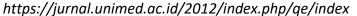
QUANTITATIVE ECONOMICS JOURNAL, 14 (1) (2025):

DOI:

Quantitative Economics Journal





The Role of the Internet and Digital Technology on the Status of Workers With Disabilities in Central Sulawesi

Naufal Anhar Prasojo¹ and Fitri Kartiasih²*

BPS Kabupaten Toli-Toli, Indonesia
 Program Studi DIV Statistika, Politeknik Statistika STIS, Indonesia

Abstract

Creating decent jobs for persons with disabilities makes workers with disabilities ready to compete in the labor market. Along with the times, the role of the internet and technological developments have reached a very rapid level which can help determine the status of workers with disabilities. Apart from the influence of the internet and technology there are other demographic factors that affect the status of workers with disabilities. The purpose of this research is to look at an overview of workers with disabilities from several factors and analyze the influence of internet technology and other variables on the status of workers with disabilities in Central Sulawesi Province. The method used is binary logistic regression analysis. The results of the study found that the role of the internet and technology greatly influenced the status of disabled workers during normal circumstances and during a pandemic. However, there is a decrease in the odds ratio due to the pandemic factor. The use of the internet and digital technology increase the chance for persons with disabilities to work in the formal sector.

Keywords: COVID-19, digital technology, disability worker, Internet, logit, odds ratio

How to Cite: Prasojo, NA., & Kartiasih, F. (2025). The Role of the Internet and Digital Technology on the Status of Workers With Disabili-ties in Central Sulawesi . QUANTITATIVE ECONOMICS JOURNAL, 14(1): 11-23.

* Corresponding author: Fitri Kartiasih ISSN2549-1660 (Print)

E-mail: fkartiasih@stis.ac.id ISSN 2550-1305 (Online)

INTRODUCTION

Inclusive economic growth as stated in the Sustainable Development Goals (SDGs), goal number five aims to achieve full and productive employment and decent work for all women and men, including young people and persons with disabilities. Looking at the extent to which the SDGs have been achieved, based on the data from Statistics Indonesia (BPS), the unemployment rate in Indonesia has decreased from 2016 to 2019, as seen in Figure 1.(BPS, 2020). The decrease in the open unemployment rate is accompanied by an increase in the

percentage of internet users, mobile phone users, and computer users in Indonesia, as shown in Figure 1. This is in line with that modern technological advancements help develop capacity and create job opportunities to reduce unemployment. (Todaro & Smith, 2015).

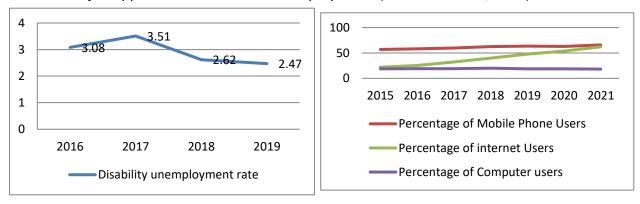


Figure 1. Unemployment rate for people with disabilities aged 15 years and above and Percentage of population using mobile phones, internet and computers

Source: BPS- Statistics Indonesia

The development of technology plays a crucial role in human life and helps people to solving problems, increasing productivity, and improving quality of life (Ratnaya, 2011). The role of the Internet and Information and Communication Technology (ICT) has become incredibly important and popular in the implementation of government policies, welfare, socio-economic development, and human rights programs. (Samant et al., 2013). In 2018, the Ministry of Health showed that Central Sulawesi had the highest proportion of adults (aged 18-59) classified as disabled, accounting for 40.6 percent of its total population, as depicted in Figure 2. (Kementrian Kesehatan, 2018).

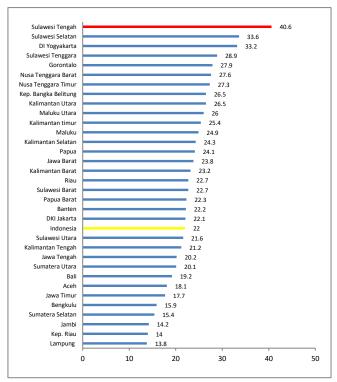


Figure 2. Proportion of Disabled Adults (18-59 Years) by Province in Indonesia in 2018

