Professional Determinants of Agricultural Extension in The Lake Toba Agrotourism Area

By

Helena Tatcher Pakpahan
Student of Doctoral Study Program of Counseling Development/Community Empowerment, Postgraduate Program, University of Sebelas Maret Surakarta, helenapakpahan@yahoo.co.id

Ravik Karsidi
Professor in Doctoral Study Program of Development Counseling/Community Empowerment, Postgraduate Program, University of Sebelas Maret Surakarta, ravikkarsidi@yahoo.com

Sugihardjo
Assistant Professor in Doctoral Study Program of Counseling Development/Community Empowerment, Postgraduate Program, University of Sebelas Maret Surakarta, sugihardjo@staff.uns.ac.id

Sapja Anantanyu
Assistant Professor in Doctoral Study Program of Counseling Development/Community Empowerment, Postgraduate Program, University of Sebelas Maret Surakarta, sap_anan@yahoo.com

Abstract

Extension professionals in the agrotourism area of Lake Toba are influenced by: many factors. Some of these factors include the characteristics of extension workers, education and training, achievement motivation, facilities and infrastructure and competence. For this reason, this study aims to examine empirically and analyse the influence of the characteristics of the instructor, education and training, achievement motivation, facilities and infrastructure and competence for professional extension workers. This research covers 2 regencies/cities in North Sumatra Province, namely Samosir and Karo on the grounds that Samosir and Karo Regencies are strategic areas for agrotourism development. The research sample is agricultural extension workers as many as 174 respondents. Research result shows that education and training, achievement motivation, facilities and infrastructure and competence have an influence on extension professionals while the characteristics of extension workers have no significant effect on extension professionals.

Keywords: Achievement motivation, characteristics of extension workers, education and training, extension professionals, facilities and infrastructure

Introduction

Agrotourism is a way of developing sustainable and multi-activity tourism in rural areas where visitors have the opportunity to get to know agricultural areas, agricultural work, local products, traditional food and daily life of rural people, as well as culture and traditions. Agrotourism brings visitors closer to nature, participates in, and experiences the fun of travel. Agrotourism is very helpful for farmers and the community as it provides an additional source of income for farmers and job opportunities for family members and rural youth. Agrotourism

brings its contribution to rural economic development by developing agriculture, infrastructure and long term environmental protection, opportunities for business development and new job creation which helps to improve local living standards, encourages local activities, arts and crafts and also helps develop local handicrafts and local markets, increasing the income of villagers by making the best use of local resources and increasing opportunities for social interaction with local people who often lead isolated lives, especially in remote farming communities (Dorobantu & Andrew, 2011).

Mahaliyanaarachchi (2016) stated that it is necessary to collaborate with farming communities and agricultural extension workers in order to build agro-tourism in both existing and new farms. Counseling is very important to invite other people to be interested in agro-tourism. The application of agro-tourism must be a well-planned process and extension workers must be able to assist farmers in choosing the type of agro-tourism activity. Extension workers should also assist policy planners to identify rules and regulations for managing agro-tourism.

The national development of Lake Toba agro-tourism requires the active participation of development actors and for that development activities need and must be handled by professionals based on a strong commitment from various parties. Professional instructors who are community-oriented because in today's era of globalization one of the big challenges faced by the government, especially local governments how to display professional apparatus, have a high work ethic, competitive advantage, and the ability to uphold bureaucratic ethics in carrying out their duties. and function in a professional manner. Professionalism is very much determined by a person's ability to do a job according to their respective fields of duty and level. In fact, the professionalism of an extension worker at this time cannot be said to be good, because at this time extension workers get a lot of public attention, especially in terms of unprofessional services for farmers. The government, especially extension workers, always makes improvements regarding the quality of services produced. Quality service means services that are able to give satisfaction to the community (farmers) and are able to meet community expectations. Service must be fair and equitable. Extension workers are required to be able to carry out their duties and functions professionally. Professional instructors hold fast to moral values that direct and underlie noble actions in carrying out professional duties. Professional extension workers must act objectively, it means that they are free from shame, sentiment, hatred, laziness and reluctance to act.

