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THE INFLUENCE OF AGILE STRATEGIES AND METHODS ON MSMEs IN INDONESIA

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ABSTRACT

This study is based on the importance of MSMEs in Indonesia, since they have their own role in economic development, specifically in their ability of absorbing labor. On the other hand, there is changing situation of MSMEs in Indonesia due to post Covid-19 Pandemic. Therefore, the purpose of this study is to measure the influence of Agile Strategies and Methods on MSMEs in Indonesia, using quantitative method. This study takes data from one of the businesses or MSMEs in Indonesia as main core of influence research and presents the results of responses from various MSMEs (only 30 businesses) and company position holders, as validation of the findings on the business that became the study. Furthermore, from 60 employees in one of the MSMEs from a total of 30 MSMEs as research object, the results showed that Agile strategies and methods have significant influence to improve employee performance in MSMEs in Indonesia, such as working faster, performing better, increasing productivity, effective working, making work easier, and usefully affecting employee performance. The writer concluded that the use of agile methods has an influence on performance of business organizations and research interprets that their use is able to improve performance, productivity, save costs, and of course as a matter of nature, become more flexible and agile to develop.

Keywords: *Influence, Agile Strategies, MSMEs, Economy, Indonesia.*

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INTRODUCTION

MSMEs have their own role in economic development that is important and strategic (Sarfiah et al., 2019). The important role can be seen in the ability of MSMEs to absorb labor so as to increase people's income (LPPI and Bank Indonesia, 2015). According to LPPI and BI (2015), at least the strategic role of MSMEs in Indonesian economy is due to their position as major players in economic activities of various sectors, largest providers of employment, important players in local economic development and community empowerment, and as a source of innovation. This is what motivates the government to strengthen the MSMEs pillar in building the economy so that it can run optimally until it is finally able to alleviate poverty.

In the 1998 economic crisis, MSMEs proved to be able to get through the crisis period and continued to grow from year to year (Sarfiah et al., 2019). Due to their flexibility in adapting to changes in the business environment, MSMEs are considered as the most possible to survive the economic crisis. As a matter of fact, the current reality is that MSMEs in Indonesia are faced with unplanned changes in the situation due to the post-Covid-19 pandemic. After the Covid-19 pandemic, it has had its own impact on MSMEs in Indonesia. Many of them even find it difficult to survive and go bankrupt. For the first time, people in the world unites, or more to be forced to accept the decision to comply with restrictions enforced by governments and health care authorities in order to fight Covid-19 disease (Ting et al., 2020).

This then limits some operational activities in the business world. This big change is then referred to as business disruption. After the pandemic (Covid-19) which brought major disruptions to all aspects of life around the globe, it has a very pronounced influence on the business economy sector (Alao & Lukman, 2020; Charles, 2020). Many businesses have been affected due to dramatic operating restrictions. Of course, the supply chain was disrupted and the volume of business activities was significantly reduced. This business disruption is also experienced by MSMEs in Indonesia in particular. In a survey conducted by LPPI (2020), it showed that during the post-pandemic, 94.69% of businesses experienced a decline in sales. This includes at least several business scales, namely a decrease in sales of more than 75% experienced by 49.01% of ultra-micro businesses, 43.3% of micro-enterprises, 40% of small businesses, and 45.83% of medium-sized enterprises.

Based on length of the business, the decline in sales of more than 75% was experienced by 23.27% of businesses aged around 0-5 years, 10.9% of businesses aged around 6-10 years and 8.84% of businesses that have been running for more than 10 years. Judging from their sales method, the decline in sales of more than 75% was experienced by 47.44% of offline / physical sales businesses, 40.17% of online sales businesses, and 39.41% of businesses with offline and online sales methods (LPPI, 2020). Briefly, after the Covid-19 pandemic, business profits have decreased significantly due to fixed production costs or even increased while sales decreased. Even though some other aspects of costs are still rolling, such as raw materials, transportation, labor, and other costs.

