

Economics and Business

Volume 2, Number 1, June 2019

<http://journals.ums.ac.id/index.php/mijeb>

DIGITALIZATION OF MICRO, SMALL & MEDIUM ENTERPRISES (MSMEs) IN EAST JAVA, INDONESIA

Muhammad Sri Wahyudi Suliswanto, Mochamad Rofik

Faculty of Economics and Business, Universitas Muhammadiyah Malang

Corresponding author: ms_wahyudi@umm.ac.id; Mochamadrofik81@gmail.com

Abstract

This study attempts to provide an overview of the digitalization of MSMEs in East Java. It is a qualitative descriptive study in which the data were collected through surveys with simple random sampling method. Basically, 80 percent of MSMEs have integrated digital literacy, particularly in the context of product marketing, into their strategy, yet only 12 percent have carried out it professionally. In East Java, 70 percent of MSMEs emphasize digital marketing through social media platforms, i.e., *Instagram* and *Facebook*, while 30 percent prefer mixed method. This study also reveals that either using a single platform or multi platform, it statistically has insignificant effect on the ratio of online transactions. Nevertheless, there is a significant positive effect between the ratio of online transactions and the management quality of digital marketing.

Keywords: MSMEs, digitalization, social media

Introduction

In 2017, the number of worldwide Internet users reaches 3.8 billion with penetration rate of 51% (Internetworldstats.com, n.d.). Meanwhile, in Indonesia, there are approximately 151 million active users with higher penetration rate (54%) than the global level. Such a high rate is inevitable due to the capacity of the Internet in facilitating coordination across regions and accelerating information exchange of various fields, e.g., trade, education, health, or bureaucratic reform (Andam, 2003; Evans, 2011).

A study by the McKinsey in 2011 discloses that in developed countries, the Internet accounts for, on average, 3.4 percent of GDP with the household consumption sector as the main driver. In fact, in developed countries, the internet-based household consumption sectors contribute 1.8 percent of GDP. It confirms that the Internet opens up a greater opportunity for entrepreneurship. The MSMEs sector is one of the sectors greatly assisted by the Internet. Moreover, the Internet enables MSMEs to grow faster and expand their markets (Manyika & Roxburgh, 2011).

For MSMEs, the Internet will reduce promotional costs and enlarge market reach at once. Moreover, the existence of marketplace, social media and accessible website builders will be a driving force for MSMEs to increase their competitiveness, particularly in terms of product marketing (Bell & Loane, 2013; Feindt, Jeffcoate, & Chappell, 2002). Nevertheless, most MSMEs have not optimized the enormous potential of digital-based marketing through the Internet. The Ministry of Cooperatives (*Kemenkop*) reveals that only 8 percent or approximately 3.79 million national MSMEs have utilized the Internet for digital marketing, from a total of 59.2 million MSMEs (Ayuwuragil, 2017).

Amid the potential for enhancing productivity of national MSMEs with digital basis, previous study has shown that the technological developments can be destructive in the absence of appropriate management and planning (Michelacci & Lopez-Salido, 2007). Likewise, MSMEs with the lack of abilities to adapt with the changes will likely to be less competitive. Therefore, an analysis of the current characteristics of MSMEs

in East Java, Indonesia, is expected to provide an overview as an evaluation for both MSMEs and relevant stakeholders.

In the last five years, East Java has been among the provinces with fastest-growing economies with GRDP growth above the average. Interestingly, more than 50 percent of GRDP of East Java is supported by the MSME sector (Ayuwuragil, 2017). As a consequence, it is predicted that stagnation in MSME sector will lead to a disruption in East Java's economic growth, in general. Therefore, the digitalization of MSMEs in East Java is a must. In the present study, an analysis of the readiness of MSMEs in East Java in facing the digital era is carried out.

Research Methodology

The present study is a descriptive mixed-method research. As many as 50 MSMEs in East Java were involved. Data collection was done by survey method and sample was determined using simple random sampling method. The collected data were analyzed by descriptive and inferential statistics. Descriptive analysis was carried out to describe the characteristics of MSMEs in East Java in facing the digital era, while inferential analysis was used to see the effect of management quality and digital marketing platforms on the proportion of online-based transactions.

Results and Discussion

East Java has a large proportion of MSMEs in which it is estimated there are approximately six million MSMEs and 11 million workers engaged in this sector. Moreover, MSMEs contributed precisely 54 percent of GRDP in 2017. High variation of MSMEs is fortified with the uniqueness of each region, yet the provincial government should not be complacent with this achievement. It must be able to elevate this sector into a higher level in terms of diversification, distribution quality, efficiency and marketing. The digitalization of MSMEs is an effort to promote MSMEs in utilizing the Internet of Things (IoT) based technologies, including the production process, financial management and marketing. Digitalization is expected to enhance the competitiveness and broader market reach, the efficiency of the production and management process, and the creation of new market segmentation.

