



ISSN: 0975-833X

Available online at <http://www.journalcra.com>

INTERNATIONAL JOURNAL  
OF CURRENT RESEARCH

International Journal of Current Research  
Vol. 11, Issue, 05, pp.3723-3732, May, 2019

DOI: <https://doi.org/10.24941/ijcr.35192.05.2019>

## RESEARCH ARTICLE

### SMALL BUSINESS USE OF THE INTERNET IN INDONESIA: FINDINGS FROM SECONDARY AND PRIMARY DATA

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#### ARTICLE INFO

##### Article History:

Received 24<sup>th</sup> February, 2019  
Received in revised form  
04<sup>th</sup> March, 2019  
Accepted 05<sup>th</sup> April, 2019  
Published online 30<sup>th</sup> May, 2019

##### Key Words:

Micro small and medium enterprises (MSMEs), Micro Small Enterprise (MSE), Micro Enterprise (MIE), Internet.

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Citation: Tulus Tambunan. 2019. "Small Business Use of the Internet in Indonesia: Findings from Secondary and Primary Data", *International Journal of Current Research*, 11, (05), 3723-3732.

#### ABSTRACT

This paper is based on a study which aims to explore the use of the Internet by micro and small enterprises (MSEs) in Indonesia. More specifically, it addresses the following four research questions. First, how many MSEs in Indonesia use the Internet for their businesses? Second, does the intensity of Internet usage by MSEs vary by business, region, age and education of the owners? Third, is the profit or income earned by MSEs that use the Internet greater than that earned by MSEs that do not use it? Fourth, what are the main reasons of MSEs that do not use ICT? As an exploratory investigation, it adopts a descriptive analysis. It analyses secondary data obtained from official government publications and primary data collected from interviews with randomly selected 482 owners of MSEs in various cities and types of businesses. The interviews took place in 2018. The study results show that as many as 563 thousand MSEs, or only about 2.14 per cent of total MSEs in Indonesia, have utilized the internet media; although it varies by province and type of business. From the analysis of primary data, it reveals three important findings. First, manufacturing industry is the type of business with the most Internet usage. Second, young and high educated respondents use the Internet more than older and low educated respondents. Third, about 36.9 % of the sample do not use the Internet for various reasons such as (i) no need, (ii) lack of knowledge about the internet, and (iii) lack of capital. The novelty of this research is that it is the only extensive research in Indonesia on MSMEs use of the internet with secondary and primary data.

## INTRODUCTION

It is undeniable that information and communication technology (ICT) has changed many things in the business. It not only has changed the way businesses communicate to each other or deal with their customers, distributors and suppliers but also through digital marketing or e-commerce it has changed the way they promote and sell their products or purchase their raw materials. Digital Marketing has now become the trend in targeting both current and prospective customers. Most people now have daily access to the Internet; via computers, laptops or smartphones. Social media is one of the best channels of online marketing, and Instagram is one of the fastest growing platforms available today (Balakrishnan and Boorstin, 2017). More and more businesses are eager to establish a strong presence on this network and encourage their prospects' engagement. To be able to survive in this new business environment all companies including micro, small and medium enterprises (MSMEs) are pushed to adopt this technology. Sooner or later, MSMEs which do not adopt this new technology and business practice will be displaced by their competitors and abandoned by their customers (Ahmada *et al.*, 2015; Azam and Quaddus, 2009a,b; Bakos and Brynjolfsson, 2000; Barry and Milner, 2002).

Governments in many countries have given considerable attention to the utilization of ICT, particularly the adoption of e-commerce, by MSMEs by issuing policies and regulations to assist them to adopt this technology. In Indonesia, in the past few years the government has taken many measures to encourage or to support MSMEs to use ICT in running their business. The measures include providing trainings for MSMEs in utilizing such as facebook, Instagram and other application systems, and to create their own websites to promote and market their goods and services; creating a special web portal (SMESCO Trade) by the Ministry of Cooperatives and Small Medium Enterprise (SME) that all MSMEs can use it for marketing their products; and issuing various regulations to provide a sense of security for business actors in utilizing ICT such as e-commerce for marketing and internet banking for financial transactions. Given the above background, a study which this paper is based on was conducted to explore the use of the Internet by micro and small enterprises (MSEs) in Indonesia. More specifically, the study aims to address the following four research questions. First, how many MSEs in Indonesia use the Internet for their businesses? Second, does the intensity of Internet usage by MSEs vary by business, region, age and education of the owners?.

Third, is the profit or income earned by MSEs that use the Internet greater than that earned by MSEs that do not use it? Fourth, what are the main reasons of MSEs that do not use the internet?

**Literature Review:** As the competition faced by MSMEs become increasingly tight, it is vital for these enterprises to use modern technologies, including ICT as among their sources of competitive advantages. There are many indications from various sources that in the past decade more and more MSMEs utilised ICT or adopting e-commerce; although still many more MSMEs, especially MIEs, which do not/have not (yet) utilised this technology in running their business activities for various reasons. In accordance with this development, Internet use, especially e-commerce, among these enterprises has recently become a popular topic for researchers not only in the fields of MSMEs but also in electronic business, information management, information systems and entrepreneurship; though research investigating the adoption of e-commerce by MSMEs is still small in number. Some of these studies also made a good summary of the findings from previous studies.