If this continues to be experienced by MSMEs, then they will not be able to survive. The business disruption caused by the post-Covid-19 pandemic is radical and requires high flexibility in organizations to be able to achieve their business revival. Business strategies and activities need to be reconsidered (Ting, et al, 2020). According to Kröger & Marx (2020) agile marketing can be used by marketers as a solution to face extreme (radical) situation changes that force marketers to be able to adapt faster and more flexibly in managing our business activities and can do it spontaneously. Agile marketing refers to the extent to which an entity quickly understands the market and executes marketing decisions to adapt to the market (Kalaignanam et al., 2021).

LITERATURE REVIEW

The presence of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia is very important for economic stability of the Indonesian state in particular. MSMEs have the potential to increase state income and the absorption of productive labor (Lantu et al., 2016). In data from BPS and the Ministry of Cooperatives and SMEs (2012), information was obtained that the contribution of MSMEs in GDP in 2013, reached 57.56% of the total national GDP with a total of 57.9 million units of business or 99% of the total existing business units. In addition, MSMEs have important role of recruiting 97% of the total workforce in Indonesia.

In accordance with Act Number 20 of 2008 concerning Micro, Small and Medium Enterprises (MSMEs), definition of MSMEs are as follows:

1. **Micro Business** is a productive business owned by an individual and / or individual business entity that meets the criteria for Micro Business as stipulated in this Act, namely with a maximum amount of assets of Rp. 50,000,000, – (Fifty Million Rupiah) and a maximum amount of turnover of Rp. 300,000,000, – (Three Hundred Million Rupiah).
2. **Small Business** is a productive economic business that stands alone, which is carried out by an individual or business entity that is not a subsidiary or not a branch of a company that is owned, controlled, or is part either directly or indirectly of medium enterprises or large businesses that meet the criteria for Small Business as referred to in this Act, namely the maximum amount of assets > Rp. 50,000,000, – (Fifty Million Rupiah) up to Rp. 500.000.000, – (Five Hundred Million Rupiah) and the maximum amount of turnover > Rp. 300.000.000, – (Three Hundred Million Rupiah) to Rp. 2.500.000.000, – (Two Billion Five Hundred Million Rupiah).
3. **Medium** Enterprises are productive economic businesses that stand alone, which are carried out by individuals or business entities that are not subsidiaries or branches of companies that are owned, controlled, or part either directly or indirectly with Small Businesses or Large Businesses with the amount of net worth or annual sales proceeds as stipulated in this Law, namely the maximum amount of assets > Rp. 500,000,000, – (Five Hundred Million Rupiah) up to Rp. 10.000.000.000, – (Ten Billion Rupiah) and the maximum amount of turnover > Rp. 2.500.000.000, – (Two Billion Five Hundred Million Rupiah) to Rp. 50.000.000.000, – (Fifty Billion Rupiah).

In its development, there are indeed several common problems that are often experienced by most MSMEs in Indonesia. Lantu et al (2016) assessed that both internally and externally, there are still many MSMEs experienced so that they are considered not highly competitive to encourage economic growth and people's income. LPPI and BI (2015) in a survey conducted by him, identified that at least the constraints of the MSME business are internal and external. Business constraints on internal factors are aspects of capital, human resources, law and accountability. Business constraints on external factors are the business climate, infrastructure, and access.

To achieve business or business success, there are several things that must be taken, one of which is by applying agility in the business managerial process. In this context there are two main things of agility, namely strategy and method. In the field of strategy, it examines an organization's rapid response to changes in the business environment. Meanwhile, in the field of methods, it is trying to examine agile methods from a technological perspective and how they affect business performance, as a response to the rapid development of technology. Researchers will focus on agile methods as mentioned earlier, then explore their effects on MSMEs in Indonesia.

Agile and Organizational Strategies

The idea of organizational agility system, as proposed by Waluyo et al., (2019) is rooted in two previously developed related concepts (namely, organizational adaptability, reactive aspects