From these phenomena, this research aims to: a) discover whether or not there is a simultaneous influence of characteristic, education and training, achievement motivation, facilities and infrastructure, competence on extension professionals; b) figure out whether or not there is a partial influence of characteristic, the education and training, the achievement motivation, facilities and infrastructure, competence on extension professionals; c) find out to what extent these variables correlate.

A study by Siringoringo et al., (2022) found that the tourism sector has symbiosis with the agricultural sector at the household level. Meanwhile, Lesmana & Sugiarto (2021) stated that Indonesia's tourism industry is significantly younger and less mature. Their study focuses on the model of several advantages on Indonesian tourism. The novelty in this study is to develop the influence of characteristics of the instructor, achievement, infrastructure and competence for professional extension workers particularly agricultural extension in the Lake Toba area.

Materials and Methods

This research is located in Karo and Samosir Regency the Province of North Sumatra. The reason for choosing the place is because it is an agro-tourism development. The research uses quantitative research, namely a survey research. The method of data collection used questionnaires that distributed to respondents as the research samples. The populations in this study were all agricultural extensions. The method of determining the sample in this study is the census. Census is an activity to collect data and information by observing all elements of the population. The sample consists of 174 respondents. This research model consists of four exogenous variables, namely: characteristic (KP), education and training (ET), achievement motivation (AM), facilities and infrastructure (FI), and competence (Cm), and one endogenous variable, namely: professionals (EP). In this model, the influence of characteristic (C), education and training (ET), achievement motivation (AM), facilities and infrastructure (FI), and competence (Cm) variables directly on the Extension professional (EP) variable is measured. The data is processed using SPSS 25, the confidence level is 95% and the hypothesis is accepted, the significance value is less than 0.05.

Results

Result of Multiple Linear Regression Analysis

To see both the simultaneous and partial influences of characteristic, education and training, achievement motivation, facilities and infrastructure, competence on the extension professionals.

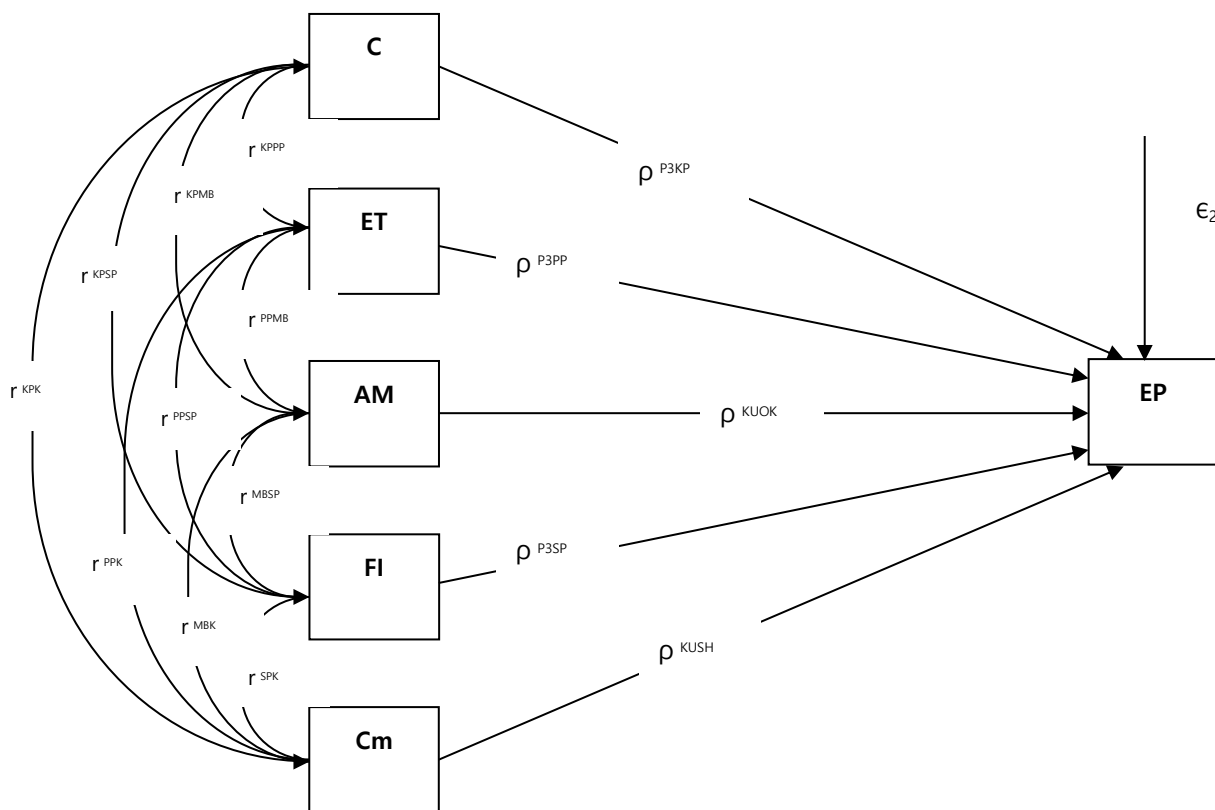The diagram model of multiple linear regression analysis:

Figure 1. Diagram Model of Multiple Linear Regression Analysis

Where C is characteristic, ET is education and training, AM is achievement motivation, FI is facilities and infrastructure and Cm is competence. Analyzing the direct effects of characteristic, education and training, achievement motivation, facilities and infrastructure, competence on extension professionals combined/simultaneously.

The formulation of equation for the diagram model of multiple linear regression analysis in Figure 1 above can be written as follows:

$$EP = \rho PC.C + \rho PET.ET + \rho PAM.AM + \rho PFI.FI + \rho PCm.Cm + \epsilon_2$$

Figuring out the simultaneous influence of characteristic, the education and training, the achievement motivation, facilities and infrastructure, competence on the professional of agricultural extensions, the following Table 1 can be referred to:

Table 1. Result of Test of Influence of characteristic, the education and training, the achievement motivation, facilities and infrastructure, competence on the extension professionals

Description	Determination Coefficient R^2	Adjusted R^2	Std Error of the estimate	F	Sig.	α
Equation	0.554	0.540	0.460	41.690	0.000	0.05
Decision	H_1 is accepted					

Source: Primary data, processed (2021)

Table 1 show that the value of Adjusted R^2 is 0,540. This value means that the influence of characteristic, education and training, achievement motivation, facilities and infrastructure, competence simultaneously on professional is 0,540. The remaining is 0,460 influenced by factors other than these five variables.

Finding out the partial influence of characteristic, the education and training, the Achievement motivation, facilities and infrastructure, competence on the extension professionals.
The partial influence of characteristic, education and training, achievement motivation, facilities and infrastructure, competence on the extension professionals can be seen from the value of unstandardized coefficients (B) in Table 2.

Table.2. Coefficient.Values of Characteristic, Education and Training, Achievement Motivation, Facilities and Infrastructure, Competence

Model	Unstandardized Coefficients (B)	T value	Sig.	α
Constant	12.220	0.990	0.324	0.05
Characteristic	0.117	0.229	0.819	0.05
Education and Training	0.734	3.488	0.001	0.05
Achievement Motivation	0.422	2.511	0.013	0.05
Facilities and Infrastructure	0.355	2.100	0.037	0.05
Competence	0.158	2.127	0.035	0.05

Source: Primary data, processed (2021)

This table shows the regression equation to discover the constant value and hypothesis testing of regression coefficient significance. The constant value of unstandardized coefficients found in this research is 12.220. This value takes the form of constant value, indicating: the magnitude of the extension professionals when education and training, achievement motivation, facilities and infrastructure, competence are equal to 0.

The partial test as shown by Table 2 indicate the regression coefficient value of characteristic on professional, the regression coefficient value of education and training on professional, the regression coefficient value of achievement motivation on extension professionals, the regression coefficient value of facilities and infrastructure on professional and the regression coefficient value of competence on extension professionals. The research hypothesis is formulated with the following statistic hypothesis:

H_0 = characteristic, education and training, achievement motivation, facilities and infrastructure, competence has no influence on extension professionals.
H_1 = characteristic, education and training, achievement motivation, facilities and infrastructure, competence has an influence on extension professionals.

Furthermore, to figure out the significance, a comparison is made between the probability values of 0.05 with the sig probability value with the bases for making decisions as follows:

If the probability value of 0.05 is less than or equal to sig probability value or (0.05< sig), then H_0 is accepted and H_1 is rejected, meaning it is insignificant.

