https://doi.org/10.48047/AFJBS.6.8.2024.2377-2417

AfricanJournalofBiological Sciences

Research Paper Open Access

Digital Empowerment: A Strategy for Socio-Economic Development in West Sulawesi

Hasvan Murphy[1], Nursini[2], S Suhab[3], M Niswar[4]

1) ***Doctoral student in Development Studies Program, Graduated School, Hasanuddin University, Makassar, Indonesia***
2). ***Economics and Business Faculty, Hasanuddin University, Makassar, Indonesia***
3). ***Economics and Business Faculty, Hasanuddin University, Makassar, Indonesia***
4).***EngineeringFaculty, Hasanuddin University, Makassar, Indonesia***

Article History
Volume 6,Issue 8, 2024
Received:15 May 2024
Accepted : 03 Jun 2024
doi: 10.48047/AFJBS.6.8.2024.2377-2417

Abstract;This study aims to explore the impact of the digital economy, digital divide, and digital literacy on the well-being of the people of West Sulawesi. Despite the rapid growth of the digital economy in West Sulawesi, the study seeks to understand its impact on the well-being of its inhabitants. The research employs both quantitative and qualitative methods for data collection and analysis. These methods provide a comprehensive understanding of the digital economy's influence on the populace's well-being. The findings reveal that the digital economy and the digital divide significantly influence the well-being of the populace. Furthermore, digital literacy has been identified as a crucial factor in enhancing public welfare through digitalization. The findings also indicate that improving digital literacy, particularly among MSME actors, could significantly boost their businesses and contribute to public welfare. The study concludes that there is a need for synergy among society, government, and telecommunication providers to increase public welfare. Thecollaborative approach is seen as a key strategy in leveraging digital tools and platforms to improve the quality of life in West Sulawesi. Based on the findings, the study recommends enhancing digital literacy, especially among MSME actors, to boost their businesses and contribute to public welfare. It also calls for a collaborative approach involving society, government, and telecommunication providers to leverage digital tools and platforms effectively, thereby improving the quality of life in West Sulawesi.

Keywords; Digital, West Sulawesi, MSMEs, welfare

1 ***Doctoral student in Development Studies Program, Graduated School, Hasanuddin University, Makassar, Indonesia***
2 ***Economics and Business Faculty, Hasanuddin University, Makassar, Indonesia***
3 ***Economics and Business Faculty, Hasanuddin University, Makassar, Indonesia***
4 ***Technical Faculty, Hasanuddin University, Makassar, Indonesia***

1. Introduction

Digitalization, as defined by Asaniyah (2017), is an internal process where media changes from print form to electronic form. This aligns with Marilyn Deegan's opinion cited in Mustofa (2018), which interprets digitization as a conversion process from all forms of document presentation, whether print or otherwise, to a digital format. This includes all types of documents, such as audio, video, and others, which are converted to digital form to minimize risk. Siregar (2019) elaborates that digitization is a process of changing characteristics from the original physical and analog form to a virtual and digital form. For example, in recent years, various forms of media, including music, movies, and even songs, have undergone this transformation.

Sukmana, (2020) views digitalization as the process of transferring media from its original print form (like video or audio) into a digital format. **Brennen and Kreiss, (2020)** state that digitalization as an enhancement to the availability of digital data due to technological advancements. This includes the creation, transfer, storage, and analysis of digital data. They also highlight its potential to shape and influence the contemporary world.

In essence, digitalization is the transformation of media from a conventional form into a digital format. This involves processing documents to convert them into digital data, typically through scanning, and then storing them in a designated folder on a PC or computer. This process not only adapts to technological progress but also ensures the preservation and authenticity of the original documents. It is a key aspect of modern information management and has a significant impact on various sectors, including business, education, and government services.

The **Encarta Dictionary, (2019)** defines the digital economy as business transactions that occur on the Internet. This definition focuses on the marketplace that exists online, highlighting the importance of transactions and markets in the digital space.

Amir Hartman, (2020) takes a broader view, describing the digital economy as a virtual arena where business is conducted, value is created and exchanged, transactions occur, and relationships are developed. He emphasizes the role of the internet as both the initiator and medium of exchange. Hartman also notes how the digital economy is transforming the global economy, enabling small

industries to become micro industries due to their elasticity and dynamism. This transformation is creating significant opportunities for newcomers to establish themselves globally.

Abdurakhmanova et al. (2020) discuss the development economy as a special form of organizational progress that ensures competitive superiority and technological advancement. They reference Schumpeter's theory, which posits that entrepreneurs with the necessary skills and knowledge are key innovators.

These definitions and perspectives provide a comprehensive understanding of the digital economy, highlighting its complexity, dynamism, and potential for innovation and growth. They also underscore the critical role of entrepreneurs and human capital in driving economic development in the digital age.

The digital economy, particularly E-entrepreneurship, has numerous strengths that enhance business efficiency. The internet plays a crucial role in making businesses more innovative and creative, especially in product marketing through e-commerce. Social media platforms like Instagram can stimulate business marketing. One of the significant advantages of social media is that entrepreneurs can directly respond to criticisms and suggestions about marketed products, facilitating easier evaluation.

According to Onggo, (20220 the internet influences the sustainability of E-entrepreneurship in several ways:

1. **Improves consumer satisfaction**: The internet provides a platform for businesses to meet customer needs more effectively and efficiently, leading to increased customer satisfaction.
2. **Helps in networking and sales**: The internet allows businesses to reach a wider audience, thereby increasing their potential customer base and sales.
3. **Facilitates easier transaction payments**: Online payment systems make transactions quick, easy, and secure for both businesses and customers.
4. **Aids in product marketing**: Digital marketing strategies can be more targeted, measurable, and cost-effective than traditional marketing methods.
5. **Assists in recruiting competent workforce**: Online recruitment platforms make it easier for businesses to find and hire skilled professionals.

Given the increasing trend of technology use in Indonesia, the sustainability of entrepreneurship is expected to trigger new entrepreneurs in starting businesses. Thus, entrepreneurs in Indonesia

can drive positive economic growth. However, it' s also important to note that while the digital economy has many strengths, it also has its weaknesses. For instance, issues related to data privacy, cybersecurity, and digital divide can pose challenges. Additionally, businesses need to continually adapt to rapidly changing technology and customer preferences.

1. 1 **Digital Divide**

Lack of understanding and experience among MSMEs, Many MSMEs in Indonesia face challenges in adopting digital technology due to a lack of understanding and experience. This includes everything from hardware to software or applications. Efforts are being made to increase digital literacy and provide training to these businesses;

1. Inadequate IT infrastructure: Especially in rural areas, the IT infrastructure is not yet adequate. The government is making efforts to expand internet connectivity and develop higher-level network infrastructure in these areas.
2. Capital constraints for micro-businesses: Many micro-businesses in Indonesia face capital difficulties. These businesses often have limited access to proper credit financing, which hinders their growth and development.
3. Instability in product quality: There are concerns about the quality of products produced by Indonesian businesses. Efforts are being made to strengthen the National Quality Assurance (NQA) and Export Quality Infrastructure (EQI) systems to ensure the quality of Indonesian products.
4. Low business margins due to high competition: The digital economy in Indonesia is growing rapidly, leading to high competition both in offline and online markets.This can result in low business margins. However, the growth of the digital economy also presents opportunities for businesses to innovate and find new ways to increase their margins.

These challenges highlight the need for continued investment in digital literacy, infrastructure development, financial support for micro-businesses, quality assurance systems, and strategies to cope with high competition. With the right support and resources, Indonesia's digital economy has the potential to overcome these challenges and continue its impressive growth. The digital divide indeed represents a significant issue in today's interconnected world. It refers to the gap between

individuals who have easy access to digital resources like computers and the internet, and those who do not easy access digital resources. This divide is particularly pronounced in developing countries

The causes of the digital divide are multifaceted. They include, (1)**Lack of access to the internet**, including insufficient bandwidth for tasks like video and audio conferencing. (2)**Lack of education and digital literacy training** to use technology effectively. (3)**Inadequate infrastructure**, including unreliable electricity. (4) **Lack of access to technology**, such as computers and other devices

These factors contribute to the digital divide and can exacerbate existing social and economic inequalities. For instance, the divide can be linked to socio-economic differences between the rich and the poor, age-related differences between the old and the young, gender differences between women and men, and geographical differences between urban and rural areas.

The digital divide can have significant impacts on individuals and societies. Without access to the internet and the skills to use digital technologies effectively, billions are locked out of the modern world. This divide risks becoming the 'new face of inequality' particularly as the world becomes more digitally dependent.

