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FARMER'S MOTIVATIONAL FACTOR ON FARMERS MANAGED-EXTENSION ACTIVITIES (FMA)'S ADOPTION IN TEMANGGUNG REGENCY

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ABSTRACT

Farmers Managed-Extension Activities (FMA) provides substantial benefits to the farming community empowerment , especially for the improvement of information services for farmers . Consider the benefits and objectives are achieved , then this great program requires rigorous evaluation and mentoring to monitor progress . Previous survey showed no understanding of the diversity of farmers' level , the percentage decrease in the number of farmers who apply from 2010 (64.56 %) to the year 2011 (48.23 %) , and parthnership between farmers and traders only 35.9 % (still small) . On the other hand , there is saturation analysis tools in studies on adoption . Therefore , this study aimed to analyze the motivational factors of farmers against the FMA program . The method used in this research was models the Technology Acceptance Model using Structural Equation Models with analysis tools , namely PLS (Partial Least Square). The results showed 1) Perception of farmers to ease was not significantly related to the attitude of farmers towards FMA at a significance level of 0.43 (p value) , 2) Perception of farmers on the benefits / uses significantly associated with attitudes of farmers towards FMA at the 0.01 level (p value) , 3) ability to absorb farmers are not significantly related to the attitude of farmers towards FMA at a significance level of 0.48 (p value) , 4) the diversity of the media associated significantly with the attitude of farmers towards FMA at the 0.01 significance level (p value) , 5) attitude significantly associated with implementing farmers ' intentions / FMA adoption at a significance level of 1.90539 E - 08 (p value) , 6) intention farmers significantly associated with implementing farmers' behavior / FMA adoption at a significance level of 3.14341 E - 08 (p value) .

Keywords : FMA, adoption, farmer,extension, empowerment

Introduction

Farmers are the key actors in achieving food security. To carry out his duties as the main actors, the information becomes important especially in today's era of global networks where information comes from all directions with the swift. Someone who has a lot of information to be successful in life, and that no information will be lost in the global competition. For farmers, the information serves to reduce uncertainty, solve problems, and compete with other agribusiness (Ihsaniyati, 2010). To that end, the limited access of farmers in the era may now be of concern.

Improvement of agricultural information services become one of the scope of Farmer Empowerment through Agricultural Technology and Information/Farmer Empowerment through Agricultural Technology and Information (P3TIP/FEATI). P3TIP/FEATI is a community development program that involves many parties , farmers, the public and private extension agents, government officials and the private sector. P3TIP/ FEATI program is a new program and Waterford County government is one FEATI Program pilot project in addition to 3 other districts in Central Java, Magelang, Rod, and Bradford. FEATI aims to improve the productivity, income and welfare of farmers through empowerment family farmers and farmer organizations to access information, technology, capital and means of production to develop agribusiness and develop partnerships with the private sector. One of the sub program is dissemination FEATI extension activities managed by farmers (Farmers Managed Extension Activities / FMA) or extension activities are managed by Farmers (BPSDMP MOA, 2009) .

Monitoring and evaluation of the FMA Program at Waterford District has been done by the management (team) programs / projects involving consultants and the World Bank. Based on the Final Report of Activities FEATI Waterford County in 2011 known that people basically have to know the concept of learning FMA village but with a level of understanding that still bervariasi. Di several districts and villages are good, while in other villages require coaching lebih.Berikut FMA delivered application development at Waterford District of the Year 2008-2011.

The research problem is the level of understanding of the diversity of farmers and the percentage decrease in the number of farmers who apply from 2010 (64.56%) to the year 2011 (48.23%) and it is possible to decrease the percentage in 2012. It is a phenomenon that tickled for review. Study of motivational factors, including perceptions, attitudes, media diversity, the ability to absorb, intentions, and behavior is one way to explain the phenomenon. Furthermore perceptions and attitudes of farmers towards FMA will be the basis for determining the development strategy of the program.