The literature can be grouped into two categories, namely studies that focus on main factors that influence the decision of MSMEs to utilize ICT or the Internet, and studies that give more attention on the benefit of utilising ICT and applications to support their business activities. From the first group (determinant factors), recent articles are including from Blackburn and Athayde (2000), Fallon and Moran (2000), Matlay (2000), and Riquelme (2002) who conclude that type of business or sector and size and characteristics of enterprises are the most decisive factors for a company to use the Internet. Others such as Poon and Swatman (2005), Chong and Pervan (2007), Shih (2008), Poorangi and Khin (2013), Ahmada, *et al.* (2015), and Rahayu and Day (2015) mention many factors that have strong influences a company's decision to utilize the internet or to adopt e-commerce in selling their products, which include perceived relative advantage, organisational compatibility, and benefits; firm owner's or manager's strategic vision; a company's level of innovativeness; ICT knowledge, expertise, experience, and willingness of company leaders or managers to utilize ICT as well as to adjust the way they do businesses to the requirements related to the utilisation of ICT; business planning; organisational complexity; government policies; availability of skilled labor in ICT and software/hardware vendors; and pressures from trading partners, customers and competitors.

Neale, *et al.* (2006), Saffu, *et al.* (2008), Azam and Quaddus (2009b) and Poorangi, *et al.* (2013) found that besides perceived organisational compatibility, relative advantages and organisational complexity, trialability, observability, and company's culture are also important determinant factors of e-commerce adoption by small businesses. Whereas, in studies conducted by such as Migiro (2006), Jones, *et al.* (2011), Zaied (2012), it reveals that resources, i.e. capital to finance related costs (e.g. training of employees, organizational change, investment in tools and others), and human resources, especially technical know-how/expertise; and internet security or trust to use online transactions are the main decisive factors for a company to utilise the Internet in marketing its products and purchasing raw materials. In Indonesia, only one study has been conducted until recently by Rahayua and Daya (2015), who have conducted a survey of more than 200 owners/managers of MSMEs in 2015.

In their study, MSMEs refers to a business which has less than 100 employees, assets less than 10 billion rupiah and total sales per year below 50 billion rupiah. Based on their finding, they concluded that the adoption of e-commerce by MSMEs in Indonesia is affected by several factors which are perceived benefits, technology readiness, owners' innovativeness, owners' ICT experience and owners' ICT ability. Their findings also show that the individual factors play a significant role in adopting e-commerce technology by MSMEs in Indonesia. From the second group (benefits), according to such as Daniel, *et al.* (2002), Migiro (2006), Lai (2007), Azam and Quaddus (2009a), Hunaiti, *et al.* (2009), Standing, *et al.* (2010), Farhad, *et al.* (2011), and Savrula, *et al.* (2014), using the Internet provides benefits for companies in various forms such as improves productivity, efficiency and competitiveness; increases ability to operate in international markets; provides a tool for providing cost-effective ways to market their products and launch new products; streamlining of business processes; market expansion; and creates value added, new services and new business models.

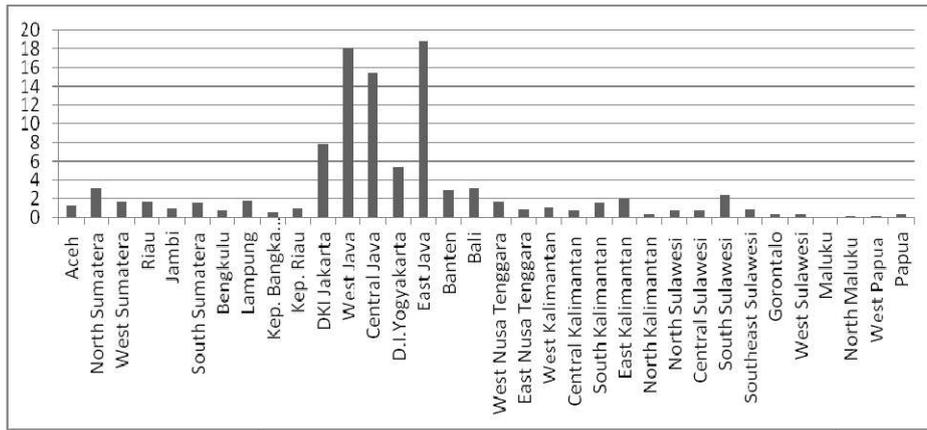
By using the internet, a company also improves or accelerates its communications with suppliers, distributors, trading partners, consumers, creditors and others. It also gathers information and identifies potential business partners, new suppliers and new customers easier and faster. Additionally, others such as Neale, *et al.* (2006), and Poorangi, *et al.* (2013) found that using the internet also provides internal and external process integration; makes closer relationships with customers, suppliers, trading partners, and other important stakeholders; and increases the expertise for growth and development of business.

## RESEARCH METHOD AND SOURCES OF DATA

As an exploratory research, it adopts a descriptive analysis. It analyses secondary and primary data. The secondary data were obtained from two sources, namely (i) national data on development of MSMEs in all sectors for the period 1997-2017 from the Ministry of Cooperative and SME (online data), (ii) national data 2016 on the internet usage by MSEs in all sectors from the National Agency of Statistics (Indonesia's Economic Census 2016), and (iii) national data 2017 on MSE in the manufacturing industry (Profile of Micro and Small Industries 2017). The primary data were collected from face-to-face interviews with randomly selected 482 owners of MSEs in various cities, including Jakarta (the Capital), and types of businesses, such as trade, manufacturing, and services. The interviews took place in 2018.

