Journal of Contemporary Issues in Business and Government Vol. 27, No. 3, 2021
https://cibg.org.au/

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI: 10.47750/cibg.2021.27.03.291

Modelling Employers' Adoption of Assistive Technology in Advancing Employment for Persons with Disabilities

SYEZREENDALINA RUSDI[1], NOR AZAIRIAH FATIMAH OTHMAN[2], MUHAMAD KHALIL OMAR[3,*]

[1]Faculty of Business and Management, Universiti Teknologi MARA, Malaysia,
[2]Faculty of Business and Management, Universiti Teknologi MARA, Malaysia,
[3]Faculty of Business and Management, Universiti Teknologi MARA, Malaysia,
* Corresponding author
Email:syezre5475@ uitm.edu.my[1], norazairiah@uitm.edu.my[2], khalil.omar@uitm.edu.my[3]

Abstract:Employers nowadays should stop worrying about accommodating disabled employees as appropriate assistive technologies (AT) could be adopted that fit with their employees' limitations and help them work independently. Yet, little consideration is given to examining the adoption of AT by employers for employees with disabilities. As a result, the purpose of this study is to determine how an employer decides to adopt technology for their disabled employees and to look for any significant differences between gender and willingness to hire a disabled worker.This study's survey was conducted among 33 Small and Medium Enterprises (SMEs) in Klang Valley, Malaysia. The judgement sampling technique is utilized for this study, where the selection of samples will be among the managers, officers or executives in charge of managing the disabled workers. This study has specifically examined the office assistant apps as the particular AT for disabled people that the government supplied to disabled communities (hearing aids, artificial legs, etc.). The result showed a positive and significant relationship between AT Perceived Usefulness and Intention to Adopt AT. In conclusion, this study provides comprehension of the extent of employers' readiness and interest in providing AT for their disabled employees to improve their capabilities.

Keywords: Assistive Technology; Disabled Worker; Persons WithDisabilities; Technology Adoption, Perceived Usefulness, Perceived Ease Of Use

1. INTRODUCTION

Employment among people with disabilities remains debatable. To ensure persons with disabilities have a better life, several measures have been carried out worldwide (Araten-Bergman, 2016). Nowadays, many employment frameworks are manifested in promoting the rights and equality of persons with disabilities in Asia and the Pacific. Among the important key points discussed in the framework is the equal employment opportunity among persons with disabilities. In Malaysia, the government has enacted the Persons with Disabilities Act 2008 to provide equal opportunity and workforce diversity to those persons with disabilities. According to the Malaysia Persons with Disabilities Act of 2008 (Act 685), "persons with disabilities include those who have long-term physical, mental, intellectual, or sensory impairments which in interaction with various barriers, may hinder their full and effective participation in society". This act was enacted to provide equal opportunity for persons with disabilities and ensure their welfare and well-being are taken care of. As the act came into force, it opens a new dimension and hopes to people with disability (Islam, 2015), intending to improve the persons with disabilities‟ quality of life (Jasbir, Abdul Wahab, & Omar, 2013) as well as guaranteeing their human rights fundamental (Ang, 2014; Jasbir et al., 2013). Employers must make reasonable changes to the workplace environment that allows disabled individuals to perform their job duties. This can include a wheelchair ramp, adjustable computer technology, or the arrangement of a service animal. Employers likewise should ensure disable person have indistinguishable rights and benefits from their non-disabled co-workers. Accommodations are intended to be an arrangement among the management and employees.

Hence measures should be taken to improve the development and enhancement of the quality of life and well-being of persons with disabilities because their participation in the employment market is very significant. It provides them with a source of income and part of their rehabilitation and socialization process. However, many employers view that disabled workers are unproductive and as a liability to the organization. Nevertheless, government and not-for-profit organizations have been promoting and educating employers to exercise their social responsibility by hiring this type of workers. Employers nowadays should stop worrying about the

difficulty in accommodating disabled employees as appropriate assistive technologies (AT) could be adopted that fit their employees' limitations and help them to work independently. At present many researchers have conducted studies related to people with disabilities; however, most studies gave attention to the topics of work motivation, employment involvement, employers' reflections toward employees with disabilities, job satisfaction in caring for a disabled person, working life of people with disabilities, Persons With Disabilities Act 2008, perception of employers towards accommodation for disabled people in employment, preparation of facilities for people with disabilities, decision towards hiring people with disabilities, as well as challenges and problems dealt by disabled people.

