



The Influence of Internal and External Factors on Increasing Youth's Interest in Hydroponic Agribusiness in Kaliombo Sub-District, Kota Kediri

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ABSTRACT

The development of technology in the agricultural sector is so rapid that those who are left behind in utilizing technological advances will not get maximum benefits from their business activities. One of the developments in agricultural cultivation technology is hydroponic technology. The rapid development of agricultural technology is not comparable to the younger generation working in the agricultural sector. The younger generation is less interested in agricultural activities, including hydroponic technology. The purpose of this study is to describe the influence of internal and external factors in increasing the interest and aspirations of young people in hydroponic agribusiness in Kaliombo Village, Kediri City District, and to analyze the influence of internal and external factors on the interest and aspirations of young people in hydroponic agribusiness in Kaliombo Village, Kediri City District. The data analysis used in this study used the Likert Rating Scale (SLR) and multiple regression analysis. The multiple linear regression equation in this study is written as $Y = 2.476 + 0.142X_1 + 0.072X_2 + e$. The results of the study on the influence of internal and external factors on increasing the interest of young people in hydroponic agribusiness in Kaliombo Village, Kediri City District obtained the following conclusions; internal and external factors that have been carried out by young people in Kaliombo Village, Kediri City District together have played a major role in the interest and aspirations of young people in hydroponic agribusiness in Kaliombo Village, Kediri City District, internal factors owned by young people influence the interest of young people in hydroponic agribusiness.

Keywords — influence, interest, hydroponics

1. Introduction

The development of technology in the agricultural sector is so rapid that those who are left behind in utilizing technological advances will not gain maximum benefits from their business activities. One of the developments in agricultural cultivation technology is hydroponic technology. Hydroponic agricultural cultivation technology provides an alternative for farmers who have limited land or who only have a yard to be able to carry out business activities that can be used as a source of adequate income.

The rapid development of agricultural technology is not comparable to the younger generation working in the agricultural sector. The younger generation is less interested in

agricultural activities, including hydroponic technology. The perception of young farmers toward entrepreneurship in the agricultural sector is included in the sufficient category [1]. The interest of the younger generation in choosing the agricultural sector as a job is also in the sufficient category [2]. Internal factors of perception and external factors of perception have a real positive relationship with the interest of young people in pursuing a career in agriculture. This positive relationship states that the higher the perception, the higher the interest in working in the agricultural sector [3].

Interest in working in the agricultural sector is influenced by internal factors such as type of education, intensity of helping parents,



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parents' jobs, and access to information and communication technology (ICT) [2]. The sustainability of young farmers' agribusiness is also influenced by external factors such as the role of agricultural extension workers and entrepreneurial capacity [4]. Institutions and training can be important factors in providing knowledge in the agricultural sector to young people. Institutions facilitate coordination between their members and assist organizations so that they are important as a forum for building young people's interest in working in the agricultural sector [5].

Based on the problem explained above, the purpose of this study is to describe the influence of internal and external factors in increasing the interest and aspirations of young people in hydroponic agribusiness in Kaliombo Village, Kediri City District and to analyze the influence of internal and external factors on the interest and aspirations of young people in hydroponic agribusiness in Kaliombo Village, Kediri City District.

2. Method

2.1. Population and Research Location

In this study, the population used is the youth in Kaliombo Village, Kediri City District. The research location is around Kaliombo Village, Kediri City District. The selection of this location was done intentionally and based on the consideration that many youth are less interested in hydroponic agribusiness. The research period will be carried out for approximately six months.

2.2. Sampling Methods

The sampling technique used in this study was Cluster Sampling. The sample in this study was 30 respondents taken in groups from 6 Neighborhood Associations. Each Neighborhood Association consists of 5 young people.

2.3. Variables

The independent variables in this study are the influence of internal factors (X1) and external factors (X2). Internal factors (X1) consist of formal education, parental support, training participation, access to communication media, and age. External factors (X2) consist of

environmental support/factors in agricultural businesses, agricultural extension, interest in hydroponic entrepreneurship, and the role of village institutions. The dependent variable in this study is the Interest and Aspiration of Youth in Hydroponic Agribusiness (Y).

2.4. Data Collection Procedures

The stages of data collection in this research are as follows: (1) Observation by conducting direct observation of the object to be researched so that a clear picture is obtained regarding the area to be researched, (2) Unstructured interviews for primary data collection, (3) data collection using a questionnaire with a Likert Scale, the values for answers to the questionnaire are 5, 4, 3, 2 and 1, (4) Collection of secondary data obtained from related agencies, the Village Head's office and literature or books related to this research, (5) Documentation, namely a data collection method carried out by recording data or documents related to the research.

