

ICT Competency and Employment among Malaysian PWDS (People with Disabilities)

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Abstract. Information and communication technology (ICT) skills have become basic requirements to compete in the labour market. However, persons with disabilities (PWDs) face difficulties in acquiring these skills. Thus, it contributes to the weakening of their competitiveness in the labour market. The main objective of this study is to identify the extent of the contributions of ICT in empowering Malaysian PWDs to compete in the labour market and get jobs. The study used both quantitative and qualitative approaches. Two hundred PWDs who are working in jobs related to ICT reported to a questionnaire. They represented institutions from both public and private sectors. In addition, two interviews were conducted, the first, with a unit of Manpower, Ministry of Human Resources, and the second with a non-governmental organization, headquartered in the state of Selangor. The most important findings of the study is that ICT plays a key role in empowering persons with disabilities in employment. However, the Malaysian government's efforts in empowering PWDs in the ICT sector are weak. The study also found that PWDs face financial difficulties in order to access sources of ICT which contributes to the weakening of their competitiveness in the labour market.

Keywords: ICT Competency, Employment, PWDs, Malaysia.

INTRODUCTION

The widespread use of information and communication technology (ICT) has created new skills in the field of work, which help to expand the employment opportunities on the one hand, and impose new requirements for persons with disabilities on the other. In addition, the labour market today requires the acquisition of essential skills of ICT by new entrants into the workforce and job seekers (Garrido et al., 2012). ICT provides persons with disabilities (PWDs) with widely expanded opportunities (Unesco, Societies, Age, & Skills, 2011). According to Article 21 of the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), they have equal right to seek, receive and impart information just like the non-disabled. Thus, the United Nations urge governments of member states to ensure that access to services and facilities in ICT are made available to all (UNESCO Global Report, n.d.: vii).

The training of PWDs in ICT enhances their ability to work and perform daily activities (Leng et al., 2011). According to the Malaysian Ministry of Commerce and Industry, the empowerment of PWDs in accessing sources of ICT demonstrates their

ability as individuals to derive benefits from public services and to operate effectively in society. It also confirms the importance of ICT in the labour market where ICT changes the nature of a considerable number of jobs, in ways that allow the development of a more inclusive labour market. It introduces opportunities for more flexible working patterns, better engagement in the workforce of PWDs and a range of new jobs (Meager & Wilson, 2007).

Based on the United Nations statistics, 10% of the world's populations consist of persons with disabilities in various forms. An estimated 82% of PWDs in developing countries live below the poverty line and often lack access to key areas of development, including health, education, training and employment (ILO, 2012: 9). Moreover, PWDs face constraints in employment in developing countries due to a lack of education and skill (ibid: 10). According to UNESCO et al. (2011: 5) over 80% of persons with disabilities live in isolated rural areas in developing countries. It also indicates that unemployment rate among persons with disabilities in developing countries amounts to 90% and in developed countries up to 70%.

Since past views about PWDs have changed, attention is now diverted to issues of PWDs and their rehabilitation. In this context, empowerment of persons with disabilities through employment of ICT is consistent with the Universal Declaration of Human Rights issued in 1948, which states that all human beings are born free and equal in rights and dignity (ibid: 5).

Work is an important part in human life. It fulfils individual roles and psychological needs such as the sense of being tied to society, purposefulness, self-worth, self-esteem, fulfillment, identity and status (Sayce, 2011). Employment for PWDs is instrumental to their identity. In addition, it opens up great opportunities of being respected and accepted into mainstream society Shah (2005a). Various sources confirm that there is a gap between PWDs and the non-disabled in terms of employment rates and types of employment (Burchardt, 2000). Some studies indicate the suffering of some of the PWDs in terms of competition in the labour market (ibid: 13). However, unemployment and lack of fulfillment of occupational ambitions have lessened the confidence of young PWDs (Burchardt, 2005). Studies in this context indicate that PWDs have managed to demonstrate capabilities in participating in many activities. Therefore, their acquisition of the required skills helps them to contribute effectively at work (Sharam et al, 2011).

Most young people in developing countries are facing difficulties in obtaining jobs. These difficulties are much more felt by young PWDs (World Youth Report 2011: 41). The most prominent of these obstacles are embodied in the multiple forms of discriminations with weak qualifications and inappropriate skills associated with the uses of ICT. Burchardt (2005) observes in his comparative study that young PWDs have lower qualifications, higher rates and durations of unemployment, smaller pay (even after controlling for educational qualifications) and lower-status occupations.

In recent times, attention to issues of disabilities found an interest in the academia, government, and global organizations at regional and local levels. However, the most prominent of these issues is the rehabilitation of the disabled for employment. The objective of this study is thus to identify the role of information and communication technology in rehabilitation of the disabled for competition in the labour market. The study stems from an optimistic view that assumes information and communication technology (ICT) has a vital role in the empowerment of the disabled people for

employment. Certain reports have indicated that "Yet, over one billion persons with disabilities (PWDs) worldwide are left on the wrong side of a digital divide." (*UNESCO Global Report*, 2012).