Source: Data and Information Centre of the Indonesian Ministry of Health

One empirical study states that the influence of technology in influencing labour participation has been explained in research conducted by Putri et al. (2019) explains that the internet as an indicator of technology has the greatest influence on entering the labour force. The study conducted by Damianidou et al. (2019) showed that technology supports and improves the work outcomes of workers with intellectual disabilities for the better. The research conducted by Samant Raja (2016) indicates the role of the internet and technology has an influence on people with disabilities seen from a general social and economic perspective. The previous research only used the role of the internet (Putri et al., 2019; Dobransky & Hargittai, 2006), just using only one group of disability workers (Damianidou et al., 2019; Gentry et al., and look at the role of the internet and technology in general (Samant Raja, 2016; Buddecomm, 2013) not focusing on the disability worker. There has been no research analyzing the role of the internet and digital technology for disabled workers in influencing their employment status in both formal and informal sectors. Therefore, the objectives of this study are: (1) To see the general picture of workers with disabilities from the factors of internet use, digital technology and other factors in Central Sulawesi; and (2). Analyse the influence of internet, digital technology, and other factors on the status of workers with disabilities in Central Sulawesi 2019, 2021, and 2022. The contribution of this research is that ICT is proxied using several variables (internet and digital technology) and the research using 3 periods (years) of observation: (i) 2019 represents the period before the Covid-19 pandemic; (ii) 2021 represents the period during the Covid-19 pandemic; and (iii) 2022 represents the period after the Covid-19 pandemic. This research is projected to provide a more detailed picture of the role of the internet and digital technology in the absorption of labour with disabilities in the formal/informal sector within these three periods.

Technology is growing so expansively that it can provide greater opportunities to create new jobs, increase productivity, and improve the delivery of effective public services. (Stromquist, 2019). Technology is becoming more possible for people with disabilities to equalise in access to lifelong education, skills development and the job. (Buddecomm, 2013). Technology can provide innovative new techniques in customising jobs and workplaces for older workers and workers with disabilities. This is to facilitate sustainable work opportunities for older workers and those with disabilities or potential disabilities during their working lives. (ILO, 2019). The use of the internet is very fast so that all access to information becomes very easy, complete, and practical. With the Internet, there is a reduction in the use of traditional methods of finding jobs for households that use the internet. (Denzer et al., 2021). With the internet, job vacancies have become very easy to access and can find out the information needed to adjust the skills they have. In addition, people can also use the internet as a form of opportunity to do business and commercialise their products. (Hadi Adha et al., 2020). In addition to the internet, a technology that has grown very rapidly in the last few decades is mobile phones (Mallinson, 2015). Mobile phones offer accessible features that help workers or students with disabilities (Foley & Ferri, 2012). Besides mobile phones, computers are also one of the technologies that can help improve the lives of people with disabilities. (Santoso et al., 2020). In complement to mobile phones and computers there are other digital technologies that enable people with disabilities to receive information and content in formats they can perceive and prefer such as digital hearing aids. (Samant Raja, 2016).

In addition to technological developments, there are several demographic factors that affect disabled workers. From a gender perspective, women with disabilities have a higher unemployment rate or tend not to work due to family factors. (Naami, 2015; Schaner & Das, 2016) while men have the advantage of working in the formal sector (Wamuthenya & African Economic Research Consortium., 2010). In age-specific terms, older workers with disabilities are less likely to work than younger workers with disabilities. (Mavromaras et al., 2007). Another

factor is education because education has an important role in improving a person's level of employment (Kim, 2020). The higher the level of education, the more one prefers to work in the formal sector (LPEM FEB UI, 2017). In order to be educated, the course factors of skill development and motivation enhancement are more effective in getting a job (Liu et al., 2014). Another factor is the status of the head of the household, where the head of the household will be responsible and willing to do various jobs to meet the economic needs of the household (Ahmad & Azim, 2010; Yuliatin et al., 2011). Workers with disabilities prefer to work in the area where they live due to mobility difficulties (Halimatussadiah et al., 2017);(LPEM FEB UI, 2017)). Other variables are gender, age, education level, courses/training that have been attended in Central Sulawesi.

Employment status is the type of position of a person in the workplace. Working status can be divided into two, which are working in the formal sector and working in the informal sector. In general, formal workers are workers who work for companies that have official work contracts and are in organisations that are legal entities. While informal labour is a worker who is responsible for an individual who is not a legal entity and is only based on an agreement (BPS, 2019).

RESEARCH METHODS

This research uses raw data from National Labour Force Survey (Sakernas) in August 2019, 2021, and 2022. The year 2020 was not included because the data was not available. The unit of analysis used in this study is workers with disabilities in Central Sulawesi, totalling 1240 people (in 2019), 844 people (in 2021) and 665 people (in 2022).