Addressing the digital divide requires concerted efforts from leaders around the world. Without dedicated efforts, the lack of funding and underlying infrastructure in developing countries will cause individuals who are already behind to fall further behind in the digital age. Therefore, it is crucial to work towards digital inclusion and equity to ensure that everyone can participate fully in the digital world.

The digital divide essentially refers to the gap between groups of people who can and cannot benefit from digital technology, such as internet access for activities, work, and creativity. This divide exists because the necessary infrastructure for accessing this technology is not universally accessible.

According to the International Labour Organization (ILO) in 2019, the digital divide is widening globally due to the uneven diffusion of information and communications technology (ICT) in rich

and poor countries. This gap exists not only at the business and geographic levels but also includes disparities at the socio-economic level. In a broader context, the digital divide can hinder a country's ability to compete globally due to the significant role of information and communication technology in winning competitions (Putra, 2099).

The digital divide is a significant problem that cannot be ignored. It becomes even more complex when studying various factors as described by Yohanis, as quoted by Sri Ariyanti (2013). These factors need to be addressed to bridge the digital divide effectively. (a) **Infrastructure**: Infrastructure is a crucial factor in accessing technology. Adequate infrastructure, such as internet connectivity and computer access, can broaden people's insights and knowledge. (b) **Lack of Skills (Human Resources)**: Human resources play a significant role in the world of knowledge, technology, and information. Skilled individuals can share their knowledge with the public, contributing to societal development. (c) **Lack of Content**: The availability of content in the Indonesian language is vital for understanding and utilizing the internet. Content should be customized to respective regions, considering local languages and customs. (d) **Underutilization of the Internet**: Not using the internet effectively can lead to missed opportunities for gaining benefits from it.

1. Access/Infrastructure: This refers to the differences in individuals' abilities to gain access to or acquire ICT infrastructure, leading to unequal distribution of information.
2. Abilities (Skills and Training): This points to the differences in individuals' abilities to utilize or use the existing access and infrastructure obtained. It also refers to the differences between individuals in their efforts to achieve the ICT skills required to be able to take advantage of the access and infrastructure.
3. Information content (Content/Resource): This refers to the differences between individuals in utilizing the available information after someone can access and use the technology in accordance with their needs.

These aspects underline the importance of not only providing access to digital resources but also ensuring that individuals have the necessary skills to use these resources effectively and that the content of these resources meets their needs. The understanding is vital in efforts to bridge the

digital divide. On the positive side, the digital divide can serve as a motivator for individuals to participate in the improvement and utilization of information technology. It can lead to the collection and use of various information, data, and sources for knowledge and information. The use of information technology, such as computers and other telecommunications, will continue to develop and play an important role in human life. As Retno Setyowati, (2020) pointed out, the digital divide provides opportunities for entrepreneurship, job opportunities, and cost-effective solutions. The internet is also seen as empowering women, providing convenience for working from home.

On the negative side, the digital divide can lead to a significant disparity between those who can afford to follow technological developments and those who cannot. Meanwhile, those who are economically disadvantaged will fall further behind and be far from the ability to control information. Those who can afford to produce and utilize technology have greater opportunities in terms of economic resource development and management, while those who do not have technology must accept their limitations. They can lead to a situation where the rich get richer and the poor stay poorer.

It is important to note that these impacts can vary greatly depending on the specific context and individual circumstances. Efforts to bridge the digital divide should therefore be tailored to the needs and capabilities of different groups. The benefits of digital technology are accessible to all, while minimizing the potential negative impacts.

Government can take to improve the well-being of its citizens:

1. Promote Economic Opportunities; The government can create job opportunities and promote entrepreneurship to increase income levels. The achievement is through policies that encourage investment and innovation.

2. Improve Access to Education: By investing in education, the government can ensure that all citizens have the opportunity to acquire the skills and knowledge they need to succeed. They includes not only formal education but also vocational training and lifelong learning opportunities.

3. Ensure Health and Safety: The government can work to improve public health and safety by implementing regulations and providing services such as healthcare, sanitation, and emergency services.

4. Support Vulnerable Groups: The government has a responsibility to provide support for those who are unable to support themselves, such as the elderly, the disabled, and the poor. This can be done through social welfare programs and policies.

5. Promote Social Cohesion: The government can foster a sense of community and belonging by promoting social cohesion and inclusivity. This includes respecting the rights of all citizens and promoting social justice.

6. Sustainable Development: The government should ensure that development is sustainable and does not harm the environment. The implementing have policies that promote renewable energy, conservation, and sustainable agriculture.

1. 2 Perspectives on welfare and the digital economy.

The concept of welfare as described by Nasikun, (2020) provides a holistic view of human dignity, encompassing a sense of security, prosperity, freedom, and self-identity. It's interesting to note how these indicators can vary across different contexts and societies, reflecting the diverse ways in which welfare can be experienced and understood.

The welfare indicators used by the Central Statistics Agency (BPS) of Indonesia, including aspects such as population, health and nutrition, education, employment, consumption levels and patterns, housing and environment, poverty, and other social aspects, provide a comprehensive view of the welfare status of the Indonesian people. This approach allows for a nuanced understanding of welfare that takes into account both material and non-material aspects of life.

As for the digital economy, the definitions provided by the Encarta Dictionary and PC Magazine highlight different aspects of this complex phenomenon. The Encarta Dictionary focuses on the marketplace that exists on the Internet, emphasizing the role of online transactions and markets. On the other hand, PC Magazine's definition of the New Economy emphasizes the impact of

information technology on the economy, highlighting the transformative potential of digital technologies in various economic sectors.

The definitions underscore the multifaceted nature of the digital economy, which extends beyond mere transactions or markets to encompass the broader impact of information technology on the economy. The understanding is particularly relevant in today's world, where digital technologies are increasingly shaping economic activities and outcomes.

1. Role of ICT in Economic Activity, Information and Communication Technology (ICT), especially internet access, plays a crucial role in economic activities. It enables small businesses to access worldwide markets and provides opportunities for rural households to obtain digital health services.

2. Impact on Poverty, Internet access can indeed reduce poverty levels in a region. Digital financial inclusion, for example, has been found to alleviate household multidimensional poverty.

3. Digital Economy and MSMEs, the digital economy opens up the market for more Micro, Small, and Medium Enterprises (MSMEs). It allows sellers and buyers to meet virtually, leading to business expansion and competitive pricing.

4. Digital Divide in Indonesia, despite the increasing trend of digital behavior in Indonesian society, there is a significant digital divide. Infrastructure development is concentrated in Java and Sumatra, while eastern Indonesia lacks adequate telecommunications infrastructure. The divide reinforces the country's socio-economic disparities.

5. Inequality in the digital era, digital evolution is reshaping the economy, but it also brings new challenges. Income and wealth inequality have increased as digitalization has reshaped markets and the world of business and work. The digital divide is becoming a mediating variable between the influence of digitalization on the economy and the reduction of poverty.

The digital economy offers immense potential benefits, it also presents challenges that need to be addressed. Ensuring equal access to digital resources and opportunities is crucial for harnessing the full potential of the digital economy.

The digital divide can exacerbate existing inequalities, particularly in developing countries and remote areas. For instance, the rich may have better access to digital technologies than the poor, the young may be more digitally literate than the old, men may have more opportunities to use digital technologies than women, and urban areas may have better infrastructure for digital technologies than rural areas. Moreover, the digital divide has implications for public welfare. Access to digital technologies, digital skills, and digital services are increasingly prerequisites for public life and accessing public services. Therefore, the digital divide can affect people's ability to participate fully in society and access essential services.

The study suggests that bridging the digital divide is critical for sustainable digitalized societies. This involves not only improving access to digital technologies but also enhancing digital literacy and ensuring that digital technologies are affordable and beneficial for all.

2. Research Methods

Based on objective research, type research used is nature descriptive-verifying. According to Malhotra (2010:93), research descriptive aim to make description , picture , and painting systematic , factual, and accurate about facts , traits, and connection between phenomenon that occurs . The verification aims to test connection between variable independent and variable dependent .

The study is descriptive verification, i. e Data collection is carried out in the field , and the method research used is method survey. According to Malhotra (2010, research survey is structured questionnaire given to designed respondents to get specific information . This method obtains information based on questions asked to respondents . Respondents were asked various questions about behavior , intent , knowledge , motivation and characteristics demographic, and style of life. They can be submitted in a way verbal , deep form written or through computer, and responses can be obtained in one form.

According to Sugiyono (2014) is a survey method to get data from place certain natural ones, whereas interview done to take action move on survey results so that it can be resolved the gap obtained . Data collection through surveys using a spread questionnaire to public MSME (Micro , Small and Medium Enterprises) actors in West Sulawesi Province .

