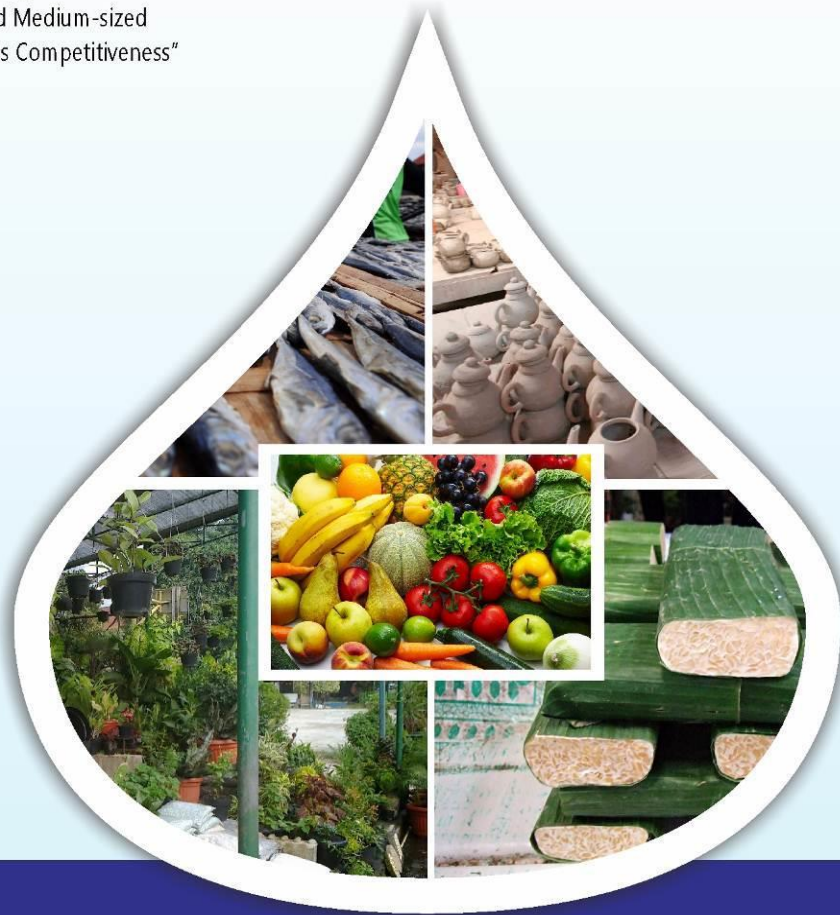




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"Small and Medium-sized
Enterprises Competitiveness"

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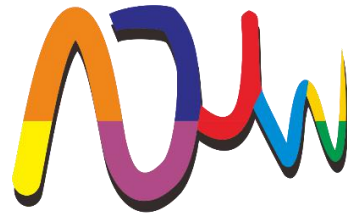
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AGRIBUSINESS
DEVELOPMENT FOR
HUMAN WELFARE

*“Small and Medium-sized
Enterprises Competitiveness”*



Agribusiness Development
for Human Welfare

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EDITOR TEAM

Siti Yusi Rusimah
Achmad Fachruddin
Rohandi Aziz
Dara Rosalia

ADDRESS

Agribusiness Department
Agriculture Faculty
Universitas Muhammadiyah Yogyakarta

Jl. Lingkar Selatan, Tamantirto, Kasihan, Bantul, Yogyakarta, 55183
Phone. 0274-387656 (ext. 201) Fax. 0274-387646
e-mail: adhw2016@umy.ac.id

EDITOR FOREWORD

The economic integrations by ASEAN certainly have given a major influence on Small and Medium-sized Enterprises (SMEs). Beside economic integration in the form of free trade area (FTA) that has been going on since the early 2000s, economic integration in the form of ASEAN Economic Community (AEC) has been ongoing since the beginning of 2016. Through this integration, SMEs have opportunity to expand access to markets, technology, and capital. But at the same time SMEs are required to improve their competitiveness in order to survive in the market.

In order to explore ideas, concept, and innovations related to the competitiveness of SMEs, International Conference on Agribusiness Development for Human Welfare (ADHW 2016) was held in Yogyakarta on May 14, 2016. The conference organized by Department of Agribusiness Universitas Muhammadiyah Yogyakarta, in collaboration with Department of Agribusiness and Information System Universiti Putra Malaysia, Department of Agro-Industrial Technology Kasetsart University, Department of Agriculture Socio-Economics Universitas Gadjah Mada, Department of Agriculture Socio-Economics of Universitas Brawijaya, Indonesian Society of Agriculture Economics, Agribusiness Association of Indonesia. Hopefully proceedings of ADHW 2016 provide stimulus for increasing competitiveness of SMEs in ASEAN, especially in Indonesia.