Abe and Chaminade assert several necessities required for MSMEs in order to compete globally, including: 1) the need to improve the planning and operational abilities for achieving global standards. Concerning with this, the access to capital must be proportional for the investment in technology and production processes; 2) the need to face the HR-related issues. The informal culture and structure and the indistinct career plan hinder the MSMEs in improving the HR quality and attracting professional employee; 3) the need to adjust with the changes in business practices, i.e., challenges that include efficiency in the operational, social and environmental impacts during the production process (Abe & Proksch, 2017; Chaminade & Vang, 2008)

In the context of the digitalization of MSMEs in East Java, three indicators are determined to examine the readiness of MSMEs in encountering the digital era, namely: a) capital access; b) product competitiveness; c) management quality and digital marketing strategy.

Capital Access

Despite of the role of MSMEs in Indonesia in general and East Java in particular, financing becomes a major problem in the efforts of improving MSMEs' competitiveness and financing—which is still dominated by banking sector. Nevertheless in several developing countries, financing alternatives have initially flourished in the form of equity financing, e.g., angel investors, venture capital, or private equity, in which they require no collateral. For instance, Tanzania has established Tanzania Venture Capital that constitutes of private venture capital and foreign financial institutions. Meanwhile, among ASEAN countries, there are SME Investment and Restructuring Fund (SIRF) in Thailand and Mekong SME Fund (MSMEF) in Laos, Cambodia and Vietnam, which aims is to improve SME's access to finance.

In Indonesia, the Ministry of Cooperatives (*Kemenkop*) confirms that only 20 percent of MSMEs are currently bankable or have access to banking services. Meanwhile, a preliminary survey of the present study revealed that the financing of most of MSMEs in East Java is provided by individual financing sources (including family and acquaintances) rather than from bank loans. It is estimated only 17.5 percent of MSME actors received capital access from banks while 22.5

percent from cooperatives. It shows that at least 40 percent of MSME actors relate to formal financial institutions, implying a better result than *Kemenkop's* claim (only 20 percent) (Putra, 2018).

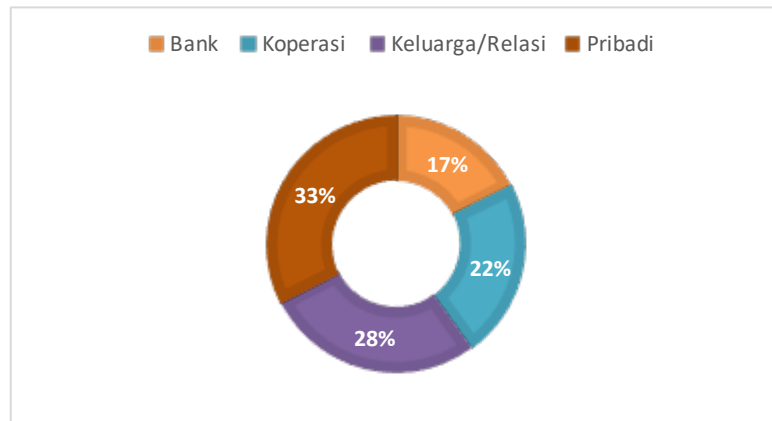


Fig. 1. Sources of Capital of MSMEs in East Java in 2018

Nationally, MSMEs sector accounts for approximately 4.48 percent of GDP and 60 percent of the national economic growth in 2017. In East Java, MSMEs have dominant contribution to GRDP, of 54.98 percent precisely. Considering its significant contribution for national economics in general and East Java in particular, the inclusiveness of MSME financing is definitely inapt. Higher access to capital, in some way, will facilitate MSME actors to improve the HR quality, production efficiency and market expansion.

Briefly, there are at least four main obstacles for MSMEs in East Java in accessing formal financial institutions, namely:

1. The procedure for filing bank loans is often time-consuming, the process is convoluted and the requirements are complicated. Many small businesses deal with complex process when applying for a bank loan. The procedure needs weeks or even months and it is not always easy to fulfill all the requirements. In general, business or legal documents are required while many informal small businesses do not have such documents.
2. A lack of collateral. To reduce credit risk, banks usually require collateral for small businesses financing. Unfortunately, only small number of MSMEs have assets that can be used as collateral for the required amount of loans.
3. A lack of information. Limited number of banks that have branch offices in rural areas becomes a shortcoming for small businesses in remote areas to reach banking services and

for the banks to disseminate information about their credit services. As a result, many small businesses have insufficient understanding about the procedures and requirements for applying bank loans.

4. The absence of micro-credit service. Small business actors frequently need a small amount of capital to run their business, or the resources and cash flow of their businesses are just limited to pay back loans in small amounts and for a certain period of time. Therefore, the government and related agencies can make breakthroughs for potential MSMEs. Blended funding between government and private sector through joint ventures and other alternatives can be initiated, including by optimizing financial technology (*Fintech*) for MSMEs.