Although the Malaysian government has made efforts towards the empowerment of PWDs through employment and allocating 1% quota of jobs in public service for PWDs, most of them are unemployed because of their inability to compete in the labour market. In the Malaysian situation, as a result of the various difficulties confronting PWDs, job opportunities for them are limited compared to the non-disabled. Such difficulties are in the form of limited job opportunities, and obtaining the right to train, employment and jobs, (Hashim, 2011).

Thus, this study investigates the role of ICT in empowering PWDs with employment. The study addresses the theme of empowerment in terms of several perspectives. It deals with two aspects of the problem: **First**, ICT plays an active role in empowering PWDs. **Second**, PWDs are facing many difficulties in accessing the services of ICT. In this sense, ICT is considered an effective mediator in empowering marginalized groups in society. Regarding empowering PWDs in employment, this study assumes that ICT plays a pivotal role in this respect. Given that the acquisition of ICT skills has become one of the most important criteria to compete in the labour market, the training of PWDs in this area is an urgent necessity.

Hypotheses of the Study

1. There is a positive relationship between ICT skills and employment of PWDs.
2. Disabled persons perceive that education facilitates the accessibility to ICT programmes.
3. Disabled persons perceive that the accessibility to ICT programmes depends on affordability.
4. There is a positive relationship between employment and Malaysian government's policies towards PWDs.

PWDs IN THE MALAYSIAN CONTEXT

Voluntary registration

With rapid increase of urbanization in Malaysia, reaching 61.8% in 2000 and is expected to reach 75% in 2020, the most prominent challenges facing PWDs are poverty, education and training (Wahiza & Wahat, 2011). The Malaysian government has allocated a card for PWDs obtained through voluntary registration.

According to the statistics of voluntary registration of PWDs in Malaysia in February 2011, the number registered was 317,363 disabled people. Statistics relating to the employment of PWDs in Malaysia shows that 5.24% had jobs in 2003, while in 2007 the number of the PWDs workforce amounted to 6.8% of the total registered 9.6% disabled persons (Wahiza & Wahat, 2011). The low rate of employment among the PWDs is caused by several reasons, including very few jobs available, employment and job development is often overlooked and lack of awareness amongst employers about the need to provide employment opportunities (Haji & Hashim, 2008).

Legislations

Malaysian government's efforts towards PWDs are reflected in the ratification of several international and regional conventions, as well as strengthening policies that support the PWDs. It recognizes that PWDs have equal rights as other citizens, as well as equal opportunities to participate in developing the country. According to United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) (2010), progress in improving the disability environment in Malaysia continues through the current United Nations Decade of PWDs 2003-2012. However, 2007 was the beginning of drafting the Malaysian government's policy towards the PWDs, and also declaration of the National Action Plan, as well as drafting of the PWDs Act, in accordance with the United Nations Convention on the Rights of the PWDs, which is ratified by the Malaysian government on 19 July 2010. Therefore, the 2008 act was designed for the registration, protection, rehabilitation, development and well-being of PWDs (Abdullah et al., 2011).

Consequently, this law was a turning point in the disability area, where shift was made from the philanthropy and voluntary model to the rights-based model. Thus, this Act emphasised the importance of accessibility, equal opportunities and protection and assistance from the government, private sector and NGOs to ensure the full participation of PWDs in society (Parmenter, 2011). The Malaysian government has adopted several initiatives, national, regional, and global, in order to enhance the capacity of PWDs through training, on the one hand, and providing employment opportunities, on the other.

Policies and plans

The Malaysian government's attention to persons with disabilities dating back to the pre-World War II, where the NGOs and missionaries undertaken mission of protecting and rehabilitation of the disabled (Reshidullah, 2005). Moreover, this interest evolved into a policy based on the concept of comprehensive rehabilitation which includes medical, social and vocational rehabilitation (ibid: 1). The Malaysian government awareness of the issues of the disabled stems from policies aimed at involving them in societal development on an equal basis with non-disabled (Maidin, 2012). The year 2007 witnessed a pivotal shift in state policy towards the disabled; The Malaysian government approved the policy and the national action plan for PWDs in November 12, 2007 (Hussein & Mohd, 2012). Philosophy of the governmental policy, towards the disabled based on the adoption of a rights-based approach, in order to ensure the interests and welfare of the disabled in Malaysia. This shift has developed the Malaysian Government National Policy for Persons with Disabilities, which aimed to enhancing opportunities for persons with disabilities well in order to enjoy equal rights and full participation in Malaysian society. According to the policy, disabled person is “someone who has a long-term disability in physical, mental, intellectual or sensory and when faced with challenges they may not be able to participate fully and effectively in society” (Policy for Disabled Persons, 2002).