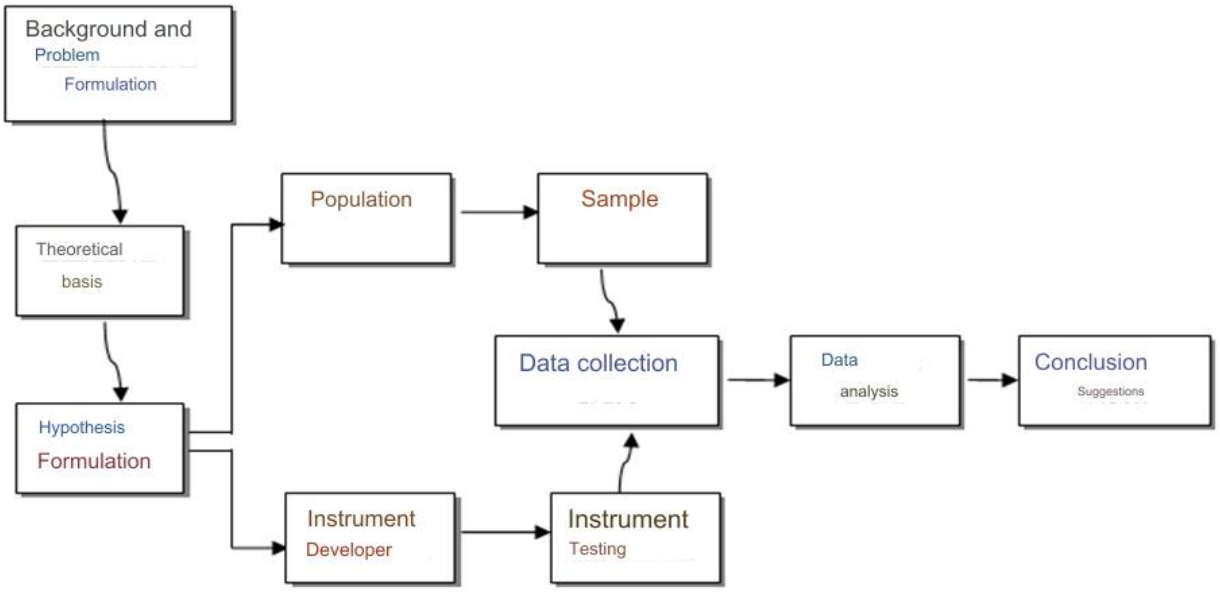
2. 1 Research Sites.

The research sites are in West Sulawesi Province, and the target respondents are spread across six districts, which include the following:

1. **Regency Majene with six subdistricts and 82 villages/subdistricts.**
2. **Mamasa Regency with 17 subdistricts and 185 villages/subdistricts.**
3. **Regency Mamuju with 11 subdistricts and 103 villages/subdistricts.**
4. **Regency Central Mamuju with five subdistricts and 54 villages/subdistricts.**
5. **Pasang Kayu Regency with 12 subdistricts and 63 villages/subdistricts.**
6. **Regency Polewali Mandar with 16 subdistricts and 167 villages/subdistricts.**

2. 3 Types of research

The research carried out can run with good and systematic. Research design is a blueprint for fulfilling the object and answering the question, (Sigh, 2006). Research design also has meaning as plan and structure an investigation to answer the research questions. Plan the containing ongoing research schemes and programs executed in a way whole . That matter includes an outline regarding what will researcher do from written hypotheses and implications operational from result data analysis. Research design describe structure and problems research, start from framework, configuration relationships between variables that research and plan necessary investigation to find proof empirical relationships variable. The research design will be a little complicated because there are various types of methods, techniques, procedures, protocols, and plans for taking samples.



(Source: Sugiyono, 2015:82)

Population is bunch whole subject research consisting on object or the subject who has qualities and characteristics certain conditions determined by the researcher. Population in research is public West Sulawesi Province . According to Hair et al (2014), there is none criteria single to determine size sample (*sample size*) in MSEMs, however need noticed ratio sample against parameters (indicators). Amount sample in SEM there are the minimum ratio is 5 respondents for every parameter in research, or 10 respondents to every 1 parameter, or 15 respondents for every 1 parameter. Condition is decisive amount respondents to every parameter in determine sample involve various factors, include misspecification of model, model size , aspect normality , and approximation procedure (Heir et al 2010).

Using sampling technique method is purposive sampling, according to Ronald et al., (2011), purposive sampling is technique determination sample with consideration certain . Sample in research is taken in a way purposive sampling is method election samples whose characteristics are already known previously with criteria as following:

1. Micro, Small and Medium Enterprises (MSMEs), domiciled business in West Sulawesi Province.
2. Own asset or *Asset Turnover (ATO)* is at in range Rp. 50 million - Rp. 50 Billion in a year . ATO can be viewed as number sale or sales.
3. Still working running and productive

4. Willing become sample study
5. Respondents are MSMEs' actors aged over 17 years or already married .
6.

Study of variable, i.e digitalization economy, digital divide , prosperity society , age , gender education and income. Variable operationalization is used to define in a way complete information about variables used . The Information is used when the consists from dimensions , indicators and scales . Explanation operationalization of internal variables study can be seen in the following table;

Table. 2.1. Operationalization Variable

Variable	Definition	Dimensions	Scale
Digitalization (X1)	The Encarta Dictionary version of Digital Economy is business transactions on the Internet: the marketplace that exists on the Internet (Suwarni et al., 2018)	MSMEs use digital devices for activity economy / creating income	Ordinal
		The size increase in income from smartphone use	Ordinal
		MSME actors do it sell buy goods past social media or platform accounts like shopee	Ordinal
		As much as possible often MSME actors do buy online goods than direct	Ordinal
		MSME actors do digital banking account transactions	Ordinal
Welfare (Y)	Welfare is condition fulfillment material, spiritual and social needs citizens to live worthy and capable develop self so that carry out function	Family MSME players can eat at least 2 times a day	Ordinal
		actors and families buy at least one clothes in a year	Ordinal
		Condition House MSME actors still worthy occupied	Ordinal
		Condition Family MSME actors in Healthy condition	Ordinal
		Family MSME actors in circumstances peaceful and mutual love	Ordinal

Variable	**Definition**	**Dimensions**	**Scale**
	social (Law Number 11 of the Year , 2009)	Member education family MSMEs reach 12 years must Study	Ordinal
		Own good relations in society	Ordinal
		MSME actors have savings guarantee for the future	Ordinal
		Member Family of MSMEs' actors will /have already take higher education (university)	Ordinal
Age (M1)	Age is period time since exists person and can be measured use unit time seen from facet chronologically , normal individuals can be seen degrees development anatomical and physiological the same(Nuswantari , 1998).	category age according to the world health agency or WHO	Categorical
Gender (M2)	Gender is classification in a way grammatical to the words and other related words with him in broad terms relate with the existence of two types sex or neutrality (Fakih, 2016)	Man	Categorical
		Woman	Categorical
		elementary school	Categorical

Variable	**Definition**	**Dimensions**	**Scale**
Education (M3)	Education is a transfer process knowledge in a way systematic from somebody to others accordingly standards that have been determined by experts (Melmambessy , 2012)	Junior high School	Categorical
		Senior high School	Categorical
		D3	Categorical
		S1/S2/S3	Categorical
Revenue (M4)	Income is results work (effort or so on) (Ministry of Education and Culture , 2008).		Categorical

Data collection technique

Study field is research conducted with collect the data and information obtained directly from respondents of MSMEs' actors in West Sulawesi Province with meaning they obtain data and information through :

a. Observation (observation).

Observation/observation that is technique data collection carried out with observation in a way direct without a mediator object study.

b. Interview

Interview that is technique data collection with method ask answer direct with MSME actors in West Sulawesi Province

c. Questionnaire

Questionnaire that is technique data collection with method giving some question in a way written as possible nature open or closed ones shared by researchers to respondents that is MSME actors in West Sulawesi Province

d. The determination amount of the sample per district is determined proportionally using Slovin's formula . Data from the West Sulawesi Provincial Department of Trade, Industry, Cooperatives and SMEs shows the percentage of MSEs in West Sulawesi Province in 2020 is visible as shown in the table below.