The issuance of regulation on financial technology (*Fintech*), POJK No. 77/2016, concerning P2P lending business, becomes an opportunity in which based on the regulation, *FinTech* companies can target customers who have no access to bank institutions by providing loan with a maximum credit of 2 billion rupiah. Through this regulation, it is expected that anyone without banking access, including MSMEs, can be encouraged by providing capital for them to develop their businesses into bankable enterprises.

Product Competitiveness

The latest data shows that MSMEs in East Java are primarily dominated by the agricultural sector

(over than 60 percent), followed by the trade sector (25.20 percent) and services sector (6.03 percent). Meanwhile, the manufacturing and industry sector is merely 5.22 percent. Compared to neighboring countries, the structure of MSMEs in Indonesia

particularly East Java is very distinctive. In several countries in ASEAN, e.g., Malaysia and Thailand, the MSME sector has its own positioning in order to encourage its development.

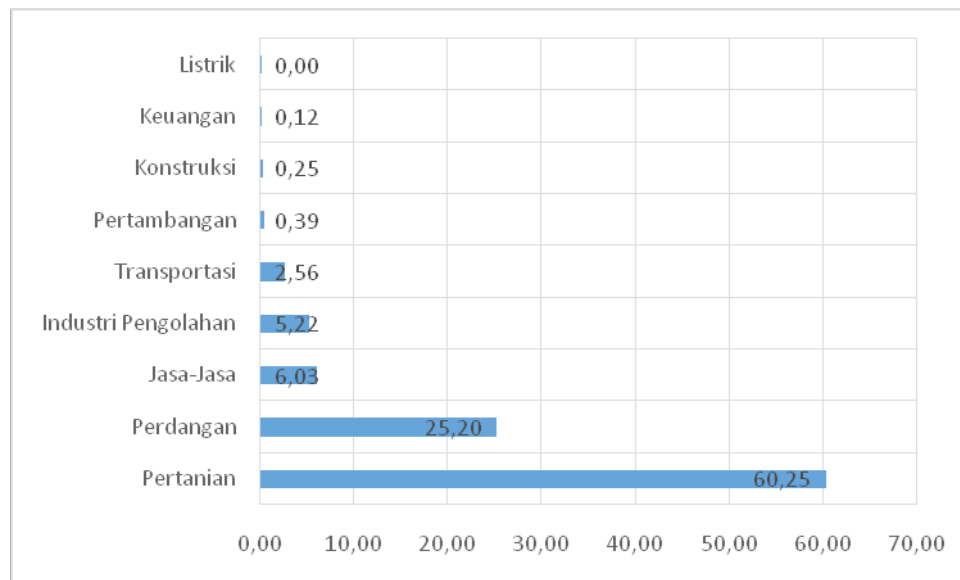


Fig. 2. Type of Industries of MSMEs in East Java in 2017

Source: *Dinas Koperasi dan UMKM Jawa Timur, 2017* (Processed data).

Malaysia and Thailand have commitment to support MSME sector to becoming a part of the Global Value Chain (GVC). Malaysia emphasizes GVC's strategy towards electronics industry while Thailand focuses on the auto components industry. Such strategy positions MSMEs as export-oriented multinational suppliers in which their products will be used as intermediary inputs for multinational companies which targeted customers are across countries. Based on the finding of a research carried out by Arudchelvan and Wignaraja (2015) in Malaysia, the scale of MSMEs plays an essential role in shaping participation in GVC. MSMEs have economic scale and resources required to overcome the fixed cost problems during their entrance in the supply chain. In addition to business scale, licenses for foreign technology and investment in the research and development are also influential on the participation of MSMEs in GVC. Therefore, innovation in technology, production and processes is crucial.

The position of MSMEs in Malaysia and Thailand can be used as a reference for the establishment of a clear positioning of MSMEs in East Java, in the future. It is fundamental for promoting the competitiveness of Indonesian MSMEs from other countries. In fact, it is urgent, otherwise it is possible for MSMEs in Indonesia in general and East Java in particular to remain stagnant, especially the majority of MSMEs in East Java are engaged in agricultural industry which value is relatively small compared to those in the manufacturing industry.

Management Quality and Digital Marketing Strategy

The present study reveals that 80 percent of MSMEs in East Java have performed online-based marketing. It implies that eight out of 10 MSMEs have initiated to expand their market range through digital platforms.