REVIEW OF LITERATURE

ICT have caused a transformation in the areas of knowledge, work, and the means of social communication. In the area of education, the Internet has become a means of learning and knowledge sharing, as well as easy communication between academics. In the area of work, the acquired skills to use ICT have become part of the basic criteria to compete in the labour market. Also ICT contribute to facilitate the social communication. Despite these positive shifts, however, the ICT also create digital divide which is the gulf between those who have ready access to computers and the Internet, and those who do not (Oxford dictionary: 2014). There are two levels of digital divide; **the first**, the digital divide between developed and developing countries. While developed countries produce technology, developing countries are recipients of this technology. **The second**, the digital divide between communities within the same country. There are communities in developing countries that have access to sources of ICT, whereas there are barriers to these powers for other communities. In this regard, the PWDs face several obstacles to take advantage of the opportunities provided by ICT.

The United Nations have made efforts to integrate PWDs in the information society. In this respect it has organized a number of conferences and symposiums to employ knowledge and ICT for development, hence, acknowledging the importance of strengthening access and use for all, with a focus on the special needs of vulnerable groups in society, including the PWDs. In this context, governments are urged to facilitate access to information through the provision of Internet service centers with affordable fees or for free (Balit, 2004). In the same context, there are other international initiatives such as the Millennium Development Goals (MDGs) that aim to reduce the number of people in poverty and to reach out to the marginalised groups without access to ICT (Khan, 2007).

The United Nations Convention on the Rights of Persons with Disabilities adopted 13 December 2006 as an international day for disabled people. The principles of this convention have had a direct impact on the promotion of the rights of PWDs to participate in the information society. The Convention on the Rights of Persons with Disabilities is a comprehensive treaty for all human, including civil rights, political, economic, cultural, and social rights. Signatory states must implement civil and political rights immediately. These rights such as equal protection before the law, liberty and security of the person, right to life, protection of the integrity of the person and right to participation in public life. The economic, social and cultural rights, can be implemented in phases, and these rights includes freedom of expression, the right to education, the right to work, the right to adequate standard of living, the right to health and the right to participate in cultural life (CRPD fact sheet, 2006).

According to United Nations Economic and Social Commission for Asia and the Pacific, approximately 60% of the total 650 million PWDs in the world, are living in the region of Southeast Asia (UNESCAP, 2008). However, they need support in order to achieve their fundamental rights. Most of the PWDs in the region suffer from poverty and marginalization, live in rural areas, or in the urban periphery. They generally have limited access to education, employment, housing, transportation, health services and recreation, leading to their total economic and social exclusion. Moreover, the unemployment rate among the PWDs, according to the International Labour Organization (ILO), is double the rate of the non-disabled. Hence, they face frequent and diverse barriers such as

negative attitudes of employers, lack of accessible facilities, and lack of vocational and technical trainings (Thongkuay in Thomas, 2011). In this respect, it is important to note that the European Union policies towards the handicapped aimed mainly to employment and social integration (Santvoort, 2009).

Employability is a concept that remained under discussion for a long time yet (Gazier, 1998). Therefore, employability issues come to the forefront of policy and theoretical discussions at the local, regional, national and international in relatively recent times (Green et al., 2013). Despite the importance of employability in discourses associated with the labour market, however it is difficult to measure (Apel & Fertig, 2009). The use of multiple definitions of the concept of employability caused a creating some sort of confusion, since there is no universally agreed definition (Bruin, 2008).

There are several studies that have been carried out on employment of PWDs in Malaysia. One of these studies is entitled "Malaysian Employers' Attitudes toward Hiring PWDs". The main objective of this study is to identify the attitudes of employers towards the employment of persons with disabilities in the Malaysian context (Osman, 2003). The study points out to the importance of training as it helps job seekers to acquire the basic skills of modern technology required to compete in the labour market. Its results show that 85% of the respondents affirmed that their organizations do not provide special training programmes tailored for PWDs. Thus, there is an urgent need to increase the number of training centers for teaching the PWDs the skills that qualify them to work. All respondents agreed that the same opportunity should be extended to PWD employees as far as promotion is concerned (ibid: 28, 44, 47).

The high prevalence of ICT in all sectors of the economy provides broad opportunities for work, and at the same time, imposes new standards in the skills of the workers. Thus, the basic skills of ICT are considered a crucial factor in the competition of the labour market. On the other hand, these dynamics more directly affect global economic trends and local alike (Garrido et al., 2009). With the development of ICT, the job at the present time focuses on the ability of the mind more than able body. This shift opens more opportunities for skilled workers and highly educated persons. Employment in the ICT sector is available for qualified persons with disabilities (Ling et al., 2011). Thus, enabling the PWDs to participate in the labour force depends on the skills of development process. Christine (2008) confirms that those who have had the opportunity to acquire marketable skills have demonstrated their potential to earn a living and contribute in the world of work.