If the probability value of 0.05 is greater than or equal to sig probability value or (0.05> sig), then H_0 is rejected and H_1 is accepted, meaning it is significant.

1) Regression coefficient value characteristic on extension professionals is 0,117. Sig 0,819 > α 0,05, then H_0 is accepted. This shows that the characteristic does not have a direct and insignificant effect on extension professionals.
2) Regression coefficient value education and training on extension professionals is 0,734. Sig 0,001 < α 0,05 then H_1 is accepted. This shows that education and training direct and significant effect on extension professionals.
3) Regression coefficient value achievement motivation on extension professionals is 0,422. Sig 0,013 < α 0,05 then H_1 is accepted. This shows that achievement motivation direct and significant effect on extension professionals.
4) Regression coefficient value facilities and infrastructure on extension professionals is 0,355. Sig 0,037 < α 0,05, then H_1 is accepted. This shows that facilities and infrastructure direct and significant effect on extension professionals,
5) Regression coefficient value competence on extension professionals is 0,158. Sig 0,035 < α 0,05, then H_1 is accepted. This shows that competence direct and significant effect on extension professionals.

Discovering the correlation between variables

The correlation analysis among characteristic, education and training, achievement motivation, facilities and infrastructure, competence variables can be seen in the result of SPSS calculation as shown below:

Table 3. Result of Correlation among Variables Correlations

		Characteristic	Education and Training	Achievement motivation	Facilities and infrastructure	Competence
Characteristic	Correlation Coefficient	1,000	**-0,036**	**-0,052**	**-0,006**	**-0,075**
	Sig. (2-tailed)		0,642	0,494	0,938	0,323
	N	174	174	174	174	174
Education and Training	Correlation Coefficient	-0,036	1,000	**.782**[**]	**.599**[**]	**.636**[**]
	Sig. (2-tailed)	0,642		0,000	0,000	0,000
	N	174	174	174	174	174
Achievement motivation	Correlation Coefficient	**-0,052**	**.782**[**]	1,000	**.620**[**]	**.733**[**]
	Sig. (2-tailed)	0,494	0,000		0,000	0,000
	N	174	174	174	174	174
Facilities and infrastructure	Correlation Coefficient	**-0,006**	**.599**[**]	**.620**[**]	1,000	**.560**[**]
	Sig. (2-tailed)	0,938	0,000	0,000		0,000
	N	174	174	174	174	174
Competence	Correlation Coefficient	**-0,075**	**.636**[**]	**.733**[**]	**.560**[**]	1,000
	Sig. (2-tailed)	0,323	0,000	0,000	0,000	
	N	174	174	174	174	174

Source: Primary data, processed (2021)

To interpret these values, the following criteria are used:

0 – 0.25 : Very weak correlation (considered inexistent)
> 0,25 – 0,50 : Fair correlation
> 0,50 – 0,75 : Strong correlation

> 0,75 – 1 : Very strong correlation

1. The correlation between characteristic and education and training is -0.036, meaning that the correlation between characteristic and education and training is fairly strong and not in the same direction (since the result is negative). Being not in the same direction means that if the characteristic is high, then the education and training will be low. The correlation of these two variables is insignificant since the significance value is 0.642 > 0.05.

2. The correlation between characteristic and achievement motivation is -0.052, meaning that the correlation between characteristic and achievement motivation is strong and not in the same direction (since the result is negative). Being not in the same direction means that if the characteristic is high, then the achievement motivation will be low. The correlation of these two variables is insignificant since the significance value is $0.494 > 0.05$.

3. The correlation between characteristic and facilities and infrastructure is -0.006, meaning that the correlation between characteristic and facilities and infrastructure is very weak and not in the same direction (since the result is negative). Being not in the same direction means that if the characteristic is high, then the facilities and infrastructure will be low. The correlation of these two variables is insignificant since the significance value is $0.938 > 0.05$.

4. The correlation between characteristic and competence is -0.075, meaning that the correlation between characteristic and competence is very strong and not in the same direction (since the result is negative). Being not in the same direction means that if the characteristic is high, then the competence will be low. The correlation of these two variables is insignificant since the significance value is $0.323 > 0.05$.