Furthermore, we are grateful to Allah, the Sustainer of all word, who always makes it easy for our affairs. We would like to acknowledge with thanks to all the institution and individual who joined with resources and efforts in organizing the conference that resulted in the papers which are published in this proceeding. Special thanks to all authors and discussants who contributed with their intellectual capital and responded to our call papers. Thanks and acknowledgment are also due to all reviewers of the conference who helped in evaluating submitted papers; and to the members of the Organization Committee, who ensured smooth execution of the event.

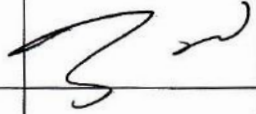
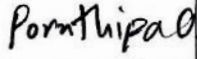


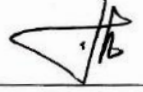

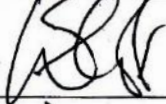
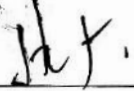
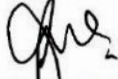

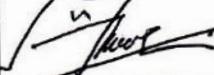
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Editor

LIST OF REVIEWERS

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2. Prof. Dr. Zaenal Abidin Mohamed (Universiti Putra Malaysia)
3. Dr. Ismail Abd. Latif (Universiti Putra Malaysia)
4. Dr. Juwaidah Sharifudin (Universiti Putra Malaysia)
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24. Dr. Ir. Indardi, M.Sc. (Universitas Muhammadiyah Yogyakarta)
25. Dr. Ir. Triwara BS, MP. (Universitas Muhammadiyah Yogyakarta)
26. Dr. Aris Slamet Widodo, SP. MSc. (Universitas Muhammadiyah Yogyakarta)

ATTENDED REVIEWER

NO	NAME	INSTITUTION	SIGNATURE
1	Prof. Dr. Zaenal Abidin Mohamed	UPM	
2	Assistant. Prof. Dr. Pornthipa Ongkunaruk	Kasetsart University	
3	Prof. Dr. Ir. Irham, M.Sc	UGM	
4	Dr. Jangkung HM, SP. M.Ec	UGM	
5	Dr. Ir. Lestari Rahayu Waluyati, MP	UGM	
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7	Wisnyu Ari Gutama, S.P, M.MA	UNIBRAW	
8	Hery Toiba, S.P.,M.P.,Ph.D	UNIBRAW	
9	Yuniar Khasanah, M.Sc	LIPI	
10	Lusty Istiqamah, M.Biotech	LIPI	
11	Ir. M. Kismuntono	LIPI	

PREFACE

Assalaamualaikum, Warahmatullaahi., Wabarakaatuh.
Dear Honorable Governor of Yogyakarta Special Province
Dear respectable Prof. Dr. Zainal Abidin Mohamed
Dear respectable Asist. Prof. Pornthipa Ongkunaruk
Dear respectable Rector of UMY Prof. Dr. Bambang Cipto, MA.
Dear all invited Guests, Speakers, and Participants of International seminar of ADHW 2016.

Alhamdulillah, all praise be to the Almighty God, so that we can be gathering here today at Muhammadiyah University of Yogyakarta in order to attend the Conference on Agribusiness Development for Human Welfare (ADHW) 2016.

Ladies and Gentlemen,

On behalf of the committee, I would like to say welcome to this International Conference on ADHW 2016 and thank you for attending our invitation.

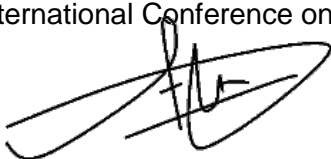
Especially, we are grateful to invited speakers, Prof. Zainal Abidin Mohamed and Asist. Prof. Pornthipa Ongkunaruk, for their willingness to share information and thoughts in this conference. As a bit report, that this conference has been attended by 85 speakers coming from five countries.

This conference entitled "Small and Medium-sized Enterprise Competitiveness". ASEAN Economic Community is the largest economic integration that is going to be implemented at the beginning of 2016 (December 31, 2015). Through this integration, SMEs will have opportunity to expand access to markets, technology, and capital. But at the same time SMEs are required to improve their competitiveness in order to survive in the market. We expect that this seminar is capable of producing thoughts building SMEs within ASEAN, especially Indonesia, to face the free trade.

This event can be done by support and efforts from all sides. Therefore, I would like to say thank you to all committee members having worked hard to conduct this event. We, as the organizer committee, do apologize when there is a shortage in conducting this event.

