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Labor Competitiveness on the Income of Urban Agricultural MSMEs in East Jakarta

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Abstract

Labor is one of the production factors that determines productivity. This research aims to measure the competitiveness of the workforce as seen from the age of the farmer, level of formal education, and work experience on the income generated by urban agricultural MSMEs in East Jakarta. This research uses quantitative data obtained through the Simple Random Sampling method by distributing questionnaires to respondents as many as 70 samples of urban agricultural farmers/MSMEs in East Jakarta. Based on the results of data processing using SPSS 24, it was found that the competitiveness of urban farming farmers is determined by education, but not by age and work experience. The competitiveness of labor influences the income of farmers/MSMEs

Keywords: competitiveness, labor, income, MSMEs, urban agriculture

1. Introduction

Micro, Small and Medium Enterprises have a very important and strategic role for the economy in Indonesia. In 2013, Micro, Small and Medium Enterprises (MSMEs) employed around 114 million people, while at the same time, the total number of employed people reached 115 million people. Therefore, MSMEs provide employment opportunities for at least 98% of the working population (BPS, 2016). Thus, the role of MSMEs not only has a positive impact on economic growth, but also on employment opportunities. Even though MSMEs have a very vital role in the country's economy, MSME business operations do not always run smoothly because MSME players are faced with various obstacles and challenges. The level of competitiveness of MSMEs is influenced by internal factors such as human resources and capital, as well as external factors such as government macro policies and external environmental conditions. (Hubeis. 2020). One of the obstacles for MSMEs is the labor factor. The low level of education is an obstacle because the level of formal education partially influences the income of MSMEs (Arseto, 2019). Apart from that, the age of business actors and experience in running a business also has an influence on the income earned (Utami and Yuliarmi, 2019).

One of the MSMEs that is currently developing amidst the many types of MSMEs is in the field of urban agriculture. Urban agriculture is currently being intensively promoted by the DKI Jakarta Provincial Government. Apart from achieving food security in Jakarta, the DKI Provincial Government also intends to anticipate the climate crisis. This is of course a breath of fresh air for urban agricultural MSME entrepreneurs. Encouragement for the public to utilize empty space for reforestation has increased demand for farming tools, seeds and ornamental plants. Agricultural businesses in the urban area of DKI Jakarta generate an average income at a total cost of around Rp. 24,431,176 per year, and the total income earned by the household reaches around Rp. 38,948,226 per year. The contribution made by income from agricultural activities to overall household income reached 62.7%. Thus, in this case, urban agriculture in DKI Jakarta has functioned as the main source of income for farming households. With this large contribution, businesses in the urban agriculture sector can be a solution for people with low levels of education to obtain a source of livelihood (Ammatillah, 2018). This is a challenge for urban agricultural MSMEs to be able to compete with competitors, especially with limited workforce. The development of urban agriculture, apart from increasing farmers' income, is also for ecological, aesthetic and environmental preservation functions. The enormous benefits of urban agriculture mean that the Jakarta City government continues to strive to increase its competitiveness and productivity.

Salim, Susilastuti and Setyowati (2019), stated that the use of labor in the agricultural sector is inefficient, namely the amount is more than what should be needed. Even though the contribution to income is large (75%), the optimization level is -9.589, less than 1. The presence of workers has a detrimental impact on the level of productivity, while the factors age, level of education, and duration of being involved in farming do not have a significant influence. In other research, Salim, Susilastuti and Oktavia (2019), stated that the influence of labor on productivity is correlated with land area, farmer institutions and the role of government. It was asked that the measure of labor performance is the farmer's competency which is the dominant factor and the length of farming. As human resources, the competitiveness of farmers' performance is determined by internal factors such as age, ability to innovate, knowledge, skills, health and others, and external factors such as socio-economic, technological, institutional and community (Hanafie, 2010).

All efforts made by farmers are for the welfare of farmers and their families. Agricultural activities are to obtain optimum production, improve farming behavior and preserve the environment. In Indonesia, agricultural productivity geographically determines the welfare of farmers (Susilastuti, 2017). Farmer income has implications for farmer welfare which can be measured by the Farmer Exchange Rate (NTP) (Salim, Susilastuti, and Setyowati, 2017). There are many factors that influence farmers' income, namely on-farm factors, namely factors that have a direct influence on their farming business and out-farm factors, namely factors that come from outside their farming business (Hanafie, 2010). Farmers' income is the result of their farming business after deducting production costs.