Therefore, this study embarks on the following objectives: a) to build a model that predicts adoption of AT for disabled employees among employers; b) to examine the relationships among variables associated with factors that influence the adoption of AT, and c) to examine any significant differences between gender and willingness to hire a disabled worker with regards to the perceived usefulness, perceived ease of use and adoption of assistive technology. Acceptance towards any technology has been broadly tested using Davis' Technology Acceptance Model (TAM). To prove if that is the case or not for Office Assistant Apps within the context of employers to employees with disabilities, this research was undertaken to affirm the past research. This study area is one of the least studied topics in the disability domain that could make it possible for persons with disabilities to improve their functional capabilities and work in a comfortable state inthe workplace.

2. LITERATURE REVIEW

2.1 Challenges in the employment of persons with disabilities

Employers are often making negative assumptions towards disabled workers relative to other abled employees, resulting in resistance to hiring them. In comparison to able employees, "employers are more likely to question the work ethic of disabled workers and their aspirations for career advancement while believing they are more prone to absenteeism, less committed to their work and less capable of getting along with others on the job" (Cunningham, James & Dibben, 2004). Other than that, existing biases and stigmas about disability are among the most significant challenges when considering people with disabilities as a potential pool of labour (Geng-qing&Qu, 2003). According to them, such biases and stigmas towards employees with disabilities drive negative attitudes among employers and co-workers. Existing research on employment among people with disability has identified a range of barriers that disabled people face in seeking and maintaining employment. One of the significant barriers is to create a workplace that supports the needs of disabled employees. According to Houtenville and Kalargyrou (2011), "nature of the work that people with disabilities can do and how to accommodate workers with disabilities" arethe main obstacles towards recruitingpeople with disabilities actively. Houtenville and Kalargyrou notion was supported by Stevens (2002), indicating that employers think that disabled workers cost more to employ as to when preparing workplace that meets their specific needs and requirements, higher insurance claims due to the greater possibility of disabled employees getting hurt while working and the assumption that disabled workers have discipline problems.

2.2 Acceptance of Technology

Studies on attitudes assistive technologies and their adoption among persons with disabilities are limited in scope and are very few. This study, therefore, seeks to provide a background on the technology adoption process and the factors that promote or hinder adoption. To explain the factors that promote or hinder the acceptance of technology, several models have been proposed, such as the Theory of Reasoned Action -TRA (Fishbein & Ajzen, 1975), Technology Acceptance Model (Davis, 1989), Diffusion of Innovations Theory (Rogers, 1995) and the Unified Theory of Acceptance and Use of Technology (Venkatesh et al., 2003). Rogers (2003), states that technologies should exhibit a relative advantage over other options for them to be adopted. An adopted technology should be compatible with the users' life and practices. Trialability is a factor for promoting technology's adaptability by allowing a potential user to experience using the innovation itself. For a person to adopt a technology, seeing, hearing about, or otherwise knowing that other persons are using that technology significantly encourages adoption. Further suggestions from Norman (2002), when deciding to adopt an innovation, the inherent difficulty of using the technology is a major concern. Existing studies have shown assistive technologies for various disability categories exist and models explaining attitudes towards their adoption. The Diffusion innovation model Rogers (2003) shows the steps an individual goes through before adoptingthe technology. Parette (2000) highlights the stigma caused by disability; thus, an individual develops an attitude towards an assistive technology, which influences adoption. Down & Stead (2006) noted the lack of awareness of the technologies and the hindrance towards adoption.