The next problem is the perception or attitude related research done by the students (final / skripsi), such research Harsini (2011), Muslikhah (2011), Amrita (2010) , Puratmoko (2010), Sriyati (2007), Santoso (2004), and many other studies using the same research method is interval Width Formulas. To add to their repertoire of knowledge, research is needed related motivational factors (perceptions, attitudes) with different analysis tools .

In addition, another problem that is still found lacking the achievement of learning outcomes to create a partnership between farmers and traders only 35.9 %, meaning that the percentage of learning to create a still little . Though a partnership between farmers and traders is one solution to the problems of farmers in terms of marketing (Final Report activity FEATI County Waterford, 2011) . Therefore , the need for follow-up . To that end , the purpose of this study is to identify motivational factors (perception , the ability to absorb , media diversity , attitudes , intentions , and behavior) of farmers

Table 1 Implementation FMA developments in Waterford County

Year of Implementation	Number of Villages	Number of Participants (people)	Applying amount FMA
2008	40	4.828	427(8,84 %)
2009	40	1.210	718 (59,34 %)
2010	40	1.236	798 (64,56 %)
2011	40	3.251	1.568 (48,23 %)

Source: Progress Report 2008-2011 Provincial Learning Outcomes FMA Tahun Central Java

to FMA with different analysis tools .

Literature

FEATI (Farmer Empowerment through Agricultural Technology and Information)

Project Farmer Empowerment through Agricultural Technology and Information / P3TIP (Farmer Empowerment through Agricultural Technology and Information / FEATI) designed to support the implementation of the Agricultural Extension Revitalization, with the aim of improving productivity, income and welfare of farmers through empowerment family farmers and farmer organizations to access information , technology , capital and means of production to develop agribusiness and develop partnerships with a bunch of the private sector (Agricultural Extension and Information Center , 2008) .

The scope FEATI at Waterford District include : (1) Development of institutional education , (2) institutional development of farmers, (3) Strengthening the workforce Extension (4) Repair system and extension methods, (5) Repairing counseling implementation, (6) Strengthening support technology in farming, (7) Repair information services (information and Counseling Center of Agriculture, 2008).

FMA (Farmers Managed Extension Activities)

FMA (Farmers Managed Extension Activities) or Extension activities are managed by farmers is an activity facilitated by FEATI . This activity is designed as a vehicle for learning for farmers in rural agribusiness development with a scale economic business more profitable through increased capacity of the main actors in meeting product specification / regional commodity market demand. This method focuses on the development of managerial capacity , leadership and entrepreneurship are key actors in implementing the learning -based agribusiness innovation technologies (BPSDMP MOA, 2009).

FMA has done research on, among others, by Siregar (2012) and Ndae (2011). In 2012 Siregar study examines the impact of Extension Activities Managed by Farmers (FMA) against Socioeconomic Farmer. This study. In the Year 2011, Ndae evaluate Farmers Managed Extensions Activities (FMA) in Cacao Agribusiness in Sub Nangapanda Ende. The second study evaluated the FMA with several factors being viewed. However, from these two studies have not touched on strategies that can be selected as the solution of the impact or outcome evaluations are not good.

Perceptions and Attitudes

According to Grace (2001), the perception is the experience of objects , events and relationships obtained by inferring information and interpret the message, while attitude is a process of evaluation and assessment of a particular object, which can be an attitude, opinion or feeling, but is accompanied by a tendency to act accordance with the earlier attitude towards the object (Gerungan, 2002) .

Research on perceptions or attitudes have been carried out both by senior researchers and students who are learning research . Research student (thesis) related attitudes or perceptions such as research Harsini (2011), Muslikhah (2011), Amrita (2010), Puratmoko (2010), Sriyati (2007) , Santoso (2004), and many other studies using the formula Interval Width Likert scale to analyze the perceptions or attitudes . Need a new refresher and to add to their repertoire of knowledge , this study uses a different analysis tools , yaituTechnology Acceptance Model / TAM (Technology Acceptance Model) of Davis (1989).