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Another study relating to the employment of PWDs in Malaysia was conducted in the northern states including Perlis, Kedah, Pulau Pinang and Perak. The objective of the study was to identify employers' perspective towards employment of PWDs on one hand, and identify the obstacles facing the PWDs job seekers on the other. The survey included 250 private companies located in those states. The results of the study show that some companies did not prefer to employ PWDs because of training costs and supervision. The study also notes that low educational achievement and lack of training are some difficulties faced by PWDs in getting jobs (Ling et al., 2011:). Finally, the study recommends stakeholders interest in capabilities of PWDs in the labour market.

THEORETICAL FRAMEWORK

Empowerment as a process of change refers mainly to enhancing the possibilities for people to control their own lives (Rappaport, 1987; Lord & Hutchison, 1993). In other words, it aims at the development of the capacity of individuals to live independently and with dignity. Thus, the outcomes of empowerment of PWDs are reflected in enabling them to access sources of knowledge and information in order to develop their skills and abilities, and effective participation in achieving positive shift in their lives and the community as well. In addition, the process of empowerment contributes to strengthen capabilities of vulnerable groups in society in order to stabilize their livelihood and life style. It provides facilities and opportunities for decent living. On the other hand, the process of empowerment contributes to the society in producing active members (Sen, 1999).

Alsop and Heinsohn note that the meaning of empowerment encompasses two stages. The first is enhancing the capacity of an individual or group to choose and the second is to transform those choices into action and desired results. They propose a measure of empowerment based on the individual's ability to choose. Thus, a person can be empowered if he/she possesses the ability to choose and then the embodiment of this choice is being in the desired outcomes. According to them, there are two factors affecting the ability of the individual to make the choice: agency and opportunity structure. Agency means the actor's ability to make meaningful choices from among the other options available. Opportunity structure is the formal and informal contexts within which actors operate; both factors play an important role in the output, and the level of the empowerment process (2005: 5, 6). This is explained in figure 1.

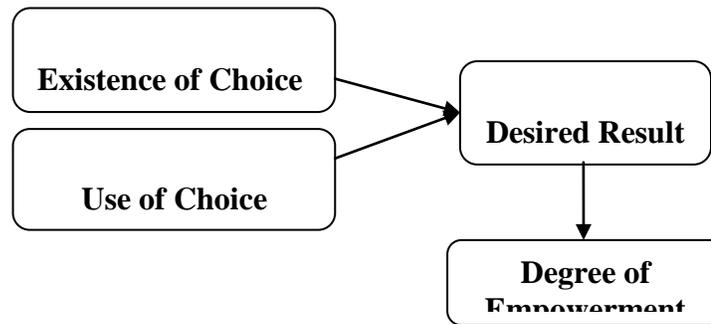


Figure 1: Empowerment process

Through this model, the current study tries to reveal the role of ICT in empowering PWDs in Malaysia. ICT can contribute to enable the PWDs to compete in the labour market. However, they face difficulties in accessing the sources of ICT mainly through education and whether these sources are affordable or not. In this context, the study focuses on whether the ICT enable PWDs to make the right choice (it depends upon the accessibility to Internet and computer using skills), whether the use of ICT is affordable to PWDs and whether accessibility to ICT services achieves the desired results that are embodied in independent and dignified living. In this regard, education plays an important role in the access to sources of ICT and helps to take advantage of its benefits. It also provides PWDs awareness and systems relating to the access and use of ICT facilities. The skills to use the Internet and computer contribute to the empowerment of PWDs to achieve independent and decent living, which means overall empowerment in the end.

It presumes that education helps disabled persons to achieve ICT skills which in turn enable them to compete in the job market and get empowerment. Education also helps PWDs to get access to ICT training and increases the chances of affordability to join institutions that impart ICT skills. Employment, further, enables them to lead independent and dignified life and in the end equip them with empowerment. This is explained in the figure 2.

The level of education for persons with disabilities (PWDs) is a key factor in acquiring skills of information and communication technology (ICT). The high level of education helps the process of acquiring these skills faster and more. As a result, the opportunities to absorb and employ information and communication technology skills are larger for the disabled persons with high levels of education while less for the disabled persons with less education. However, the disabled are facing numerous obstacles in accessing educational sources. The most prominent of these obstacles are the financial capacity, the means and the educational environment. In this regard, most disabled people living in poverty, therefore, cannot afford the costs of education. On the other hand, some types of disability require special education which is not available in educational institutions in developing countries. Moreover, the architectural design of the educational institutions of these countries does not take into account the special needs of PWDs.