The variables used in the research are for the dependent variable, which is the status of workers with disabilities, namely formal workers and informal workers. The independent variables were internet usage, education level, age, gender, courses, regional status, head of household status and technology usage. The use of technology is divided into three, namely the use of mobile phones, the use of computers and the use of other digital technology (digital cameras, voice recorders, digital calculators, digital medical devices, and other digital devices).

This research uses descriptive and inferential analysis methods. Descriptive analysis used in this research is analysis using graphs, while inferential analysis uses binary logistic regression with a significance level of 5 percent. The following are the stages in binary logistic regression analysis. The first Steps must to do is Goodnes of fit Test which is determining the suitability of the model by making a hypothesis. First hypothesis is the model is fit have mean that there is no difference between the observation results and the model estimation results). Another hypothesis is the model doesnt fit which is mean there is a difference between the observation results and the model estimation results) Then the test statistics are calculated with a 5% significant level and take a decision at the 5% level to reject H_0 if the p-value < 0,05.

The second step is Testing the Significance of Parameters. Parameter significance testing is in two ways, which are simultaneous and partial. Partial tests are only carried out if the simultaneous test results in rejecting first hypothesis or in other words, there is at least 1 independent variable that affects the dependent variable. Partial tests are used to determine which independent variables have a significant effect on the employment status of workers with disabilities.

The general regression equation in the logistic regression model is as follows:
$$\log \operatorname{tr}(x_i) = \ln \left[\frac{\pi(x_i)}{1 - \pi(x_i)} \right]$$

So in this study using the logit model as below:

$$logit \pi(x_i) = \beta_0 + \beta_i Gender_i + \beta_i Age_i + \beta_i Educ_i + \beta_i ICT_i + \beta_i Course_i + \beta_i StatKRT_i + \beta_i StatWil_i$$

In this equation that know $\pi(x_i)$ or the dependent variable is Possibility for workers with disabilities to work in the formal sector. Then the independent variable there are gender, age, Educ, ICT, course, statkrt, and statwil. Explanation for the independent variable for the gender have a mean that Gender of disabled workers and for a man have a code 1 and for a woman have a code 0 . Age that have mean age of disabled worker. Educ in this study use latest educatiom from disbality worker that worker have university degree have code 1 and the worker just have senior high school dan below degree have code 0. The variable ICT has four type where are use of internet, use of mobilephone, use of computer, and use other digital technologies and the worker that use that have code 1 and otherwise. For the course this variable explain that the worker has received courses. Statkrt and statwil explain that status of the head of household and residence area from the disability worker.

Third step is Simultaneous parameter testing (Likelihood ratio test) . This test is used to determine the effect of all explanatory variables in the model on the response variable, namely the disability worker status, using the hypothesis:the first hypothesis is the model does not contain independent variables). The other hypothesis is (model contains independent variables .Followed by calculating test statistics with a significant level of α with the following test statistics G statistics and make the decision to reject first hypothesis if the value of G or p-value less than α with a significance level of α there is at least one explanatory variable that significantly affects the status of workers with disabilities.

Forth step is Partial parameter testing (Wald test) . This partial parameter test is used to determine which explanatory variables are significant to be used in describing the status of workers with disabilities using the hypothesis: with the first hypothesis (There is no significant effect between the explanatory variable on the status of workers with disabilities) and the other hypothesis (There is a significant effect between the explanatory variable on the status of workers with disabilities). Followed by calculating partial test statistics with asignificant level of 5 percent with the following statistical tests W test and take the decision to reject first hypothesis if the value of W test or p-value less than α with a significance level of α the explanatory variable is partially significant to the status of workers with disabilities. The last is to interpret the model obtained in binary logistic regression analysis, it refers to the odds ratio obtained from exponentiating the paramater $\exp(\hat{\beta}_j)$. In this study, the odds ratio is used to determine how much the tendency of the independent variables that significantly affect the employment status of workers with disabilities in Central Sulawesi for 2019, 2021, and 2022.

RESULTS AND DISCUSSION

4.1. Overview of workers with disabilities in terms of internet usage, digital technology and other factors in Central Sulawesi

The development of the Internet and the use of technology can benefit the labor sector. To see the development of the internet, it can be seen from the use or access of the community to the internet and its use in their work. In general, internet use and technology use among workers with disabilities in Central Sulawesi can be seen in Figure 4.