No	Regency	Amount Population	Number of Samples	Percentage
1	Majene	313	6	1.37%
2	Polewali Mandar	5,614	97	24.53%
3	Mamasa	179	3	0.78%
4	Mamuju	9,512	164	41.56%
5	Install Wood	6,981	120	30.50%
6	Central Mamuju	287	5	1.25%
	West Sulawesi	**22,886**	**395**	**100.00%**

Study Literature

Literature research with method gather ingredients from various source and study related literature with that is digitalization economy, digital divide, prosperity society, age , gender , education and income . The technique is done to write relevant information with topic or moderate problem. Study literature is obtained from books, reports research, essays scientific , theses and dissertations as well as sources written in print or electronic.

Data analysis technique

The PLS method is a multivariate statistical technique that compares multiple dependent variables and multiple independent variables[^Abdillah and Jugiyanto, 2015^]. It is a type of Structural Equation Modeling (SEM), which is a statistical method that allows for complex relationships between variables to be analyzed.

Types of SEM:

1. Covariance-based Structural Equation Modeling (CB-SEM), developed by Joreskog in 1969.

2. Partial Least Squares Path Modeling (PLS-SEM), often called variance or component-based structural equation modeling, developed by World in 1974. PLS approach is more suitable used for nature analysis predictive with base weak theory and inadequate data SEM assumptions are based covariance . With PLS technique , is assumed that all useful variance measure in explainings. PLS-SEM precisely capable handle the usual problem appear in SEM based analysis covariance. First , an unacceptable model solution (inadmissible solution) such as appearance standardized loading factor value > 1 or variant value 0 or negative . Second , the indeterminacy factor , namely undetermined factors like mark observation for latent variables cannot be processed. Because PLS has characteristics algorithm typical interactive. The PLS can be applied in the measurement model reflective nor formative . Whereas CB-SEM analysis only analyze measurement models reflective (Yamin and Kurniawan, 2011). In SEM, in addition to the characteristics of the estimated model, size sample must improve in circumstances following : (1) deviant data from normality multivariate , (2) technique estimation intensive-sampling (eg. ADF) is used , or (3) missing data exceeds 10 percent . From the explanation, the amount samples are limited and it is feared that they will not be able to fulfill them various assumption parametric, then PLS is technique suitable analysis to obtain results maximum from study . When using PLS, there are a number of evaluation towards the measurement model (*outer model*) and structural model (*inner model*) and. In the measurement model evaluation , carried out testing validity convergent (*convergent validity*), validity discriminant (*discriminant validity*), reliability composite (*composite reliability),* and *Average Variance Extracted* (AVE). Whereas in structural model evaluation The R-squared test (R2) and estimation test were carried out coefficient track .

Measurement (Outer Model)

The outer model is often also called (*outer relations* or *measurement model*) which defines how every block indicator is related to the variable latent . Blocks with reflexive indicators can be written in the equation as following:

$$x = \Lambda_x \xi + \varepsilon_x$$

…… *(3.1)*

$$y = \Lambda_y \eta + \varepsilon_y$$ …….. *(3.2)*

Where x and y are indicator variables for exogenous and endogenous latent variables (ξ and ***η*** **)** , whereas **Λ** $_x$ and **Λ** $_y$ is a loading matrix that describes coefficient regression simple connecting latent variable with the indicator . The measured residuals with **x** and **y** can be interpreted as the error measurement.

The measurement model (*outer model*) is used to evaluate the validity and reliability of the model. Validity test done to know ability instrument study measure what it should be measured (Cooper and Schindler in Abdillah and Jugiyanto 2015). Meanwhile, reliability testing is used for measuring consistency tool measuring in measure something draft or can also be used for measuring consistency respondents in answer statement items in questionnaire or research instrument.

1. **Validity test Convergent**

Validity convergence in SEM PLS is used as an evaluation for the measurement model (*outer model*). Validity convergent is something type related validity with principle that gauge something construct must have correlation tall so that used For measure big correlation between latent variable with manifest variables in the measurement model reflexive . In the evaluation, validity convergence can be assessed on the basis of the correlation between the mark component (*item score/component score*) and mark construct in other words, it can be assessed on the basis of *loading factors* . According to Chin (1998) and Ghozali (2013), a correlation can fulfill validity convergent if its own mark *loading* is as large as 0.5 and an AVE value of 0.5. The AVE value can be determined using the following formula:

$$AVE = \frac{\sum \gamma_i^2}{\sum \gamma_i^2 + \sum_i var\varepsilon_{(i)}}$$

$AVE= \gamma i2\gamma i2+ivar\varepsilon(i)$ ..... *(3.3)*

Where λi state *loading factor* (*convergent validity*) and var ε(i) = 1 – λi ^{2}

2. **Validity test Discriminant**

An evaluation for measuring the measurement model (outer model) is the validity discriminant . Because the validity discriminant is related to the principle that gauge different constructs should not be correlated high , then the validity discriminant from the reflexive measurement model can be counted on the basis of mark *cross loading* from manifest variable to each latent variable . If the correlation between the latent variable with every the indicators (manifest variables) are more big than correlation with other latent variables , then the latent variable can be said to predict the indicator more well than other latent variables .

Reliability Test

The reliability test on the SEM-PLS model was used to evaluate the measurement model (*outer model*). Latent variables can be said have good reliability if mark *composite reliability* is greater than 0.6 and can be strengthened with mark *Cronbach's alpha* greater than 0.7 (Sarwono and Narimawati , 2015). *Composite reliability* can be determined using the following formula:

$$\rho c = \frac{(\sum \gamma_i)^2}{(\sum \gamma_i)^2 + \sum_i var\varepsilon_{(i)}}$$

$\rho c= (\gamma i)2(\gamma i)2+ ivar\varepsilon(i)$ ..... *(3.4)*

Where λi state *loading factor* (*convergent validity*) and var ε(i) = 1 – λi ^{2}

Measurement Structural (Inner Model)

The structural model (*inner model*) is used to predict the causality connection between latent variables. Through a bootstrapping process with see *path coefficient* For predict exists connection causality . The structural model (*inner model*) is evaluated with the percentage variance explained by an R value of ^{2}. For variable dependent with use Stone- Geisser Q-square test (Ghozali and Hengky , 2012).

1. **R-Squared Test (R^2)**

The R-squared test (R^2) is a test performed to measure the goodness of fit of a structural model . The R-squared value (R^2) is used to measure the influence of certain independent latent variables on the dependent latent variable . According to Ghozali (2012), R^2 results of 0.67 indicates that the model is categorized as Good. R Result ^{2} between 0.33 and 0.67 indicates that the model is moderate. Meanwhile, the result is R^2 of 0.33, which indicates that the model is categorized as weak.

2. **Predictive Relevance**

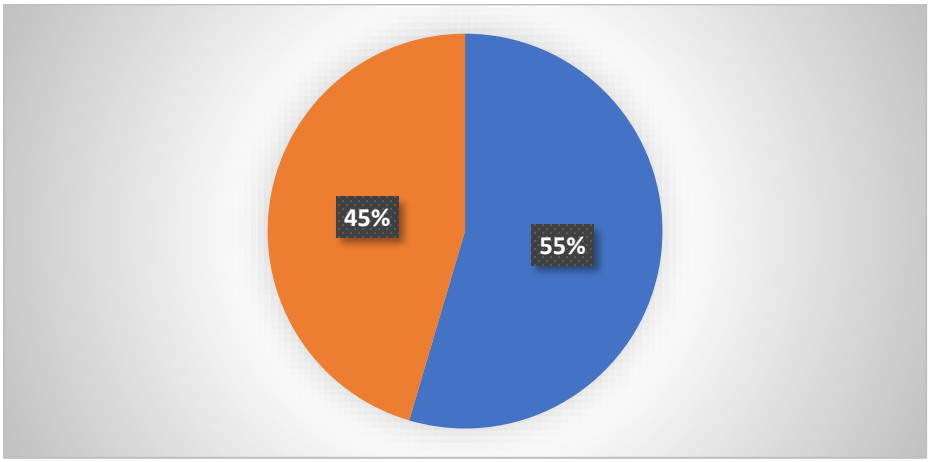
The R-square of the PLS model can be evaluated by looking at the Q-square predictive relevance for variable models. The Q-square measures how many good mark observations are produced by the model and estimates the parameters. The Q-square value is larger from 0 (zero) and shows that the model has predictive value of relevance , whereas the Q-square value is less from 0 (zero) and shows that the model lacks *predictive relevance* . However, if results calculation show Q-square value is more from 0 (zero), then the model is feasible said own mark relevant predictive , with formula as follows:

$Q^2 = 1-(1-R1^2)(1-R2^2)(1-Rp^2)$ ……. *(3.5)*

3. Result of Analysis

Based on gender, the respondents in this study were almost equal, namely 133 male respondents (around 5.5 % and 132 female respondents or around 4.5 %, as seen in Figure 5.1 . Currently, MSME actors are not only performed by women but also sought after by men . Government programs to increase entrepreneurship in Indonesia have received positive responses from the public, and many have entered the world of entrepreneurship through MSMEs.

