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HUMAN RESOURCE COMPETENCE TOWARDS INDONESIA'S MICRO & SMALL ENTERPRISES' PERFORMANCE

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Abstract: Micro and Small Enterprises (MSEs) have a huge role in Indonesia's economic performance. Ranging from GDP contribution to job opportunities creation. The majority of Indonesian companies belongs in the MSE category, reaching 99,89% of all companies in Indonesia. Therefore it is very important to know which factor affects MSEs' performance the most. Great performance by these MSEs will lead to greater national economic performance. Studies conducted with similar research methodologies show that one of the most important factors toward MSEs' performance is its human resources. To assess the importance of human resources toward MSEs' performance in Indonesia, we use secondary data from Indonesia's Central Bureau of Statistics on MSEs' during 2017. We use MSEs' profit as a way to measure its performance and represent human resource competence using education level and worker training programs both on the managerial/owner level and worker level from the available data. Data analysis showed that general education of manager/owner or workers does not affect MSEs' profit significantly but training programs on both managerial/owner and worker level have significant impact on MSEs' profit compared to MSEs' with no training except for managerial training.

Keywords: *general education, training, human resource, MSE performance, MSE profitability*

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1. Introduction

Micro and Small Enterprise (MSE) is a term to classify a company according to its size. In Indonesia, the classification of companies is regulated by the Law No 20/2008 regarding micro, small and medium enterprises. This law states the terms for company classification according to two criteria which are the amount of its assets (excluding land and building) and yearly revenue. Micro enterprises have a maximum of 50 million rupiahs of the asset or generate a maximum of 300 million rupiahs in revenue yearly and small enterprises may have a maximum of 50-500 million rupiahs of the asset or generate a maximum of 300-2.500 million rupiahs yearly.

Indonesian Ministry of Cooperatives and SMEs (Kementrian Koperasi dan UKM) states that MSEs have a major role in the Indonesian economy. Based on the data collected by the ministry in 2019, there are roughly 65,4 million companies belonging to the MSE category. These companies make up to 99,89% of all companies in Indonesia. They also contribute

around 46,88% of GDP and provide 93,85% of job opportunities for the Indonesian workforce. The data show the importance of MSEs to the economic performance of Indonesia.

Currently, there are many challenges faced by Indonesian MSEs. Some common challenges faced by Asian MSMEs in general are: i) tight competition, ii) adaptability to the rapidly changing market, iii) technology advancement, and iv) limitation in knowledge, innovation, and creativity. Yoshino and Hesary focused their research and identified 4 problems faced by MSMEs. Those problems are: i) difficulties in accessing financial capital, ii) limited information structures about MSMEs in general, causing financial institutions to have difficulties providing capital assistance, iii) lack of research and development, and iv) low usage of information technologies.

Facing the challenges above, MSEs have to perform well to ensure their survival. There are a lot of factors that may affect MSEs' performance. One of the most important factors affecting MSEs' performance is its human resource. Research done on food MSEs in Yogyakarta shows that human resources (motivation and education/work experience) have the biggest impact on MSEs' performance compared to production resources (raw material, marketing, and distribution) and business environment (partnership, law, financial assistance, government policy, and competitors).

Georgiadis and Pitelis show that experience and education, especially at the managerial level, have a significant and positive impact on the company's performance. They measure SMEs' performances by their financial performance. High performing SMEs tends to have more experienced entrepreneurs as their manager. These SMEs also combine highly skilled workforce with technological and know-how-based firm differentiation strategies and/or product differentiation strategies based on: i) quality of service & personal attention to customers, ii) generous compensation & attention to employee development. In another case, the education and even the size of the board member have a significant positive effect on the company's performance. Generally, larger companies have bigger Top Management Teams and diversity in the education level of those management team have a significant negative impact on corporate performance. On the worker level, higher education leads to higher financial performance except for production-oriented companies. This is especially true for companies in the service industry. In other work settings, knowledge-workers productivity in an IT company mediates significantly between knowledge creation, knowledge utilization, and innovation. Innovation within the company, in particular, may lead to greater organizational financial performance. The general idea found in these researches is that highly educated managers accompanied by a highly educated workforce tend to have significantly greater business performance.

Looking further into experience and knowledge factors, these two factors may be broken down into more specific factors such as industry-specific experience and knowledge compared to general experience and knowledge. Industry-specific knowledge prior to running the business and general knowledge gained after running the business has a significant impact on productivity and profitability while experience has significant impact on productivity only. This shows that not only the type of education that matters but the timing of the education is also important.

Many research has already shown the role of human resources in MSEs' performance. Human resource management is very important for small businesses. Human resources may be the most important asset for small businesses. Challenges from a financial standpoint often cause some small businesses to have trouble and/or neglect good human resource

management. As Onkelinx, Manolova, and Edelman have shown in their research, investing in the human resource have a lot of benefit for worker productivity. They also found that investing in human resources helps the company when applying for international development programs.