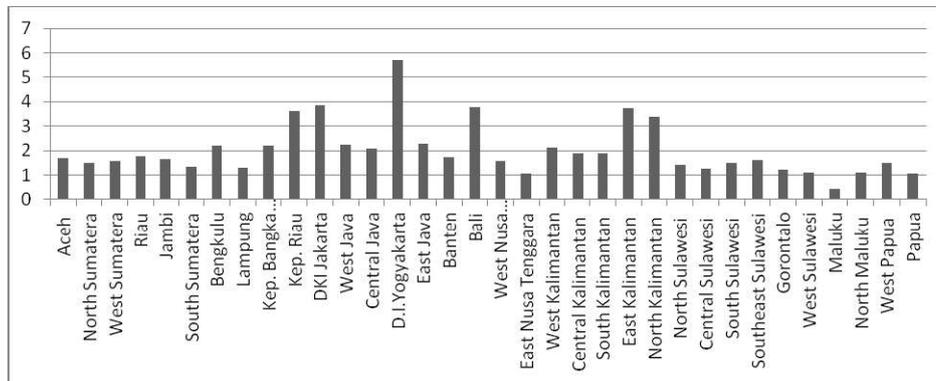
## RESULTS AND DISCUSSION

**Evidence from Secondary Data:** In Indonesia, despite the rapidly growing Internet media, the number and percentage of MSEs that have utilised the Internet are still very low. According to the 2016 Economic Census, only as many as 563 thousand enterprises or about 2.14 % of total MSEs in Indonesia have utilised the Internet media for their business activities (BPS, 2017). Until now there are very few published papers or reports, either based on field surveys or observations, on the utilisation of ICT by MSMEs in Indonesia that can explain why the use of the Internet by MSEs in the country is still very low. According to Julianto (2016), there are various obstacles faced by the Indonesian government (the State



Source: BPS (2017).

Figure 1. Percentage distribution of total MSEs using internet by province, Indonesia, 2016



Source: BPS (2017).

Figure 2. Percentage of MSEs using internet per province, Indonesia, 2016

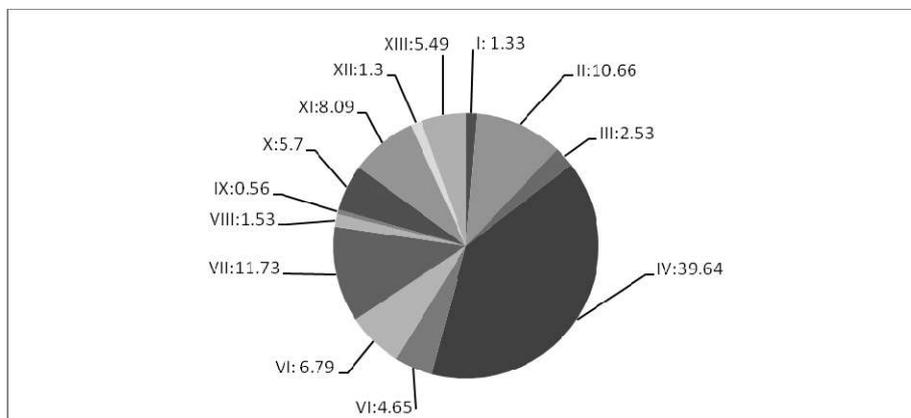


Figure 3. Distribution of MSEs using internet by type of business, 2016

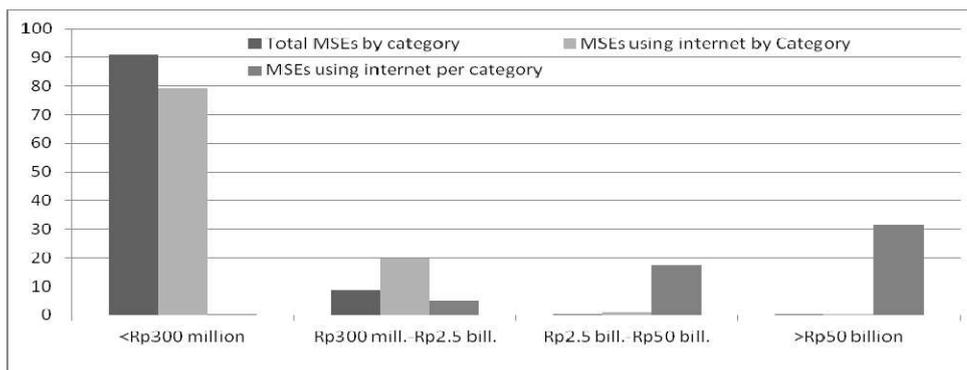


Figure 4. Total MSEs, MSEs using internet and category of revenues, Indonesia, 2016

Table 1. Number of MSEs in the Manufacturing Industry that Use the Internet by Group of Industry, 2017