Technology Acceptance Model

Success of information system development is determined by a combination of user acceptance (user acceptance) and technological advances. Model TAM (Technology Acceptance Model) or the Technology Acceptance Model of Davis (1989) was one of the models that can explain and predict user acceptance of the technology information. Perceived usefulness (Usefulness Perception) and perceived ease of use (Perceived Ease) are two important factors that affect the individual in adopting information technology. Researchers define PU (Perception Purpose) as a level in which the individual believes that using a particular information technology will be able to improve performance. PEOU (Perceived Ease) is defined as the degree to which an individual believes that using a particular information technology will be easy and efficient (Davis (1989) in Setyowati , 2012)

TAM approach assumes that Perceived Usefulness is influenced by Perseived Ease Of Use. The system should be easy to use and useful at the same time. There are other factors

Table 2 Validity test results on adoption FMA motivational factor model (AVE)

Variable	*AVE*	Information
Perceived Usefulness	0,600778	Valid
Perseived Ease Of Use	0,634941	Valid
Ability to absorb	0,558479	Valid
Media diversity	0,526258	Valid
Attitudes Toward Use	0,695688	Valid
Behavioral intention to use	0,726163	Valid
Actual Usage Behaviour FMA	0,672698	Valid

Sources: Primary Data Analysis, 2013

that influence the acceptance teknologiyaitu behavioral intention to use (Intent to Use) (BI) and Actual Usage Behaviour (AB) or Behavior Using a technology .

TAM models have been used to test the acceptance of the technology by many researchers and in many different cases . TAM proven valid and reliable in explaining individual attitudes and use of management information systems (Tero et al , 2004) . TAM has been proven in many studies that TAM has the ability to explain the attitude towards the use of information systems better than the Theory of Reasoned Action and Theory of Planned Behaviour in use information system is an information system acceptance indicator. (Tero et al , 2004).

Research Hypothesis

H1 : Perceived ease a positive effect on farmers'

Table 3 Validity test results on adoption FMA motivational factor model (outer loading)

		Estimate
KM1	Media diversity	.778
KM2	Media diversity	.668
KM3	Media diversity	.725
KMRAP1	Ability to absorb	.769
KMRAP2	Ability to absorb	.582
KMRAP3	Ability to absorb	.863
NMFMA1	Ability to absorb	.776
NMFMA2	Ability to absorb	.877
NMFMA3	Ability to absorb	.892
NMFMA4	Ability to absorb	.858
P1	*Actual Usage Behaviour*	.848
P11	*Actual Usage Behaviour*	.822
P2	*Actual Usage Behaviour*	.789
PKFMA1	*Perceived Usefulness*	.739
PKFMA2	*Perceived Usefulness*	.769
PKFMA3	*Perceived Usefulness*	.852
PKFMA4	*Perceived Usefulness*	.755
PKFMA5	*Perceived Usefulness*	.755
PKMDH1	*Perseived Ease Of Use*	.820
PKMDH2	*Perseived Ease Of Use*	.777
PKMDH3	*Perseived Ease Of Use*	.825
PKMDH4	*Perseived Ease Of Use*	.749
PKMDH5	*Perseived Ease Of Use*	.809
SKTP1	Attitudes Toward Use	.657
SKTP2	Attitudes Toward Use	.894
SKTP3	Attitudes Toward Use	.852
SKTP4	Attitudes Toward Use	.909

Sources: Primary Data Analysis, 2013

Table 4 Reliability test results on adoption model FMA motivational factors

Variabel	*Composite Reliability*	Keterangan
Perceived Usefulness	.882	Reliabel
Perseived Ease Of Use	.896	Reliabel
Ability to absorb	.787	Reliabel
Media diversity	.768	Reliabel
Attitudes Toward Use	.900	Reliabel
Behavioral intention to use	.913	Reliabel
Actual Usage Behaviour FMA	.860	Reliabel

Sources: Primary Data Analysis, 2013

attitudes towards the use of FMA
H2 : Perceptions of usability affect farmers' attitudes towards the use of FMA
H3 : The ability to absorb positive effect on the attitude of farmers on FMA
H4 : Diversity of media to positively influence individual attitudes toward FMA
H5 : Attitudes of individuals toward a positive effect on intention FMA FMA apply
H6 : Intention to apply FMA will be a positive influence on the behavior of applying FMA