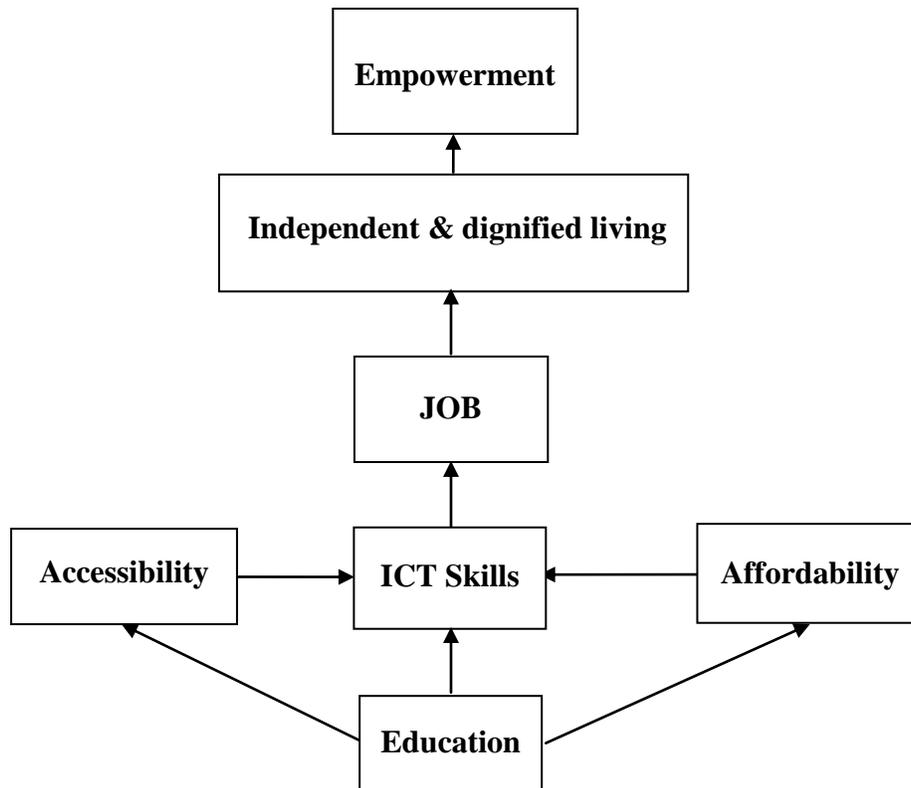


Figure 2: theoretical framework

As well as the level of education, there are difficulties facing disabled people on acquisition of ICT skills. Accessibility to sources of learning skills of ICT represents an obstacle for most disabled people, specifically the transportation and architectural design of the building, which with the educational sources, do not take into account the special needs of persons with disabilities. In addition, most of the disabled people do not have the financial capacity to meet the costs of the process of acquiring the skills of ICT. Enabling them to access sources of these skills through better transportation and architectural design of buildings as well affordable rates of services will help the disabled to acquire skills of ICT and consequently get jobs. Accordingly, the process of empowerment of the disabled is reflected in the independent and dignified living.

METHODOLOGY

The study employed both quantitative and qualitative methods to examine and assess the role of ICT in empowering Malaysian PWDs to compete in the labour market and lead a dignified and independent life. For quantitative study, a questionnaire is formulated to elicit information about the socio-demographic characteristics, awareness, involvement and utilization of ICT. In addition, it also seeks information about the chances of betterment that ICT brings into the life of PWDs. The questionnaire is formulated systematically taking into consideration all the factors necessary for its

construction. It was then pretested on a small sample and reformulated in view of the responses and reaction of the respondents.

The qualitative study consists of interview with government and NGOs in order to collect information about the relevance and efficiency of training programmes, degree of utilization and rehabilitation of PWDs.

Sampling

Disabled persons are spread throughout Malaysia and working in different institutions and places. In view of that the study adopted the cluster sampling. It is "a sampling technique where the entire population is divided into groups, or clusters and a random sample of these clusters are selected" (statistics glossary). Thus, two stages of cluster sampling are employed. In the first stage cluster has been selected according to random sampling technique. In the second stage population has been selected according to the same procedure. In Malaysia there are 40 institutions that train disabled persons in ICT. These institutions have a list of disabled persons who are the products of these centers and are working in different organizations. The present study selected only 200 respondents due to time and money constraints for the administration of research tool. The first five institutions have selected randomly as clusters out of 40 institutions that are providing training programmes to disabled persons. In the second stage, 40 respondents have been selected from each cluster of training institutions.

Sources of data

The data of the present research were collected through the questionnaire and interview from the following sources:

1. Government agencies
 - a) Ministry of Women, Family and Community Development (Department of social welfare);
 - b) Ministry of Human Resources (Department of Labour);
2. Selected respondents;
3. NGOs; and
4. Private sector agencies.

Data Analysis

The study used One Way ANOVA Test and correlation (Pearson's Product Moment) methods to determine the relationship between education, ICT skills, and employment of PWDs as well as between education, accessibility, and affordability. It exposed the nature and level of relationship between ICT and empowerment through employment providing PWDs with increase in self-worth and self-determination.