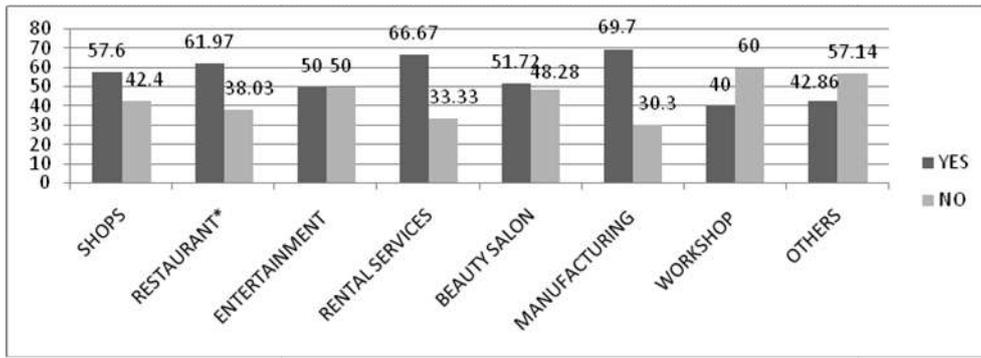
KBLI*	Group of industry	Number	Also export (%)	Using internet (%)
10	Food	1538117	0.14	4.85
11	Drinks	134266	0.001	5.82
12	Tobacco processing	185494	0.03	1.05
13	Textile,	283266	0.13	6.83
14	Apparel	554003	0.27	12.95
15	Leather, leather goods, and footwear	76273	0.50	15.71
16	Wood and articles of wood and cork (excluding furniture), plaited goods of rattan, bamboo and the like	608342	0.23	3.10
17	Paper, paper items and the like	6642	0.06	17.84
18	Publishing, printing and reproduction of recording media	44872	0.14	51.06
20	Chemicals and chemicals	38801	0.89	4.05
21	Pharmacy, chemical drug products and traditional medicine	16044	2.42	8.70
22	Rubber, rubber and plastic goods	30066	0.03	13.00
23	Non-metal excavation	325233	0.12	4.84
24	Base metal	9375	2.09	9.77
25	Metal goods not machines and equipment	184455	0.55	16.63
26	Computers, electronic and optical goods	1305	0	28.81
27	Electrical equipment	1331	0	11.57
28	YTDL machines and equipment (which are not included)	2266	0	22.77
29	Motorized vehicles, trailers and semi trailers	2081	5.00	23.07
30	Other transportation equipment	10969	0.02	26.94
31	Furniture	180565	1.03	13.76
32	Other processing	224226	1.10	6.70
33	Repair and installation services for machines and equipment	6736	0	6.89
	Total	4464688	0.29	7.38

Table 2. Profile of the Respondents

Description	Persons
Total respondents:	482
• Jakarta	303
• Tangerang	73
• Bekasi	37
• Depok	19
• Bogor	13
• Indramayu	7
• Bandung	3
Nias, Cibubur, Kerawang, Serang, Cikarang, Cibinong, Serui	each 2
Age group:	
• ≤30	139
• 31-50	257
• 51-65	77
- ≥66	9
• Gender:	
• Male	323
• Female	159
• Education	
• High school or lower	257
• Academy	38
• University	187
Type of business:	
• shop	208
• restaurant	141
• manufacturing	33
• rental services	29
• workshop	28
• beauty salon	18
• entertainment services others	4
	21

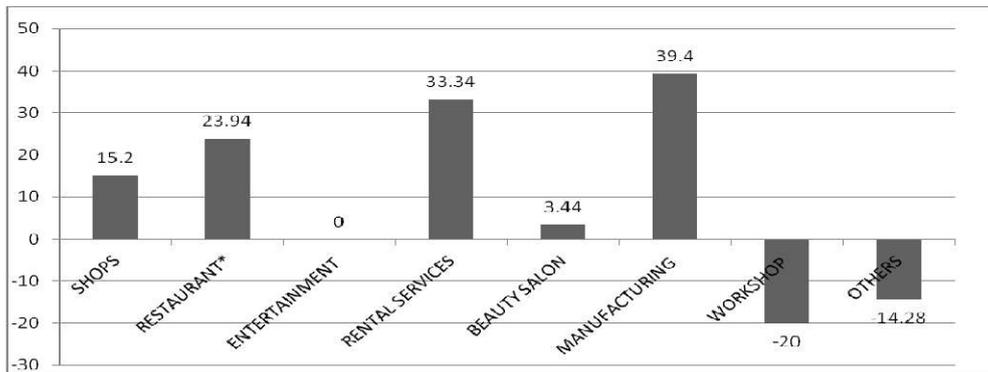
Ministry of Cooperative and Small Medium Enterprise) in encouraging MSEs owners to utilise ICT, which include their low understanding of this kind of technology, their mindset which is not in favour of using Internet in doing their businesses, and their lack of knowledge on how to operate this technology. Especially MSEs located in rather isolated/rural areas; many of them are unfamiliar with the online marketing system. Therefore, they prefer to do marketing with conventional methods, by utilising the distribution networks that they have been using for a long time or involving many distributors who have long been their customers. Based on the 2016 Economic Census, the distribution of MSEs using the Internet by province, as depicted in Figure 1, shows that

Internet use for businesses are done mainly from Java island. Provinces in Java with the highest proportion of MSEs using the Internet are East Java with around 18.72 % of all MSEs using the Internet in Indonesia, followed by West Java and Central Java with, 18.11 % and 15.41 %, respectively. While, outside the Java Island, especially in the eastern region, the percentage is much lower. Provinces that have the lowest percentage in this region are Maluku with only 0.12 %, North Maluku with 0.16 %, and West Papua 0.19 %. The percentage distribution by province shown in Figure 1 is in line with the fact that the number of MSEs in the eastern region, as well as the region's share in the national GDP, is much lower than that in the western region, especially in Java Island, where the