Several models on assistive technology adoption have been cited; website accessibility (Jaeger, 2006; 2008) using TAM (Davis, 1989); Virtual Learning (Keller, 2004) using Unified Theory of Acceptance and Use of Technology-UTAUT (Venkatesh et al., 2003) and Cory (2005) used diffusion of innovations theory Rogers (2003) to study individuals' adoption of assistive technologies. Davis (1989) described the TAM variables as follows: perceived usefulness refers to the degree to which the user accepts that utilizing the technology will

improve their work performance. Perceived ease of use refers to how much an individual accepts that utilizing a system would be free from effort. Attitude towards using determines the behavioural intention to use that technology. Behavioural intention to use is described as the user's attitude and the perceived usefulness impact of the person's behavioural intention to utilise the system. TAM manages the external factors influencing perceived ease of use and usefulness. Perceived ease of use and usefulness influences attitudes toward usability that shapes intention to utilize. Perceived usefulness anyway has a direct impact onthe intention to utilise. It is also the fact that behavioural intention influences actual behaviour. Numerous researchers have tested this model, and the findings consent to this relationship. To prove if that is the case or not for Office Assistant Apps within the context of employers to employees with disabilities, this research was undertaken to affirm the past research

Hypothesis 1: There is a relationship between AT Perceived Usefulness and Intention to Adopt AT
Hypothesis 2: There is a relationship between AT Perceived Ease of Use and Intention to Adopt AT

3. METHODOLOGY

The purpose of this study is a causal study. This study is a descriptive study and hypothesis testing. The research design for this study is a cross-sectional quantitative study. For this research, the population is all Small and Medium Enterprises (SMEs) in Malaysia. The unit of analysis is an organization currently and in the potential of hiring persons with disabilities. Since this study could not get a list of all the population elements, this study opts for a non-probability sampling of judgement sampling technique is utilized for this study where a selection of samples will be among the managers, officers, or executives is charged to manage the disabled workers. This group of respondents were expected to meet the requirements in providing a valid and accurate view of an employer(Lunsford &Lunsford, 1995). This study specifically examines the office assistant apps as the particular AT for disabled people that the government supplied to disabled communities (hearing aids, artificial legs, etc.). Therefore, data were collected from various organizations cut across businesses, namely wedding planning, water vending, servicing, printing, planting nursery, customer service, home appliance, insurance, IT & business solution, embroidery crafting, education, design, construction, beauty, cosmetic, clothing food & beverage and others. Data was collected via online questionnaires that were sent to the respondents through the mobile-WhatsApp application. The message contained a link to a set of self-administered questionnaires in Google Form. The process of collection of questionnaires was carried out over 3 weeks. A total of 35 questionnaires were returned, and only 33 were usable for this analysis. Following Hogg and Tanis' (2010)Probability and Statistical Inference says "greater than 25 or 30" is considered sufficient. All data were then analyzed using SPSS software. This study was conducted using measurements that consist of AT Perceived Usefulness, AT Perceived Ease of Use and Intention to Adopt AT with a 3-point Likert scales ranging from "1" Agree to "3" Disagree. All items were adapted from studies in the field of Technology Acceptance Model (Davis, 1989)as follows:

Table 1: Measurements

Items	
	AT Perceived Usefulness
1	Use of Office Assistant Appscan decrease the time needed for disabled worker's work/tasks
2	Use of Office Assistant Appscan significantly increase the quantity or output of disabled worker life
3	Use of Office Assistant Appscan increasesthe effectiveness of disabled worker performance.
4	Considering all tasks, the use of Office Assistant Appscould assist disabled worker's work/life tasks.
5	Overall, I find Office Assistant Appsuseful in disabled worker life.
	AT Perceived Ease of Use
1	I Disabled worker's interaction with Office Assistant Appsis clear and understandable.
2	Interacting with Office Assistant Appsdoes not require a lot of disabled workers mental effort
3	Disabledworker find it easy to get Office Assistant Appsto do what him/her want it to do.
4	Overall, Office Assistant Appsis easy to use.
	Intention to Adopt AT
1	Assuming I have access to Office Assistant Appsfordisabled workers, I intend to adopt it.
2	Given that I have access to Office Assistant Appsfordisabled workers, I predict that I would adopt it.