Figure 5.1 Respondent based on type Sexes



Men 45 % and Women 55%

Source: Data Primary Processed (2023)

The study suggests that MSMEs are not considered side businesses but rather the main business for these actors. This is particularly evident among MSME actors in the 36-45 years age range, which is typically considered productive in the work environment. The actors usually have higher productivity and creativity in developing their businesses.

However, the study also points out that older MSME actors may face challenges such as physical limitations, difficulty adapting to new technology, and decreasing creativity with age. Despite these challenges, older employees bring valuable qualities to the workforce, such as experience,

judgment, a strong work ethic, commitment to quality, and stability, as noted by Robbins and Judge (2017).

This information provides valuable insights into the demographics and characteristics of MSME actors, which could be useful for policy-making and strategic planning in the MSME sector.

Table 5.2 Respondent based on Age

Age	Frequency	%
<25 years	7	1.68
25-35	99	23.80
36-45	157	37.74
46-67	138	33.17
Total	416	100

Source: Data Primary Processed (2023)

The data indicates that the food sector dominates the MSMEs, accounting for nearly half of the respondents (49.52%). This is followed by a diverse group of other businesses, including hotels and telecommunications, which make up 37.26% of the respondents. The textile or clothing sector represents 9.62%, and workshops account for 3.61%.

The observation about the food and beverage (F&B) sector being the “prima donna” in the world of MSMEs is quite insightful. Food businesses are indeed timeless, as they cater to a basic human need and can be started with relatively low capital. Similarly, the clothing sector is also significant as it too is a need-based industry and does not have an expiration date.

These findings highlight the importance of these sectors in the MSME landscape and their potential for contributing to economic growth and development.

Table 5.3 Respondent based on Business Type

Type of business	Frequency	%
Food	206	49.52
Textiles	40	9.62
Workshop	15	3.61
Other	155	37.26
Total	416	100

Source: Data Primary Processed (2023)

Respondents in this study were dominated by businesses with income of IDR 11,000,000 – IDR 50,000,000 per month, which was 209 respondents or 50.24 %. Furthermore, respondents with income < IDR 10,000,000 as much as 178 respondents or as big as 42.79 % , income IDR 51,000,000 – IDR 100,000,000 as many as 17 respondents or 4.09% and income > IDR 100,000,000 for 12 people or 2.88 %. MSME businesses are interesting because is effort that provides return more results in comparison of formal work.

Table 5.4 Respondent based on Business Income

Income (Million Rupiah)	Frequency	%
< 10	178	42.79
11 to 50	209	50.24
51 to 100	17	4.09
>100	12	2.88
Total	416	

Source: Data Primary Processed (2023)

Respondents in this research were dominated by MSMEs in Kab . Mamuju as many as 230 respondents or 55.29%, Kab . Polewali Mandar as many as 103 respondents or 24.76%, and Kab . Central Mamuju as many as 48 respondents or 11.54%. Mamasa Regency and Majene Regency own the same respondent 5 respondents or 1.20% of the total respondents .

Table 5.5 Respondent based on Region Work

Working area	Frequency	%
Mamuju	230	55.29
Majene	5	1.20
Central Mamuju	48	11.54
North Mamuju	25	6.01
Polewali Mandar	103	24.76
Mamasa	5	1.20
Total	416	100

Source: Data Primary Processed (2023)

Economic digital variables formed by five indicators MSMEs actors who use digital devices for activity economy/creating income (X1.1), amount increase in income from smartphone use (X1.2), MSMEs sell buy goods past social media or platform account (X1.3), more MSME players often do buy online goods than directly (X1.4), and MSME actors do digital banking account transactions (X1.5). Analysis shows mark *loading factors* from each indicator is at on mark which ideal, that is, mark *loading factor* is above 0.5, which means that indicators are valid in explaining every variable in this study. The value is also visible more *construct reliability* of 0.7, which means that instrument of each variable in study This has fulfill criterion reliability.

Description Variable Study

Table 5.6 Answer Respondent on Economic Digital Variables

Indicator	Mean	Validity Statement	Reliability Description
Actors Who Use Digital Devices For Economic Activities / Creating Income	0.574	Valid	Reliable
The Large Increase in Income from Smartphone Use	0.574	Valid	Reliable
MSME actors who buy and sell goods via social media or platform accounts	0.574	Valid	Reliable
MSME players more often buy goods online than in person	0.574	Valid	Reliable
MSME actors do Digital Banking Account Transactions	0.574	Valid	Reliable

Source : Processed Primary Data (2023)

The digital divide is built by 5 indicators i.e MSMEs players have smartphones (X2.1), quality network (X2.2), MSME players are able to buy data packages (X2.3), MSME players know the method using a smartphone (X2.4), and MSMEs have a digital bank account (X2.5). The analysis results show mark *loading factors* from each indicator is at on mark which ideal, that is mark *loading factor* is above 0.5, which means that indicators are valid in explaining every variable in this study. The mark is more *construct reliability* of 0.7, which means that instrument of each variable in this study fulfills criterion reliability.

Table 5.7 Answer Respondent on Variable Capital Social Relational

Indicator	Mean	Validity Statement	Reliability Description
MSME players have smartphones	0.518	Valid	Reliable
Quality Network	0.518	Valid	Reliable
MSME Players Can Buy Data Packages	0.518	Valid	Reliable
MSMEs Know How to Use Smartphones	0.518	Valid	Reliable
MSME Players Have Digital Bank Accounts	0.518	Valid	Reliable

Source: Processed Primary Data (2023)

Variable well-being society (Y) is formed by nine indicators: family MSME actors can eat at least twice a day (Y1), MSME actors and families buy at least one piece of clothing in a year (Y2), condition House MSME actors still ayah occupied (Y3), condition family MSME actors in circumstances healthy (Y4), family MSME actors in circumstances peaceful and mutual love (Y5), education member family MSMEs reach 12 years must learning (Y6), MSME actors have good relations in society (Y7), MSME actors have savings guarantee for the future (Y8), and members family MSME actors will/have already taken education high (Y9). The results of the analysis show that *the loading factor* value of each indicator is at the ideal value, namely *the loading factor value* is above 0.5, which means that indicators are valid in explaining every variable in this study. The mark *construct reliability* more from 0.7, Which means that the instruments for each variable in this research have met the reliability criteria.

Table 5.8 Answer Respondent on Variable Capital Social Cognitive

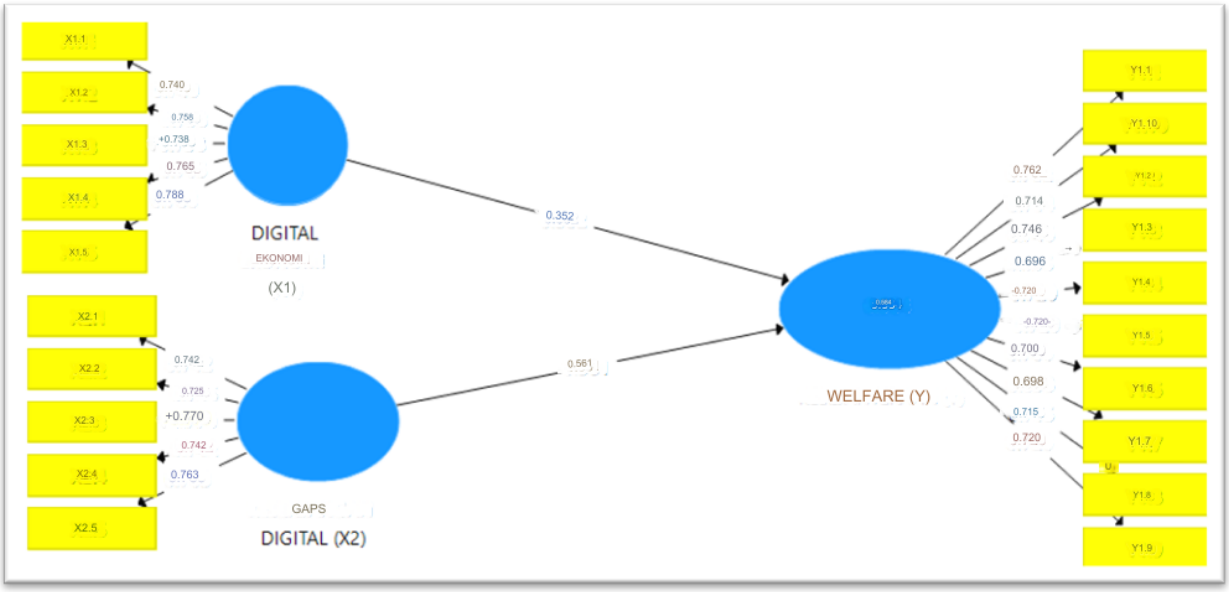
Indicator	Mean	Validity Statement	Reliability Description
Family MSME players can eat at least 2 times a day	0.560	Valid	Reliable
Actors and Families Buy at least one piece of clothing a year	0.560	Valid	Reliable
The condition of the houses of MSME actors is still habitable	0.560	Valid	Reliable
Condition Family MSME players are in good health	0.560	Valid	Reliable
Family MSME actors are in a state of peace and love each other	0.560	Valid	Reliable
Member Education Family MSME Players Reach 12 Years of Compulsory Education	0.560	Valid	Reliable
MSME players have Good Relations in Society	0.560	Valid	Reliable
MSME players have Guarantee savings For the Future	0.560	Valid	Reliable
Member Family MSME players will/ have already Pursuing Higher Education	0.560	Valid	Reliable