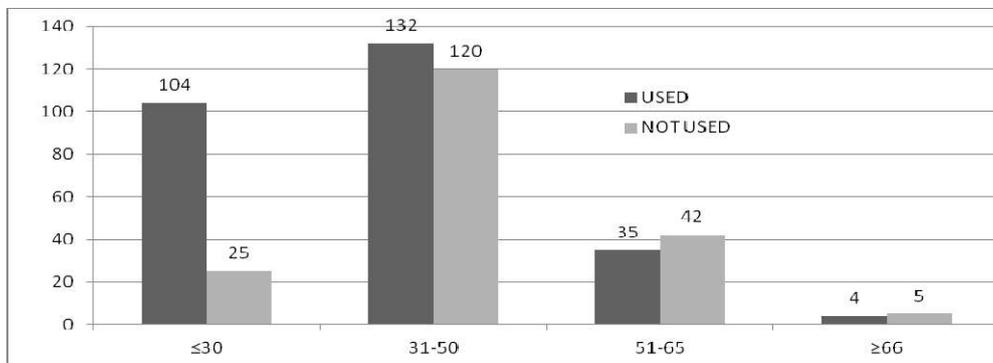
Note: \* including catering and cafes.  
Source: field survey, 2018

Figure 5. Gross Intensity of Internet Usage of the Respondents by Type of Business, 2018 (%)



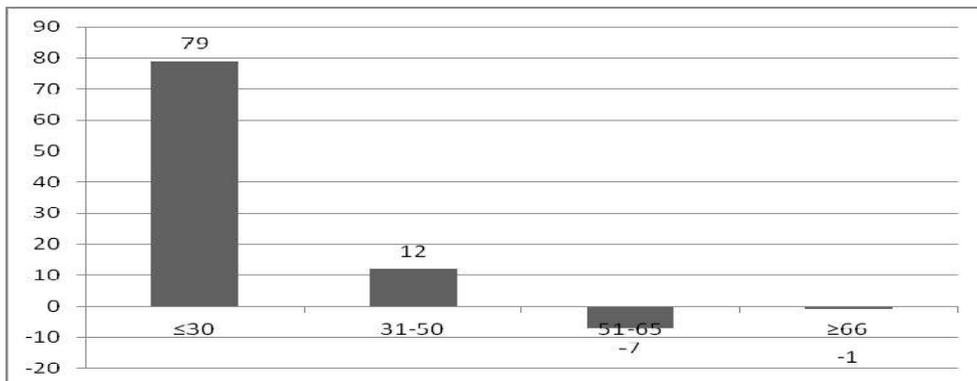
Note: \* including catering and cafes.  
Source: field survey, 2018

Figure 6. Net Intensity of Internet Usage of the Respondents by Type of Business, 2018 (%)



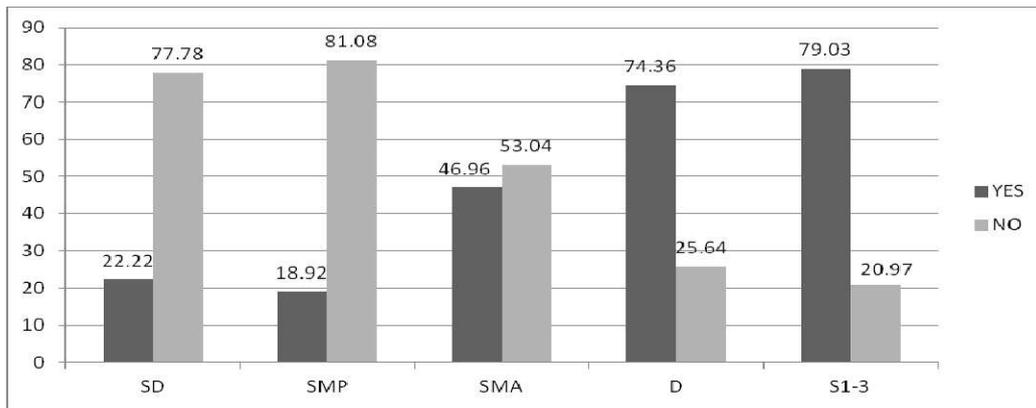
Source: field survey, 2018

Figure 7. Gross Intensity of Internet Usage of the Respondents by Age, 2018 (no. of respondents)



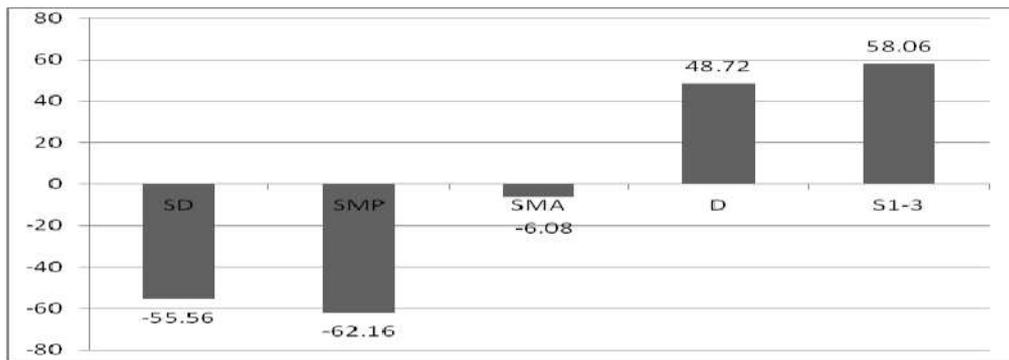
Source: field survey, 2018

Figure 8. Net Intensity of Internet Usage of the Respondents by Age, 2018 (no. of respondents)