Wassalamualaikum, Warahmatullaahi., Wabarakaatuh.

Chairman
International Conference on ADHW 2016



Dr. Aris Slamet Widodo, SP., MSc.

WORDS OF WELCOME

Assalamu'alaikum warahmatullahi wabarakatuh

Alhamdulillah, all praise be to Allah SWT, who has given us His blessings so that this International Seminar of Agribusiness Development for Human Welfare (ADHW) 2016 entitled "Small and Medium-sized Enterprises Competitiveness" can be conducted. This International Conference is held in cooperation among Agribusiness Study Program of Muhammadiyah University of Yogyakarta with Putra University of Malaysia (UPM), Kasetsart University (KU), Association of Indonesian Agricultural Economy (PERHEPI), and Agribusiness Association of Indonesia (AAI), Universitas Gadjah Mada (UGM) and Universitas Brawijaya (UB).

Countries of ASEAN members like Indonesia, Malaysia, and Thailand have more than 90% Small and Medium-sized Enterprises (SMEs). In general, SMEs play important role in economic developments such as in terms of employment, added value, improve foreign exchange, and economic growth. For Indonesia, the role of SMEs is limited to employment and added value, while the foreign exchange from SMEs is still low. According to the General Director of SMEs of Industrial Ministry, in 2013 the total SMEs being able to pass through export market is just under 5 percent. For that required many breakthrough and innovation so that the role of SMEs becomes real economic development, especially in Indonesia, and generally in ASEAN countries.

On behalf of Agribusiness Department of Universitas Muhammadiyah Yogyakarta, we would like to express our gratitude Putra University of Malaysia (UPM), Kasetsart University (KU), Association of Indonesian Agricultural Economy (PERHEPI), Agribusiness Association of Indonesia (AAI), Universitas Gadjah Mada (UGM) and Universitas Brawijaya (UB) for all supports, sponsors, and all committee members having worked so hard that this International Conference can be conducted.

Hopefully, these synergies coming from various parties can provide contribution for developing SMEs in Indonesia and other ASEAN countries as well.

Wassalamu'alaikum warahmatullahi wabarakatuh

Head of Agribusiness Department
Universitas Muhammadiyah Yogyakarta



Ir. Eni Istiyanti, MP.



Gubernur

Daerah Istimewa Yogyakarta

Sambutan

KONFERENSI INTERNASIONAL

“AGRIBUSINESS DEVELOPMENT FOR HUMAN WELFARE”

Yogyakarta, 14 Mei 2016

Assalamu'alaikum Wr. Wb.

Salam sejahtera untuk kita semua.

Yang Saya hormati :

- Rektor Universitas Muhammadiyah Yogyakarta;
- Para Narasumber;
- Hadirin dan Para Peserta yang berbahagia,

Puji dan syukur marilah kita panjatkan kehadirat Allah SWT karena hanya atas limpahan rahmat serta karunia-Nya, kita dapat hadir pada kesempatan acara **Konferensi Internasional “Agribusiness Development For Human Welfare”** ini dalam keadaan sehat wal’afiat.

Pada kesempatan kali ini, secara ringkas Saya akan menyampaikan mengenai industri kecil menengah nasional yang menjadi tema pada pembukaan Seminar Internasional “Agribusiness Development For Human Welfare” ini.

Hadirin dan Saudara-saudara sekalian yang Saya hormati,

Berdasarkan data BPS, pertumbuhan industri pengolahan nonmigas pada tahun 2015 secara kumulatif sebesar 5,04%; lebih tinggi dari pertumbuhan ekonomi (PDB) pada periode yang sama sebesar 4,79%. Pada periode Januari-Desember 2015, nilai ekspor produk industri pengolahan nonmigas mencapai USD 106,63 Milyar, dan nilai impor mencapai USD 108,95 milyar, sehingga neraca perdagangan industri pengolahan nonmigas pada periode yang sama sebesar USD 2,32 milyar (neraca defisit).

Usaha pemerintah untuk memperkecil defisit di atas, salah satunya dengan cara memberdayakan Industri Kecil dan Menengah (IKM) yang merupakan bagian penting dalam perkembangan industri nasional. Sampai saat ini, Industri Kecil dan Menengah

telah berkontribusi sebesar 34,82% terhadap pertumbuhan industri pengolahan nonmigas secara keseluruhan.

Angka ini dapat tercapai karena dukungan lebih kurang 3,6 juta unit usaha, yang merupakan 90 persen dari total unit usaha insutri nasional. Jumlah unit usaha tersebut telah mampu menyerap tenaga kerja sebesar 8,7 juta orang, yang tentunya berdampak pada meningkatnya ekonomi nasional serta mengurangi kemiskinan.