Source : Processed Primary Data (2023)

5. 3 Test Appropriateness Model Study

Structural equation modeling analysis was performed after confirmatory factor analysis to ensure that the confirmatory model was valid and reliable for each variable. Testing is performed to determine the suitability of the model to the data, which is known as *goodness of fit.*

Picture 5.1 Model Whole Variable Study



Source: Data Primary Processed (2023)

Based on Slovin's formula, sample in study A total of 395 respondents were divided from six districts with respective proportions. The amount of sample in the study is 416 samples, which means they have met the criteria for sample adequacy in testing model suitability.

Table 5.9 Evaluation Criteria *Goodness of Fit Indices Overall Model*

Goodness of Fit	***Cut – Off Value***	**Results Model**	**Information**
X^2 *Chi Square*	Expected small	3065,304	Ignored due to quantity sample big
Probability	≥ 0.05	0,000	Ignored due to quantity sample big
D_ULS	≥ 0.05	2,119	Fit
D_G	≥ 0.05	2,449	Fit
NFI	Close to 1	0,504	Fit

Source: Data Primary Processed (2023)

The X^2 Chi-Square statistic value becomes smaller as the value of X^2 increases,

indicating a good model that is accepted based on probability with a cut-off value as large as P > 0.05. The recommended chi-square value is 298.611, while the calculated chi-square result is 755.639. However, the model is deemed to be a good fit because the number of classified samples exceeds the minimum recommended sample size based on the criteria and several estimated parameters (Hair et al., 2019).

For testing the bootstrap-based appropriateness of the overall model fit (i.e., d_ULS and d_G), the original mark is compared with the confidence interval created from the sample distribution. The confidence interval must encompass the original mark, with the upper limit typically set at the 95% or 99% point. In other words, a model fits if the difference between the matrix correlation shown by the model and the matrix correlation is very small, indicating it can only be attributed to sampling error. Therefore, the difference between the matrix correlation shown by the model and the matrix correlation should not be significant (p > 0.05). On the other hand, if the difference is significant (p < 0.05), the suitability of the model cannot be determined. The Normed Fit Index (NFI) is defined as 1 minus the Chi² value of the proposed model shared with the Chi² value of the null model. As a result, NFI generates a score between 0 and 1, with a value closer to 1 indicating a better fit. NFI values above 0.9 usually demonstrate acceptable conformity. Lohmöller (1989) provides detailed information about the calculation of the NFI for the PLS path model, but the explanation may be challenging for layman users to understand.

5.6 Test Hypothesis

Analysis results to criteria *goodness of fit* shows that analysis *structural equation modeling* in study this is acceptable according to the recommended model (model fit). Testing hypothesis done with see significance from mark *estimate, critical ratio,* and *probability* .

Table 5.10 Influence Direct Between Variable

Influence Direct Between Variables			**Estimate**	**S.E**	**CR**	**P**	**Information**
Digital Economy	→	Well-being	0.352	0.037	9,504	0,000	**Significant**

Digital Divide	→	**Well-being**	**0 .561**	**0.029**	**19,245**	**0,000**	**Significant**

Source: Data Primary Processed (2023)

From table 5.10 it can be seen that the digital economy influential positive to welfare , as well as the digital divide has an influence positive to well-being . Following served recapitulation answer hypothesis based on results estimate.

Table 5.11 Recapitulation Answer Hypothesis

Hypothesis		**Information**
H1.1	Economic digitalization affects community welfare	Accepted
H1.2	Economic digitalization has an effect on community welfare, moderated by age	Accepted
H 1. 3	Economic digitalization has an effect on community welfare, moderated by gender.	Accepted
H 1. 4	Economic digitalization has an effect on community welfare, moderated by education	Accepted
H 1. 5	Economic digitalization has an influence to Community Welfare is moderated Income	Accepted
H 2.1	The Digital Divide affects Community Welfare	Accepted
H 2.2	The Digital Divide's effect on Community Welfare is moderated by Age	Accepted
H 2.3	The Digital Divide's effect on Community Welfare is moderated by Gender	Accepted
H 2.4	The Digital Divide's influence on Community Welfare is moderated by Education	Accepted
H 2.5	The Digital Divide has an effect on Community Welfare moderated by Income	Accepted

4. Discussion

2. The Impact of the Digital Economy on Public welfare

The digital economy is influential and positive for the well-being public. Development of global economy and progress civilization is this moment.The various fields including field economy has entered the territory of the unitary state of Indonesia with technology digital - based renewable or known as the industrial era 4.0 based on cyber-physical systems. Even moment In Japan, the industrial era 5.0 is already known to the "super smart society" at its core direct balance between community humans and automation in realize more good life.

Digital economic development in West Sulawesi is going fast, though entered in group province with low penetration low internet, however, from the data obtained from the study is only 0.42% of MSME actors do not use telephone. Also, visible from the results research show that part big respondents have literate technology, especially in the digital economy. The carry on to respondents show that the respondents realize that the digital economy exists moment. The banking and business marketing are very helpful development their efforts live it.

There is a revolutionary industry that has disrupted life in the form of benefits, and challenges, even it could also be a risk threat to individuals, society, institutions, and the state within various fields of life including the field of economics, if not done in anticipation and attitude the right policy. Likewise with the influence of the digital economy as part of industrialization technology is an inevitability that must be accepted Indonesian society adheres to system economy open, as part of public world economy. A lot of digital economy helps in the development business Micro, Small and medium Enterprise through service trading virtual networks and banking electronic. There is a transaction that the digital economy is also encouraging change patterns thinking individuals and organizations in making decisions more economically and transactions effective and efficient.

The impact of the digital economy on Micro, Small, and Medium Enterprises (MSMEs), particularly in West Sulawesi.:

1. **Digital Distraction**: MSME actors often use smartphones for entertainment, such as social media and online entertainment. The actors potentially distract them from their business activities.

2. **Smartphone Usage**: The prolonged use of smartphones can sometimes be a nuisance and affect the focus of MSME actors, especially when serving customers directly.

3. **Benefits of Digital Economy**: The digital economy provides convenience in accessing raw material sources and opens up wider marketplaces. The direct access to raw material providers offers cheaper prices and diverse choices, enabling MSMEs to reduce production costs. Additionally, the increased number of raw material providers reduces the risk of raw material scarcity.

4. **Supply Side**: On the supply side, MSME actors have the option to compare prices between buying directly from conventional suppliers (like shops and distributors) and purchasing from the marketplace. This comparison includes acquisition price and availability of goods when needed. Here, MSME actors are encouraged to manage their business inventory effectively. Effective management and strategic use of digital tools can help maximize the benefits and minimize the drawbacks.

The impact of the digital economy on Micro, Small, and Medium Enterprises (MSMEs) in West Sulawesi, and how it can help them overcome various challenges.

1. **Adapting to Consumer Trends**: MSMEs, especially in the fashion industry, need to keep up with the latest trends. The digital economy allows them to stock trendy merchandise and meet consumer demands, reducing the risk of unsold goods.

2. **Supplier Credit**: While credit from suppliers can help with cash flow, it can also make MSMEs dependent on certain suppliers. The digital economy can provide more freedom to change suppliers.

3. **Marketing and Sales**: The digital economy opens up wider marketing opportunities, allowing products from MSMEs to reach beyond West Sulawesi, even internationally. The MSMEs are more competitive and profitable.

4. **Digital Banking**: More than 30% of MSMEs are using digital bank accounts, which simplifies transactions and payments. However, the use of QRIS, a payment method developed by Bank Indonesia, is still minimal.

