

## MEASURING DIGITAL LITERACY AMONG MSMES IN INDONESIA: STUDY CASE FROM PONTIANAK CITY

Arninda<sup>1</sup>, Darusman<sup>2</sup>, Fathia Alya Supandih<sup>3</sup>  
[arninda@unmuhpnk.ac.id](mailto:arninda@unmuhpnk.ac.id)<sup>1</sup>, [darusman@unmuhpnk.ac.id](mailto:darusman@unmuhpnk.ac.id)<sup>2</sup>,  
[221330004@unmuhpnk.ac.id](mailto:221330004@unmuhpnk.ac.id)<sup>3</sup>

Universitas Muhammadiyah Pontianak

### Abstrak

Studi ini bertujuan untuk mengukur tingkat literasi digital di kalangan pemilik usaha di Indonesia, khususnya di wilayah yang dinamis di Kota Pontianak. Sampel diambil terutama dari kategori usaha UMKM non-formal karena mereka merupakan bagian terbesar dari kategori kepemilikan usaha di wilayah tersebut. Dengan menggunakan penelitian kualitatif deskriptif melalui metodologi grand mean, studi ini menemukan bahwa tingkat literasi digital di kalangan UMKM Kota Pontianak dikategorikan kedalam kelompok menengah atas. Selain itu, temuan ini menyarankan kepada pihak berwenang dan pemangku kepentingan terkait untuk peningkatan program-program, guna meningkatkan tingkat literasi digital di kalangan pemilik UMKM di wilayah tersebut untuk mendorong pertumbuhan bisnis yang pada akhirnya akan mengarah pada pertumbuhan ekonomi yang lebih tinggi.

**Kata Kunci:** Literasi Digital, UMKM, Usaha Non-Formal, Bisnis Digital.

### Abstract

*This study aims to measure the level of digital literacy among business owners in Indonesia particularly in the vibrant region of Pontianak City. Samples are taken primarily from non-formal MSMEs category of business as they make up the largest share of business ownership category in the region. Using descriptive qualitative research through grand mean methodology, this study finds that the level of digital literacy among MSMEs in Pontianak is categorized into upper middle group. Furthermore, this finding suggests the authorities and related stakeholders to intensify programs to enhance the level of digital literacy among MSMEs owners in the region in order to spur business growth which will eventually lead to higher economic growth.*

**Keywords:** Digital Literacy, MSMEs, Non-Formal Business, Digital Business.

## **1. INTRODUCTION**

The rapid changes in people's consumption behavior resulting from the process of technological and information advancement require business actors to adapt in order to survive and progress in modern context (Bintariningtyas et al., 2021). Business owners are required to understand various new skills and knowledge, one of which is understanding the function and use of digital technology to serve consumers, increase sales as well as increasing the overall performance of the business (Farhan et al., 2022). Adopting science and technology is vital to achieving success for businesses, particularly MSMEs, in maintaining their establishment and increasing income by targeting new market (Firmansyah & Saepuloh, 2022). Therefore, literacy in digital context is no longer an option, yet is a must for every entrepreneurs.

Digital literacy among business owners are critical to mitigate uncertainty as well as increasing their productivity (RVSPK et al., 2020). However, studies on the level of technological literacy among business owners particularly non-formal MSME entrepreneurs in Indonesia are still rarely conducted. Moreover, these non-formal business actors are often underestimated because they are inefficient, the scale of their business are relatively small to measure as well as difficult to level-up the business (Tambunan, 2013). Despite of its relative small in scale, from the perspective of the volume, this category of business ownership is significantly high in Indonesia particularly in Pontianak City (Dinas Koperasi dan UKM Provinsi Kalimantan Barat, 2023). Thus, the potential of encouraging business actors in this sector is vital to contribute to the economy as a whole and is important to be explored deeper.

It is not uncommon for many of these non-formal micro businesses to shut down or forced to change the type of product to sell as well as to move the place of doing business because they cannot survive in the tight market competition. This is caused by various factors including inability to adapt to changes and unable to integrate the business into digital system (Hervé et al., 2021). Furthermore, the level of digital literacy among micro business owners has never been measured. Thus, measuring the level of digital literacy among micro entrepreneurs is very critical as the basis of further study to solve the problems facing MSMEs in Indonesia particularly in the micro category.