4. RESULTS AND DISCUSSION

4.1 Profile of Respondents

The majority of the respondents, representing 33 SMEs in Klang Valley Malaysia, were male, which

comprised 70 percent (23 respondents) compared to male respondents, which made up only 30 percent (10 respondents). The majority of the respondents were between 31 to 40 years old, 58 percent (19 respondents), while 24 per cent of them were 30 years old and below, and only 18 percent were above 40 years old. With regards to business type, the majority of the SMEs were in clothing (3 respondents), followed by customer service, design consultancy, education, food and beverages, online business, retailing, and sundry (2 respondents each), and the rest, only 1 respondent for each business type (i.e., administration, bakery, beauty and cosmetics, catering services, embroidery, flooring contractor, home appliance, insurance, information technology and business solution, makeup artist, perfumery, plant nursery, printing, water dispenser, and wedding planner. Out of 33 surveyed SMEs, there were only 6 of them (18 percent) who currently had a disabled worker working with them at the time of the survey. Interestingly, 24 of the studied SMEs (73 percent) responded that they were willing to hire a disabled worker in thefuture. In terms of technological savviness, most of the respondents, i.e., 14 of them (42 percent) had considered themselves as very savvy, while 10 of them (30 percent) were somewhat savvy, 7 of them (20 percent) were neutral, and only 2 respondent (6 percent) considered themselves as somewhat not savvy. For the six SMEs who were currently employing disabled workers, they were asked about the level of technological savviness among their disabled workers, and the results showed that 33 percent (2 respondents) were very savvy, 33 percent (2 respondents) were neutral, followed by 17 percent (1 respondent) was somewhat savvy, and 17 percent 12 respondents) was not at all savvy.

4.2Reliability and Descriptive Analysis

As per Table 2, all studied variables' alpha values exceeded 0.70, which shows that they are reliable and can be used for further analysis. Table2 also shows the descriptive statistics for this study. The data presented using analyses of mean, standard deviation, skewness, and kurtosis. Based on Thaoprom's (2004) Best Principles, scores were divided into three ranges of interpretation: high, moderate, and low. Thus, the low score is (0 to 1), moderate scores (1.01 to 2), and high scores is (2.01 to 3). AT Perceived Usefulness hadthe highest mean value, which is 1.485 and a standard deviation of 0.419. Therefore, the mean value for AT Perceived Usefulness is moderate. Meanwhile, the mean value for AT Perceived Usefulness is 1.479 and a standard deviation of 0.624. Hence the mean value for AT Perceived Usefulness is also moderate. Meanwhile, for the dependent variable, Intention to Adopt AT, the mean value is the lowest, which is 1.379 and thestandarddeviationof0.545, which is also moderate. In terms of normality, skewness and kurtosis values were all between -1.96 and+1.96; hence, all are considered acceptable to prove normal univariate distribution (George & Mallery, 2010; Gravetter&Wallnau, 2014).

Table 2: Descriptive Analysis

	Cronbach's Alpha	No of items	Mean	Standard Deviation	Skewness	Kurtosis
AT Perceived Usefulness	0.942	5	1.479	.624	1.137	.462
AT Perceived Ease of Use	0.793	4	1.485	.419	.186	-1.476
Intention to Adopt AT	0.975	2	1.379	.545	1.132	.462

4.3Multiple Regression Analysis

Based on Table 4, the R square indicates percentage variance in the dependent variable of Intention to Adopt AT that is explained by the variation in the independent variables. The R square of 0.77 implies that all the independent variables explain 77 per cent of the independent variance variable. The independent variables do not explain another 23 per cent of the variance in this research's dependent variable. It is explained by other factors that are not included in this study. Next, the f-test significant value for this study is 0.00. Hence, all independent variables significantly explained the dependent variable. The regression analysis results found that AT Perceived Usefulness with a beta value of (β=0.708) has a significant positive effect on the dependent variable. The significant value is also less than 0.05 ($p<0.05$). The p-value is 0.00. However, AT Perceived Ease of Use has no significant relationship with Intention to Adopt AT as its significant value is more than 0.05 ($p>0.05$), which is p=0.383. Then, unstandardised beta coefficients are the regression equation's value for predicting the dependent variable based on independent variables. The columns in Table 4 provide the value for $\beta 0$, $\beta 1$, $\beta 2$ for this equation: Intention to Adopt AT = 0.139 + 0.708AT Perceived Usefulness + 0.13AT Perceived Ease of Use. Hence, based on the regression result, only AT Perceived Usefulness has a significant effect on Intention to Adopt AT. H1, which is there is a relationship between AT Perceived Usefulness and Intention to Adopt AT, is supported. H2, which is there is a relationship between AT Perceived Ease of Use and Intention to Adopt AT, is not supported.