5. **Capital Loans**: Using a bank account as a transaction medium can help MSMEs when they need additional capital from the bank. The higher of the level of bank account activity is the greater the chance of loan approval.

6. **Business Expansion and Public Welfare**: Additional capital from banks can help MSMEs expand their business, leading to increased profits and improved welfare for the MSME owners and the community.

Apart from a numbe of the advantages provided by the digital economy, there exist several negative aspects, including three aspects namely: First, risk reduces power work or disappearance work because automation, robotization, and efficiency hit networks almost all activity businesses like industry finance and banking, trade based competitive shops and malls online commerce, print media, and advertising industry conventional ones are starting unmatched by digital social media. Second, it happens to crime cyber economy from transaction illegal like money laundering, transactions drugs, hackers or hacker burglary finance, and fraud through transaction Internet networks. Activity promotion unscrupulous advertising or unethical, cracking enters the network with meaning steal, alter, or destroy data. Third, threats decrease power competitive production domestically with widespread easy digital transactions entry product foreign.

1. **Manpower and Digital Transformation**: The transition from manual to digital processes in industries can lead to a reduction in workforce requirements. However, for Micro, Small, and Medium Enterprises (MSMEs), this digital transformation can be an opportunity to increase efficiency, reduce production costs, and ultimately improve profitability and the welfare of business owners. The marginalized workforce could potentially be absorbed into other work units or sectors with a positive impact on improved company performance.
2. **Cyber Crime and Digital Literacy**: The transition from manual systems to automation or digital platforms can open up opportunities for cybercrime. Therefore, it is crucial to

educate MSME players and increase their awareness and experience in handling digital data. The government plays an active role in enhancing digital security standards and promoting vigilance among MSME actors against data misuse and transaction manipulation.

3. **Trade Governance and Domestic Industry**: The influx of uncontrolled foreign goods can impact the competitiveness of domestic products. Therefore, trade governance needs to be implemented favoring the domestic industry. Imported materials should be processed and standardized to become export commodities, adding value to the product. The import of goods needs to be managed to prevent detrimental impacts on the domestic industry.

These are complex issues that require multi-faceted solutions involving various stakeholders, including businesses, workers, and government agencies. It' is important to strike a balance between embracing digital transformation and mitigating its potential negative impacts.

Indonesian nation must open to technology, however, technology is not allowed to damage the values of nationality, morals, and ethics culture nation. The Indonesian nation must start observing, anticipating, and preparing effective, efficient, and sustainable solutions to potency threats or sources of disturbance from the application digital economy.

Digital marketing is the technique of promoting products or services via the internet as a result of innovative technology information. In line with the enhancement amount every internet and smartphone user over the years. The use of digital marketing by MSMEs has also increased in this time. The solution strategic becomes for MSMEs to expand network marketing, both in level nationally and globally.

Through digital marketing, information about products or services can accessed by customers online, facilitating interaction between sellers and candidate buyers without being hindered by distance or time (Diansyah et al., 2017). However, the Ministry of Cooperatives and Small and Medium Enterprises notes that of 56 million MSMEs, only around 3.75 million or not enough of the 10% that have optimized digital marketing operational business (Abdurrahman et al., 2020; Harahap et al., 2021). Based on research conducted by Syifa (2021), a lack of outlook related to digital marketing or E-Commerce is the obstacle main for KPM PKH actors in

promoting products. Therefore that is important for the public to increase understanding about technology. Many MSMEs have not utilized digital marketing, especially because of the difficulty in using social media, 1064 and creating interesting content on account business (Gunawan et al., 2021; Ladhari et al., 2019).

Social media is all forms of communication media possible interactive happen two-way interaction and feedback (Kent, 2013). Another meaning of social media is the media used by consumers to share text, images, sound, and video information with other people or companies and vice versa (Kotler & Kevin, 2016).

a. Impact of the Digital Divide on Public Welfare

The digital divide has been the attention of politicians as well as researchers in the 1990s since the Clinton–Al Gore administration in the United States introduced the term digital divide (which was later interpreted as digital divide in Indonesia) in 1996 and on fast become global issue. The digital divide is a phenomenon that occurs globally. Condition is not only experienced by developing countries but also developed countries such as America and countries in Europe.

The results study show that enhancement of the digital divide will increase the well-being public. The increasing digital divide shows that MSME actors are literate in technology seen from activity in digital banking as well as digital marketing will develop their efforts, compared backward with MSME players who still use method traditional. To enhance well-being especially the people of West Sulawesi formerly need an emphasis on digital literacy for MSME players.

Molnar (2003) suggests, there are three types of the digital divide, the access divide or digital divide stage.The beginning refers to the gap between society that has access and those who do not have access to ICT. The next gap is the usage divide or primary digital divide which refers to differences use of ICT between a society that has access to ICT. The gap furthermore is the quality of use divide or a second layer of the digital divide that focuses on differences quality of the use of ICT in communities that use ICT daily.

Problem differences are geographical always be one attention about how method diffusion A technology now taking place. There are assumptions that development technology follows the deployment process from urban (core area) to area outskirts / rural. Urban areas will become the center of ICT development, on the other hand, regions fringe or rural will be late in adopting ICT and there will also be delays in experiencing change. Geographic location is one of the factors that influence individuals' access to ICT.

Although ICT provides a solution alternative for communicating with a society is geographically isolated, however still just an inhabitant rural hope to make use of the advantages of ICT still left behind by society urban, because infrastructure limited telecommunications, and problems culture (Hindman, 2000). The results of the study by Chen and Wellman (2004) found that location is one of the factors that significantly influence access to public Internet use. A study conducted by Feldman in 2001 also confirmed that the public rural more reluctant to adopt technology new goods products for services compared to the public who are more willing to become a trendsetter. to push ICT diffusion in stages early, Feldman argues that policy is more top-down public appropriate, especially in the sector of telecommunication implementing information highways (Faziharudean, 2005).

ICT has the role important in development by providing access to information and shaping communication between the public with the global community. and realize the role that so canyon digital divide in West Sulawesi must bridged by providing access to information through ICT. Development fast from ICT should be able to eliminate bulkhead geographically remote and remote areas the same opportunity to be able to access information The same such as urban areas, but in reality, the development of ICT infrastructure is uneven.

As an entity business, company telecommunication naturally gets profit so the development of more ICT infrastructure focuses on the city that a large amount its inhabitants and that will influence the amount ICT users. Gaps Can seen from Still minimal infrastructure information and communication in the eastern region of Indonesia. Besides, when the information in Indonesia is also still available weak and minimal nature information educative with many unreleased shows.

Problem technology information encountered by Indonesian people is different from other countries, esp. related conditions the geography of this country is in the form of an Island. A condition that causes access information not yet capable reach the entire archipelago. The importance of this ICT infrastructure even attracted the attention of the UN which organized the World Summit Information Society (WSIS) in 2003 and 2005 placed great emphasis necessary for every individual, society, and nation to own access, utilize, and share information and knowledge in frame support development socio-economic and improvement quality life. This matter has become every country needs to develop the necessary infrastructure and structures for its citizens to participate in public information.

The small amount internet users influenced by several matters including access to the internet and internet quality in West Sulawesi. As described by the lack of access to the internet in West Sulawesi, only two internet cafes are operating even though they are part of the government programs center through the Ministry of Communication and Information through the central program sub-district internet service (PLIK). This Cafe still survive because operational cafes related to Internet bandwidth subscriptions are borne by the government. If not, great possibility cafes will die because of expensive disproportionate bandwidth prices with amount customers who use the internet. Internet penetration as part of ICT development itself is capable push GDP growth up to 3.4%, taller compared to sector-limited energy sources (Deloitte, 2011).

Provider service internet service (ISP) too, only there is four in West Sulawesi consisting of two telecommunications operators that is Telkomsel and Indosat, one telephone operator Telkom, and one provider service local internet service namely ISP Media Center. The problems faced are the same bandwidth. Even though it is one condition to be able to take advantage The advantage of the internet it is through adequate bandwidth. From the results interview, part big complaints arise good. The telecommunications operators, local ISPs, internet cafes / PLIK, or users namely insufficient service bandwidth communications available in West Sulawesi.

The research shows a correlation between the digital divide and the well-being of MSME actors. As businesses become more digital, their welfare improves. Almost all MSME actors surveyed use a smartphone, with an adequate package and a sufficient quota for a stable internet network. However, the majority use their smartphones primarily for entertainment, including

accessing social media. This situation places MSME actors in West Sulawesi as a market for business actors, positioning themselves as objects of sale rather than as subjects or active actors offering goods or obtaining standard materials at a competitive price. Interestingly, almost one-third of MSME actors in West Sulawesi have their digital bank accounts. Ownership of digital accounts helps MSME actors reduce queuing time at the bank when conducting transactions, extends banking transaction duration, which was previously limited to banking operational service hours, and is now open 24 hours, including on holidays. This also minimizes the risk of cash storage and slows down money circulation for business rotation.