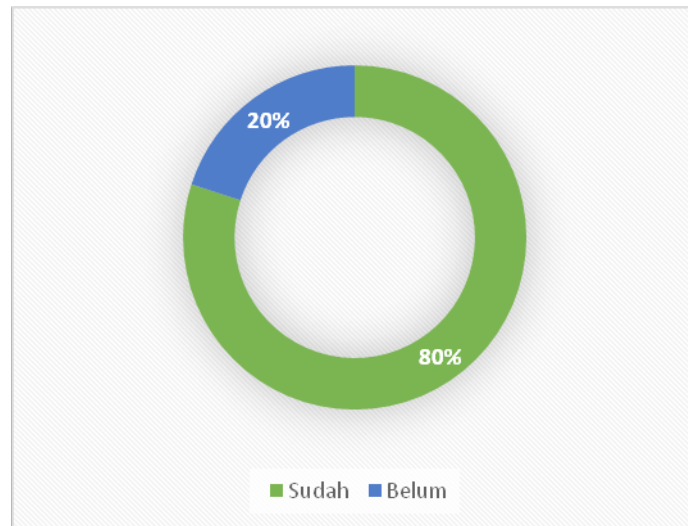


Fig. 3. The Percentage of MSMEs Performing Digital Marketing

Of the seven types of MSME types of industries classified in the present study, the services industry obtains the highest percentage, reaching 100 percent. In accordance with the survey, this industry includes educational services, i.e., tutoring and courses, document management services and tourism services. Industry with the second highest percentage is culinary industry in which approximately 82.35 percent, including the producer of tofu and tempe, food stalls, snacks and souvenirs, have initially promoted their products on digital platforms.

Furthermore, 78.95 percent of MSMEs engaged in fashion industry claimed to have started digital marketing, followed by those in the craft industry (75 percent), agrobusiness industry (50 percent) and automotive industry (25 percent).

Table 1. The Percentage of MSMEs Performing Digital Marketing Strategy Based on Type of Industry

Type of Industry	Percentage (%)
Fashion	78.95
Culinary	82.35
Craft	75
Agrobusiness	50
Services	100
Automotive	25
Electronic and gadget	75

In general, there are several popular platforms among MSME actors in marketing their products digitally. Nevertheless, social media is still the main platform selected by most MSMEs.

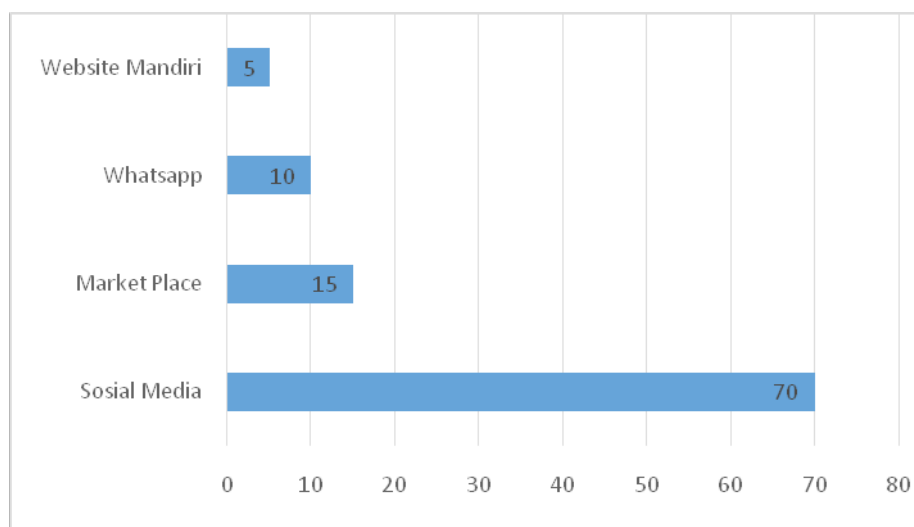


Fig. 4. The Percentage of Popular Platforms in Digital Marketing

Approximately 70 percent of MSME actors claim that the majority of digital marketing entails social media, i.e., *Facebook* and *Instagram*. Meanwhile, 15 percent of MSMEs prefer marketplaces (e.g., *Bukalapak* and *Tokopedia*), 10 percent prefer *Whatsapp*, while 5 percent prefer their own websites.

The popularity of social media in digital marketing is mainly due to its user friendly and economical characteristics compared to other platforms (e.g., websites). Moreover, it allows casual interaction between customers and

producers. Nevertheless, it must be noted that content management, ranging from frequency of product uploading to eye-catching display, is the key of marketing through social media.

Based on the frequency of MSMEs in using social media, 53 percent of MSMEs declared that *Facebook* and *Instagram* shared the same proportion in supporting their activities. Meanwhile, 29 percent claimed of dominantly using *Facebook*, while 18 percent carried out digital marketing activities through *Instagram*.