## **LITERATURE REVIEW**

### **Concept of Digital Literacy**

In today's rapidly evolving global landscape, the concept of digital literacy has emerged as one of the most important skill sets for entrepreneurs of all backgrounds (Firmansyah & Saepuloh, 2022). It is defined as the ability to implement technology into labor which includes technical skill, online and offline cognitive as well as socio-emotional perspective of learning (Wardana et al., 2023). As we become increasingly reliable on technology, digital literacy has transcended its eminence from a mere practical ability into a fundamental part of modern lives (Tyner, 2014). Nevertheless, digital literacy concept is more than just the capability to function digital devices and operate software, yet it also includes significant proportion of motor, cognitive, emotional and sociological skills which required by users to essentially function in digital environment. Other researchers define the concept as the ability utilize information and communication technology to discern, create, evaluate and communicate informations and contents with technical and cognitive skills (Wibowo, 2021).

Digital literacy is not limited to a specific group or profession, it is rather a lifelong learning process that adapts to the fast evolving digital landscape (Hasmiah et al., 2021). In the context of business, digital literacy can be seen as the level of understanding and mastery of technology and information by business actors. This is measured through several variables based on Gilster's theory of digital literacy, the first founding theory in digital literature, which include knowledge assembly, internet searching, content evaluation, and hypertextual navigation. These variables become the basis to determine the level of digital literacy among MSME players, especially for non-formal micro businesses, to get a comprehensive picture (Onwubuya & Odogwu, 2023). Through analyzing these core competencies, researchers can assess the digital literacy level of non-formal MSMEs in Indonesia, particularly in the region of Pontianak City.

### MSMEs in Pontianak City

The roles of MSMEs to promote development and economic growth have been long addressed by researchers around the world (Gade, 2018). Multiple different studies have found that MSMEs have been positively impacting both developing and developed countries by spurring their economics for decades (Mpi, 2019). They also play significant roles in increasing income per capita, thus progress the overall economic wellbeing in the region (Juminawati et al., 2021). Furthermore, MSMEs also can alleviate poverty as well as reduce poverty gap among the population which describe how vital they are to achieve welfare state (Nursini, 2020).

Classification of micro, small and medium enterprises (MSMEs) vary among countries in the world. In China, a business is categorized into MSMEs if it employes 20 or less labor (Liu, 2013). Meanwhile in Australia, a business is categorized into MSMEs group if it has equal to or less than 200 employes and annual income of \$200 million or less (Rola-Rubzen). In the context of European Union, MSMEs are defined as any businesses operating with 250 employess or less and has annual income of maximum EUR 50 million (Dambiski, 2021). In Indonesia, the characteristic of these type of business can be seen from the table below as defined by the Ministry of Cooperation, Micro, Small and Medium Enterprises of the Republic of Indonesia (Undang-Undang Republik Indonesia Nomor 20, 2008):

Table 1. Business Classification According to Minsitry of Cooperatives and MSMEs

Type of Business	Classifications
Micro-Business	a) have a net worth of a maximum of IDR 50,000,000.00 excluding land and buildings for business premises; or b) have annual sales proceeds of a maximum of IDR 300,000,000.00
Small Business	a) have a net worth of more than IDR 50,000,000.00 up to a maximum of IDR 500,000,000.00 excluding land and buildings where the business is located; b) have annual sales proceeds of more than IDR

	300,000,000.00 up to a maximum of IDR 2,500,000,000, 00
Medium Business	a) have a net worth of more than IDR 500,000,000.00 up to a maximum of IDR 10,000,000,000.00 excluding land and buildings for business premises; or b) b) has annual sales proceeds of more than IDR 2,500,000,000.00 up to a maximum of IDR 50,000,000,000.00

Source: UU RI Nomor 20 (2008)

Meanwhile Central Bureau Statistic of the Republic of Indonesia (Tambunan, 2019) classify MSMEs based on the number of labor they employ which can be seen by the table below:

Table 2.  
BPS RI Classification of MSMEs

Type of Business	Number of Employee
Micro-Business	0-4
Small Business	5-19
Medium Business	20-99

Source: BPS RI (2008); Tambunan (2019)

According to the official definitions above, micro-scale business is defined as an individual or entity that generates income of less than 300 million per year with a number of employees under 5 people. The population of this type of business in Indonesia reaches 99% of the total business ownership across the country (Tambunan, 2019). In Pontianak City, as the subject of research, this number reaches 95% of the total business ownership in the city's administrative area (Dinas Koperasi dan UKM Provinsi Kalimantan Barat, 2023). This significant figure illustrates how vital the position of these entrepreneurs is to move the wheels of the economy and contribute greatly to national economic growth. Based on the official data from the West Kalimantan Province Cooperatives and MSMEs Service (Dinas Koperasi dan UKM Provinsi Kalimantan Barat, 2023), the number of MSMEs in 14 city and districts in the West Kalimantan Province region reaches 197,022 business ownerships, of which 168,989 businesses are classified into micro-scale businesses. Pontianak City, as the scope of the research, has a total of 39,697 micro-scale businesses. Of this number, only 2,825 businesses were recorded as having risk-based permits (NIB). This shows how big the roles this category of business play to the economic development in the region.