Table 3: Multiple Regression Analysis

Unstandardized Coefficients			Standardized Coefficients	t	Sig.
	B	Std.Error	Beta		
(Constant)	.139	.176		.787	.437
AT Perceived Usefulness	.708	.098	.811	7.204	.000
AT Perceived Ease of Use	.130	.147	.100	.885	.383
Fvalue			49.87		
Significant ofF value			.00		
R^2			.77		
AdjustedR^2			.75		

4.4Independent Samples t-Test

Based on Table 5, it is shown that there is a statistically significant difference between male and female regarding AT Perceived Ease of Use. This is because the p=0.05. Gender can affect how respondents react to perceived ease of use, and in this study, a male had a higher mean than afemale. In terms of other factors in this study, findings revealed no substantial variations between male and female in terms of perceived utility of AT and intention to adopt AT. Additionally, another testing is done to find any significant differences between SMEs willing or not to hire disabled workers in terms of all the studied variables. Based on Table 6, it was found that there is a statistically significant difference between positive and negative willingness to hire a disabled worker with regards to their AT Perceived Usefulness. This is because the p=0.04, which is p <0.05, and surprisingly in this study, companies who werenot willing to hire disabled worker were significantly having a higher perception of AT usefulness than companies who were willing to hire a disabled worker. For other variables in this study, results showed no significant differences between any company's positive or negative willingness to hire adisabled workers in terms of their perceived usefulness towards AT and their intention to adopt AT.

Table 4: Independent Samples T-test for Gender

	Gender	N	Mean	Std. Deviation	Std.ErrorMean	Sig.(2-tailed)
AT Perceived Usefulness	Male	10	1.6800	.78429	.24801	0.228
	Female	23	1.3913	.53760	.11210	
AT Perceived Ease of Use	Male	10	1.7000	.38730	.12247	0.050
	Female	23	1.3913	.40470	.08439	
Intention to Adopt AT	Male	10	1.5000	.70711	.22361	0.408
	Female	23	1.3261	.46731	.09744	

Table 5: Independent Samples T-test for Willingness to Hire Disabled Worker

	Willingness to hire disabled worker	N	Mean	Std. Deviation	Std. Error Mean	Sig.(2-tailed)
AT Perceived Usefulness	Yes	24	1.3417	.52578	.10733	0.037
	No	9	1.8444	.74685	.24895	
AT Perceived Ease of Use	Yes	24	1.4063	.39571	.08077	0.078
	No	9	1.6944	.42898	.14299	
Intention to Adopt AT	Yes	24	1.2708	.53118	.10843	0.062
	No	9	1.6667	.50000	.16667	

CONCLUSION

Inconclusion, the only perception towards usefulness instead of ease of use of the AT is important in ensuring the adoption of AT among SMEs in Malaysia. Therefore, the government and policymakers must ensure the AT's benefits towards all employers and the disabled workers themselves need to be promoted, educated, and facilitated. It's not that the actual ease of use in using the AT but the perceptions of its usefulness as the biggest factor in determining the adoption interest and willingness among the employers of persons with

disabilities. On top of that, gender and willingness to hire the disabled worker play significant roles in determining the employer's perceptions of the AT's ease of use and perception of its usefulness. Therefore, the training and exposure of the AT need to be stressed more among the females. Furthermore, a clear explanation of the usefulness of the AT needs to be emphasised more, especially among the employers who were reluctant to adopt such technology as it significantly contributed to the non-adoption among employers. This study, therefore, could be made as a reference for governments, academics, and human resource practitioners to improve employment among disabled workers who were mostly neglected as a minority in today's ever-competitive world.

Acknowledgement
This research is funded by the Faculty InternalFund (600-IRMI 5/3/DDF (FPP) (023/2019)) by Faculty of Business and Management, Universiti Teknologi MARA, Bandar Puncak Alam, Selangor, Malaysia.