Technological innovation refers to all forms of technology, both in the form of software and hardware, which are used to simplify tasks, expand the scope of information, and increase the quality and quantity of production. The use of technology has direct positive implications for farmers' income. The dominant factor in implementing information technology innovation is the source of information (Hanafie, 2010; Salim et.al. 2022). Susilastuti et.al. (2018), stated that the application of technology by farmers is strongly correlated with farmer education.

Problems faced by urban farmers based on research results include: the use of labor is not yet optimal, access to increased capital is not yet optimal, there is still a need for skills and knowledge to improve the quality and quantity of products, agricultural institutions are not

yet optimal, and the use of technology is not yet optimal, including information technology, there is still a need for assistance for market access, and there is still a need for guidance from the government and land ownership rights. The purpose of this research is to examine how competitive the workforce is in terms of age background, formal education level and work experience on the income generated, especially in Urban Agricultural MSMEs in East Jakarta.

2. Literature Review

2.1 Income Theory

Income theory by J.M. Keynes explained it as a theory of Liquidity Preferences. This theory identifies three motives behind a person's desire to save cash, namely the transaction motive, the risk prevention motive, and the speculation motive. Basically, income is used to meet daily needs and provides incentives to traders or entrepreneurs to provide for various desires, needs, or responsibilities. Individual circumstances can be measured using the concept of income which reflects the total money received in a certain time period. In other words, income is the amount of income generated from a person's work activities, calculated every year or month (Rohmawati, 2021).

Based on research by Arianti (2020), there are elements that refer to the origin of the income earned. These elements consist of: 1) Income generated from the production of goods or services; 2) compensation obtained from the use of the company's economic assets by other parties; 3) proceeds from the sale of assets outside of merchandise inventory which is part of other income elements in a company.

2.2 Labor

Law no. 13 article 1 paragraph 2 states that "labor is every person who is able to do work to produce goods and/or services to meet their own needs or those of the community." Human resources have two concepts, in terms of quality it refers to the work potential or services that can be provided during the production process, while in the quantity dimension it refers to individuals who have the ability to provide services or work efforts themselves (Ningsih and Wahyu, 2022). The population in a country can be grouped into two categories, namely labor and non-labor groups. The labor group refers to individuals who are actively looking for work or who are already working, produce goods or services that meet the age criteria established by law, and have the aim of obtaining compensation to meet their daily needs.

There are two classifications of labor, namely educated labor and trained labor. An educated workforce refers to individuals who have acquired competence in a domain through formal and informal education, while a trained workforce is an individual who has skills in a specific area acquired through experience.

2.3 Concept of Micro, Small and Medium Enterprises

Based on Law no. 20 of 2008 concerning Micro, Small and Medium Enterprises (MSMEs), what is meant by Micro, Small and Medium Enterprises are: 1) Micro Enterprises are productive businesses owned by individuals and/or individual business entities that meet the criteria for Micro Enterprises as regulated in Constitution; 2) Small Business is a stand-alone productive economic business, carried out by individuals and/or business entities that are not subsidiaries or branches of companies that are owned, controlled, or are part directly or indirectly of Medium or Large Businesses that meet the Business criteria Small as intended in

the Law; 3) Medium Business is a stand-alone productive economic business, which is carried out by individuals or business entities which are subsidiaries or branches of companies which are owned, controlled, or are part of either directly or indirectly with Small Businesses or Large Businesses with total net assets or sales proceeds. annually as regulated in the Law.

From the descriptions above, it can be concluded that the essence of Micro, Small and Medium Enterprises is a form of productive economic enterprise carried out by individuals or individual business entities that meet the criteria for Micro, Small and Medium Enterprises (Anggraeni, Hardjanto, and Hayat , 2013).

2.4 Urban Farming

Urban farming is the practice of cultivating and producing a variety of crops and livestock in urban areas and surrounding areas through intensive farming techniques. It involves utilizing natural resources and urban waste to grow, process, and distribute food and other products. This form of agriculture includes various methods such as small intensive farming, animal husbandry, producing food within residential areas, sharing land for growing crops, creating rooftop gardens, creating school greenhouses, integrating parks with restaurants, utilizing public spaces for food production, and growing crops. . vegetables in vertical space (Fauzi, Ichniarsyah, and Agustin, 2016)". Urban agriculture is cultivated on narrow land, based on research by Salim, Susilastuti, Oktavia and Fathin (2022), narrow land is not an obstacle to getting a large enough income for farmers. Effective and efficient technology is a major factor in the progress of urban agriculture.