and organizational flexibility, proactive aspects). Concretely, the OA includes company's ability to sense changes in environment and respond easily by reconfiguring the company's set of resources, processes in business, and strategies used by the company. In addition, Mithas et al., (2011) stated that there are three interrelated dimensions that form OA, namely: 1) Consumer Agility, which involves the use of consumer opinions to obtain an increase in market share; 2) Agility of Partnering, which consists of the company's ability to absorb knowledge from different business partners to improve the company's response to market demand; and 3) Operational Agility, which requires a rapid redesign of processes to take advantage of highly dynamic environmental and market conditions. Furthermore, OA is understood as a company's response capability, it allows for more efficient behavior in a highly volatile environment and complex problems within it. This condition requires a quick reaction to change and the company's ability to make anticipation and seizing opportunities, especially through innovation and learning (Digdowiseiso & Sugiyanto, 2018). Using Dynamic Capabilities View (DCV) approach, OA has been identified as an enterprise dynamic capability. DCV is an extension of the Resource-Based view based on the results of Barney and Peteraf's research, this view is indispensable in response to a highly dynamic environment. The RBV approach has traditionally tended to be focused on the internal mechanisms of the organization but dynamic capabilities are influenced by external environmental factors (Li et al., 2018). Therefore, the effectiveness of dynamic capabilities within the enterprise depends on the context, although the available information is limited regarding the combined effects of the organization's internal and external mechanisms. The value of these companies increasingly lies in the creation and utilization of knowledge, instead of other types of assets or resources (Gorondutse & Hilman, 2019). Thus, an assumption can be made that OC values that increase the level of OA in an organization will find more favorable conditions in this type of environmental context to exert its positive influence. Therefore, these environmental conditions will positively affect the agility value involved in one of the four different typologies of OC, as described above. In such conditions, the values of organizational agility will be widespread.

Agility strategy is defined by Tallon & Pinsonneault (2011) as the ability of companies to respond quickly to changes in the business environment, adapt to it and take action to control uncertainty. Kumkale, (2016) believes that strategic agility is a tool for creating a competitive advantage for organizations. The author argues about the influence of market conditions such as technology, sustainability and competition. In order to survive, one must be responsive to industry dynamics and the author suggests strategic agility as an opportunity to create and expand competitive advantages.

For purposes of clarity, we should note that Teece et al., (2016) are used as denominations for strategic agility the terms organizational agility or agility. The author defines agility as the capacity of an organization to direct resources to create value. Alahyari et al., (2017) consider that strategic agility is meant to be a means of generating value. By achieving it, the company manages to make a difference in the market and provide better performance both internally and externally. Brătianu (2015) adds that in strategic thinking, one always considers value creation as the ultimate goal. Păunescu et al., (2018) support and the importance of value creation for the business environment, and Adamik et al., (2018) demonstrate the importance of achieving competitive advantage. (Tallon et al., 2019) have conducted a screening of literature on the perspective of strategic agility.

Agile Methodology

Numerous organizations use an agile development approach, and found increasing day by day in recent decades and produces high-quality software systems (Rehman et al., 2018). When requirements change and move towards volatile behavior, agile methods deal with them in an

efficient and effective way to manage those requirements iteratively (Salah et al., 2014). Agile methods highlight people more, relationships between each other, working software, client coalitions, and changes, rather than methods, tools, contracts, and plans (Javanmard & Alian, 2015). According to an Anupama Kaushik literature review, what are considered as main properties of the methodology and what is an integral part of the project management methodology in a broader or narrower sense? The urge to combine project management approaches is demonstrated in the case of software development projects (Kaushik, 2007). The Scrum Software Maintenance Model begins with a planning process that contains version control for the stalking of maintenance changes. After planning, special attention is paid to the pattern of the type of maintenance demand. Maintenance of repairs was considered a priority and began to be implemented by creating new code branches (Srivastava, 2017).

1. **Method**
   Methodology is a formula in the application of research where in conducting the research there are steps and also research results. Meanwhile, research methodology in field of computer science, or information systems, or information technology is the steps or stages of planning with the help of several methods, techniques, tools and documentation with the aim of assisting researchers in minimizing the risk of failure and emphasizing the research process or target (Hasibuan, 2012).
2. **Agile Methods**
   According to Schwaber & Sutherland, the agile method is a framework that can overcome a complex problem that is always changing, and is also considered to be able to provide good product quality according to wishes of users creatively and productively (Hossain et al., 2009).