2.5. Validity and Reliability Test

This validity test is conducted to measure whether the data obtained after the research is valid data or not, using the measuring instrument used (questionnaire). This validity test is conducted using the SPSS 24.0 for Windows program with the following criteria: If $r_{count} > r_{table}$ then the statement is declared valid. If $r_{count} < r_{table}$ then the statement is declared invalid. The r -count value can be seen in the corrected item-total correlation column. This reliability test was conducted on 30 young respondents in the Kaliombo sub-district, using questions that have been declared valid in the validity test and their reliability will be determined. Using the SPSS 24.0 for Windows program, the variables are declared reliable with the following criteria: (1) If r_{alpha} is positive and greater than r_{table} then the statement is reliable, (2) If r_{alpha} is negative and less than r_{table} then the statement is not reliable.

2.6. Regression Analysis

The study of the influence of internal and external factors on increasing the interest of young people in hydroponic agribusiness was



conducted using the SPSS 24.0 program. The regression model in this study is

$$Y = a + b_1X_1 + b_2X_2 + e$$

Where Y is the value of the Interest and Aspiration of Young People in Hydroponic Agribusiness; X1 is the value of internal factors including formal education, parental support, training participation, access to communication media, and age; X2 is the value of external factors including environmental support/factors in agricultural businesses, the role of agricultural extension, interest in hydroponic entrepreneurship, and the role of village institutions. The collected research data were processed with the SPSS program and analyzed by using the F test. The F test was used to simultaneously determine the influence of internal and external factors on increasing the interest of young people in hydroponic agribusiness.

3. Discussion

3.1. Respondent characteristics

The number of samples taken in this study was 30 respondents, namely 20 males and 10 females aged 16-30 years. The ages of 16, 19, 20, 22, and 24 years were 3 people each; the ages of 23, 25, 26, 27, 28, and 29 years were 2 people each; the ages of 18, 21, and 30 years were 1 person each. The education level of the respondents consisted of three levels of formal school, namely junior high school with 5 respondents, high school with 16 respondents, and bachelor's degree with 9 respondents.

3.2. Internal Factors

Internal factors in Kaliombo Village, Kediri City District, received an average score of 4.20, which means they strongly agree. Measurement of internal factor variables is seen from the 18 indicators given. The indicators given during the respondent filling activity were appropriate so that young people were able to improve their knowledge and skills in hydroponic agribusiness.

Table 1. Internal Factors

Variables and Indicators	Score	Category
Formal Education	4.17	Agree
	4.23	Totally agree
Background	4.20	Totally agree
	4.23	Totally agree
Participation in Agricultural Training	4.20	Totally agree
	4.23	Totally agree
	4.17	Agree
	4.17	Agree
	4.23	Totally agree
	4.20	Totally agree
	4.23	Totally agree
	4.17	Agree
	4.23	Totally agree
	4.23	Totally agree
	4.17	Totally agree
	4.17	Totally agree
Access to Communication Media	4.23	Totally agree
	4.17	Agree
Age	4.20	Totally agree
Internal Factors	4.20	Totally agree

Source: Primary Data, 2023

3.3. External Factors

External factors in Kaliombo Village, Kediri City District, received an average score of 4.20, which means they strongly agree. Measurement of external factor variables is seen from the 12 indicators given. The indicators given during the respondent filling activity were appropriate so that young people were able to improve their knowledge and skills in hydroponic agribusiness.



Table 2. External Factors

Variables and Indicators	Score	Category
Environmental Support	4.17	Agree
	4.23	Totally agree
	4.20	Totally agree
	4.23	Totally agree
The Role of Agricultural Extension	4.20	Totally agree
	4.23	Totally agree
Interest in Hydroponic Entrepreneurship	4.17	Agree
	4.17	Agree
	4.17	Agree
	4.23	Totally agree
Institutional Role	4.23	Totally agree
	4.17	Agree
External Factors	4.20	Totally agree

Source : Primary Data, 2023

3.4. Validity Test

The research instrument after the validity test was declared valid. This is known from the calculated *r* value on all indicators in the questionnaire which is greater than the *r* table value (0.361), so it is suitable for use in data collection.

3.5. Reliability Test

The data that has been declared valid is then tested with a reliability test. Reliability testing is carried out to determine the consistency of an instrument that will show how the items in the questionnaire are positively correlated with each other. The results of the reliability test of variables *X* and *Y* are declared reliable with a Cronbach Alpha value of 0.978 or 97.8%, which means that the Cronbach Alpha value is > 0.60 or 60%. It can be concluded that all indicators that have been answered by respondents are declared reliable.