Based on Figure 4, of all workers with disabilities in Central Sulawesi, there is a positive trend in the percentage using the internet from 2019 to 2022. This shows that out of 100 workers with disabilities there are 8 to 11 people who use the internet in their work. In general, the use of Mobile phones among workers with disabilities in Central Sulawesi, out of 100 workers with disabilities, only 10 to 18 people use Mobile phones in their work. In general, the use of computers among workers with disabilities in Central Sulawesi, shows that out of 100 people use Mobile phones.

workers with disabilities, only 6 to 7 people use computers in doing their work. The general use of other digital technologies among workers with disabilities in Central Sulawesi shows that out of 100 workers with disabilities, only 2 to 7 people use other digital technologies in doing their work.

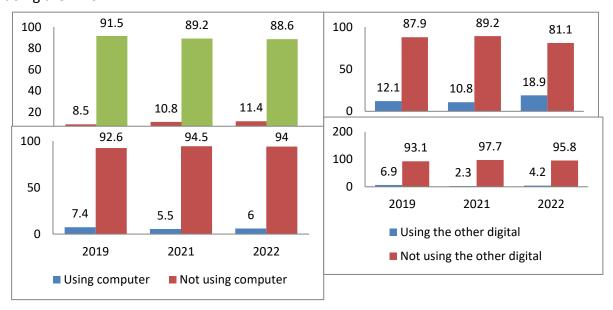


Figure 4. Percentage of workers with disabilities by Internet Usage and Technology Usage in Central Sulawesi in 2019, 2021, and 2022

Source: Sakernas BPS

In terms of internet use and technology use, the demographic characteristics of workers with disabilities in Central Sulawesi in terms of latest education, gender, age, course, regional status and household head status can also be described. In general, the demographic characteristics of people with disabilities at working age in Central Sulawesi can be seen in Figure 5.

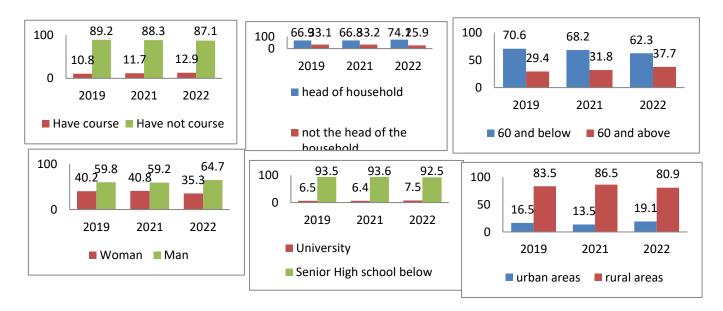


Figure 5. Percentage of workers with disabilities by demographic characteristics in Central Sulawesi in 2019, 2021, and 2022. Source Sakernas BPS

In general, the percentage of people with disabilities in Central Sulawesi based on their gender of workers with disabilities in Central Sulawesi from 2019 to 2022 is always dominated by men. 29 to 37 out of 100 workers with disabilities are over 60 years old. Workers with disabilities have the highest level of education at the senior high school level, few of the workers with disabilities are able to complete their education at the tertiary level in Central Sulawesi . Meanwhile, workers with disabilities who have course experience from 2019 to 2022 have a positive trend or an increase every year. Based on the status of the head of the household, it shows that during the period 2019 to 2022 out of 100 workers with disabilities, 66 to 74 people with disabilities are the head of the household. Based on the area of residence from 2019 to 2022, more workers with disabilities in Central Sulawesi live in rural areas where out of 100 workers with disabilities, around 80 to 86 people who work live in rural areas.

4.2 The effect of Internet use and digital technology on the status of workers with disabilities in Central Sulawesi

This study using logistic analysis that the step have already sait it before. In this analysis must usi some test. The first ttest is goodnes fit test which is carried out to determine whether the resulting model is suitable or in accordance (fit) with the data used and explains the effect of the independent variables on the dependent variable of the employment status of workers with disabilities. Then second step is Simultaneous Test is used to determine whether the best model contains independent variables or not in explaining the employment status of workers with disabilities in Central Sulawesi in 2019, 2021, 2022. Simultaneous testing was conducted using the G test statistic. Then partial parameter testing is used to determine how the relationship of each independent variable to the dependent variable, which is the employment status of persons with disabilities. The analysis results are as follows:

Table 1. The result of analysis with logistic analysis

	In 2019 (Pre-Covid-19)				In 2	2021 (Pand	emi Covid-	-19)	In 2022 (Post-Covid-19)			
Variable	Internet	Mobile	Compu	Other	Inter	Mobile	Compu	Other	Inter	Mobile	Compu	Other
		Phone	Ter	Digital	net	Phones	Ter	Digital	net	Phone	ter	Digital
Gender	0.058	0.010	0.117	0.076	-0.075	-0.075	-0.070	0.001	-0.002	-0.035	-0.083	-0.073
Age	-0.042 (***)	-0.039 (***)	-0.043 (***)	-0.048 (***)	-0.027 (**)	-0.027 (**)	-0.027 (**)	-0.033 (**)	-0.016	-0.018	-0.023 (**)	-0.031 (***)
Educa- tion	3.113 (***)	3.108 (***)	2.532 (***)	3.683 (***)	3.225 (***)	3.225 (***)	3.316 (***)	3.994 (***)	2.016 (***)	2.360 (***)	1.817 (***)	2.715 (***)
Internet	2.018 (***)	-	-	-	1.897 (***)	-	-	-	2.150 (***)	-	-	-
Mobile Phones	-	1.751 (***)	-	-	-	1.897 (***)	-	-	-	1.663 (***)	-	-
Comput er	1	1	5.129 (***)	1	1	-	3.925 (***)	-	-	-	3.086 (***)	1
Other Digital	ı	i		0.788 (**)	i	-	-	20.922	-	-	-	0.801
Course	0.807 (***)	0.848 (**)	0.722 (**)	1.062 (***)	0.934 (**)	0.934 (**)	0.804 (**)	0.901 (**)	0.130	0.160	0.363	0.388
Status Krt	1.492 (***)	0.994 (***)	0.899 (***)	0.903 (***)	1.104 (**)	1.104 (**)	1.106 (**)	1.027 (**)	0.856 (*)	0.790 (*)	1.001 (**)	0.898 (**)
Status Wil	0.409 (***)	0.785 (***)	0.722 (***)	0.852 (***)	0.111	0.111	0.206	0.397	0.346	0.291	0.876 (**)	0.773 (**)

С	-1.357	-0.886 (*)	-0.645	-0.267	-1.741 (**)	-1.974 (**)	-1.596 (**)	-1.289 (**)	-2.189 (**)	-2.126 (***)	-1.843 (***)	-1.242 (**)
		()			()	()	()	()	()	()	()	()
Hosmer	0.909	0.650	0.959	0.754	0.863	0.863	0.884	0.934	0.239	0.556	0.564	0.593
&												
lemesho												
w test												

Note: ***, **, *= significant at 1%, 5%, 10%

Based on the test results presented in Tables 1, the p-value of the Hosmer and Lemeshow is greater than the alpha = 0.05, so it can be decided to fail to reject H_0 . Thus, with a significance level of 5%, it can be concluded that the model used is suitable to explain the employment status of workers with disabilities in Central Sulawesi during 2019, 2021, and 2022, or in other words, there is no difference between the observation results and the model estimation results. Therefore, we can proceed with hypothesis testing. Thus the Binary Logistic Regression model equation can be written as follows:

For the Period of 2019

$$\hat{g}(\mathbf{x}) = -1.36 + 0.05Gender_i - 0.04Age_i + 3.11Educ_i + 2.02Internet_i + 0.81Course_i + 1.49StatKRT_i + 0.41StatWil_i$$

$$\hat{g}(x) = -0.89 + 0.01Gender_i - 0.04Age_i + 3.11Educ_i + 1.75Mobileph_i + 0.72Course_i + 0.99StatKRT_i + 0.72StatWil_i$$

$$\hat{g}(\mathbf{x}) = -0.65 + 0.12Gender_i - 0.04Age_i + 2.53Educ_i + 5.13Computer_i + 0.72Course_i + 0.9StatKRT_i + 0.79StatWil_i$$

$$\hat{g}(\mathbf{x}) = -0.27 + 0.08Gender_i - 0.04Age_i + 3.68Educ_i + 0.79otherdigi_i + 1.06Course_i + 0.9StatKRT_i + 0.85StatWil_i$$