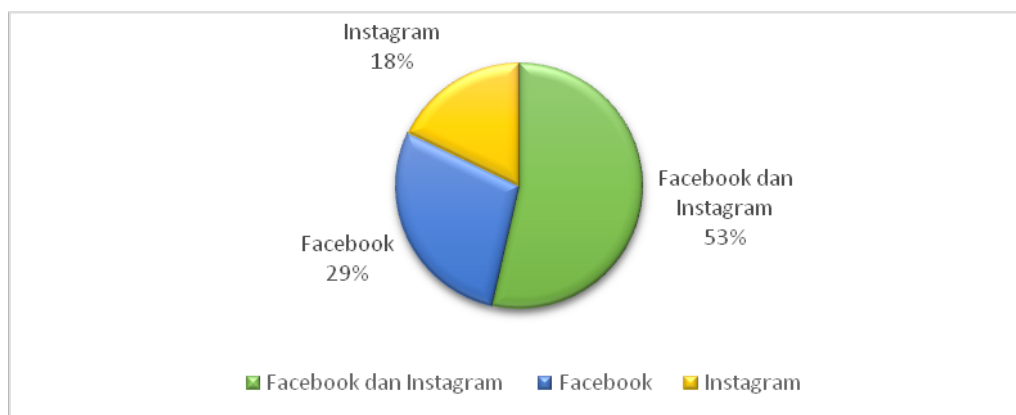


Fig. 5. The Percentage of Popular Social Media in Digital Marketing.

Meanwhile, 15% of MSMEs preferred to employ *marketplace* in their marketing activities. They prioritized marketplace platforms since they perceived such platforms to be more effective than social media. Plainly, customers visit *marketplace* because they definitely look for particular goods. Meanwhile, social media is merely utilized to introduce and promote products, but not for transaction process.

The present study also investigates whether there is a change in turnover before and after the implementation of digital marketing. Approximately 22.5 percent of MSME actors verified a significant increase in turnover, 57 percent claimed an increase but insignificant, and 17.5 percent claimed to be indifferent.

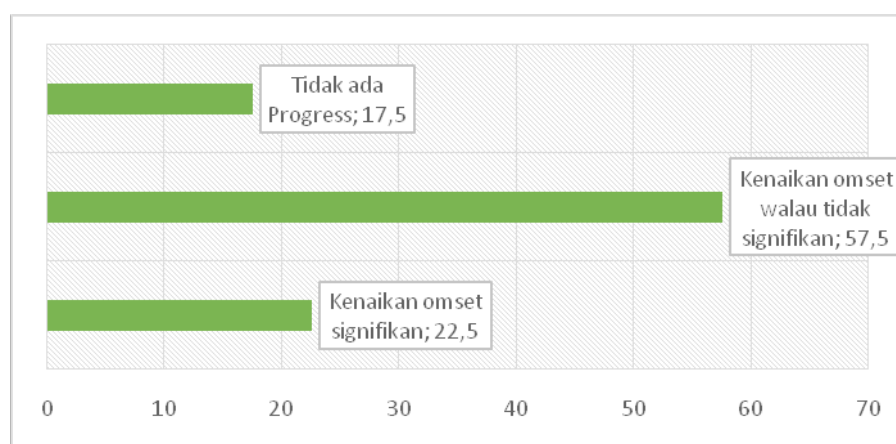


Fig. 6. Progress of Transaction in the Pre- and Post Digital Marketing

The MSME actors involved in the present study were also questioned about the ratio between online and offline transactions. In accordance to the existing data, 65 percent of MSMEs confirmed

that the ratio of online: offline transaction was 0: 4 per 10 transactions. Meanwhile, 35 percent stated that the ratio was 0: 2 per 10 transactions.

