



Technology, Organizational, and Environmental Analysis of Social Media Adoption for MSME's in Cilacap District, Indonesia

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Abstract— *The Industry 4.0 era has a significant impact through digital integration. Technology is developing rapidly and affects the economic sector by utilizing internet media. The use of social media can improve the performance of business actors, so researchers analyzed the effect of social media use on MSME performance using the Technology-Organization-Environment (TOE) method by Ahmad et al. (2019). The purpose of this study is to analyze the factors in the TOE framework that influence social media adoption on MSME performance. The method used is quantitative method. A sample of 100 respondents of MSME owners by distributing questionnaires online with purposive sampling technique. After data collection, the analysis was carried out using Ms. Excel and the SEM-PLS approach using the SmartPLS 3.0 application. The results of this study from the four hypotheses proposed are all accepted, namely Technology, Organization, Environment, have a significant influence on Social Media Adoption, and Social Media Adoption on SMEs performance has a significant influence..*

Keywords: *TOE framework, Social media adoption, SMEs*

I. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are crucial for the development of economies in the world, as they are intimately linked to the generation of employment opportunities and the alleviation of poverty alleviation, contribution to innovation, and a nation's gross domestic product (GDP). Nevertheless, several MSME enterprises encounter difficulties and frequently end up unsuccessful within a brief period. Challenges encountered. Some of the challenges faced by MSMEs include those that are connected to their products and the effectiveness of these marketing products techniques (Cant & Wiid, 2016). MSMEs have a keen inclination towards embracing technology for their marketing strategies. (A&P, 2015). Nevertheless, MSMEs encounter difficulties that hinder the effective implementation of this technology. It is a well-known fact that MSMEs struggle to stay updated with digital advancements, primarily because they lack knowledge about digital marketing (Alford & Page, 2015) and (Taiminen & Karjaluoto, 2014). Cant & Wiid (2016) also stated that MSME owners mostly use traditional print media. Kurniawan & Asharudin (2018) stated that not all MSMEs in Indonesia are able to change their marketing to digital marketing. Low educational background variables and the need for information almost the web, improvement, and innovation are the reasons why the utilization of digital marketing in MSMEs isn't optimal.

Even though there is a lot of potential and opportunities, MSMEs in Cilacap Regency are also faced with various challenges. Some of the challenges faced by MSMEs in this region include technological developments, business competition, human resources, and marketing and promotion. In this research, the use of social media by MSMEs is part of technology adoption. As expressed by Rogers (2003), development is within the frame of administrations, items, data, thoughts or hones that are considered unused by people. In common, innovation appropriation and development are based on the dissemination of development (DOI) hypothesis (Ainin et al., 2015; Odoom et al., 2017). A back framework for different needs in different settings, the utilize of social media for innovative development requires arrangement and conveyance of exercises inside the company (Odoom et al., 2017). The TOE system is utilized since it has solid observational considers and hypothesis and has been utilized to think about innovation selection and development, counting social media in innovation (Abed, 2020). The use of TOE is to find out how social media is closely related to innovation and technology.

Previous research conducted by AlSharji, et al. (2018) there are three factors that influence the use of social media, namely technological context, organizational context, and environmental context. Several theories can be used to determine the determining factors for technology adoption, one of which is TOE (Technology-Organization-Environment). The TOE framework focuses more on describing the influence of contextual factors on the adoption of an innovation (Rahayu, 2015). Research using the TOE framework mostly only focuses on exploring the TOE framework and technology adoption (Lutfi, 2022; Maroufkhani et al., 2020;

Salimon et al., 2021). In this inquire about, analysts will conduct advance inquire about on the affect of social media utilize on MSME execution, so it'll not as it were be restricted to looking at the variables that impact social media appropriation but too looking at the relationship between social media selection and MSME execution.

The TOE model can be used as a model used to measure the performance of MSMEs and social media adoption. Like the TOE Model developed by Ahmad (2019), it can measure and find out what factors can influence social media adoption on SMEs Performance or MSME Performance. The target of this research is business actors in Cilacap Regency who use social media as a medium for selling or promoting.

A. Technology, Organizational, and Environment

This framework has three contexts that influence innovation adoption, namely technology, organization and environment. This research uses the TOE framework because it explains how technological, organizational, and environmental factors can influence the use of innovation (Alsharji et al., 2017). This TOE framework focuses more on the organizational/company perspective (Rahayu, 2015) so this is the most suitable model to be applied in this research. The TOE framework is used in this research with the main reference coming from research by Ahmad et al (2017). The TOE framework has also been widely recognized as a framework used to study technology adoption (Rahayu, 2015).

B. Social Media

Keller (2016) stated that social media is media utilized by customers to share content, pictures, sound, and video data with other individuals and companies. The general characteristic of every social media is that there is open dialogue between users. Separated from that, social media also gives and shapes better approaches to communicating. As is known, sometime recently the rise and ubiquity of social media, most individuals communicate by SMS or phone using cellphones. But presently with social media, individuals tend to share using chat administrations or send messages using administrations accessible on social media.