ANALYSIS AND DISCUSSION

Since the main objective of the present research is to study ICT in empowering PWDs for employment, the education, according to the theoretical framework, plays a fundamental role in the disables' access to sources of ICT skills. In this regard, UNESCO harnessed the ICT in order to improve the quality of education through its activities such as lifelong learning. As the educational needs of PWDs are varied, UNESCO has made

great efforts in order to enable them to acquire the necessary knowledge and skills specially in ICT sector. (UNESCO, 2011).

The mastery of ICT skills requires a minimum level of education that is secondary education. The result shows that the vast majority of respondents are graduate, while 28.5% of them are high school. The disabled used to face financial difficulties in order to get access to sources of ICT skills because most of them are poor. It is a barrier that hinders their access to sources of education. Consequently, there should be an adequate mechanism to provide ICT training to disabled people at affordable cost. This will enable them to compete in the labour market and get job.

It is also evident from the study that the ICT is an empowerment tool that enabled Malaysian disabled to lead an independent and dignified life. We can conclude that ICT has made a significant shift in the lives of Malaysian disabled where they became independent people instead of relying on others.

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The relationship between ICT skills and employment of PWDs.

Analysis: Pearson's r

The result of a Pearson's Product Moment Correlation test shows that a statistically significant positive relationship exist between proficiency in ICT skills and opportunities for employment among respondents, $r = .196, p < .05$.

Table (1): Proficiency/ Empowerment/ Employment

Correlations

		Proficiency	Empowerment/ Employment
Proficiency	Pearson Correlation	1	.196**
	Sig. (2-tailed)		.006
	N	199	199
Empowerment/ Employment	Pearson Correlation	.196**	1
	Sig. (2-tailed)	.006	
	N	199	200

** . Correlation is significant at the 0.01 level (2-tailed).

Since the concept of empowerment in this study means employment; the disabled person who has acquired ICT skills became able to compete in the labour market and got a job. Thus, this result confirms that acquisition of ICT skills have empowered the participants to compete in the labour market and to get jobs. This is a positive indication that if the disabled have been trained to acquire ICT skills, their opportunities of competition in the labour market will be great in terms of the multiplicity of options.

Thus, we can conclude that, proficiency in ICT positively related with opportunity of employment. This result, on the one hand, reflects social and psychological dimensions, where it strengthens a positive sense of the disabled through participation in community development and nation building. It, on the other hand, removes the sense of inferiority, inefficiency and dependency. The table below shows the social and psychological dimensions of the job for the disabled:

Education facilitates the accessibility to ICT programmes.

Analysis: One Way ANOVA F Test

$$[F(4, 195) = .672, p > .05]$$

The results of running One-Way ANOVA *F*-test showed that there is no statistically significant mean score differences in access to ICT programmes [$F(4, 195) = .672, p > .05$] between those respondents who have different levels of education, Secondary (M=23.9825, SD=3.11386); Diploma (M=24.7000, SD=2.74749); Degree (M=24.7910, SD=2.68857); Master (M=24.5417, SD=2.87386); and Ph.D (M=24.6667, SD=3.77391).

The result indicates that there is no difference in the chance to get access to ICT programmes due to the level of education. In other words, the level of education is not the main factor to get access to sources of ICT but it helps to gain their skills more quickly.

Educational background of the respondents was classified into five groups as secondary school, diploma, degree, master and Ph.D. The data showed that a higher percent of the respondents (33.5%) have degree. The next highest percent (28.5%) represents those who completed secondary education. The third category (20%) represents those who have diploma. Finally, (12%) completed masters and (6%) completed Ph.D. It shows that all the respondents are educated and qualified to acquire the ICT skills and thus have the ability to compete in the labour market.

In this context, it is important to mention that this hypothesis shows that the level of education is considered a catalyst, but not a decisive factor for the PWDs access to ICT programmes. This result could be justified through the following:

Firstly, the largest number of participants 139 representing 69.5% working in public sector jobs, followed by teachers 34 representing 17%, lecturers 17 representing 8.5%, finally, technicians and engineers 10 (5 for each group) representing 5% (2.5% for each group).

Secondly, acquisition of ICT skills is the basic conditions for competition in the labour market; in fact, these skills do not require a high level of education. It requires basic knowledge to learn how to use the computer in the field of data processing in terms of input, organization, storage, and output, as well as dealing with the Internet as a source of information. This level of skills is required in general administrative positions, whether in the public or private sector. Thus, we find that the largest number of respondents have bachelor degree, secondary school certificates, and diploma. Their number is 164 of the total 200 respondents representing 82 percent. Among the largest number of officers working in public sector jobs and in the general education sector 173 are teachers, representing 86.5 percent. In contrast to this, 27 representing 13.5 percent work in specialized functions as mentioned below:

- 17 are lecturers representing 8.5 percent of the population. The requirement of this job is masters or Ph.D. degree.
- 5 are engineers, their corresponding percentage is 2.5.
- 5 are technicians, their corresponding percentage is 2.5.