Method

To analyze farmers' perceptions of the FMA program is done by taking the respondents were 70 farmers participating in the FMA learning program of the Waterford District 8 districts that were targeted learning program FMA using proportional random sampling technique. The distribution of the respondents is as follows :

To measure perceptions of usefulness constructs were adopted from Davis (1989) with a four- item Perceived Ease pertanyaan. Variabel was measured using four items adopted from Davis (1989). Media diversity variable was measured using three items adopted questions from Kwok and Gao (2006). Absorbing capacity was measured using a variable 6 item questionnaire adopted from Pam (2005). Variable attitudes toward adoption FMA measured by four items adopted questions from Davis (1989) and to measure the intention to adopt FMA variables measured with 4 items questions were adopted from Davis (1989 . Measurement variables using Likert scale where 1 = strongly disagree and 5 = very agreed .

Table 5. Significance test results on adoption model FMA motivational factors

	T Statistics (|O/STERR|)	**P VALUE**	**SIG Information**
Perseived Ease Of Use -> *Behavioral intention to use* FMA	0,171871	0,43201743	Tidak Signifikan
Perceived Usefulness -> *Behavioral intention to use* FMA	2,361619	0,010491207	**Signifikan**
Ability to absorb -> *Behavioral intention to use* FMA	0,026013	0,489660493	Tidak Signifikan
Media diversity -> *Behavioral intention to use* FMA	2,374468	0,010159968	**Signifikan**
Behavioral intention to use FMA -> *Behavioral intention to use*	6,176648	1,90539E-08	**Signifikan**
Behavioral intention to use -> *Actual Usage Behaviour* FMA	6,054091	3,14341E-08	**Signifikan**

Sources : Primary Data Analysis , 2013

Validity of the questionnaire in this study was measured using PLS. Indicator used is the Average Variance Extracted (AVE) is satisfactory convergent construct validity has AVE with a minimum threshold of 0.5 (Hair et al., 2006). Reliability is measured by a composite indicator of reliability with a minimum threshold of 0.7 (Hair et al., 2006). To test the measurement model is done with the testing phase of testing (1) charge of individual items (item loading), (2) internal consistency (measurement reliability), (3) construct validity. Testing structural models to generate significant value relationship paths between latent variables using bootstrapping function .

Results And Discussion

Test Validity and reliability

1. Validity test

Table 2 describes the results of testing the validity of each variable, it appears that each of these variables has the AVE ≥ 0.5, which means valid. And Table 3 describes the results of testing the validity of the multiple item questions, it appears that every item has a factor loading question ≥ 0.5.

2. Reliability test

Overall indicator on each variable in the model study of motivational factors on the adoption of FMA in Waterford County has been good.

3. Tests of significance

Results of significance test the relationship between variables are presented in the following table.

a. Perceived Ease to use relationship with attitude toward FMA. Davis (1989) that the perception kumudahan will affect the attitude of use . However , the analysis shows instead that there was no significant relationship between perceived ease the farmers' attitude towards FMA at a significance level of 0.43 which means that the hypothesis 1ditolak . In this study , differences in ease of perception of farmers on the FMA does not give rise to the diversity of farmers' attitudes towards FMA.

b. Usefulness Perceptions relationship with attitude toward FMA. Table 5 describes the significant positive relationship between perceived usefulness / benefit with the attitude of farmers towards FMA at the 0.01 level which means that hypothesis 2 diterima.Semakin farmers' perceptions of the usefulness of both FMA , the higher his or her attitude toward FMA. Participants argued that farmers FMA FMA has many benefits / usefulness in supporting farming run. Through the FMA, farmers consider the information / material to be quickly delivered counseling, outreach activities become more effective and easier , FMA useful for farming because it can improve their productivity as farmers . The farmers' perceptions affect their attitudes towards FMA.

c. The ability to absorb relationship with attitude toward FMA. Kwok and Gao (2006) stated that the ability to absorb positive influence on individual attitudes terhadapperilakuberbagi knowledge and understanding. The results of this study do not indicate so, where there is no significant relationship between the ability of farmers to absorb attitudes toward FMA at a significance level of 0.48 which means that hypothesis 3 is rejected.