3. Research Methods

The method applied in this research adopts a quantitative approach in associative form, involving three independent variables, namely. age, formal education level, and work experience as independent variables representing the competitiveness of the workforce which influences one dependent variable, namely income.

Primary data was obtained by interviewing and distributing questionnaires/google forms to respondents containing statements regarding the respondent's identity with questions related to the variables of age, level of formal education, and work experience as workers in urban agricultural MSMEs and the income generated each month. The sample selection method applied was Simple Random Sampling, where 70 individual workers were taken as samples. Urban agricultural MSMEs in the East Jakarta area.

The analysis method applied is multiple linear regression analysis in accordance with the methodology described by Sugiyono (2013), using SPSS 24 software. The analysis procedure includes the classical assumption test, the F test for the overall test, and the t test for the partial test.

4. Results and Discussion

4.1 Classic Assumption Test

Classical assumption checking is a method used to evaluate whether a linear regression model meets classical assumptions. In the context of this research, normality testing was carried out through skewness and kurtosis tests, as well as multicollinearity testing.

A. Normality Test

Table 1. Skewness-Kurtosis Normality Test

Descriptive Statistics

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Umur	70	-.305	.287	-1.055	.566
Pendidikan Formal	70	-.016	.287	-.427	.566
Pengalaman	70	.608	.287	-.116	.566
Pendapatan/bulan(Y)	70	.920	.287	-.054	.566
Valid N (listwise)	70				

The range of values accepted for testing using Skewness-Kurtosis is between values > -1.96 to < 1.96. Based on the results of data processing obtained, as shown in Table. 1 that almost all elements have values between the specified value limits. Thus, it can be concluded that the data used in this research has a normal distribution

B. Multicollinearity Test

This test aims to identify whether in the regression model there is a significant or strong correlation between the independent variables. If indications of high correlation are found between the independent variables, it can be concluded that there is a multicollinearity phenomenon in the research.

From the VIF results listed in Table 2 below, it can be observed that the VIF for Age is 1.563, the VIF for Formal Education is 1.145, and the VIF for Experience is 1.634. Because all VIF values of the independent variables are below 10, it can be concluded that there is no indication of multicollinearity occurring in this research model.

Table 2. Multicollinearity TEst

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-1.060	1.016		-1.043	.301					
	Umur	-.036	.141	-.035	-.255	.799	-.081	-.031	-.028	.640	1.563
	Pendidikan Formal	.983	.242	.478	4.070	.000	.437	.448	.446	.874	1.145
	Pengalaman	.148	.143	.145	1.037	.304	-.039	.127	.114	.612	1.634

a. Dependent Variable: Pendapatan/bulan(Y)

4.2 F Test

In the context of multiple regression analysis, the F test is carried out to test independent variables collectively to assess whether these independent variables have an impact on the dependent variable.

Table 3. F Test

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.077	3	6.359	5.709	.002[b]
	Residual	73.509	66	1.114		
	Total	92.586	69			

a. Dependent Variable: Pendapatan/bulan(Y)

b. Predictors: (Constant), Pengalaman, Pendidikan Formal, Umur

This test involves a comparison between the F-calculated and F-table values, where the desired condition is an F-calculated value that is greater than the F-table value. From the analysis results in Table 3 above, it can be seen that the F-count obtained is 5.709, while the F-table value is 3.13. This phenomenon is also reflected in the Sig value. of 0.002 which is lower than $\alpha = 0.005$. This indicates that together, the variables of experience, formal education, and age have an impact on income. Therefore, it can be concluded that the level of workforce competitiveness has an effect on income.