REFERENCES

1. Ang, M. C. H. (2014). Do Persons with Disabilities Act (2008) and organisational culture influence managerial intention to hire persons with disabilities? The Malaysian perspective. Management Journal, 41, 81-89.
2. Araten-Bergman, T. (2016). Managers' hiring intentions and the actual hiring of qualified workers with disabilities. The International Journal of Human Resource Management, 27, 1510-1530.
3. Cory, R. C. (2005). Identity, support and disclosure: Issues facing university students with invisible disabilities.Cultural Foundations of Education - Dissertations & Theses. 10.https://surface.syr.edu/cfe_etd/10
4. Cunningham, I., James, P. & Dibben, P. (2004). Bridging the gap between rhetoric and reality: Line managers and the protection of job security for ill workers in the modern workplace. British Journal ofManagement, 15, 274–90.
5. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319-340.
6. Down, K., & Stead, E. (2006) Assistive technology workforce development. Appendix 4 Self management in assistive technology. Foundation for Assistive Technology.
7. Fishbein, M., & Ajzen, I. (1975). Belief, attitude, intention, and behavior: An introduction to theory and research.Reading, MA: Addison-Wesley.
8. Geng-qing, C., & Qu, H. (2003). Integrating persons with disabilities into the workforce: International Journal of Hospitality & Tourism Administration,4, 59-83.
9. George, D., & Mallery, M. (2010). SPSS for Windows Step by Step: A Simple Guide and Reference (10th ed.). Boston, MA: Pearson.
10. Gravetter, F., &Wallnau, L. (2014). Essentials of Statistics for the Behavioral Sciences (8th ed.). Belmont, CA: Wadsworth.
11. Hogg, R. V., & Tanis, E. A. (1997). Probability and statistical inference. Upper Saddle River, NJ: Prentice Hall.Hospitality & Tourism Administration, 4, 59-83.
12. Houtenville, A., &Kalargyrou, V. (2011). Right of disabled person under persons on Recruitment Practices, Strategies, and Challenges in Leisure and Hospitality. Cornell Hospitality Quarterly, 1–13.
13. Islam, M.R. (2015). Rights of the people with disabilities and social exclusion in Malaysia. InternationalJournal of Social Science and Humanity, 5(2), 171-177.
14. Jaeger, P. T. (2006) "Assessing Section 508 compliance on federal e-Government websites: A multi-method, user entered evaluation of accessibility for persons with disabilities", Government Information Quarterly, 23(2), 169-190
15. Jaeger, P. T. (2008) "User-centred policy evaluations of Section 508 of the Rehabilitation Act: Evaluating e-Government websites for accessibility", Journal of Disability Policy Studies, 19(1), 24-33.
16. Jasbir, H., Abdul Wahab, H. & Omar, H. (2013). Right of disabled person under persons with disabilities act 2008 : A case study in the state of Perlis. Business and Information.
17. Keller, J. &Katsuaki, S. (2004). Learner motivation and E-learning design: A multinationally validated process, Journal of Educational Media, 29(3), 229-239
18. Norman, C. (2002) Innovation Systems, Institutional Change and The New Knowledge Market: Implications for Third World Agricultural Development, Economics of Innovation and New Technology, 11(4-5), 353-368.
19. Parette, H. P., Brotherson, M. J. & Huer, M. B. (2000). Giving families a voice in augmentative and alternative communication decision-making. Education and Training in Mental Retardation and Developmental Disabilities
20. Reading, Mass; Don Mills, Ontario: Addison-Wesley Pub. Co.
21. Rogers, E.M. (1995). Diffusion of Innovations. (4th ed.), New York: The Free Press

22. Rogers, E.M. (2003). Diffusion of innovations (5th ed.). New York: Free Press.
23. Stevens, G.R. (2002). Employers' perceptions and practice in the employability of disabled people: A survey of companies in Southeast UK. Disability & Society, 17(7), 779–96.
24. Thaoprom, P. (2004). Relationship between quality of work life and job performance for police office-crime prevention and suppression division case study Thonglor Metropolitan Station.Unpublished doctoral dissertation, Syracuse University, Syracuse, New York, USA.
25. Venkatesh, V., Morris, M.G., Davis, F.D., & Davis, G.B. (2003). User Acceptance of Information Technology: Toward aUnified View. MIS Quarterly,27, 425-478.