Industri Kecil dan Menengah (IKM) memiliki peran yang strategis dalam perekonomian nasional. Hal ini sejalan dengan Visi Pemerintah dalam Rencana Pembangunan Nasional Jangka Menengah (RPJMN) 2015-2019 yaitu *“Terwujudnya Indonesia yang berdaulat, mandiri, dan berkepribadian berlandaskan gotong royong”*.

Untuk lebih meningkatkan peran tersebut, Penumbuhan dan Pengembangan Industri Kecil dan Menengah diarahkan untuk memiliki tujuan jangka menengah guna mewujudkan industri kecil dan industri menengah yang berdaya saing, berperan signifikan dalam penguatan struktur industri nasional, pengentasan kemiskinan dan perluasan kesempatan kerja, serta menghasilkan barang dan/atau jasa Industri untuk keperluan ekspor.

Hadirin dan Saudara-saudara sekalian,

Awal tahun ini, kita telah memasuki era Masyarakat Ekonomi ASEAN (MEA). Dengan demikian, perekonomian nasional akan langsung bersaing dengan para pelaku pasar di kawasan ASEAN. Produk dan jasa termasuk investasi negara-negara anggota telas bebas memasuki pasar di kawasan ASEAN.

Dalam rangka menghadapi hal tersebut, Pemerintah mengambil langkah-langkah strategis berupa peningkatan daya saing industri dan mendorong investasi di sektor industri; di mana peningkatan daya saing industri itu sendiri dilakukan melalui penguatan struktur industri dengan melengkapi struktur industri yang masih kosong serta menyiapkan strategi ofensif dan defensif dalam akses pasar.

Pemerintah telah melakukan Penguatan Sektor IKM dengan strategi ofensif dan defensifnya melalui beberapa program pelaksanaan, diantaranya antara lain: Penumbuhan Wirausaha Baru; Pengembangan IKM melalui Pengembangan Produk IKM serta Peningkatan Kemampuan Sentra dan UPT; Pemberian Bantuan Mesin dan Peralatan Produksi; Perluasan Akses Pasar melalui Promosi dan Pameran; Fasilitasi Pendaftaran Hak Kekayaan Intelektual; Fasilitasi Sertifikasi Mutu Produk dan Kemasan; serta Fasilitasi Pembiayaan melalui Skema Kredit Usaha Rakyat (KUR).

Saya berharap agar berbagai program-program pemerintah tersebut dapat didukung secara sinergis oleh seluruh komponen masyarakat. Untuk itu, Saya berpesan kepada Saudara-saudara sekalian agar semua program pemerintah dalam bidang

Industri, khususnya dalam program pemberdayaan Industri Kecil dan Menengah, didukung dengan sepenuh hati, agar dapat lebih bermanfaat bagi masyarakat dalam rangka pengembangan industri kecil menengah.

Hadirin dan Saudara-saudara sekalian yang Saya hormati,

Demikian beberapa hal yang dapat Saya sampaikan. Akhirnya dengan memohon ridho Allah Subhanahu Wata'ala, seraya mengucap "*Bismilahirrahmanirrahim*", **Konferensi Internasional "Agribusiness Development For Human Welfare"** dengan ini secara resmi Saya nyatakan dibuka. Semoga Allah SWT memberikan petunjuk, bimbingan, perlindungan dan kemudahan dalam setiap langkah dan upaya kita. Amien.

Sekian dan terima kasih.

Wassalamu'alaikum Wr. Wb.

Yogyakarta, 14 Mei 2016
GUBERNUR
DAERAH ISTIMEWA YOGYAKARTA



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RICE FARMER'S PERCEPTION AND ITS EFFECT TOWARD INTENTION TO ADOPT ORGANIC FARMING

Ashari*, Juwaidah Sharifuddin, Zainal Abidin Mohammed, Rika Terano
Department of Agribusiness and Bioresource Economics,
Universiti Putra Malaysia, Serdang Selangor 43400
*corresponding author: ashari_sp@yahoo.com