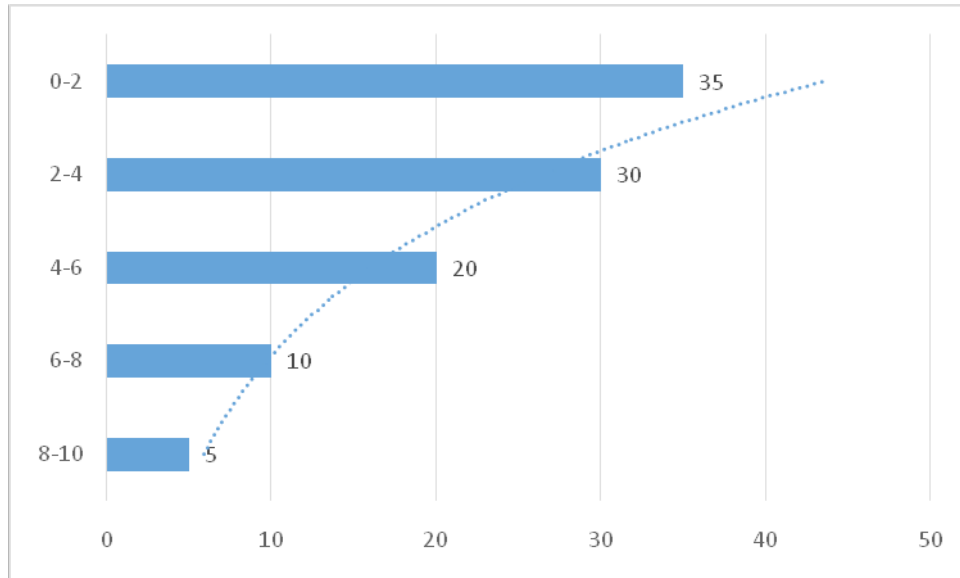


Fig. 7. Ratio of Online-Offline Transaction per 10 Transactions

Sub-optimal market expansion is allegedly due to the poor digital marketing management. It is indicated by the low percentage of MSMEs (12 percent) that practiced professional management

in digital marketing. Meanwhile, 48 percent of MSMEs carried out digital marketing semi-professionally while 40 percent performed it non-professionally.

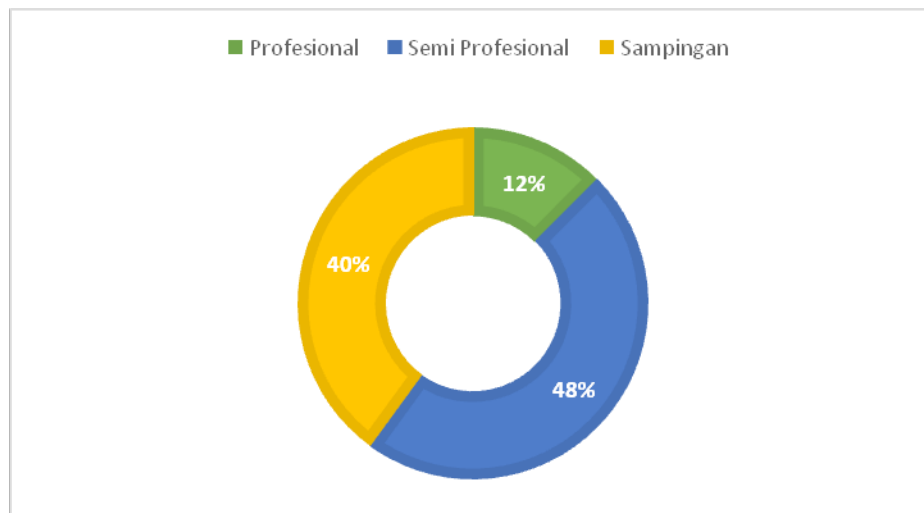


Fig. 8. The Percentage of Professionalism in Digital Marketing

Professionalism, Platforms and Ratio of Online-Offline Transaction

The IPSOS 2018 survey on the behavior of MSMEs and *Instagram* users in Indonesia unveils that Indonesia is the fifth country with the largest business users of *Instagram*, below America, Brazil, Russia and the United Kingdom. As many

as 52 percent of MSMEs in Indonesia prioritize *Instagram* than other platforms (i.e., *marketplace* and *website*), which is in line with similar IPSOS findings in which 76 percent of *Instagram* users testify to have purchased items advertised on *Instagram*.

The behavior of social media users,

especially *Instagram* users in Indonesia, is certainly beneficial for MSMEs in East Java. In fact, about 80 percent of them utilized social media, i.e., *Instagram* and *Facebook* as digital marketing platforms. Nevertheless, in the context of management quality, only 12.5 percent of MSMEs claimed to manage digital marketing professionally. Furthermore, 48 percent managed digital marketing in a semi-professional manner, while the rest managed it unprofessionally. Based on this, the present study also investigates the effect of the digital marketing platform and the management quality of digital marketing on the ratio of online-offline transactions.

Based on the findings, the quality of digital marketing management can be distinguished into three categories: professional, semiprofessional and non-professional. The platforms are divided into two main: single platform marketing that only focuses on single social media platform, and mixed method marketing that combines social media with other platforms (e.g., *marketplace* and website). Meanwhile, the ratio of inline-offline transactions is measured for every 10 transactions.

Measuring the level of the effect of “management quality” (X_1) and “marketing platform” (X_2) on “online transaction ratio” (Y) was carried out by using multiple linear regression, while the model of the analysis result is interpreted as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon_i$$

$$Y = -0.162 + 1.353 X_1 + 0.062 X_2$$

$\beta_1 =$ The regression coefficient of capital (X_1) is 1.353, so there is a positive association between professionalism and transaction of 1.353. if professionalism (X_1) increase by 1%, the transaction (Y) will increase by 1.353, and vice versa.

$\beta_2 =$ The regression coefficient of marketing platform (X_2) is 0.062, so there is a positive association between marketing platform and transaction of 0.062. If the marketing platform (X_2) rises by 1%, the transaction (Y) will increase by 0.062, and vice versa.