5. The correlation between education and training and achievement motivation is 0.782, meaning that the correlation between education and training and achievement motivation is very strong and the same direction (since the result is positive). Being the same direction means that if the education and training is high, then the achievement motivation is also high. The correlation of these two variables is significant since the significance value is $0.000 < 0.05$.

6. The correlation between education and training and facilities and infrastructure is 0.599, meaning that the correlation between education and training and facilities and infrastructure is strong and the same direction (since the result is positive). Being the same direction means that if the education and training is high, then the facilities and infrastructure is also high. The correlation of these two variables is significant since the significance value is $0.000 < 0.05$.

7. The correlation between education and training and competence is 0.636, meaning that the correlation between education and training and competence is strong and the same direction (since the result is positive). Being the same direction means that if the education and training is high, then the competence is also high. The correlation of these two variables is significant since the significance value is $0.000 < 0.05$.

8. The correlation between achievement motivation and facilities and infrastructure is 0.599, meaning that the correlation between achievement motivation and facilities and infrastructure is strong and the same direction (since the result is positive). Being the same direction means that if the achievement motivation is high, then the facilities and infrastructure is also high. The correlation of these two variables is significant since the significance value is $0.000 < 0.05$.

9. The correlation between achievement motivation and competence is 0.636, meaning that the correlation between achievement motivation and competence is strong and the same direction (since the result is positive). Being the same direction means that if the achievement motivation is high, then the competence is also high. The correlation of these two variables is significant since the significance value is $0.000 < 0.05$.

10.   The correlation between facilities and infrastructure and competence is 0.560, meaning that the correlation between facilities and infrastructure and competence is strong and the same direction (since the result is positive). Being the same direction means that if the facilities and infrastructure is high, then the competence is also high. The correlation of these two variables is significant since the significance value is $0.000 < 0.05$.

Based on the extent of influence of characteristic, education and training, achievement motivation, facilities and infrastructure, competence variables on the professional as seen in Table 2 and the extent of correlation between variables as shown in Table 3, a multiple linear analysis diagram model can be drawn as follows:
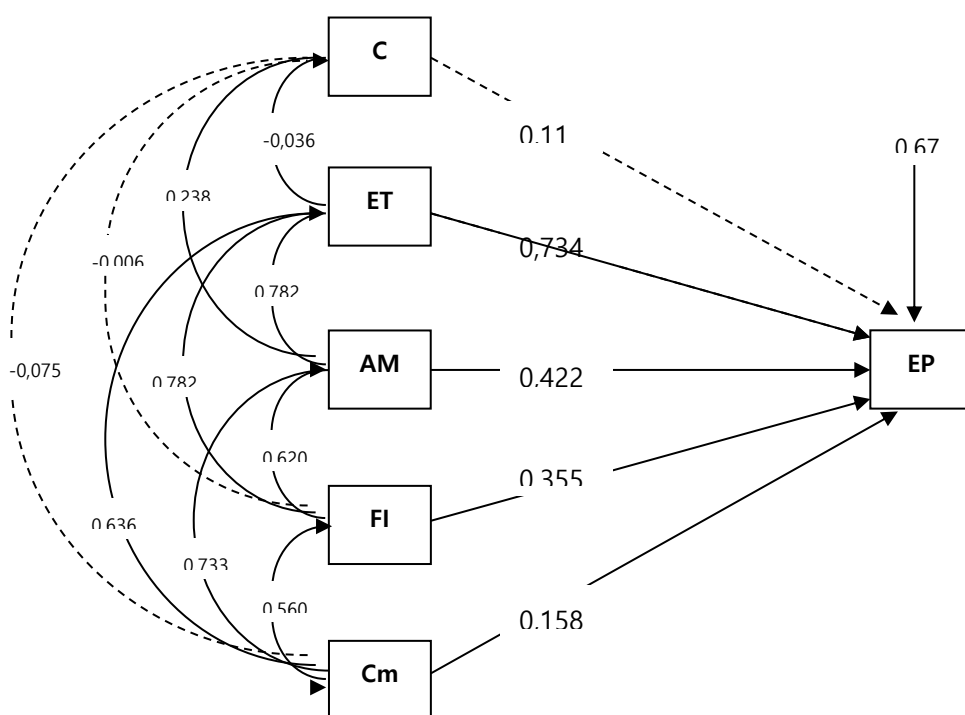