For the Period of 2021

$$\hat{g}(\mathbf{x}) = -1.74 - 0.08Gender_i - 0.03Age_i + 3.23Educ_i + 1.90Internet_i + 0.93Course_i + 1.10StatKRT_i + 0.11StatWil_i$$

$$\hat{g}(\mathbf{x}) = -1.97 - 0.08Gender_i - 0.03Age_i + 3.23Educ_i + 1.90Mobileph_i + 0.93Course_i \\ + 1.10StatKRT_i + 0.11StatWil_i$$

$$\hat{g}(\mathbf{x}) = -1.59 - 0.07Gender_i - 0.03Age_i + 3.32Educ_i + 3.92Computer_i + 0.80Course_i + 1.10StatKRT_i + 0.21StatWil_i$$

$$\hat{g}(\mathbf{x}) = -1.29 + 0.001 Gender_i - 0.03 Age_i + 3.99 Educ_i + 20.9 other digi_i + 0.90 Course_i + 1.10 Stat KRT_i + 0.39 Stat Wil_i$$

$$\hat{g}(x) = -1.29 - 0.002Gender_i - 0.02Age_i + 2.02Educ_i + 2.15Internet_i + 0.13Course_i + 0.86StatKRT_i + 0.35StatWil_i$$

$$\hat{g}(\mathbf{x}) = -2.19 - 0.04 Gender_i - 0.02 Age_i + 2.36 Educ_i + 1.66 Mobileph_i + 0.16 Course_i + 0.79 Stat KRT_i + 0.29 Stat Wil_i$$

$$\hat{g}(x) = -1.84 - 0.08Gender_i - 0.02Age_i + 1.82Educ_i + 3.09Computer_i + 0.36Course_i + 1.00StatKRT_i + 0.88StatWil_i$$

$$\hat{g}(x) = -1.24 - 0.07Gender_i - 0.03Age_i + 2.72Educ_i + 0.80otherdigi_i + 0.38Course_i + 0.9StatKRT_i + 0.77StatWil_i$$

To see how much the tendency of each technology variable is towards the status of workers with disabilities, it can be done by calculating the odds ratio value obtained from the exponential (β) value of each parameter estimator from the results of Table 1.

Internet and Technology Use

In 2019, the variables of use of the Internet, use of mobile phones, use of computers and use of other digital technology had a significant effect with odds ratio values of 7.524; 5.761; 168.92; 2.199 as follows. This means that in 2019, if a worker with a disability uses these four things, they have a greater chance of working in the formal sector than a worker with a disability who does not use it. In 2021, the variables of Internet use, mobile phone use, computer use have a significant effect with an odds ratio value of 6.666; 6.666; 50.664, respectively. This means that in 2021, if workers with disabilities use the three things, they have a greater chance of working in the formal sector than workers with disabilities who doesn't use it. In 2022, the variables of Internet usage, mobile phone usage, and computer usage are significant with odds ratio values of 8.581; 5.276; 21.889 respectively. This means that in 2022, if a worker with a disability uses the three items, they have a greater chance of working in the formal sector than a worker with a disability who doesn't use it.

Looking at 2019, 2021, and 2022, there is a decrease in the odds ratio value of the internet and technology variables where there is a shrinking opportunity to work in the formal sector. Then in 2019 towards 2021 and 2022 there is a Covid-19 pandemic that we can know this has an impact on the employment sector. The results of the research by Bengali et al. (2021) show that there is consistent and strong evidence that the expansion of the labour market led to a significant increase in the labour force participation rate. There is job displacement during the pandemic. Furthermore, the results of research (Dobransky & Hargittai, 2021), show that people with disabilities are very active in using devices that are digital. The decrease in the odds ratio value is due to the use of technology mastered by workers with disabilities and the conditions of the Covid-19 pandemic, the tendency of workers with disabilities in Central

Sulawesi to choose to look for work in the informal sector by using internet access and existing technology.

Demographic Characteristics

In 2019 for demographic factors, such as age, education, courses, status of the head of household and regional status, the effect was significant with the average odds ratio value of each of the four models being 0.96; 24.26; 2.31; 3.01; 2.03. For the age variable, if the age of the disabled worker increases as much as 1 year, the chance of working in the formal sector is 0.96 for the disabled worker. For the education variable, workers with disabilities who have a university degree have 24.26 times the chance of working in the formal sector compared to workers with disabilities who have a high school degree or less. As for courses, workers with disabilities who have course experience have 2.31 more opportunities to work in the formal sector compared to workers with disabilities who do not have course experience. Disabled workers who are heads of household are 3.01 times more likely to work in the formal sector. In terms of place of residence, disabled workers living in urban areas are 2.03 times more likely to work in the formal sector.

In 2021, the demographic factors of age, education, course and head of household status have a significant effect, with the average odds ratio value of each of the four models being 0.97, 33.06, 2.43 and 3. For the age variable, an increase in the age of a worker with disabilities by one year increases the chance of working in the formal sector by 0.97 times. For the education variable, disabled workers with the most recent education up to university have a 33.06 times greater chance of working in the formal sector than disabled workers with a high school education or less. As for courses, workers with disabilities who have taken a course are 2.43 times more likely to work in the formal sector than workers with disabilities who have not taken a course. Head of household status, where disabled workers who are heads of household are 3 times more likely to work in the formal sector.