F-Test (Simultaneous Regression)

The F-test is used to test whether the results of the regression analysis are significant or not, in other words, whether the predicted regression model is appropriate or not. If the model produces a significant result, then the null hypothesis (H_0) is rejected and H_1 is accepted. On the contrary, if the result is not significant, then the null hypothesis (H_0) is accepted and H_1 is rejected. It can be expressed as follows:

H_0 is rejected if F value $>$ F table
 H_0 is accepted if F value $<$ F table

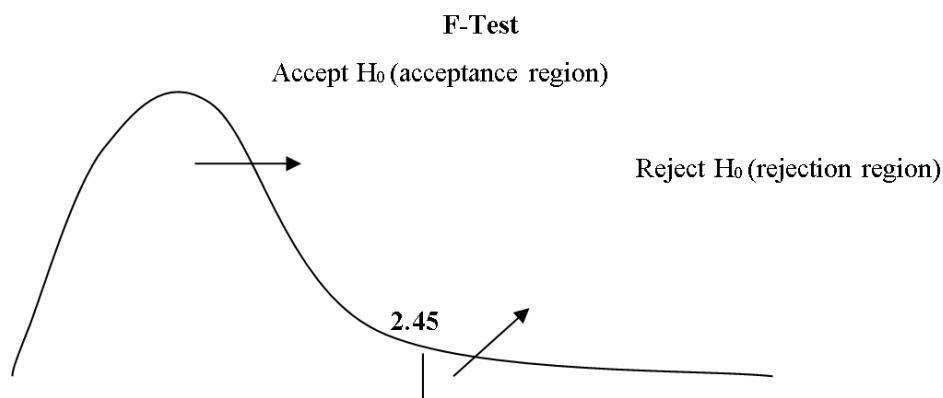


Fig. 4.5

Based on the result of the regression analysis, F -value is 4.574 and F -table ($\alpha = 0.05$; db regression = 2 : db residual = 40) is 3.23. Since F -value is greater than F -table = 34.027 $>$ 3.23, so the simultaneous regression is significant. The effect of professionalism (X_1) and marketing platform (X_2) on transactions (Y) is significant. It

means that H_0 is rejected and H_1 is accepted. So, it can be claimed that transactions can be affected simultaneously by independent variables.

T-Test

T -test is used to test the significance of partial regression or whether each independent variable

significantly affects the dependent variable. If t -value is greater than t -table or $-t$ -value is less than $-t$ -table, the result is significant and H_0 is rejected and H_1 is accepted. Meanwhile, if t -value is less

than t -table or $-t$ -value $>$ $-t$ -table, the result is not significant and H_0 is accepted and H_1 is rejected. The association between professionalism (X_1) and marketing platform (X_2) is evaluated.

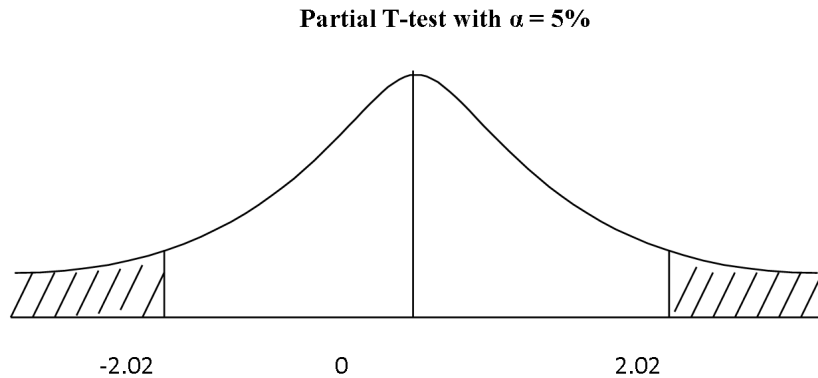


Fig. 4.6

- The result of t -test between X_1 (professionalism) and Y (transaction) shows that t -value = 7.703, meanwhile t -table ($\alpha = 0.05$; db residual = 38) is 2.02. because t -value is greater than t -table or $7.703 > 2.02$, so professionalism (X_1) is significant at $\alpha = 5\%$. It means that H_0 is rejected and H_1 is accepted, so transaction is significantly affected by professionalism.
- The t -test between marketing platform (X_2) and transaction (Y) shows t -value = 0.23 while t -table ($\alpha = 0.05$; db residual = 38) is 2.02. Because t -value is less than t -table or $0.23 < 2.02$ so marketing platform (X_2) is insignificant at $\alpha = 5\%$. It means H_0 is accepted and H_1 is rejected, so transaction is not significantly affected by marketing platform.

