
Telework Concept	69.8437	29.9969	20.00	130.00

Hypotheses Testing

Correlation was done between the telework concept against all the 5 factors. From the Table 2, Factor 3 and 5 were significantly correlated to telework concept. Further,

these show that the respondents who were highly concern about their job satisfaction, job flexibility and distractions while at work, and/or take care of family and personal matters are in favor of the telework concept.

Table 2: Pearson Correlation Coefficient

Factor	Value
Factor 1	0.096
Factor 2	0.210
Factor 3	0.333**
Factor 4	0.183
Factor 5	0.269*

Note: ** Correlation is significant at the 0.01 level.
* Correlation is significant at the 0.05 level.

Therefore, the accepted hypotheses are as follows:

$H1_3$: Factor 3 leads to telework concept ($r = 0.333$, $p<0.01$).
$H1_5$: Factor 5 leads to telework concept ($r = 0.269$, $p<0.05$).

A further analysis using the Multiple Regression was used to examine the significance of the model. The correlation of 5 factors with the telework concept was 0.422 (Multiple R). The F statistic produced (F=2.507) was significant at the 0.040 level. The coefficient of determination, r^2 is 17.8%. This expresses that the factors can significantly explain the amount of variances in telework concept. The summary of the result was shown in Table 3. Thus, an overall hypothesis that was H_a: the overall factors of working environment contribute to telework concept was accepted.

Table 3: Summary of the Result

		Test of Association			
		Coefficient			
Ref	Hypothesis	r^2	Prob>F	Sig. t	Result
H_a	Overall factors contribute to telework concept.	17.8%	2.507	0.040**	Accept
$H1_1$	Factor 1 leads to telework concept.			0.507	Reject
$H1_2$	Factor 2 leads to telework concept.			0.894	Reject
$H1_3$	Factor 3 leads to telework concept.			0.042**	Accept
$H1_4$	Factor 4 leads to telework concept.			0.191	Reject
$H1_5$	Factor 5 leads to telework concept.			0.091*	Accept

Note: ** Significant at $P < 0.05$
* Significant at $P < 0.1$

Data also indicate that the most important factor that explains the variance in the telework concept was Factor 3 (i.e. job flexibility, job satisfaction and concern about

distraction while at work) and was significant at the 0.042 ($p<0.05$) level. Meanwhile, Factor 5 (i.e. take care family and personal matters) contributed to telework concept at the significant level of 0.091. Other factors such as Factor 1, 2 and 4 could indirectly contribute to the telework concept.

Discussion

The study sets out to examine to what factors of working environment have an impact on telework concept. Further, this study intended to examine which factors that contribute most towards telework concept.

The result indicated that Factor 3: job flexibility, job satisfaction, and distraction while at work, and/or Factor 5: take care family matters and take care personal matters; have an impact on telework concept on an individual. These results are consistent with the studies done by Kurland and Bailey (1999), Knight and Westbrook (1999), Fortier (1998), Fitzgerald (1995), and Sullivan (1992).

Therefore, for individuals who are highly concern on Factor 3 and/or 5 are moving to equip themselves with a computer, internet access, fax modem and handphone. The equipments mentioned are the basic requirement for an individual to telework or telework to his/her office. Moreover for the individuals who are concern about cost savings in overhead and office space, congested city streets, environmental issues, traveling costs and conducive working environment need to work towards telework concept.

For individuals who are concern on decision making through telephone conferencing, communication through email, work productivity, communication through telephone/cellular, working from home/mobile office, and absences from office as trouble free also need to group themselves into the telework concept.

Furthermore, individuals who are concern on long commute to work, regularly work outstation, and work transfer/relocation need to place themselves with the telework concept.

In summary, the result has shown significance for the overall factors that contribute to telework concept. Above all, the organizations need to support the individual who are interested in the telework concept in order to ensure the idea works.

CONCLUSIONS

A change in the work's paradigm needs to be carried out by both of the individuals and organizations in their support of telework concept. Only one side, either the individuals or organizations cannot carry out this concept; both parties must agree and get the set of rules to govern the telework concept.

Individuals whom are concern of their job flexibility, job satisfaction, distractions at work, take care family matters, and/or take care personal matters; those are the individuals whom are high in favor of telework concept. They need to ensure that they are in the telework concept environment in ensuring their goals are achieved. Further, individuals whom are concern about their quality of life, they need to seek for telework concept to be implemented. This will give them the span of control over the things that they need to do for themselves and family members. This is obvious as for women workers who want to take care their babies and family members to work at home and telecommute to her office.

On the other hand, organizations need to set themselves along the telework concept in order to ensure that only the best and outstanding employees are kept within the organization. Human Resource Department of an organization needs to be adaptive in ensuring their organizations are served by the best people in town. The department needs to lay out the rules and guidelines in order to allow their selected employees to telecommute from home or while in mobile to office. Meanwhile, workers trade union needs to be consulted on their view over the telework concept, as their members will be affected especially in the reaction and job evaluation process.

Telecommunication and computer industry can capitalize on the telework concept as most workers and organizations accept the idea. Further, the advance technology can be used as catalyst to introduce telework in Malaysia. Few things need to be considered by the Government in supporting the telework concept such as low-cost communication available to everyone, low-cost computer power that allowed electronic intelligence to be placed at home and electronic communication services which permitted personal communication as opposed to broadcast communications. The services particularly useful for telework were and are electronic mail and teleconferencing (Telework, 1998).

The results of the study will be used to gauge workers' unions and employers in preparing themselves towards the new workforces in Malaysia. Further exploratory researches need to be carried out to assess the Malaysians' organizations perspective in accepting the telework concept.

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