d. Media diversity relationship with attitude toward FMA. The analysis showed no significant positive relationship between the diversity of farmers' attitudes towards the media with FMA at the 0.01 level 4 which means that the hypothesis is accepted . These results support the research Kwok and Gao (2006) which shows that media diversity has a positive effect on the attitude of the individual. Diversity of media that can be accessed farmers in applying the FMA and the convenience of farmers in the appropriate use of media preferences and time chosen affects the attitudes of farmers to FMA . Media which can be accessed between lainkomunikasi FMA participant farmers face (group meetings, training, technological inventiveness, retrieval field, field schools, internships, study visits), internet, television, radio, print media (such as: leaflets, folders, brochures, posters, magazines, tabloids).

e. Applying Intention Attitude relationship with FMA. Table 5 shows there is a significant positive relationship between the attitude of participating farmers with the intention of applying FMA FMA 5 diterima.Hal which means that the hypothesis is consistent with previous studies, one of which is research Chennamaneni (2006) which shows that the better attitudes towards sharing knowledge and understanding will lead to the intention to share knowledge and understanding.

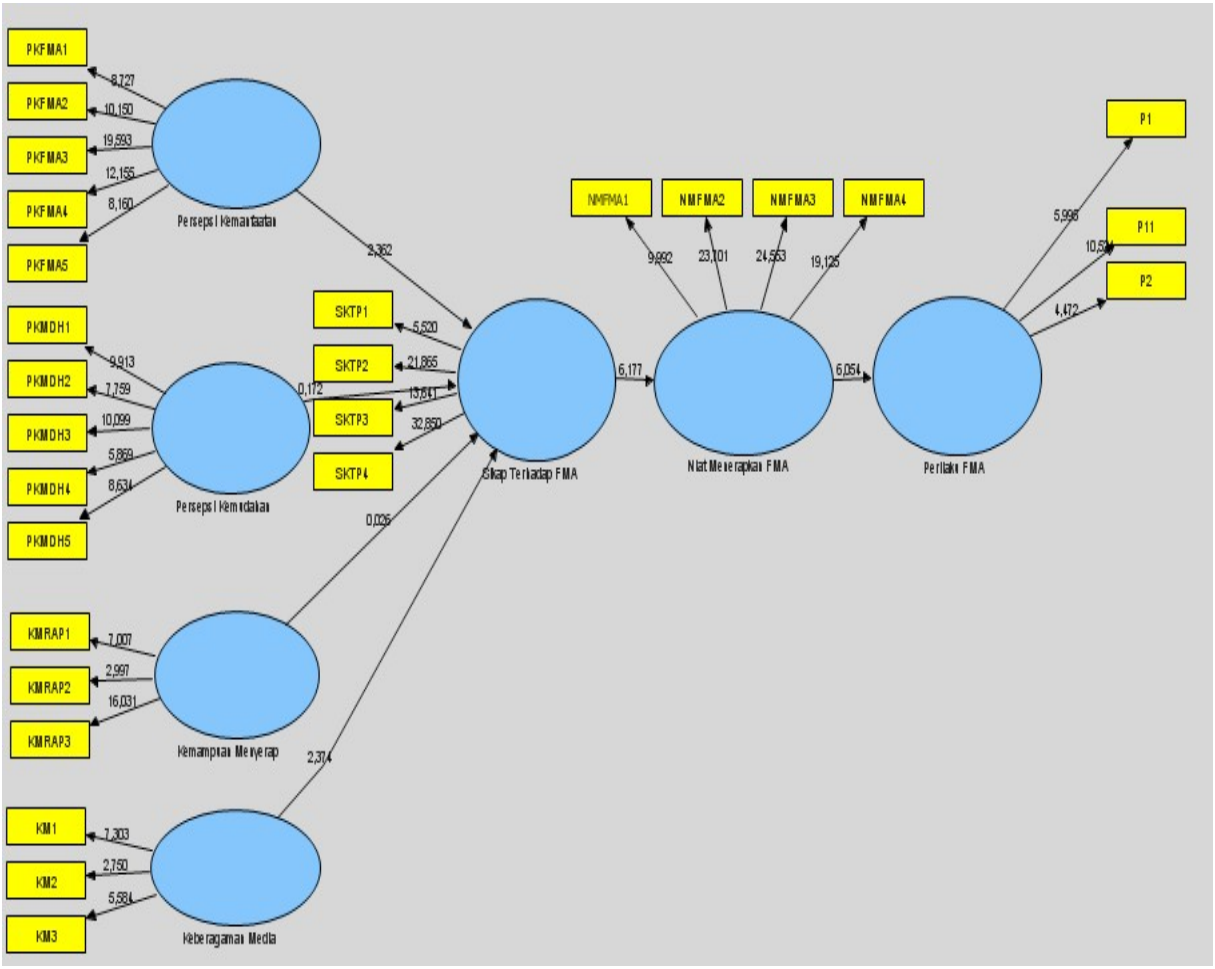

Figure 3. FMA Motivational Factors Adoption Model in Waterford County

FMA participant farmers have the attitude that the FMA is a positive action, a good idea, effective effort, and an appropriate policy. These attitudes affect intention in applying FMA. The better the attitude of farmers on the FMA will be accompanied by the higher its intention to implement the FMA.

f. Behavioral Intention Adoption relationship with FMA. The results showed there was a significant positive relationship between the intentions of farmers applying FMA FMA with adoption behavior which means that the hypothesis 6 is accepted . Intention to implement farmer participants include the intention to apply FMA FMA in the future and continuously, applying FMA frequently as needed and wherever. While the FMA adoption behavior manifested among other farmers participating in group meetings on FMA learning, accessing agricultural information from various information sources and communication media (print, radio, television, internet), perform retrieval technology, following the open-field, demonstration of the way / result, and comparative studies. The higher the intention to apply the higher form of behavior adoption FMA .