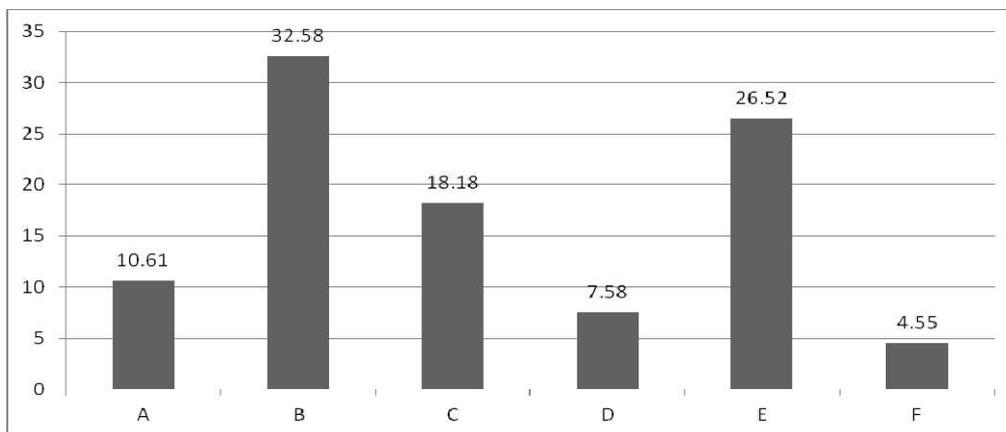
Source: field survey, 2018

Figure 9. Gross Intensity of Internet Usage of the Respondents by Level of Education, 2018 (%)



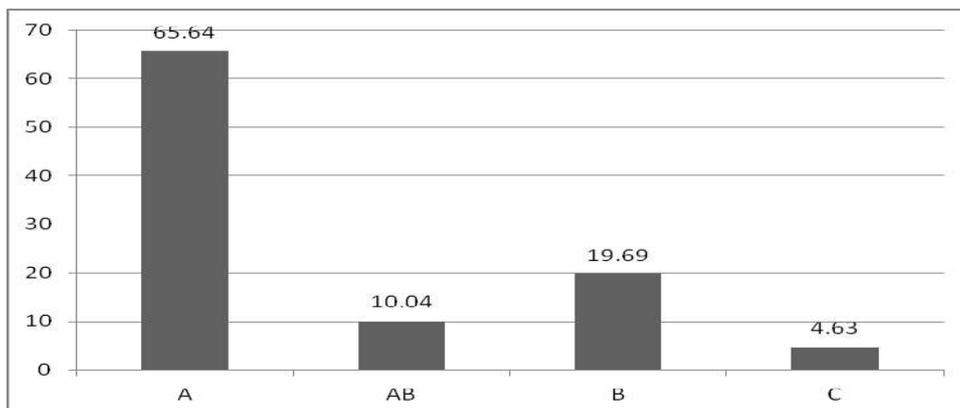
Source: field survey, 2018

Figure 10. Net Intensity of Internet Usage of the Respondents by Level of Education, 2018 (%)



Source: field survey, 2018

Figure 11. Use of Internet by Different Purposes, 2018 (%)



Source: field survey, 2018

Figure 12. Use of Internet by Different Forms of Benefit, 2018 (%)

majority of these enterprises are located, and it has the highest national GDP share. So, this fact may suggest a positive relationship between the magnitude of economic activities in a province relative to other provinces, reflected by its share of national GDP, and the number of MSEs in the province using the Internet compared to other provinces, indicated by its share of Indonesia's total MSEs in utilising the Internet. Figure 1 does not, however, show the difference between provinces in the intensity of Internet usage by MSEs. For this, Figure 2 shows the percentage of total MSEs that use the Internet per province. For instance, in Java Island, D.I Yogyakarta province uses the Internet with the highest usage (near to 6 %). In the second place is DKI Jakarta, the Capital city of Indonesia, with almost 4 % usage. In some provinces outside Java Island, the Internet usage rate of MSEs is also quite high, such as in Kep. Riau, Bali, and East Kalimantan, with almost 4 % of total MSEs of the Internet usage in these provinces. Next, based on the 2016 Economic Census, Figure 3 shows that the types of businesses whereby most MSEs utilise the Internet are retail trade, car, motorcycle repair and care services with around 39.64 % usage. Especially in the retail trade, the use of online transactions by both consumers (buying) and producers (selling) in Indonesia has grown tremendously in recent years. Other types of businesses that are also run by many MSEs by utilising the Internet are information and communication with 11.73 %, manufacturing industry with 10.66 %, and education with 8.09 %. Whereas, types of businesses where only a few MSEs use the Internet are real estate, human health, and social activities. Only about 0.56 per cent of total MSEs in the real estate sector that utilize the internet, and in the human health and social activities it is only around 1.30 per cent.