The ability to innovate in today's technology utilization depends on an organization's ability to move fast enough to keep pace with consumers who are always active and technology-empowered and have rapidly changing expectations (Lewnes, 2021). This is in line with the conditions of the Covid-19 pandemic which forces the company's movement to quickly adapt. This agility should also be accompanied by a strategy that is authentic, transparent, and intends to do good for their customers and the community. Lewnes (2021) also conveyed his findings that companies should also focus on innovation, people, processes and technology, which are in line with the company's mission and goals.

According to Higa et al (1997), in the Journal Jaidan (2010) explained that technology is an important resource and also a sub-system of organization. Thus, technology has critical implications for the company's performance. To stay afloat and excel in market competition, companies need to pay attention and be able to gain an edge from technological opportunities to support business strategies and improve their operations and services.

H: Utilization of Agile Methods has a positive and significant effect on company's performance

METHODOLOGY

The method used in this study is a quantitative method. The population used in this study includes all MSMEs in Indonesia and is recorded to be operating as of 2022. The sampling method is purposive sampling with the following criteria: 1) MSMEs that move and operate for at least 2 years and are calculated to operate until now; 2) Companies that have implemented agile methods based on their respective business contexts; and 3) Complete the available data. In this study, data used as analysis resource is primary data.. Data processing analysis uses validity tests, reliability tests, and hypothesis tests. Secondary data in the study are taken from related work that supports the research. To shorten the elaboration, researchers display the results of data processing from

one of the MSMEs studied, then display a graph for the results of data processing from the total of all MSMEs studied.

RESULT AND DISCUSSION

From the results of questionnaire distributed to 60 employees in one of the MSMEs from a total of 30 MSMEs that became objects, data shows the characteristics of respondents based on gender obtained information that most of the respondents studied were 63.3% male. Thus, most MSME employees are mostly male, this condition is because men have conceptual skills that can hold positions as figures who are able to coordinate various activities.

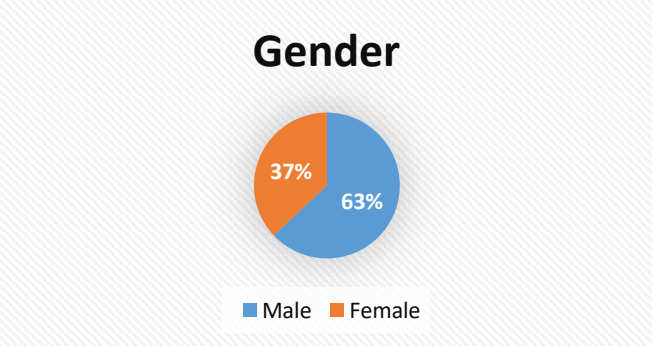

Diagram 1. Employees' Gender in MSME.

Furthermore, the results of the questionnaire which was distributed to 60 employees in one of the MSMEs from a total of 30 MSMEs that became objects, data obtained on the characteristics of respondents based on the level of education obtained information that most of the respondents studied were mostly 52.0% studying up to the Bachelor's level. So, it can be concluded that the majority of employees have a fairly good education.

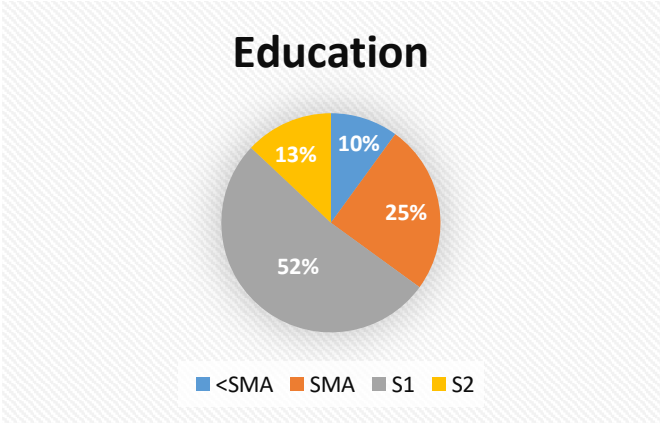

Diagram 2. Employees' education background in MSME.

Then the results of the questionnaire were distributed to 60 employees in one of the MSMEs out of a total of 30 MSMEs that became objects, data obtained on the characteristics of respondents based on their age, many or the majority of employees were under the age of 25 years. Thus, the MSME employees studied have employees of that age because in that age range are times when a person is in a productive period and wants to always look attractive and like items and clothes that are trending and to entertain themselves (Schiffman & Kanuk, 2004).