Figure 2. Result of Diagram Model of Multiple Linear Regression Analysis Thus, the equation becomes:

P = 0,117   C + 0,734 ET + 0,422 AM + 0, 355 FI + 0,158 Cm+ 0,678 … (4.4)

Discussion

The simultaneous influence of characteristic, education and training, achievement motivation, facilities and infrastructure, competence variables on professional is 0.540 and the remaining 0.460 is influenced by factors other than these five variables. From the regression model, it can be seen that the value F found in this research of $41.690 > F$ table 2.42, and the research significance value of $0.000 < 0.05$, therefore it can be said that characteristic, education and training, achievement motivation, facilities and infrastructure, competence variables on professional. In other words, the estimated regression is feasible model.

Based on the model result in Figure 2, characteristic variable has a positive influence on professionals with a regression coefficient value of 0,117 and significance value of 0.819.

This explained that the higher the individual characteristic of an extension worker the higher the professionalism. The non-significant effect of the characteristics of the agricultural extension workers on the agricultural extension professionals was caused by the dimensions of age, education level, years of service, number of dependents, income, work area coverage and the number of farmers assisted by agricultural extension workers which are combined into one (not discussed one by one). Robbins (1996) explained that several individual characteristics which include age, gender, marital status, number of responsibilities, and work experiences had an effect on performance. These individual characteristics would make a person behave positively which means discipline, and vice versa if it was not appropriate, he tended to behave undisciplined. The results of Bryan and Glenn's research (2004) concluded that the work experiences gave positive effect on the extension workers who were relatively new, while towards those who had worked longer hours showed a low level of client satisfaction.

Education and training variables have a positive effect on professionals with a regression coefficient value of 0.734 and a significance value of 0.001. It means that the higher the education and training of the instructor, the higher the professional level of an extension worker. PUNU (2014) whose research results found that education and training had a positive and significant effect on competence. Lubis (2014) stated that education and training have a positive and significant effect on motivation. Training plays a significant role in developing human resources, and only with trained and efficient employees can an organization achieve its goals. Training is a process of learning mastery of knowledge, improving skills and changing attitudes and behavior in order to improve performance. Sukirno (2014), training aims to develop knowledge, skills and attitudes. The education and training of an extension worker is important for the development of his knowledge and professionalism as an agricultural extension that is the spearhead of agricultural development in this country.

The achievement motivation variable has a positive effect on professionals with a regression coefficient value of 0.422 and a significance value of 0.013. This explains that the higher the achievement motivation of the instructor, the higher the professionalism of the instructor. The drive for achievement is the desire to overcome all challenges and obstacles in order to achieve the best work results. This can be seen from the desire to achieve superior performance in work, become successful agricultural extension workers and provide the best for the organization and society (Muliady, 2009; Suhanda et al., 2008). The results of this study are also reinforced by the theory of Ainsworth et al., (2002) stated that professional is a function of ability and motivation.

The facilities and infrastructure variable have a positive effect on professionals with a regression coefficient value of 0.355 and a significance value of 0.037. It means that the higher the facilities and infrastructure provided for the extension worker, the higher the professional level of an extension worker. Agricultural extension facilities and infrastructure in Samosir Regency and Karo Regency are agricultural extension tools, including: stationery, transportation equipment, teaching aids, in addition to that, communication aids and other complementary tools are used such as focus, computer, print, speakers / loudspeakers, microphone, laptop, whiteboard, and paper. The condition of the facilities owned until now is in good condition. Facilities and infrastructure can affect the professionalism of the extension worker, because the facilities and infrastructure are the completeness of the work needed by the extension worker to carry out their duties optimally. Facilities and infrastructure are very important because they are to help smooth the implementation of

counseling and to clarify the material presented. The facilities needed for an extension worker include: information media (printed materials), computer media networks (internet), communication equipment (telephone, radio and tv), equipment to assist the learning process (OHP, open plan maps, brochures, folders, leaflets and demonstrations plots), and means of transportation (motorcycles and public transportation). The implementation of agricultural extension takes place every Wednesday, Thursday, Saturday and Sunday which is held at the village hall of each extension's target area, farmer's house, warung/farmer gathering place and the BPP hall, this is done so that the extension runs smoothly. 23 of 2014 concerning Regional Government, the budget for agricultural extension have been drastically reduced, so that damaged office buildings cannot be repaired and proper transportation facilities are still inadequate.