## 2. METHOD

This research employs descriptive analysis method in testing and interpreting research samples. The descriptive method is a method that functions to describe or provide an overview of the object under study through data or samples that have been collected as they are without carrying out analysis and making conclusions that

apply to the general public (Sugiyono, 2014). The research was conducted to provide a precise and accurate picture in determining the level of digital literacy of non-formal sector micro businesses in Pontianak City. Data collection uses a purposive sampling method with spesific dimensions:

- Micro scale businesses operating in the administrative area of Pontianak City.
- Businesses that are still actively selling in the last 3 months.
- Businesses that own no official permission to operate by the local government.
- Sole ownership.

This research employs descriptive research methodology based on survey of respondents where the research results can provide accurate picture of literacy levels of non formal MSMEs business owners in Pontianak City. The population in this research is determined using Ferdinand's method which uses of total 100 samples. This method is employed because of the number of population can rapidly changes due to low level of barrier to entry and easy to exit the market (Wibowo, 2021). Research is conducted on non-formal micro business entrepreneurs in Pontianak City administrative area. The data collection and analysis technique used is by semi structured interview. Respondents answered questions given by researchers to measure the level of digital literacy skills using Gilster's digital literacy competencies. Then, it was analyzed using descriptive analysis method to find the result using mean and grand mean formulas. The mean is used to calculate the average value of a variable while the grand mean is used to calculate the total average. Apart from calculating the average, the next technique is to tabulate the data into a table and calculate the percentage. Then it is interpreted into an explanatory sentence based on the table category below which was determined through the grand mean result of each indicator in the scale of 0.8 as followed:

Table 3.  
Digital Literacy Classifications

No	Score	Category
1	4,11 - 5	High
2	3,41 - 4,1	Upper Middle
3	2,51 - 3,4	Middle
4	1,81 - 2,5	Lower Middle
5	1,0 - 1,8	Low

### 3. RESULTS AND DISCUSSION

#### Demographic

The presentation of data regarding the respondent's demographic is to provide an overview of the respondent's identities. The description of the respondents who are sampled in this study are classified based on age, gender, level of education, and gross daily income. The results are presented more spesifically as follow:

#### Characteristic of Respondents Based on Age

Respondents of this study are found to be varied. Majority of the respondents are aged between 21-30 years old by 35%, followed by 41-50 years old and 20 years old or lower with 23% and 19% respectively. The complete demographic of respondents based on age can be seen by the table below.

Table 4.  
Respondents Characteristic

Age (y.o)	Frequency	Percentage (%)
≤ 20	19	19%
21 - 30	35	35%
31 - 40	13	13%
41 - 50	23	23%
>50	10	10%
<b>Total</b>	<b>100</b>	<b>100%</b>

Source: Research Result (2023)

### Characteristic of Respondents Based on Gender

Majority of respondents surveyed in this study are male entrepreneurs by 54%, while 46% of respondents are female entrepreneurs.

Table 5. Respondents Characteristic

Gender	Frequency	Percentage (%)
Male	54	54%
Female	46	46%
<b>Total</b>	<b>100</b>	<b>100%</b>

Source: Research Result (2023)

### Characteristic of Respondents Based on Education

Based on the primary data collected, 85% of the respondents go through senior high school education or lower and only 15% possess diploma and bachelor degree as shown by the table below:

Table 6. Respondents Characteristic Based on Education

Education	Frequency	Percentage (%)
Elementary School	16	16%
Junior High School	23	23%
Senior High School	46	46%
Diploma Degree	2	2%
Bachelor Degree	13	13%
<b>Total</b>	<b>100</b>	<b>100%</b>

Source: Research Result (2023)

### Characteristic of Respondents Based on Daily Gross Income

Based on the primary data collected, 89% of respondents generate IDR 2 million or lower of daily gross income which majority of them generate less or equal to IDR 500,000 daily. The complete gross income of the respondents can be seen by the table below:

Table 7. Respondents Characteristic

Based on Daily Gross Income

<b>Gross Daily Income (IDR)</b>	<b>Frequency</b>	<b>Perscentage (%)</b>
≤ 500.000	52	52%
600.000 - 2.000.000	37	37%
2.100.000 - 3.500.000	5	5%
3.600.000 - 5.000.000	2	2%
>5.000.000	4	4%
<b>Total</b>	<b>100</b>	<b>100%</b>