These low percentages actually do not show low internet utilization rates of MSEs in these two sectors but mainly because there are only few MSEs in these both categories of businesses, especially when compared to the number of MSEs in the trade sector. Next, Figure 4 gives an overview of turnover obtained by MSEs that utilise Internet for business and those which do not use Internet. In general, for both categories of MSEs, most have a turnover of less than 300 million rupiah, namely a total of 79.41 % for MSEs that utilises the Internet for business and 91.51 % for those not utilising the Internet. This is also in line with the fact that due to their small size, most MSEs in Indonesia have turnover per year below Rp 300 million. When viewed from the percentage of MSEs with turnover more than 300 million rupiah, more than 20 % or about one in five MSEs which utilises the Internet for business has a turnover above 300 million rupiah. On the other hand, MSEs that do not utilise the Internet for business, the percentage of MSE which has a turnover above 300 million the rupiah is not more than 10 %. The ratio of MSEs that use the Internet for business to those which do not use it in businesses with high turnover is greater than that in businesses with lower turnover. This figure may give two different impressions. First, it could mean that businesses with a high turnover value usually have more complicated processes with a higher degree of computerisation, and a greater financial/investment risk than businesses with smaller turnover value. Therefore, naturally, companies including MSEs in the first category of businesses are more in need of modern technologies, including ICT, than their counterparts do in the second category of businesses. Or, alternatively, it could mean that MSEs that utilise the Internet for businesses have a greater opportunity to generate higher turnover values compared to those that do not utilise the internet, which is in accordance

with what has been said in the literature on the benefits of using the Internet for MSMEs. Findings from a survey conducted by the Indonesian Ministry of Industry indicate that successful MSMEs doing online marketing gain far greater profits than ever before (Julianto, 2016). Finally, based on 2017 data on MSE in the manufacturing industry, as can be seen in Table 1, it reveals that only around 7.38 percent of total MSEs in this sector use the internet; although the percentage varies by group of industry. Only in publishing, printing and reproduction of recording media where the number of MSEs that use the internet is slightly above 50 percent; followed by MSEs in industries producing components of computers, electronic and optical goods with almost 29 percent and in industries manufacturing other transportation equipments with close to 27 percent. There are three main purposes of using the internet according to this report, namely for marketing and advertising, purchasing raw materials, and seeking information on such as government regulations, new machines and production tools, and cheaper raw materials. It reveals that most of the MSEs that use the internet use it mainly for marketing (64.53%).

With respect to marketing, the logic is that, as generally believed, the more complicated the marketing process (e.g. the number of market destinations served are many, or competition in the market is very intense), the company will tend to use the internet to get the latest market information or as a way of marketing (e-commerce). This means that export companies are more motivated to utilize the internet than those that only serve the local market. However, when the percentages that use the internet are compared with the percentages that also export in Table 3, there does not seem to exist strong evidence that export is related to the internet usage. Probably because many MSEs sell their products with local intermediaries such as collectors, agents or sale organizations, traders, merchant exporters, trading houses, direct representatives of foreign buyers, subsidiaries, or subcontracting with large enterprises (LEs) (Tambunan and Fachru, 2017). In Harvie (2004), it is stated that MSMEs generate about 30% of direct exports, compared to indirect exports, through supply chain relationships with other firms (mainly LEs), which could rise to 50% of total trade. Indirect exports take place through merchant exporters, trading houses and export houses. A report on MSMEs in Indonesia from the Asian Development Bank (ADB, 2002) states that a significant part of MSMEs' exports occurs indirectly through subcontracting arrangements with intermediaries. Using these channels makes export marketing becomes less complicated

**Evidence from Primary Data (Field Survey):** The primary data to be analysed in this section were obtained from face-to-face interviews with randomly selected 482 owners of MSEs in various cities, e.g. Jakarta, Gresik, Depok, Tangerang, Bandung, Bekasi, Cibubur, Serang, Indramayu, Cilegon, Cikarang, Purbalingga and Bagor, and types of businesses, e.g. shops, restaurants, cafes, catering, entertainment services, rental services, beauty salon, manufacturing industries and motor and auto repair workshops, in Indonesia during the first quarter of 2018. The majority of the sample, however, is from the MIE category. As shown in Table 2, the majority of the respondents are located in Jakarta (the Capital) and operated in the trade sector (shops). This is in accordance with one of the characteristics of MIEs in Indonesia (as also evident in other developing countries) that trade is the main sector of this category of enterprises.

Concerning the level of education of the respondents, also according to one characteristic of these enterprises, most of them only have a high school education.

**During the survey, the respondents were asked with the following key question:**

- Whether they use the Internet (including email) or not?
- If they do, for what purpose?
- If they do, do their sales go up or is it easy to get good but cheaper raw materials, or what other benefits?
- If they do not use the internet, what is the main reason?

It reveals from the survey that as many as 178 respondents (about 36.9 % of the sample) do not use the Internet, for various reasons, given in percentage distribution as follows: (i) no need: 60.8 %. The assumption that the Internet does not really need has something to do with the type of business and its market coverage. Types of business like e.g. food stalls, small shops or small motorcycle repair workshops that only serve the surrounding community do not need internet; (ii) lack of knowledge: 25.13 %. For example, many of them said that they do not know how to do online purchases, or how to implement e-commerce in marketing their goods; and (iii) lack of capital: 14.07 %. Many of them claimed to have no money to buy computers or to install the Internet. There were even a number of respondents who said that they actually want to create their own websites to promote their businesses but have not yet been realised due to funding problems. The second interesting finding from the interviews is about the number of respondents using the Internet by type of businesses.