4.3 t-Partial Test

Tabel 4. t-Partial Test

Coefficients[b]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-1.060	1.016		-1.043	.301
	Umur	-.036	.141	-.035	-.255	.799
	Pendidikan Formal	.983	.242	.478	4.070	.000
	Pengalaman	.148	.143	.145	1.037	.304

The partial t-test is used to evaluate the significance of the influence of the independent variables on the dependent variable. From the results of data analysis listed in Table 4 above, it can be seen that the value in the t-table is 1.66724. Based on the output obtained, the age variable has a value of -0.255, the formal education variable has a value of 4.070, and the experience variable has a value of 1.037. The calculated t-values for all variables exceed the t-table or the significance value (sig) is less than 0.05. Therefore, it can be interpreted that the age and experience variables partially do not have a significant influence on the income variable. However, the formal education variable has a significant partial effect on the income variable.

Coefficient Determination (R2)

Tabel 5. Coefficient Determination

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.454[a]	.206	.170	1.055	.206	5.709	3	66	.002	1.236

a. Predictors: (Constant), Pengalaman, Pendidikan Formal, Umur

b. Dependent Variable: Pendapatan/bulan(Y)

Coefficient of determination testing is carried out to measure the extent of the model's ability to explain how big the impact produced by the independent variables together influences the dependent variable (Sugiyono, 2013). The assessment of the coefficient of determination is based on the R-Square value, while the test results are analyzed using the Adjusted R Square value. Based on the data listed in Table 5 above, it can be seen that the coefficient of determination value obtained is 0.206, indicating that the impact is relatively weak. Furthermore, the test results show a figure of 0.170, which illustrates that the variables Experience, Formal Education and Age only contribute 17% to farmer income. The remainder, namely 83%, was influenced by other variables not analyzed in this study.

5. Discussion

Labor competitiveness has a positive impact on urban farmers' income. This is in accordance with research by Salim, Susilastuti and Oktavia (2019). Workers are those involved in farming, either as owners or workers. Workers can come from the family or outside the workforce. According to Salim, Susilastuti and Setyowati (2019), the use of family workers often does not perform optimally or can be said to be unprofessional. Generally occurs in subsistence agricultural businesses. Based on research results, the contribution of labor to income is 17%. This is quite large because there are many other factors that influence income, namely product factors, economic factors, social factors, regulations and others.

Based on partial testing, urban agricultural farmers' income is not influenced by age, this is in accordance with research by Salim, Susilastuti, Oktavia and Safira (2022). This can explain that urban farming can be done by both the old and the young. This research states that farmer income is also not influenced by farming experience. This can be explained by the fact that urban agriculture is generally an ornamental plant seller that does not require skills. However, according to Grujić and Grujčiće (2021) marketing skills and strategies are needed to improve product quality and sales. The effect of education is significant on the income of urban agricultural farmers. This is in accordance with Susilastuti et. al. (2018), education increases the use of technology which has implications for income. Education is the process of increasing knowledge to gain competence. Education can be formal, informal or non-formal education. In this research, farmers' formal education has a positive effect on income.

5.1 Implication

Improving labor competitiveness is essential for increasing the income of urban farmers. Policies should prioritize training programs for both family members and external workers to enhance their skills and productivity. Since age and farming experience do not significantly affect income, urban farming is accessible to individuals of all ages and backgrounds.

Promoting it as an economic opportunity for young entrepreneurs and retirees, along with community farming initiatives and business incubation programs, can enhance inclusivity even further.

The impact of education on farmers' income highlights the importance of both formal and informal programs that focus on modern farming techniques, digital marketing, and business management. Government agencies and agricultural organizations should improve access to training that equips farmers with essential technological and marketing skills. In urban agriculture, particularly in the sale of ornamental plants, effective marketing is crucial. Farmers should utilize digital marketing, social media, and e-commerce to expand their customer base and increase profitability. Additionally, support in branding and customer relationship management can further enhance income potential.

Policymakers should create a supportive environment for urban farming by providing financial assistance, easing regulations, and improving market access. Investing in infrastructure, such as greenhouses and digital tools, can significantly boost productivity and profitability.

6. Conclusion

Based on the results of the analysis and discussion that have been presented, the following can be concluded: 1. The competitiveness of the workforce influences income in urban agricultural MSMEs in East Jakarta. Experience, formal education and age only have an influence of 17% on income, the remaining 83% is determined by other variables not tested in this research. 2. As a measuring tool used to determine the competitiveness of workers, it was found that the age and experience variables had no partial effect on the income of urban agricultural MSME workers in East Jakarta. Meanwhile, formal education is a competitive advantage for workers which has implications for higher income levels because the formal educational background of workers has an influence on the income of urban agricultural MSMEs in East Jakarta.

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