Accessibility and affordability to ICT programmes

Analysis: Pearson's r

The result of a Pearson's Product Moment Correlation test shows that there was no statistically significant relationship between accessibility and affordability for ICT programmes and the policy of the Malaysian government towards the PWDs, $r = .332/.211$, $p > .05$.

Table (2): MGP/ Affordability & Accessibility

Correlations		MGP	Affordability	Accessibility
MGP	Pearson Correlation	1	.332**	.211**
	Sig. (2-tailed)		.000	.003
	N	200	199	200
Affordability	Pearson Correlation	.332**	1	.068
	Sig. (2-tailed)	.000		.341
	N	199	199	199
Accessibility	Pearson Correlation	.211**	.068	1
	Sig. (2-tailed)	.003	.341	
	N	200	199	200

** . Correlation is significant at the 0.01 level (2-tailed).

There are several indicators that confirm the survey results showing that most of the participants have acquired ICT skills through training in private institutes. Their number is 154; corresponding percentage is 77% while 46 participants; the corresponding percentage is 23% are trained in government institutes.

In this respect, the financial condition affects their accessibility to ICT programmes.

The factors that help the Malaysian disabled to get access to training resources on ICT skills include:

- (a) The financial capacity;
- (b) Means of transportation and
- (c) Building Design

The study showed the importance of acquiring ICT skills to compete in the labour market. As the results of the interview with the competent authority showed that the government does not provide training programmes on ICT skills for the disabled; therefore, they are forced to acquire these skills in private centers. This does not contradict the result showed that the disabled are facing financial difficulties in access to sources of training on ICT skills. Several studies and reports have indicated that persons with disabilities are facing financial difficulties in terms of the development of capabilities and skills. According to (ILO), 80% of disabled people in the world are living under the poverty line. Although the employment quotas allocated by governments to PWDs, the vast majority of them do not benefit from these opportunities due to low education and skill levels (2010: 10). According to the survey results the majority of disabled people in Malaysia are facing financial difficulties with respect to joining the training programmes for ICT skills. In this regard, the results showed that 94.5% representing 195 respondents cannot afford the training fees to acquire ICT skills. Moreover, 96.5% of them representing 190 respondents believe that training fees is not affordable for most disabled people. Therefore, the limited financial capability is one of the major obstacles that prevent most of PWDs in Malaysia to access to ICT skills training programmes.

relationship between employment and Malaysian government policies towards PWDs.

Analysis: Pearson's r

The result of a Pearson's Product Moment Correlation test shows that a statistically significant moderate positive relationship exist between employment and Malaysian government policies towards PWDs, $r = .513, p < .05$.

Table (3): Employment & MGP towards PWDs

Correlations		Employment	MG Polices
Employment	Pearson Correlation	1	-.513 ^{**}
	Sig. (2-tailed)		.000
	N	200	200
MG Polices	Pearson Correlation	-.513 ^{**}	1
	Sig. (2-tailed)	.000	
	N	200	200

****.** Correlation is significant at the 0.01 level (2-tailed).

In contrast to the present result, a study conducted by the UNESCO in the Asia-Pacific region indicates that there is a large gap between the governmental policies and implementation with respect to PWDs (2013: 51). This fact requires that the Malaysian government should review the policy on the training of PWDs in the field of ICT skills. The Government should take certain measures to ensure disabled's access to sources of ICT in the following manner:

- a) Increase the number of training centers; taking into consideration the numbers of disabled persons.
- b) Design training centers to take into account the needs of the disabled in terms of architectural design, as well as the design of the lab to suit the types and levels of various disabilities.
- c) Increase means of transportation that take into account PWDs.

The policy of the Malaysian government towards disabled people aims to integrating them into society. In this context, there is some coordination between the relevant governmental institutions rehabilitation of the disabled, are as follows:

- a) Ministry of Women, Family and Community Development;
- b) Ministry of Human Resources;
- c) Ministry of Education; and
- d) Ministry of Health.

There are efforts undertaken by the Malaysian government for the rehabilitation of PWDs to live an independent life with dignity. These efforts are reflected in the programmes implemented by the relevant governmental institutions, in coordination with employers in order to enable PWDs in the labour market. The Job Coach programme is considered the most important project in this regard. However, the results of the interviews indicated that there are no training programmes dedicated for the disabled in the field of ICT skills.

Conclusion

During the last two decades ICT provided unprecedented opportunities in the labour market. However, the PWDs are facing difficulties in taking benefit of these

opportunities to compete in the labour market. This study was conducted to reveal the competency of Malaysians disabled to compete in the labour market through acquisition of ICT skills.

The study concluded that there is a positive relationship between ICT and employment of PWDs. Thus, ICT is considered an effective tool in enabling PWDs as general and in the field of employment, in particular. As it is the main result of this study, ICT is playing a significant role in empowering PWDs in Malaysia to compete in the labour market and getting jobs. This role contributed to enable disabled people to live independently to some extent and live in dignity.