According to P.N. Howard and M.R. Parks (2012), social media is media that comprises three parts, specifically Data foundation and devices utilized to deliver and convey media substance within the shape of individual messages, news, thoughts, and social items in advanced frame. At that point, those who deliver and devour media substance in the advanced frame are people, organizations, and industry. Social media is a shift in the dissemination of information from a broadcast (one-to-many) mechanism to a many-to-many mechanism. From several definitions of social media, it can be concluded that social media is an effective business promotion tool because it can be accessed by anyone so that the promotional network can be wider.

C. Social Media Adoption

Social media adoption is someone's action to decide on technology, which in this case is social media, such as adding friends, participating in an event, providing comments, observing online behavior, and making online purchases (Chaniago & Sayuti, 2019). Social media itself is used as a system to support various needs starting from the context of using technological innovation which requires alignment and spread (diffusion) of company activities (Odoom et al., 2017).

D. Company Performance

Concurring with Sharif et al (2017), MSME execution implies the genuine benefits that MSMEs get from social media applications both in terms of financial and non-financial performance. Based on research by Schaupp and Belanger (2014), MSME performance is gathered into 4, specifically, client benefit, showcasing, inside operations, and deals. The promoting measurement centers on the net benefit from pre-sales exercises, counting expanded promoting and promoting endeavors and decreased promoting costs. The deals measurement alludes to the real benefits related to offering an item or benefit, counting expanded advertise share, income, and item changes. The client benefit measurement incorporates benefits related to intuitive with clients, such as more noteworthy fulfillment, expanded comfort, and moved forward communication, and at long last, the inside operations measurement speaks to operational benefits from the utilization of social media, such as made strides communication among workers and expanded inspiration and adequacy staff. Social media moreover incorporates a positive effect on the level of understanding of buyers which has an impact on way better company performance (Rodriguezetal, 2015).

II. METHODOLOGY

This research aims to determine the performance of using technology. In this research, the technology in question is social media which is used as a place for selling by MSMEs. Therefore, social media adoption was measured on the execution of MSMEs. Based on the results of comparable research and the literature that has been clarified, analysts utilized Technology-Organization-Environment (TOE) as the premise for research created by Ahmad (2019).

H1: Technology has a positive influence on Social Media Adoption

H2: Organization has a positive influence on Social Media Adoption

H3: Environment has a positive influence on Social Media Adoption

H4: Social Media Adoption has a positive influence on SMEs Performance.

III. RESULT

A. Demographic Analysis

The statistical analysis arrange was carried out to show demographic data related to the characteristics of the respondents that had been carried out. The results show that respondents are dominated by men at 55%, with ages dominated by 21-30 years at 48%, then social media use is dominated by WhatsApp at 47%.

TABLE I. DEMOGRAPHIC ANALYSIS

Categories	Item	%
Gender	Female	45
	Male	55
Age	≤ 20	6
	21-30	48
	31-40	30
	≥ 40	16
Social Media	Facebook	20
	Twitter	9
	Instagram	24
	WhatsApp	47

B. Inner Model Result

At this stage, six testing stages are carried out, including path coefficient (β), coefficient of determination (R^2), predictive relevance (Q^2), T-Test using the bootstrapping method, effect size (f^2) and relative impact (q^2).

1) Path Coefficient (β)

Based on the results of the Path Coefficient analysis, it is known that the smallest value comes from Technology to Social Media Adoption, namely 0.167, while the largest path coefficient value comes from social media adoption to SME performance 0.905.

TABLE II. PATH COEFFICIENT

Hipotesis	Path Coefficient
<i>Environment</i> → <i>Social Media Adoption</i>	0,805
<i>Organisation</i> → <i>Social Media Adoption</i>	0,167
<i>Social Media Adoption</i> → <i>SMEs Performance</i>	0,905
<i>Technology</i> → <i>Social Media Adoption</i>	0,275

2) Coefficient of Determination (R^2)

This test is carried out by calculating the R-Square (R^2) value to clarify the change of each endogenous variable (a variable that's affected by other factors within the demonstration). The R-Square value is said to be significant if it includes a value of more than 0.67, moderate if it is 0.33-0.67, and weak if the value is below 0.33 (Yamin & Kurniawan, 2011). The following are the results of the R-Square value using Smart PLS 3.0

TABLE III. R-SQUARE

	R^2
<i>Social Media Adoption</i>	0,856
<i>SMEs Performance</i>	0,819

3) T-test

This stage of testing was carried out using bootstrapping with a one-tailed test where the significance level was 5%. Based on this, the resulting T-test value is declared valid if the value is more than 1.96 (Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, 2017).