There are many types of training which might benefit the company in different ways. One study shows that training for creativity and innovation leads to greater financial performance. High-quality training program and incentives helps in increasing worker motivation and morale in general. This leads to greater performance and productivity which in turn will directly affect financial performance in terms of return on assets, turnover growth rate, and profitability. Great HR practices paired with the development of human resources will yield positive results toward firm performance. The purpose of this paper is to assess the importance of human resources toward MSEs' performance in Indonesia. Human resources and MSEs' performance will be scored based on the available data on MSEs in Indonesia.

2. Research Method

The object of this study was Indonesian MSEs spread across the country. For this purpose, we used secondary data from Indonesia's Central Bureau of Statistics on MSEs during 2017. There were 3 advantages gained through using this data which were: i) ease of access, ii) convenient data gathering, and iii) great representation for MSEs in Indonesia. The data came in the form of a quarterly publication by Indonesia's Central Bureau of Statistics called "Profil Industri Mikro dan Kecil" (Small and Medium Industries which latter is identified as SMIs). To gather this data, The Central Bureau of Statistics conducted a survey using questionnaires given to companies belonging to the MSE category all across Indonesia. The data used for this paper are the data from the 2017 survey.

Overall there are 89.918 SMIs participating in this survey. This survey data contains much information about every MSE participating in the survey. Some of these data were used to identify the role of human resources in MSEs' performance. Human resources' general knowledge was represented by the highest education taken by the manager/owner and the workers. MSEs' performance was represented by the profits gained by the MSEs after taking expenses into account. There were also data about the training received within the previous year to represent MSEs' investment into human resources.

Information regarding the highest education taken comes in 8 categories consisting of i) "Tidak Tamat SD" (didn't complete primary school), ii) "SD dan sederajat" (primary school and equivalent), iii) "SMP dan sederajat" (junior high school and equivalent), iv) "SMA/MA/Paket C" (senior high school/religious senior high school/c package), v) "SMK" (vocational school), vi) "Diploma I/II/III" (associate's degree), vii) "Diploma IV/S1" (bachelor's degree), and viii) "S2/S3" (graduate's degree/postgraduate's degree). The data contained the highest education taken by the manager/owner and the workers. In most cases, many MSEs have multiple workers with different levels of education. This creates a problem in the data testing because ANOVA can't simply be used to compare the means of MSEs with multiple workers belonging to multiple categories. To cope with this problem, the education level of workers was represented using the average education span among all the workers. Education spans were determined based on the categories mentioned before according to table 1.

Table 1 Education span based on education levels

Number	Level of Education	Year(s) of Education
1	Didn't complete primary school	0
2	Primary school and equivalent	6
3	Junior high school and equivalent	9
4	Senior high school/religious senior high school/c package	12
5	Vocational school	13
6	Associate's degree	15
7	Bachelor's degree	16
8	Graduate's degree/postgraduate's degree	21

The third column of Table 1 shows the number of years generally needed to complete each level of education on the corresponding row of the second column in Indonesia. Some categories contain a few different levels of education, such as the 6^{th} and 8^{th} categories. In this study, those categories were represented using the highest level of education within each category.

The second variable tested in this study was the data of training(s) received within the previous year. This data divided the training types received into five categories which were: i) managerial, ii) production skills/techniques, iii) marketing, iv) other types of training, and v) didn't receive any training within the previous year. These variables were also tested using the comparison of means test or simple regression. If there were significant differences within the groups, then it's necessary to do a post hoc test to see which group(s) are significantly different from the other group(s). Every single test was conducted using $\alpha = 0,05$. The data were compared to each other using a comparison of means or simple regression techniques with Minitab Software to assist in the data processing.

3. Results and Discussion

3.1. Results

Human resources are one of the most important assets for small businesses. This study focused on the significance of human resource competence toward MSEs' performance in Indonesia. Human resource competence was represented by the highest education completed by both the owner/manager and the workers. We also try to see whether the investment in human resources will significantly improve MSEs' performance by looking at the effect of training on MSEs' performance. Lastly, we represent MSEs' performance using MSE's profit. The tests were conducted using an appropriate comparison of means test or simple regression technique using Minitab Software, and we can see the results in Table 2 to 4.

Table 2
The effect of owner/manager's education on MSE's profit

Source	P-Value
Owner/manager's education	0,820

Table 3
The effect of worker's average year(s) of education on MSE's profit

Term	P-Value
Worker's average year(s) of education	0,465

Table 4
The effect of training received within the previous year on MSE's profit

Source	P-Value
Training received within the previous year	0,000

Table 2 shows the effect of owner/manager's education on MSEs' profit from the data. The test was done using an ANOVA comparison of the means test to test the difference between each group. The test showed a P-Value of 0,82 which is larger than 0,05 therefore we fail to reject the null hypothesis H_0 = there is no difference in means between the groups. Table 3 shows the effect of workers' average year(s) of education on MSEs' profit. The statistical test used in this case was simple linear regression. With a P-Value of 0,465 which is larger than 0,05 therefore we fail to reject the null hypothesis H_0 = there is no significant relationship between the predictor variable (workers' average year(s) of education) and the response variable (MSEs profit). Table 4 shows the effect of training received within the previous year on MSEs' profits. The test was done using ANOVA and it showed a P-Value close to 0 which is less than 0,05. With that P-Value we reject the null hypothesis H_0 = there is no difference in means between the groups.