This financial management efficiency will increase the performance of MSME actors, which in turn will increase public well-being. However, it is important to note that business actors and society are still not familiar enough with non-cash payment methods like QRIS, so cash transactions still dominate the payment method at shops and businesses.

5. Conclusions

The digital economy has significantly impacted the well-being of people in West Sulawesi. The rapid growth of digital platforms and services has created new opportunities for economic development and social interaction. However, not everyone has equal access to these benefits, leading to a digital divide. This gap affects the well-being of people in West Sulawesi as it separates those with access to digital technologies from those without. Improving digital literacy, or the ability to effectively use digital technologies, is crucial for enhancing public well-being through digitalization in West Sulawesi.

By improving digital literacy, individuals can better utilize digital platforms for economic and social activities, ultimately improving their quality of life. To fully harness the potential of the digital economy and bridge the digital divide, several suggestions have been proposed. First, there is a need to enhance facilities and infrastructure to meet the Information and Communication Technology (ICT) needs of the people in West Sulawesi.

This includes improving internet connectivity and access to digital devices. Second, there is a need to improve digital literacy among the public, particularly among Micro, Small, and Medium Enterprises (MSME) actors. By enhancing their digital skills, MSME actors can effectively utilize

digital platforms to enhance their businesses, contributing to economic growth and job creation. Finally, achieving these goals requires collaboration between society, government, and telecommunication providers. Through coordinated efforts, it is possible to improve public welfare and ensure that the benefits of the digital economy are accessible to all. This collaborative approach is crucial for making the digital economy a catalyst for inclusive growth in West Sulawesi.

Competing Interests: Authors have no competing interests of the Research.

6. **References**

Alderete, M. V. (2019). Examining the drivers of internet use among the poor: The case of Bahía Blanca city in Argentina. Technology in Society, 59, 42–58.

Azzasyofia, M., & Adi, I. R. (2017). Pembangunan Sosial Pedesaan Melalui Pemanfaatan Teknologi Informasi Dan Komunikasi (TIK). Journal of Social Welfare, 18(2), 139–149

Bukht R and Heeks R (2017). Defining, conceptualising and measuring the digital economy. GDI Development Informatics Working Papers, no. 68. University of Manchester, Manchester.

De Carvalho, J., & Chima, F. O. (2014). Applications of structural equation modeling in social sciences research. *American International Journal of Contemporary Research*, *4*(1), 6-11.

Edna Maeyen Solomon a , Aaron van Klyton. (2020). The impact of digital technology usage on economic growth in Africa. Received 5 November 2018; Received in revised form 28 July 2020; Accepted 28 July 2020. 0957-1787/© 2020 Published by Elsevier Ltd.

Herlina Tarigan, Juni H. Sinaga, Rika R. Rachmawati. (2021). Dampak Pandemi Covid-19 Terhadap Kemiskinan Di Indonesia. Dampak Pandemi Covid-19: Perspektif Adaptasi dan Resiliensi Sosial Ekonomi Pertanian

Hidayat, Wandha Nur. 2020. Kemendikbud Gagap PJJ, Ketimpangan Pembelajaran Kian Lebar. Tersedia di https://www.validnews.id/Kemendikbud-Gagap-PJJ--Ketimpangan-Pembelajaran-Kian-Lebar-EcX (diakses pada 3 Desember 2020 pukul 01:07 WIB).

Ismail Fajar. (2021). Kesenjangan Digital Tingkat Ketiga pada Pemuda Pedesaan di Kabupaten Cianjur, Indonesia. Volume 10 Nomor 1 /Juni 2021 http://doi.org/10.31504/komunika.v9i1.4260 © 2021 Jurnal Komunika:Jurnal Komunikasi dan Informatika. Semua hak cipta dilindungi undang-undang

Izzati RA. (2020). Estimasi dampak pandemi COVID -19 pada tingkat kemiskinan di Indonesia [Internet].[diunduh2020Sep 4Tersedia dari: https://www.smeru.or.id/id/content/estimasi-dampak-pandemi-covid-19- pada-tingkat-kemiskinan-di-indonesia

Lin, J., Yu, Z., Wei, Y. D., & Wang, M. (2017). Internet Access, Spillover and Regional Development in China. Sustainability, 9(6), 946.

Risner, C., & Gadhavi, V. (2015). Using Realtime Monitoring to Enhance Graduation from Extreme Poverty in Bangladesh. IDS Bulletin, 46(2), 115–123.

Rivera, J. M., & Mora, F. G. (2020). Internet access and poverty reduction: Evidence from rural and urban Mexico. Telecommunications Policy, 45(2), 102076. https://doi.org/https://doi.org/10.1016/j.telp ol.2020.102076 Received 9 May 2020; Received in revised form 1

Ruhyana, N. F., & Essa, W. Y. (2020). Opportunities of Using Information and Communication Technology in Reducing Poverty. JEJAK: Jurnal Ekonomi Dan Kebijakan, 13(2), 319–329.

Suryahadi A, Izzati RA. Suryadarma D. (2020). The impact of Covid-19 outbreak on poverty: an estimation for Indonesia. Bull Indones Econ Stud. 56(2):175- 192. doi:10.1080/00074918.2020.1779390.

Sharifah Rohayah Sheikh Dawood, Suriati Ghazali and Narimah Samat. (2019). Digital Divide and Poverty Eradication in the Rural Region of the Northern Peninsular Malaysia.

Indonesian Journal of Geography Vol. 51 No. 2, August 2019 (172 - 182) DOI: http://dx.doi.org/10.22146/ijg.37758

Tong, C.M.N., Wohlmuth, K., 2019. Science, technology and innovation (STI) policies in Africa and human skills development – an introduction. In: African Development Perspectives Yearbook, vol. XXI. LIT Verlag GmbH & Co, pp. 3–46.

Wardhana, A., Kharisma, B., & Lisdiyanti, T. (2020). Teknologi Informasi Komunikasi Dan Pertumbuhan Ekonomi Wilayah Barat Dan Timur Indonesia Periode 2014-2018. E-Jurnal Ekonomi Dan Bisnis Universitas Udayana, 9(11), 1103–1116.

Zia Qureshi. (2019). Work In The Age Of Data. Inequality in the Digital Era by Zia Qureshi

Abbassi, A., & Singh, R. N. (2006). Assertiveness in Marital Relationships Among Asian Indians in the United States. The Family Journal, 14(4), 392–399. https://doi.org/10.1177/1066480706290961

Abdillah, Willy dan Jogiyanto. (2015). Partial Least Square (PLS) Alternatif Structural Equation Modeling (SEM) dalam Penelitian Bisnis. Ed.1. Yogyakarta: ANDI

Adler, Ronald. Rodman, George. (2011). Understanding Human Communication. T.tp.

Hair, et al, 2014, Multivariate Data Analysis, New International Edition., New Jersey : Pearson

Ghozali, Imam. *2009*. "Aplikasi Analisis Multivariate dengan Program SPSS ". Semarang : UNDIP.

Spulbar, C.; Anghel, L.C.; Birau, R.; Ermiș, S.I.; Treapăt, L.-M.; Mitroi, A.T. Digitalization as a Factor in Reducing Poverty and Its Implications in the Context of the COVID-19 Pandemic. *Sustainability* **2022**, *14*, 10667. https://doi.org/10.3390/su141710667

Sugiyono. Metode Penelitian Bisnis. (2014). Bandung: Alfabeta.

Malhotra. (2010). Marketing Research: An Applied Orientation. (6th ed). USA: Pearson Education Inc.

Murphy, H. ., Nursini, S Suhab, & Niswar, M. . (2024). The Impact of Economic Digitalization and the Digital Divide on Community Welfare in West Sulawesi Province . *Migration Letters, 21*(5), 1–20. Retrieved from https://migrationletters.com/index.php/ml/article/view/8646

Lythreatis, S., Singh, S. K., & El-Kassar, A. N. (2022). The digital divide: A review and future research agenda. *Technological Forecasting and Social Change*, *175*, 121359.

Vassilakopoulou, P., Hustad, E. Bridging Digital Divides: a Literature Review and Research Agenda for Information Systems Research. Inf Syst Front 25, 955–969 (2023). https://doi.org/10.1007/s10796-020-10096-3