Facebook and *Instagram*) or mixed platforms of social media and *marketplaces* (i.e., *Bukalapak* and *Tokopedia*) have insignificant effect on the number of online transactions but having positive effect on the level of digital management quality. Theoretically, the more the number of platforms used in digital marketing, the wider the market range, yet non-professional management will deteriorate the image of respective MSME. Moreover, it is better for MSME with limited HR to optimize single platforms or diversify the marketing and transaction processes, i.e., *Instagram* for marketing and specific *marketplace* for transaction.

Optimization of social media to attract and build proximity with customers is essential. The proximity with customers through social media will increase trust in products/brands and even increase customer loyalty (Kim & Drumwright, 2016). When the public have some kind of trust towards a product, it is very likely that the product will be a choice for others, both through online and online purchasing. In online transaction, *marketplace* can be the main option for MSMEs for its relatively high security than those through social media or official websites (Triwijanarko, 2018).

Conclusion

The findings of this study have shown that the majority of MSMEs in East Java have limited access to formal finance and are still dominated by the agricultural sectors. Approximately, 80 percent of them have performed digital marketing, but

The Coefficient of Determination

The coefficient of determination (R^2) is used to measure the contribution of the independent variables toward explaining the dependent variable. The R^2 and the adjusted R^2 explain the variation in dependent variable. The closer R^2 is to 1, the better the model is, with assumption there is no regression. From the calculation analysis, the value of R^2 is 0.648, it means that the independent variables explain 64.8% of the dependent variable (transaction). Meanwhile, the remaining 35.2% is explained by other factors not discussed in this study.

The results of regression test show that using either single platform of social media (i.e.,

have not managed it professionally. This study also indicates that the management quality of digital marketing is more influential than the preference of the platform in terms of the ratio of online transactions. Briefly, it is suggested for performing the optimization of market penetration and digital transactions in East Java through human resource development programs, i.e., trainings, MSME forums and periodic mentoring. In addition, the access to capital and diversification of MSMEs to non-agricultural sectors must be a priority for the development of MSMEs in East Java, Indonesia.

References

- Abe, M., & Proksch, M. (2017). Supporting participation of Asia-Pacific SMEs in global value chains. *Journal of Korea Trade*. <https://doi.org/10.1108/JKT-12-2016-0047>
- Andam, Z. (2003). e-Commerce and e-Business. *E-ASEAN Task Force*. <https://doi.org/10.1016/B978-008044910-4.00148-6>
- Ayuwuragil, K. (2017). Kemenkop UKM: 3,79 juta UMKM sudah go online. Retrieved from <https://www.cnnindonesia.com/ekonomi/20171115161037-78-255819/kemenkop-ukm-379-juta-umkm-sudah-go-online>
- Bell, J., & Loane, S. (2013). 'New-wave' global firms: Web 2.0 and SME internationalisation. In *New Developments in Online Marketing*. <https://doi.org/10.4324/9780203722381>
- Chaminade, C., & Vang, J. (2008). Globalisation of knowledge production and regional innovation policy: Supporting specialized hubs in the Bangalore software industry. *Research Policy*. <https://doi.org/10.1016/j.respol.2008.08.014>
- Evans, D. (2011). The internet of things how the next evolution of the internet is changing everything. *CISCO White Paper*. <https://doi.org/10.1109/IEEESTD.2007.373646>
- Feindt, S., Jeffcoate, J., & Chappell, C. (2002). Identifying success factors for rapid growth in SME E-commerce. *Small Business Economics*. <https://doi.org/10.1023/A:1016165825476>
- Internetworldstats.com. (n.d.). World Internet Usage and Population Statistics. Retrieved from <https://www.internetworldstats.com/stats.htm>
- Kim, E., & Drumwright, M. (2016). Engaging consumers and building relationships in social media: How social relatedness influences intrinsic vs. extrinsic consumer motivation. *Computers in Human Behavior*. <https://doi.org/10.1016/j.chb.2016.06.025>
- Manyika, J., & Roxburgh, C. (2011). The great transformer: The impact of the Internet on economic growth and prosperity. *McKinsey Global Institute*, 1–10. Retrieved from http://www.iei.liu.se/facksprak/engelska/civilingenjorsutbildning/then18/kursmaterialarkiv/lesson-twelve/1.333650/The_great_transformer_Impact_of_Internet_on_economic_growth.pdf
- Michelacci, C., & Lopez-Salido, D. (2007). Technology shocks and job flows. *Review of Economic Studies*. <https://doi.org/10.1111/j.1467-937X.2007.00452.x>
- Putra, D. A. (2018). Kemenkop: Baru 20 persen UMKM yang mengakses modal lewat bank. Retrieved from <https://www.merdeka.com/uang/kemenkop-baru-20-persen-umkm-yang-mengakses-modal-lewat-bank.html>
- Triwijanarko, R. (2018). Benarkah orang Indonesia lebih suka belanja di marketplace? Retrieved from <http://marketeers.com/orang-indonesia-lebih-suka-belanja-di-marketplace/>