In 2022, for demographic factors, only age, education, head of household status and regional status have a significant effect, with the average odds ratio value of each of the four models being 0.97; 9.87; 2.43; 2.23. For the age variable, an increase of one year in the age of the disabled worker increases the probability of working in the formal sector by a factor of 0.97. For the education variable, disabled workers with the most recent education up to university level are 9.87 times more likely to work in the formal sector than disabled workers with a high school education or less. For the status of head of household, disabled workers who are heads of household are 2.43 times more likely to work in the formal sector. For the status of place of residence, workers with disabilities who live in urban areas are 2.23 times more likely to work in the formal sector.

CONCLUSION

Based on the results of the analysis and deliberation, several conclusions can be drawn. In terms of the role of the internet and technology, it tends to be little used for workers with disabilities in Central Sulawesi. But it has a significant influence on the status of workers with

disabilities. Despite the Covid-19 pandemic and the expansion of the labour market marked by a change in the odds ratio value, the role of the internet and the use of technology is still very important in determining the status of workers with disabilities. As for demographic factors from 2019, 2021, and 2022, education is an important factor in determining the status of workers with disabilities, in addition to being the head of the household and living in urban areas. Courses in 2019 and 2021 are still needed to enter formal sector employment. After the post-pandemic phase in 2022, courses are not significant due to the migration of workers with disabilities to the informal sector, which does not require course experience.

Based on the results of the discussion and conclusions that have been presented, there are several suggestions. Seeing the percentage of workers with disabilities in Central Sulawesi who have less use of the internet and technology, and seeing a significant influence if workers with disabilities have course experience, the government can try to provide training programmes to improve digital literacy such as the introduction of the internet and technology to workers with disabilities. In addition, free internet access should be provided in several landmarks in each district or sub-district in Central Sulawesi. Considering that education has a significant impact, schools in Central Sulawesi should provide education about the internet and technology so that future workers with disabilities are better prepared to enter the labour market.

BIBLIOGRAPHY

- Ahmad, R., & Azim, P. (2010). Youth Population And The Labour Market Of Pakistan: A Micro Level Study. In *Pakistan Economic and Social Review* (Vol. 48, Issue 2).
- Bengali, L., Daly, M. C., Lofton, O., & Valletta, R. G. (2021). The Economic Status of People with Disabilities and Their Families since the Great Recession. *Annals of the American Academy of Political and Social Science*, 695(1), 123–142. https://doi.org/10.1177/00027162211022693
- BPS. (2019). Pedoman Pencacah Survei Angkatan Kerja Nasional Agustus 2019.
- BPS. (2020). Indikator Kesejahteraan Rakyat 2020.
- Buddecomm, P. B. (2013). The UN Broadband Commission for Digital Development.
- Damianidou, D., Arthur-Kelly, M., Lyons, G., & Wehmeyer, M. L. (2019). Technology use to support employment-related outcomes for people with intellectual and developmental disability: an updated meta-analysis. In *International Journal of Developmental Disabilities* (Vol. 65, Issue 4, pp. 220–230). Taylor and Francis Ltd. https://doi.org/10.1080/20473869.2018.1439819
- Denzer, M., Schank, T., & Upward, R. (2021). Does the internet increase the job finding rate? Evidence from a period of expansion in internet use. *Information Economics and Policy*, 55. https://doi.org/10.1016/j.infoecopol.2020.100900
- Dobransky, K., & Hargittai, E. (2006). The disability divide in internet access and use. *Information Communication and Society*, 9(3), 313–334. https://doi.org/10.1080/13691180600751298
- Dobransky, K., & Hargittai, E. (2021). Piercing the Pandemic Social Bubble: Disability and Social Media Use About COVID-19. *American Behavioral Scientist*, 65(12), 1698–1720. https://doi.org/10.1177/00027642211003146
- Foley, A., & Ferri, B. A. (2012). Technology for people, not disabilities: Ensuring access and inclusion. *Journal of Research in Special Educational Needs*, 12(4), 192–200. https://doi.org/10.1111/j.1471-3802.2011.01230.x