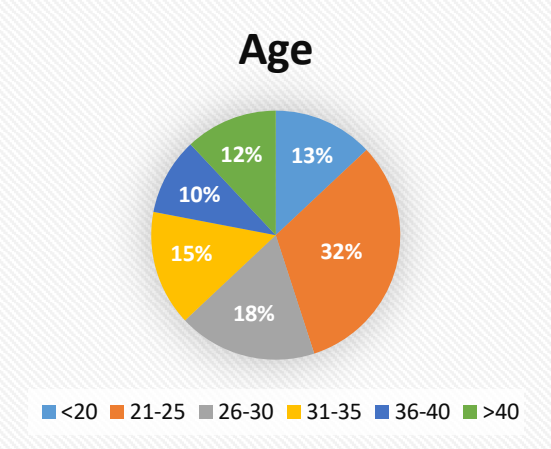

Diagram 3. Employees' Ages in MSME.

In a number of respondents or samples with a total of 60 employees, response results were obtained which showed that the level of use of technology by workers or employees in the business or businesses run was 63.3%. From these data, it can be seen that the awareness or practice of using technology in employee performance is very high, besides that it is also a reference for efforts to determine decisions on the use of technology or agile methods with a high level of awareness and use.

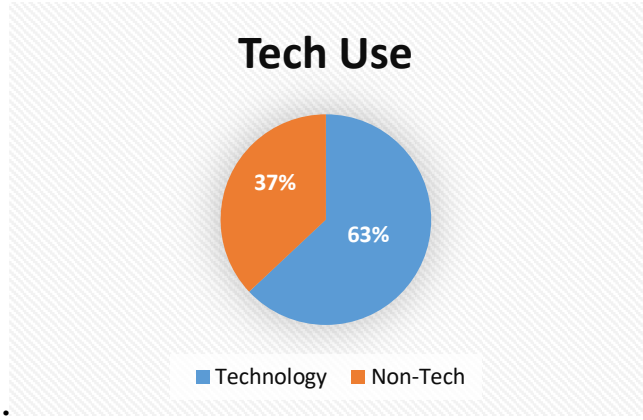

Diagram 4. Employees' technological use in MSME

Then for the measurement results after the application of the agile method, the results are obtained as below:

Table 1. Measurement results after application of Agile Method

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.749	.519		-1.445	.154
	Method Use	.813	.039	.940	21.005	.000

Regression equations are used calculate form of relationship between free variables and bound variables. Using the help of SPSS for Windows ver. 26.00, it is obtained a regression model as in the tables above.

From the results of multiple linear regression equation, interpretation can be taken, namely, a constant of -0.749 shows that when the agile method is not applied or is worth zero (0) and there is no change, the business performance will be worth -0.749. Variable X, namely the use of the agile method, has a regression coefficient value of 0.813 which shows that when the utilization of

the agile method is increased, business performance will increase by 0.813 times. Or in other words in detail it can be explained that the average Employee Performance is -0.749, if the free Variable is absent. Employee Performance will increase by 0.813 units for each additional unit X (utilization of agile method). So if the use of the agile method has increased by 1 unit, then Employee Performance will increase by 0.813 units. Based on the interpretation above, it can be seen that if the use of agile methods increases, it will be followed by an increase in Employee Performance.

To find out the magnitude of contribution of the free variable (utilization of the agile method (X)) to the bound variable (Employee Performance) the value of R2 is used. The data can be seen as below:

Table 2. Magnitude of contribution of the free variable to the bound variable

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.940[a]	.884	.882	.42597

The coefficient of determination is used to calculate the magnitude of the influence or contribution of a free variable to a bound variable. From the analysis in the table obtained the result of adjusted R2 (coefficient of determination) of 0.882. This means that 88.2% of employee performance variables will be influenced by their free variables, namely the use of the agile method, while the remaining 11.8% of Employee Performance variables will be influenced by other variables that are not discussed in this study. In addition to the coefficient of determination, a correlation coefficient was also obtained which shows the magnitude of the relationship between free variables, namely Ease of Use of IT and the Expediency of IT Use with employee performance variables, an R value (correlation coefficient) of 0.940, this correlation value shows that the relationship between free variables, namely the use of agile methods (X) and Employee Performance is included in the strong category because it is more than 0.6. The relationship between the free variable, namely the use of the agile method (X) and Employee Performance, is positive, meaning that if the free variable is further improved, Employee Performance will also increase.