The following two figures show, respectively, the 'gross intensity' and 'net intensity' of Internet usage. As can be seen in Figure 5, the 'gross intensity' of Internet usage among the respondents is highest in the manufacturing industry; followed by those in rental services, and restaurants, catering and cafes. Figure 6 shows that the 'net intensity' of Internet usage of those who run repair workshops is negative as in that type of business the number of respondents who use the Internet is less than those who do not. Whereas, in other types of businesses more respondents who utilise the Internet than those who do not. Respondents, who were the manufacturers of food products, furniture, handicrafts, and car spare parts, said that the Internet helped them much in seeking alternative sources of raw materials, product design, or information about prices and competitors. Owners of rental services also claimed that the internet is important to find new potential tenants. However, not only the type of business that determines the intensity of ICT/Internet usage in running a business; age and level of education also revealed to be important determinants. The theory behind this is that young entrepreneurs who were born in the 80s or 90s, which means that as teenagers they lived in the era of ICT, tend to use ICT more than their counterparts who were born before the 80s; although they are in the same businesses. As shown in Figures 7 and 8, it is very obvious that much younger respondents with age less than 50 years old are more eager to utilise ICT compared to those aged above 50. The same is true in education. As can be seen in Figures 9 and 10, obviously that higher educated businessmen or owners of MSEs are more likely to use the Internet in running their businesses than their less educated counterparts. Concerning those who use the Internet, as shown in Figure 11, the main purpose of using it varies between individuals. Some of them said that they use it more often to search for market

opportunities or marketing (A). Some others use the Internet more often to search for sources of funds, especially alternative sources outside conventional banks (B). There are also a number of respondents who admitted that they use the Internet only when they need to find alternative suppliers of raw materials or other needed inputs with better quality or prices (C), or simply to seek information on the latest government regulations that may affect their business (D), or to follow closely market changes in e.g. new emerged product design or newcomers/competitors in the market (E); or for other purposes (F). Interestingly, among those different purposes, to find sources of funding and to follow closely market changes revealed as the most important ones for the majority of them. Only a very few of them adopted e-commerce to market their products. Lack of trust or no confidence in security in using e-commerce was revealed as the major obstacle for many respondents to utilise e-commerce technology. Finally, as Figure 12 shows, the majority of the respondents who use the Internet (including e-mail) in running their businesses said that its most perceived positive impact is smooth marketing (A). They acknowledged that by utilising the Internet, their turnovers have increased. There are also some respondents who claimed that the benefit is more in the form of raw material procurement that becomes easier, faster and cheaper (B). There are also who claimed positive effect was felt in both smooth marketing and easier and more efficient procurement of raw materials (AB). The rest claimed other forms of benefit (C) such as getting a lot of current information about things that are imported directly or indirectly with their businesses, consumer complaints, more easily communication with the government or with headquarters or branches.

## Conclusion

This study reveals several key facts. First, the use of the Internet by MSEs in the country is still very low. Very few existing studies reveal several explanations, which include their low understanding of the importance of ICT for their businesses, their mindset which is not in the favour of using ICT in doing their businesses (e.g. they prefer to do marketing with conventional methods), their lack of knowledge on how to operate this technology, and lack of owners' innovativeness. Second, there is a positive relationship between the magnitude of economic activities in a province relative to other provinces and the number of MSEs in the province using the Internet compared to other provinces. One explanation is that in regions where economic activity is large, usually there are also many economic factors which make competition among themselves tight. This also forces them to be more aggressive and smarter in marketing, and for that, they must utilise the Internet/ICT. Third, the intensity of Internet usage by MSEs is found to have a positive relationship with the level of income per capita. Per capita income in a region reflects the level of welfare of the people in the region, which also reflects the level of ability and needs of the community to utilise ICT. Fourth, the type of business is also important in encouraging MSEs to utilise the Internet. This finding is in line with findings from other previous studies that business sector is among important determinant factor of the use of Internet of ICT (e.g. Blackburn and Athayde, 2000; Fallon and Moran, 2000; and Riquelme, 2002). The retail trade and car and motorcycle repair and care services are the MSEs which uses Internet the most. Fifth, MSEs in types of businesses with more complicated processes and have a greater financial risk but on the other hand have a high turnover value are more likely to utilise Internet than those in types of businesses with less degree of

computerisation/automation and low investment risk but also small turnover value. This finding may support many other previous studies that found a positive relationship between the use of ICT in running business and revenues of turnovers (e.g. Akkeren and Cavaye, 1999; Daniel, *et al.*, 2002; Farhad, *et al.*, 2011; Savrula, 2014). Finally, the information in this article is also important for policymakers not only in Indonesia but also other developing countries, for two main reasons. First, with their huge number (which is significantly larger than the number of large enterprises), MSMEs are indeed very important not only as a source of employment but, potentially, as a growth engine for the economy. This means that that capacity building, including their ability or readiness to utilise ICT, in these enterprises should be given a high priority by the policymakers in their economic development policies. Second, MSMEs are a good starting place for the development of women entrepreneurs. This means that these enterprises do have an important role to play in promoting women empowerment in developing countries, which in these days is among important targets of the sustainable development goals (SDGs). Direct supports that governments in developing countries can give are, to provide training on the use of ICT, and to socialise the importance of ICT for business development/growth through seminars, workshops or via other media. Or, indirectly, to build infrastructure and to provide other needed facilities so that MSMEs everywhere, including in rural areas, can have full access to ICT. And, probably, more importantly, to provide protection for internet users through regulations or laws that provide certainty and a sense of security for consumers and producers in conducting online transactions.

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