The competence variable has a positive effect on professionals with a regression coefficient value of 0.158 and a significance value of 0.035. This explains that the higher the competence of the instructor, the higher the professionalism of the instructor. Competence is a fundamental characteristic of a person that has a direct effect on or can predict good performance (Sedarmayanti, 2010). (Muliady, 2009) found that there is an influence between competence and increased production through performance.

Conclusion

Based on the result of multiple linear regression analysis and discussion above, it can be concluded that:

1. Characteristics of extension workers, education and training, achievement motivation, facilities and infrastructure and competence have a simultaneous influence on professional extension workers by 0.460 and the remaining 0.540 is influenced by factors other than these five variables.
2. Education and training, achievement motivation, facilities and infrastructure and competence have a partial influence on the extension professional and the characteristics of the extension agent do not have a partial influence.
3. The relationship between the characteristics of the instructor and the variables of education and training, the characteristics of the instructor with achievement motivation, the characteristics of the instructor with facilities and infrastructure, and the characteristics of the instructor with competence had a significance value of more than 0.05, mean that they were not correlated with each other.

Conflict of Interest

The authors declare that there are no conflicts of interest

Acknowledgements

References

Ainsworth, M., Smith, S., & Millership, A. (2002). Managing Performance Managing People (Edisi Terj). PT. Bhuana Ilmu Populer.

Dorobantu, M. R., & Andrew, F. (2011). Rural Environment – A Promoter Of Sustainable Tourism Within Local Communities In Romania. Conference: CRISES AFTER THE CRISIS. INQUIRIES FROM A NATIONAL, EUROPEAN AND GLOBAL PERSPECTIVE.

Lesmana, H., & Sugiarto. (2021). Formulating A Competitive Advantage Model for Tourism Destinations in Indonesia. The Journal of Asian Finance, Economics and Business, 8(3). https://doi.org/https://doi.org/10.13106/jafeb.2021.vol8.no3.0237

Lubis, R. A. (2014). Faktor-Faktor yang Mempengaruhi Kinerja Penyuluh Pertanian di Kabupaten Mandailing Natal. Universitas Sumatera Utara.

Mahaliyanaarachchi, R. (2016). Role Of Agricultural Extension In Promotion And Development Of Agri Tourism In Sri Lanka. Sabaragamuwa University Journal, 6(1).

Muliady, T. R. (2009). Faktor-Faktor yang Mempengaruhi Kinerja Penyuluh Pertanian dan Dampaknya pada Perilaku Petani Padi di Jawa Barat. Institut Pertanian Bogor.

PUNU, A. S. (2014). Pengaruh Pendidikan dan Pelatihan (Diklat) terhadap Kompetensi Kerja Aparatur di Sekretariat Daerah Kota Tomohon. Jurnal Administrasi Publik, 4(3).

Robbins, P. S. (1996). Perilaku Organisasi (Edisi Baha). Prenhallindo.

Sedarmayanti. (2010). Sumber Daya Manusia dan Produktivitas Kerja (Cetakan Ke). Mandar Maju.

Siringoringo, D., Tampubolon, J., & Aritonang, J. (2022). Tourism and Agricultural Linkage in Lake Toba National Tourism Strategic Area, North Sumatra, Indonesia. Quest Journals Journal of Research in Business and Management, 10(4). https://www.researchgate.net/profile/Jongkers-Tampubolon/publication/360858666_Tourism_and_Agricultural_Linkage_in_Lake_Toba_National_Tourism_Strategic_Area_North_Sumatra_Indonesia/links/628ee92668 86635d5ca25ed9/Tourism-and-Agricultural-Linkage-in-Lake-Toba-National-Tourism-Strategic-Area-North-Sumatra-Indonesia.pdf

Suhanda, N. S., Jahi, A., Sugihen, B. G., & Susanto, D. (2008). KINERJA PENYULUH PERTANIAN DI JAWA BARAT. Jurnal Penyuluhan, 4(2), 100–108. https://doi.org/10.25015/penyuluhan.v4i2.2175

Sukirno. (2014). Membangun Pertanian Dengan Pemberdayaan Masyarakat Tani. Pustaka Baru Press.