TABLE IV. T-TEST

Hipotesis	T-Test
<i>Environment</i> → <i>Social Media Adoption</i>	8,381
<i>Organization</i> → <i>Social Media Adoption</i>	1,976
<i>Social Media Adoption</i> → <i>Performance</i>	23,857
<i>Technology</i> → <i>Social Media Adoption</i>	2,378

4) Effect Size (f^2)

The stage of calculating the value of the effect size in order to predict the influence of one variable on other variables in the structural model. The effect size value which has a threshold of around 0.02 means a small influence, 0.15 means a medium influence, and 0.35 means a large influence. A value below 0.02 means that it does not have any influence on the structure of the model (Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, 2017; Yamin & Kurniawan, 2011).

TABLE V. EFFECT SIZE

	ENV	ORG	SMEsP	SMA	TE
ENV				1,017	
ORG				0,029	
SMEsP					
SMA			4,523		
TE				0,089	

5) Predictive Relevance (Q^2)

At this stage, testing is carried out using the blindfolding method to provide evidence that certain variables have a predictive relationship with other variables in the model. The value produced in predictive relevance is said to be valid if the value is greater than 0.

TABLE VI. PREDICTIVE RELEVANCE

	Q-Square
<i>Social Media Adoption</i>	0,639
<i>SMEs Performance</i>	0,677

6) Relative Impact (q^2)

This test uses a blindfolding model to be able to calculate q^2 which has a relative influence on the relationship between the predictions of a particular variable and other variables. The threshold for the q^2 value is 0.02 for a small influence, 0.15 for a medium influence, and 0.35 for a large influence (Yamin & Kurniawan, 2011).

TABLE VII. RELATIVE IMPACT

Hipotesis	q^2			Analisis q^2
	Q^2 -in	Q^2 -ex	q^2	

<i>ENV</i> → <i>SMA</i>	0,639	0,626	0,036	Kecil
<i>ORG</i> → <i>SMA</i>	0,639	0,621	0,05	Kecil
<i>TE</i> → <i>SMA</i>	0,639	0,634	0,014	Kecil
<i>SMA</i> → <i>SMEs P</i>	0,677	0,463	0,663	Besar

Based on the results of the structural model test that has been analyzed, it can be seen that Technology on Social Media Adoption has a path coefficient value of 0.275 so it has a value more than the threshold of 0.1, and the results of the t-test state that H1 is accepted with a value of 2.378, this means that Technology has a significant influence on social media adoption, and the effect size has a small value in the model structure, namely 0.089. Meanwhile, the value of predictive relevance (Q2) has a small influence with a value of 0.014, so it can be concluded that technology has a positive relationship with Social Media Adoption, this is in line with research conducted by (Sikander Ali Qalati et al., 2021). Based on the results of this discussion, it is known that the factors causing the adoption of social media by MSMEs are technological factors.

Organization towards social media adoption has a path coefficient value of 0.167 where this value is more than the threshold of 0.1, and the results of the t-test state that H1 is accepted with a value of 1.976, this means that the organization has a significant influence on social media adoption, and for The effect size has a small value with a value of 0.029. Meanwhile, the predictive relevance value (Q2) has a small influence at 0.05. So, it can be concluded that Organization has a positive relationship with Social Media Adoption, and this is in line with research conducted by (Sikander Ali Qalati et al., 2021; Tajudeen et al., 2018). Based on the results of the explanation in the previous section, it is known that H2 above influences organization and social media adoption. So the factors that cause MSMEs to use social media are influenced by the state of the organization.

The environment for social media adoption has a path coefficient value of 0.805, where this value is more than the threshold of 0.1, and it is known from the results of the t-test that H3 is accepted with a value of 8.381, This means that the environment has a significant influence on Social Media Adoption. and the effect size has a small value with a value of 1.017. Meanwhile, the value of predictive relevance (Q2) has a small influence with 0.036, so it can be concluded that the Environment on Social Media Adoption has a positive relationship, and this is in line with research conducted by (Ahmad et al., 2019; Sikander Ali Qalati et al., 2021). Based on the results of this discussion, it is known that the factors causing the adoption of social media by MSMEs are environmental factors.

Social media adoption on SMEs performance has a path coefficient value of 0.905, where this value is more than the threshold of 0.1, and it is known from the results of the t-test that H4 is accepted with a value of 23.857, This means that social media adoption has a significant influence on SMEs Performance, and for effect size has a large value with a value of 4.523. Meanwhile, the value of predictive relevance (Q2) has a large influence with a value of 0.663, so it can be concluded that Social Media Adoption on SMEs Performance has a positive relationship, and this is in line with research conducted (Ahmad et al., 2019; Odoom et al., 2017; Sikandar Ali Qalati et al., 2020; Sikander Ali Qalati et al., 2021). Based on the results of this discussion, it is known that H4 above has a significant influence on SMEs Performance. So, it can be concluded that the use of social media causes an increase in SMEs Performance.

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