Next, hypothesis testing data will be presented. Hypothesis testing is an important part of research, after the data has been collected and processed. Its main use is to answer the hypothesis made by the researcher. F testing or model testing is used to find out whether the results of the regression analysis are significant or not, in other words the alleged model is appropriate/appropriate or not. If the result is significant, then H0 is rejected and H1 is accepted. Whereas if the result is insignificant, then H0 is accepted and H1 is rejected.

Table 3. Hypothesis testing data

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	80.059	1	80.059	441.222	.000[b]
	Residual	10.524	58	.181		
	Total	90.583	59			

Based on Table 3 the calculated F value is 441.222. Whereas F table ($\alpha = 0.05$; db regression = 1 : db residual = 58) is 4.001. Since F calculates > F of the table which is 441,222 > 4,001 or the sig value of F (0.000) < $\alpha = 0.05$ then the regression analysis model is significant. This means that H0 is rejected and H1 is accepted so that it can be concluded that the bound variable (Employee Performance) can be significantly affected by the free variable of utilization of the agile method (X).

ADDITIONAL DATA

An industry survey is conducted between various MSME businesses that are at the level of maturity, production processes, organizational experience, characteristics and several other different things, which have been controlled to implement the use of agile methods and have delivered a number of projects as well as products in a timely and efficient manner. We received feedback from around 30 companies, which shows majority of them use agile methods as software development and managing them as a support, while others also use dynamic software development methodologies. It is important to note that we conduct online surveys with the help of google forms, which certainly uses less paper and become easy way to improve survey responses instead of physically visiting the company and asking them to have a direct interview. Most of participants who filled out gave a good response, which was responded by Software engineers from beginner to experienced level. Some managers also filled out an online form, in addition to that some CEOs and Human Resource managers represented their business or businesses in the process of responding to the questionnaire. For data on the type of agile method used can be seen in the chart below:

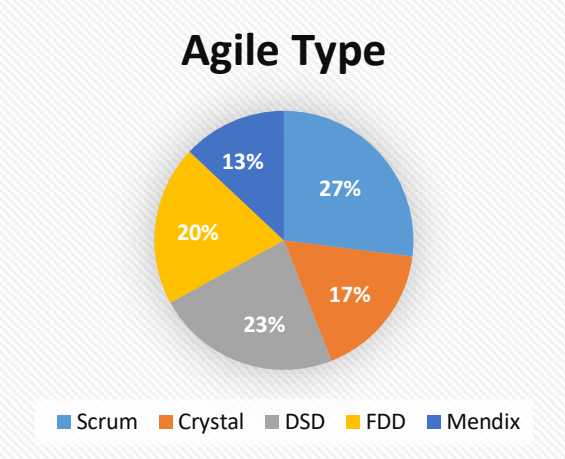

Diagram 5. Employees' response of agile methods used as software development.

Managing time and costs in any project is a huge task, as we know that cost management on the majority of developments or technology projects always features waste, meaning it is bad in terms of cost, it is very difficult to handle many needs at the same time, especially with the addition of technology development and projects may have too long or more budgeted schedules. The agile method handles this problem very well, survey says that using the agile method, developers can easily manage time and cost because the work is divided into parts and sprint is determined, developers develop their parts on time and within budget. This makes the progress and productivity of the organization very high and cost-effective. The responses from the developers of each venture can be seen in the image below:

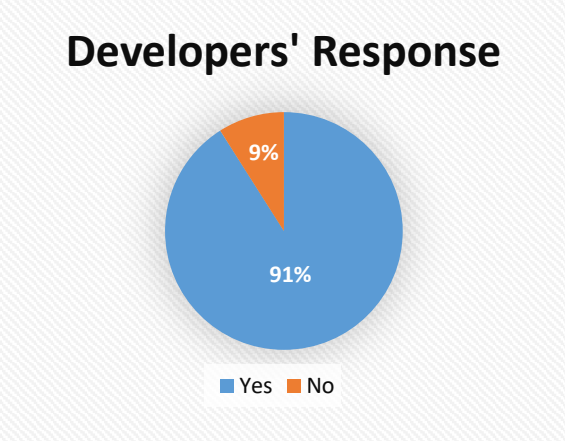

Diagram 6. Developers' response of relation to the use of agile methods

The majority of responses from developers (total 91% of developers) related to the use of agile methods in businesses or businesses can increase productivity and cost savings, making it much more efficient. In addition, there are responses related to how this agile method affects business performance, which are filled directly by the CEO and manager (Project or Business) as follows:

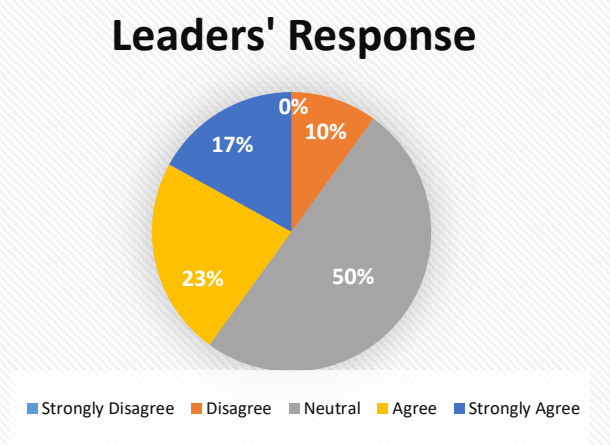

Diagram 7. Leaders' response on how agile methods affect business performance.

DISCUSSION

The results of this study show that the use of agile methods has a significant influence on employee performance. The use of agile methods is able to improve employee performance in MSMEs in Indonesia, such as working faster, performing better, increasing productivity, effective working, making work easier, and usefully affecting employee performance. If the use of the agile method is implemented properly and appropriately, it will support optimal employee performance.

In this study, there is a significant influence of variables of agile method utilization on Employee Performance in MSMEs. This is supported by Jaya (2007) who revealed that the use of technology can improve employee performance, and in this study used a method that utilizes technology agilely, namely the agile method. In addition to the research above, other studies also support, such as Putra and Rahmansyah (2012) whose research results show that there is a partial, joint, and significant influence between the variables of information technology use on employee performance.

A more earlier study was Hasnain (2010) which provided an efficient discussion to describe customers, users, agile techniques and specific problems found in a literature review published from 2002 to 2008. Based on these review studies, it is shown that the technical methods needed are reviewed in a generic agile approach and are not reviewed in certain agile methodologies such as extreme programming, test-based development or crystal programming. Ramesh's findings (Cao & Ramesh, 2008) in his survey show that exploration and experimentation are more in need of agile practice (Kitchenham & Charters, 2007; Stapleton, 1995).

Silva et al., (2011) provide a systematic review of user-centric design and integration of agile practices. Examines usability issues related to agile methodology design through literature review Silva et al., (2011). The review findings identify that agile teams can solve usability issues by adopting a custom user-centric design. These practices have been identified in agile techniques such as large design up front, small design up front, and user testing. Barlow et al., (2011) assess the impact of using agile practices in large-level projects. The survey suggests a system design framework that conveys methodology to large projects for implementing agile practices. The results of the survey have help designers and developers to implement development practices in

large scale organizations. Agile performance has three aspects of constraints, which are time, scope and cost (Kitchenham & Charters, 2007).

CONCLUSION

The use of agile methods has an influence on performance of business organizations and research interprets that their use is able to improve performance, productivity, save costs, and of course as a matter of nature, become more flexible and agile to develop. This study takes data from one of the businesses or MSMEs in Indonesia as main core of influence research and presents the results of responses from various MSMEs (only 30 businesses) and company position holders, as validation of the findings on the business that became the study. The development of this method has been widely carried out outside the scope of MSMEs and in many countries other than Indonesia. Therefore, this research is important for reference of MSMEs in Indonesia, due to small numbers of similar studies related.

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