3.2. Discussion

After initial data cleaning and testing, the tests show that there are significant differences of means in profit between groups with different types/no training. To see which group(s) is significantly different from the other group(s) there's a need to do a post hoc test. In this case, the post hoc test was done using Tukey Pairwise Comparison and the result is shown in Table 5.

Table 5
Post hoc test using Tukey Pairwise Comparison of data from table 4

Training Received Within the Previous Year	N	Mean	Grouping		
Other	259	14847784	A		
Marketing	327	8671198		B	
Production skills/techniques	3427	7209606		B	
Managerial	246	6756663		B	C
No training	85088	4373211			C

Table 6
Types of training from "other" category

Training Category	N
Quality Certification	90
Technical Skills	46
Cultivation	19
Capital	16
HR Development	14
Business Skills	13
Waste Management	7
Work Safety	3
Organization	3
Technology	2
Invalid Inputs	46

The post hoc test shows the difference and similarities between each group tested. The test shows that MSEs with "other" types of training have significantly different mean profits compared to other groups while MSEs with marketing, production skills/techniques, and managerial training are not significantly different in profit. Lastly, MSEs with managerial training and MSEs with no training are not significantly different in profit. MSEs with "other" types of training have significantly greater profits compared to other MSEs. Table 6 shows the types of training that fall into the "other" category.

Out of the 259 samples in the "other" category, the types of training were grouped together into 11 categories with Quality Certification as the largest category followed by Technical Skills. Quality Certification consists of mainly training in health and hygiene regulation. In Indonesia, those types of training are mainly done to get certification from the National Agency of Drug and Food (or Badan Pengawas Obat dan Makanan). The certification is mandatory for the enterprises that want to have a wider distribution of their products, specifically food and drugs, including cosmetics and relevant skincare. Although the certification can be submitted online, the required documents and the certification process can be long and complex. Hence, the local government and also the district office of industry regularly hold the training for this certification. Also, the National Agency of Drug and Food offers technical tutorials if necessary.

The second-largest group is Technical Skills training. The technical Skills group mainly consists of industry-specific skills used in production. Some examples of training for specific skills are training for industrial design, packaging design, and some trainings related to intellectual property rights including patents. Some other supporting skills such as tax-related and Good Manufacturing Practice (GMP) have also been provided for MSEs. Some specific skills training are provided by the district office of industry and/or trade, especially in the area that has potential exporting goods. The higher standards of the international market require specific training that would improve the technical capacity of the enterprises.

Although the test result shows a significant impact of training to profit, the number of samples belonging to groups with training is far lower than those who do not receive training. Table 5 shows that approximately 95,23% of MSEs in Indonesia have not yet received any training within the previous year. This might have a significant impact on the statistical power of tests caused by unequal sample sizes. However, the result indicates that training received by MSEs has a positive impact on their productivity, reflected by their profit. Nevertheless, its magnitude of it cannot be explored further due to the low number of samples. Training, especially if it is relevant to the needs of the enterprises will boost their capability to improve productivity. The relevance of the training to training outcome is important as Shiryan et al. have identified, and also affects to enterprise's performance which is indicated by the economic benefit.

4. Conclusion

From the study conducted we can see that general education both on the owner/managerial level and worker level does not have a significant impact on Indonesian MSEs' profits. From the earlier literature used in this study, some of them state that human resource's general education is important for performance but this doesn't apply to Indonesian MSEs in general. Some studies might suggest that higher education would result in greater financial performance but that is not the case for MSEs in Indonesia.

The tests also show that MSEs with training have a significant mean profit difference compared to MSEs with no training. One exception is there is no significant difference in mean profit between MSEs with managerial training and MSEs with no training. Generally, the mean profits of MSEs with training are greater than MSEs with no training. Marketing, production skills/techniques, and other forms of training will have a significant positive impact on MSEs' profit based on the data. MSEs with training in "other" category have significantly greater mean profit compared to other types of training. This category consists of mostly health & hygiene training for quality certification. Another dominant type of training in this category are industry-specific technical skills. It might benefit Indonesian MSEs, in general, to invest a portion of their resources towards human resource development through training.

One of the limitations of this study comes from the available data. The survey data only consist of training received within the previous year. If there is a record of training received since the establishment of MSEs and the frequency of training conducted by the MSEs, it might help create more samples of MSEs with training because with limited funding, not every MSE can provide training programs annually. This in turn will help with the statistical power of the test.

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