3.6. Multiple Regression Analysis

The independent variables used in this study are internal factors (*X*₁) dan external factors (*X*₂). The dependent variable in this study

is interest (*Y*₁). The multiple linear regression equation can be written as follows:

$$Y = 2,476 + 0,142X_1 + 0,072X_2 + e$$

Where:

Y: Youth Interests and Aspirations in Hydroponic Agribusiness

*X*₁: Internal Factors

*X*₂: External Factors

The data shows that the coefficient of determination (Adjusted *R*²) value is 0.739, which means that the internal factor variable and external factor are able to explain 73.9% of the interest and aspiration variables of young people in hydroponic agribusiness in Kaliombo Village, Kediri City. While the remaining 26.1% is explained by other variables outside the model. The *F*count value is 42.093, which means that *F*count (42.093) > from *F*table (3.34) and the significance of *F* < 0.05 (.000 < 0.05), it can be concluded that the independent variables (internal factors and external factors) together influence the dependent variable (interest and aspiration of young people in hydroponic agribusiness) in Kaliombo Village, Kediri City. This means that the regression model can be used to predict that internal factors and external factors (*X*) influence the interest and aspiration of young people in hydroponic agribusiness (*Y*).

Factors found to significantly influence the interests and aspirations of young people in hydroponic agribusiness in Kaliombo Village, Kediri City are internal factors. Internal factors studied in this study include formal education, parental support, training participation, access to communication media, and age. In the regression table, internal factors have a positive coefficient (0.244), meaning that the better the internal factors possessed by young people, the higher the interests and aspirations of young people in hydroponic agribusiness.

External factors based on the analysis are not significant with a negative coefficient of -0.085. This means that external factors owned by young people have no influence on the interests and aspirations of young people in hydroponic agribusiness to be higher.



Table 3. Regression Analysis Result

Variable	Regression Coefficient	Standard Error (SE)	t-statistic	p-value
Dependent: Y	2.632	1.603	1.642	0.112
Independent:				
X ₁	0.244***	0.059	4.152	0.000
X ₂	-0.085	0.087	-0.980	0.336
R ²	= 0.757			
Adjusted R ²	= 0.739			
F-statistic	= 42.093***			

Source: Primary Data, 2023

Note: ***= Significant at $\alpha = 1\%$

4. Conclusion

Based on the results of the study of the influence of internal and external factors on increasing the interest of young people in hydroponic agribusiness in Kaliombo Village, Kediri City District, the following conclusions were obtained; internal and external factors that have been carried by young people in Kaliombo Village, Kediri City District together have played a major role in the interest and aspirations of young people in hydroponic agribusiness in Kaliombo Village, Kediri City District, internal factors owned by young people influence the interest of young people in hydroponic agribusiness.

5. References

- [1] H. M. Qudrotulloh, E. Sumarsih, H. Nuryaman, N. R. Mutiarasari, and T. Hardiyanto, "Persepsi Petani Muda Terhadap Wirausaha di Sektor Pertanian (Kasus pada Petani Muda di Desa Tenjonagara, Kecamatan Cigalontang, Kabupaten Tasikmalaya)," *J. Agribisnis dan Teknol. Pangan AGRITEKH*, vol. 2, no. 2, 2022, doi: <https://doi.org/10.32627/agritekh.v2i2.426>.
- [2] M. Sophan, A. Agustar, and E. Erwin, "Faktor-faktor yang mempengaruhi minat generasi muda terhadap sektor pertanian sebagai lapangan pekerjaan di wilayah pedesaan kabupaten Solok," *J. Ris. Tindakan Indones.*, vol. 7, no. 3, 2022, doi: <https://doi.org/10.29210/30031858000>.
- [3] O. Suprayogi, T. I. Noor, and M. N. Yusuf, "Persepsi dan Minat Mahasiswa Program Studi Agribisnis Universitas Galuh Ciamis untuk Berkarir di Bidang Pertanian (Suatu Kasus di Program Studi Agribisnis Fakultas Pertanian Universitas Galuh Ciamis)," *J. Ilm. Mhs. (Agroinfo Galuh)*, vol. 6, no. 3, 2019, doi: <http://dx.doi.org/10.25157/jimag.v6i3.2487>.
- [4] I. Hartini, "Peranan Penyuluh Pertanian Dalam Mendukung Keberlanjutan Agribisnis Petani Muda Di Kecamatan Tanjung Tebat Kabupaten Lahat," *J. ILMU Pertan. KELINGI*, vol. 1, no. 2, pp. 43–55, 2022, doi: <https://doi.org/10.58328/jipk.v1i2.24>.
- [5] L. Effendy, A. Maryani, and A. Y. Azie, "Factors Affecting Rural Youth Interest in Agriculture in Sindangkasih Ciamis District," *J. Penyul.*, vol. 16, no. 2, 2020, doi: <https://doi.org/10.25015/16202030742>.