As the job is a multi-dimensional process, economically, socially and psychologically, the respondents emphasized that the job has contributed to satisfaction of the following needs:

- a) Control over everyday life;
- b) Increase in self-worth; and
- c) Self-determination.

FINDINGS OF THE STUDY

The present empirical study of the ICT competency in providing empowerment to Malaysian PWDs reveals certain important facts:

1. Proficiency in ICT is positively related with opportunity of employment. This means that ICT plays an important role in empowering Malaysian PWDs to lead a signified life in society;
2. Education is an important factor in helping the PWDs to acquire ICT skills in terms of absorbing the training content more quickly;
3. Job for a disabled person is a multi-dimensional process economically, socially, and psychologically;
4. Disability is not considered a barrier to integrating disabled people in the society. The study showed that they have capability to contribute effectively to development of society and nation-building.
5. Disabled people in Malaysia are facing financial difficulties in access to sources of ICT. Nevertheless, the vast majority of them (77%) acquired ICT skills in the private training centers. This positive indicator demonstrates the awareness of PWDs in Malaysia about the importance of ICT as a tool for empowerment.
6. The design of buildings that contain training centers on ICT skills, as well as transportation, are good in terms of taking into account the special needs of PWDs in Malaysia.
7. The study showed that specialized centers on training of the disabled in Malaysia on ICT skills are very few compared with the large number of them who wish to acquire these skills.
8. The Malaysian government' efforts towards the empowerment of the disabled in the field of ICT is weak in terms of limited of specialized centers in this area. As most the disabled acquired technology skills at private training centers.

RECOMMENDATIONS

As the study shows that the acquisition of ICT skills is one of the requirements of the competition in the labour market, the empowerment of disabled people in Malaysia depends to a great extent on the acquisition of these skills. Accordingly, the study suggests the following recommendations:

1. Make effective and appropriate training programmes to acquire ICT skills should be design for PWDs to enable them to compete in the labour market.
2. The number of training centers relating to ICT should be increased and be equipped with necessary means and facilities.
3. The government's allocation of 1 percent employment to disabled persons in civil service should b increased.
4. NGOs working on the training of disabled persons in ICT skills should be provided following financial and logistical support:
 - (a) Specialist trainers should be provided to the training centers with commitment to pay their salaries.
 - (b) Adequate laboratories should be provided to the respective training centres to accommodate all types of disabilities.
5. There is need of cooperation and coordination with, local, regional, and international NGOs. It is important in this context to generalize the experience of job Koch programme between the Malaysian government and the Japanese Organization for Economic Cooperation, to include other organizations in order to provide greater opportunities for PWDs to enable them to compete in the labour market. It is also important to explore the possibility of applying the model of cooperation that took place between the State Government of Johor and the United Nations Programmes for Development (UNDP) in the field of employment of disabled in the other states;
6. The ICT curriculum in schools of disabled, public and private, should be reviewed, assessed and revised time to time to meet the needs and demands of the labour market;
7. Fees for the training of PWDs in private centres should be reduced and thr training in government centers should be free of cost;
8. The Ministry of Education should allocate appropriate fund for conducting empirical researches relating to the problems of PWDs and their training in ICT centres;
9. Conferences, seminars, and workshops should be organized time to time to evaluate the implementation of programmes and relating to PWDs training in ICT, as well as to address the negatives and the positives points of the training;
10. These are needed to raise awareness among the people about the problems of PWDs in order to enable them to settle in life and lead a dignified life;
11. The government should allocate some fund of *Zakat* and *waqaf* to support and initiate effective programmes of enabling PWDs to compete in the labour market;
12. Employers and the private sector should be pursued and motivated to employ more disabled persons. For this purpose a partnership should be established under the umbrella of governmental agencies between employers, NGOs and other organizations to take effective measures; and

13. Serious efforts should be made to develop awareness in Malaysian society about the importance of empowerment of PWDs. PWDs are the integral part of Malaysian society and as such it is the responsibility of the society to enable them to lead a dignified life and contribute to nation-building effectively.

Policy implication

The present study has provided a model that can benefit to policy-makers, decision-makers, stakeholders, and employers. As the practical side of this study, is the model that has been drawn from the theory of empowerment that has been referenced in chapter Four, as shown in Figure 5. This model fit to be a joint project between the government agencies, NGOs, and employers in order to enable people PWDs in the ICT sector. Thus, the desired goal will be achieved which is the empowerment of PWDs to living independently with a decent life.

Future studies

The present study addressed ICT competency and employment of Malaysian PWDs, and the investigation led us conclude that there is a huge vacuum in the studies on the ICT and the PWDs issues in Malaysia. Thus, the study proposes to conduct research in the following areas:

- a) Soft skills and their role in employing PWDs in Malaysia; and

The impact of government policies and programmes to empower PWDs in the ICT sector;

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