Source: Research Result (2023)

### Digital Literacy Result

This study finds the average score of all variables used in this study such as internet searching (X1), Hypertextual Navigation (X2), Content Evaluation (X3) and Knowledge Assembly (X4) as presented by the table below:

Table 8. Digital Literacy  
Variables's and Indicators' Result

<b>Variabel</b>	<b>Indicator</b>	<b>Value</b>	<b>Category</b>
<i>(Internet Searching)</i> (X <sub>1</sub> )	I use the internet every day	4,83	High
	I have the ability to search for information using a search engine	3,92	Upper Middle
	I am able to use Google Chrome/ Mozilla Firefox/ Internet Explorer to search for information sources for business purposes	3,81	Upper Middle
<b>Mean</b>		<b>4,18</b>	<b>High</b>
<i>(Hypertextual Navigation)</i> (X <sub>2</sub> )	I often search for information via the internet	4,67	High
	I use the internet to improve my business	4,02	Upper Middle
	I am able to use information search techniques such as using keywords or	3,75	Upper Middle

	filters when searching for information		
<b>Mean</b>		<b>4,14</b>	<b>High</b>
<i>(Content Evaluation)</i> (X <sub>3</sub> )	Of the many websites that show information, I know how to choose which one is correct	3,32	Middle
	I know the different types of websites on the internet such as blogs, social media and scientific articles	3,19	Middle
	I can deepen the information further than the initial information obtained via the internet	3,61	Upper Middle
<b>Mean</b>		<b>3,37</b>	<b>Middle</b>
<i>(Knowledge Assembly)</i> (X <sub>4</sub> )	I can distinguish the source of information obtained (trustworthy or not)	3,64	Upper Middle
	I can cross check/double check information obtained via the internet	3,37	Middle
	I can use the internet to communicate with the community/experts in the business field	3,91	Upper Middle
<b>Grand Mean</b>		<b>3,64</b>	<b>Upper Middle</b>

Source: Research Results (2023)

**Internet Searching (X1)**

Internet searching variable is found to be the highest among four indicators in this study. Average 4.83 respondents say that they utilize internet in daily basis, while



3.92 respondents confident with their ability to find information in the internet and 3,81 respondents indicate the ability to use browser to find intended information. These results indicate the level of internet searching variable to be in high category.

#### **Hypertextual navigation (X2)**

Hypertextual navigation variable suggests that respondents are in the category of high group where the sub-variable of intensity of internet use is the highest with average score of 4.67, followed by the use of internet for business purposes with 4.02 and the ability to use keywords to find information with 3.75. These findings indicate that the level of digital literacy among entrepreneurs in the region within the category of upper middle.

#### **Content Evaluation (X3)**

The ability to evaluate the contents from the internet is found to be in the middle group category. The sub-variable to determine the validity of information and to differentiate information sources are found to be medium with average score of 3.32 and 3.19 respectively, while the confidence to find deeper information about intended information to be in the upper middle group with average score of 3.61.

#### **Knowledge Assembly (X4)**

The sub-variables of ability to validate information and ability to use internet to communicate with expert are found to be in the category of upper middle with average score of 3.64 and 3.91 respectively. While the ability to double check information gained from the internet is found to be in the medium category with average score of 3.37. These findings show that respondents' ability to construct relevant knowledges to spur their business are considered in the upper middle category.

#### **Overall Digital Literacy Level (Y)**

Using the grand mean methodology, the result confirms that the level of digital literacy among MSMEs in Pontianak City is categorized into upper middle group with 3.64 score. It can be explained through shifting behavior of the entrepreneurs in the region from the old fashion ways where the internet has become part of their daily activities. Furthermore, better infrastructure of information technology in the region as compared to neighboring rural areas has become one of the reasons of the findings in this research. Despite of its relatively better literacy, however it does not imply better business performance compared to rural entrepreneurs with less infrastructure of IT in other region.

### **CONCLUSION**

This study fulfills the purpose of the study which is to measure the MSMEs level of digital literacy in Indonesia, particularly in Pontianak City. The result confirms the level of digital literacy in the region is categorized in into upper middle group. However, due to limited funding to conduct a more comprehensive study and to collect larger samples from other regions, researchers suggest to conduct further study to offer deeper insight into more diverse environment. The result from this study only measure the level of digital literacy among micro-businesses category represent the majority of business ownership in the region. Thus, collecting sample from all categories of MSMEs as well as other city is strongly encouraged. In addition, this study does not explore the causation relationship between digital literacy and the increase of sales among entrepreneurs. Therefore, conducting further study to find the relationship between digital literacy and increase sales is highly potential to be explored.

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