Group meetings are usually conducted every month 1x or 35-40 days , within 6 months of group meetings conducted as many as 24 times. However, if there is an urgent need or discuss about the meeting program can be done 2-3 times a month adjusted kebutuhan.Frekuensi typically 3-17 times for its routine activities, such as group meetings with the FMA learning routinely performed every 1 bulan. Mengakses agricultural information through radio and television, because for every week there is a special event that discusses the farm. For example, the regular FM radio broadcast Fast talk agriculture, TA TV with the latest information about agriculture . Farmers easier access to information through television and radio over the internet, due to limited human resources ada. To access information through print media such as books, tabloids, leaflets rarely done due to time constraints of the respondents to read .

Routine activities of farmer group

meetings conducted every 10 usually discuss the problems faced by farmers, and administration of each bulan.Temu discussion and open-field technology is an activity that is not routinely performed, is usually performed 2-3 months sekali.Temu technology discusses the technologies that can be applied such as artificial insemination in ternak.Untuk internships and study tours , tailored to appeal kebutuhan.Studi ever done in Kendal.Sedangkan apprenticeship is never done .

4. Model

Analysis results Strucutual Equation Model (SEM) Adoption FMA motivational factors can be seen in the following figure. Models below explains the significance of the relationship between variables (motivational factors), validity, and reliability variables.

Conclusions

1. Farmers' perceptions of the ease was not significantly related to the attitude of farmers towards FMA at a significance level of 0.43 (p value).
2. Farmers' perceptions of the usefulness / usability significantly associated with attitudes of farmers towards FMA at the 0.01 significance level (p value).
3. Ability to absorb farmers not associated significantly with the attitude of farmers towards FMA at a significance level of 0.48 (p value).
4. Significant diversity of media associated with the attitude of farmers towards FMA at the 0.01 significance level (p value).
5. Attitudes significantly associated with implementing farmers' intentions / FMA adoption at a significance level of 1.90539 E-08 (p value).
6. Intention farmers significantly associated with implementing farmers' behavior / FMA adoption at a significance level of 3.14341 E-08 (p value).

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