- Gentry, T., Kriner, R., Sima, A., McDonough, J., & Wehman, P. (2015). Reducing the Need for Personal Supports Among Workers with Autism Using an iPod Touch as an Assistive Technology: Delayed Randomized Control Trial. *Journal of Autism and Developmental Disorders*, 45(3), 669–684. https://doi.org/10.1007/s10803-014-2221-8
- Hadi Adha, L., Asyhadie, Z., & Kusuma, R. (2020). Digitalisasi Industri Dan Pengaruhnya Terhadap Ketenagakerjaan Dan Hubungan Kerja Di Indonesia Industrial Digitalization And Its Impact On Labor And Employment Relationships In Indonesia. *Jurnal Kompilasi Hukum,* 5(2). https://doi.org/10.29303/jkh.v5i2.49
- Halimatussadiah, A., Nuryakin, C., Muchtar, P. A., Bella, A., & Rizal, H. (2017). Mapping Persons With Disabilities (PWDs) In Indonesia Labor Market \$. Economics and Finance in Indonesia, 63(2), 126–149.
- ILO. (2019). Pekerjaan Untuk Masa Depan Yang Lebih Cerah. https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-jakarta/documents/publication/wcms_713536.pdf
- Kementrian Kesehatan. (2018). Riset Kesehatan Dasar.
- Kim, J. Y. (2020). Factors for Employment of Women with Disabilities in South Korea. *Journal of Evidence-Based Social Work (United States)*, 17(6), 749–760. https://doi.org/10.1080/26408066.2020.1798320
- Liu, S., Huang, J. L., & Wang, M. (2014). Effectiveness of Job Search Interventions: A Meta-Analytic Review. In *Psychological Bulletin* (Vol. 140, Issue 4).
- LPEM FEB UI. (2017). Laporan Akhir Memetakan Penyandang Disabilitas (PD) di Pasar Tenaga Kerja Indonesia. www.ifrro.org
- Mallinson, K. (2015). Smartphone Revolution: Technology patenting and licensing fosters innovation, market entry, and exceptional growth. *IEEE Consumer Electronics Magazine*, 4(2), 60–66. https://doi.org/10.1109/MCE.2015.2392954
- Mavromaras, K., Oguzoglu, U., Black, D., & Wilkins, R. (2007). *Disability and Employment in the Australian Labour Market Final Report*.
- Naami, A. (2015). Disability, gender, and employment relationships in Africa: The case of Ghana. *African Journal of Disability*, 4(1). https://doi.org/10.4102/ajod.v4i1.95
- Putri, A., Raya, J. M., Cina, P., Beji, K., Depok, K., & Barat, J. (2019). Disabilitas Dan Partisipasi Di Pasar Tenaga Kerja Indonesia: Analisis Data Sakernas 2018. In *Jurnal Ketenagakerjaan* (Vol. 14, Issue 2).
- Ratnaya, I. gede. (2011). Dampak Negatif Perkembangan Teknologi Informatika Dan Komunikasi Dan Cara Antisifasinya. *JPTK, Undiksha, 8*.
- Samant, D., Matter, R., & Harniss, M. (2013). Realizing the potential of accessible ICTs in developing countries. *Disability and Rehabilitation: Assistive Technology*, 8(1), 11–20. https://doi.org/10.3109/17483107.2012.669022
- Samant Raja, D. (2016). Digital Dividends Bridging the Disability Divide through Digital Technologies Bridging the disability divide through digital technologies. http://www.worldbank.org/en/publication/wdr2016.
- Santoso, H. B., Wibowo, A., Delima, R., Rachmat C, A., & Siang, J. J. (2020). Pelatihan Komputer Bagi Masyarakat Penyandang Disabilitas. *Abdimas Altruis: Jurnal Pengabdian Kepada Masyarakat*, 2(2), 37–47. https://doi.org/10.24071/aa.v2i2.2545
- Schaner, S., & Das, S. (2016). FemALe LABor ForCe PArtICIPAtion In ASIA: InDoneSIA Country StuDy. www.adb.org
- Stromquist, N. P. (2019). World Development Report 2019: The changing nature of work. *International Review of Education*, 65(2), 321–329. https://doi.org/10.1007/s11159-019-

09762-9

- Todaro, M. P., & Smith, S. C. (2015). Economic Development.
- Wamuthenya, W. R. (Wambui R., & African Economic Research Consortium. (2010). Determinants of employment in the formal and informal sectors of the urban areas of Kenya.
- Yuliatin, Huseno, T., & Febriani. (2011). Pengaruh Karakteristik Kependudukan Terhadap Pengangguran di Sumatera Barat. *Jurnal Manajemen Dan Kewirausahaan*, 2(2), 15–43.