ABSTRACT

Although the organic farming has a good prospect in future, the rate of its adoption is still slow. Based on literature studies reveal that perception toward innovation characteristics has a significant contribution toward adoption. The main objective of current study is to examine the farmer's perception namely perceived of usefulness (PU), perceived risk (PR), environmental awareness (EN), and also attitude (AT) and their effect on the behavioral intention. This study involves 600 rice farmers as respondents in Sragen District, Central Java. The respondent is grouped into two categories namely semi organic and conventional farmer and the data were obtained through a structured questionnaire. The results show that in case of semi organic farmer, all of variables have positive effect on intention exceptional for PR. Each of variables is significant at 0.01 levels but for EN is not significant. The coefficient determination ($R^2=0.485$) implies that 48.5% of the variance in intention is explained by the variation of four variables. Meanwhile, in term of conventional farmers indicate the similar result in sign of direction. But, all of variables are significant at 0.01 level with $R^2=0.596$. The overall test (F-test) exhibits that set of independent variables jointly significant toward behavioral intention at 0.01 levels. As conclusion, it is obviously that the perceptions and attitude have significant effect toward intention. Therefore, the effort should be undertaken to raise a positive farmer's perception. Farmer also needs a support from several parties to encourage them for engaging in organic farming practice.

Keywords: organic farming, farmer's perception, adoption process, behavior intention

INTRODUCTION

The year 1992 became an historic event in the Southeast Asia region, because such year was signed of the ASEAN Free Trade Agreement (AFTA) in the ASEAN Summit in Singapore. The aim of AFTA was to create a single market and a world production base through the elimination of tariff and non-tariff constraints with the underlying goal of enhancing competitiveness with ASEAN countries. There are three pillars of the AFTA as agreed by the ASEAN leaders and they are interlinked with each other namely ASEAN Economic Community (AEC), ASEAN Political-Security Community and ASEAN Socio-Cultural Community (Anonymous, 2016).

Further, in 2003 in Bali, ASEAN leaders agreed to establish the ASEAN Economic Community (AEC) in 2020.

Four years later, the aim was reaffirmed at a meeting in 2007 with an accelerated timeframe of 2015. Eventually, the AEC have implemented on December 31, 2015 with an underlying agenda of economic integration of ASEAN countries to eliminate or minimize the obstacles in economic activity across the region, in trade, goods and services, and investment.

The implementation of AEC is hopefully able to accelerate the economic growth for each member, including Indonesia. As one of the important sector, agriculture is supposed to grab the chance through the increased of trade. The high value commodity (product) has potential to meet this goal, for instance the organic product. The emergence of awareness among consumers about healthy food and environmental-friendly

practicing enable to raise organic product demand in ASEAN countries. Besides, the growth of organic market in developed countries also provides an opportunity for Indonesia to gain the advantage.

Although organic food has a good prospect in the future; but farmer's interest in practicing organic farming is relatively low which is indicated by slow adoption rate. The question is, why the farmers are "reluctant" to adopt organic farming that constitute as an innovation? Rogers (2003) proposed that farmer's perception toward innovation characteristic/attributes is very critical in adoption. Thus in this context farmer's perception on organic farming is essential. It means that if they perceive that an organic farming has many advantages, the adoption process will be easier and vice versa.

Further, according to Rogers (2003) the adoption is about a decision-making process. Therefore, farmers go through a stage or some stages of being aware or knowledgeable of organic farming related technology, to forming positive or negative perception toward organic farming. He mentioned there are five characteristics of innovations those are: relative advantage, compatibility, complexity, trialability, and observability. Individuals' perceptions on such characteristics will determine the rate of adoption. Meanwhile, Davis (1989) who proposed the theory of Technology Acceptance Model (TAM) has formulated simpler characteristics of technology, namely perceived usefulness (PU) and perceived ease of use (PEU). PU affects to behavioral intention for adoption a certain technology directly or through the attitude as mediator. In addition, the results of case study by Wang and Liu (2016) demonstrated that attitude (both cognitive and affective) also positively influence on behavioral intention.

In particular, organic farming is closely related to environmentally friendly lifestyle. Lampkin and Padel (1994) stated that organic farming was perceived as part of the solution to environmental degradation. Meanwhile, Anderson (1995) claimed that environment concern and health problem emerged by conventional practice has contributed a significant role

in forming the sustainable agriculture movement. Maurer (1997) in Khalidi et al (2007) found environmental rationale were important for conversion and the improved social acceptance of organic farming. Thus, for farmers who are more awareness on environmental concern will have a higher intention to engage in organic farming.

Further, the adoption of technology process usually encounters an uncertainty. Thus, the perception of risk against technology also influences the adoption behavior especially for small farmers. Berry (1984) stated that small farmer more susceptible incurred the risk. The higher of farmers' perception on the risk will reduce their perception toward technology's advantages (Gefen et al in Horst et al 2006). According to Padel (2001) the low risk of technology is one of the characteristics that should be fulfilled by an innovation in order to be adopted easily.

In order to comprehend the process of adoption on organic farming, it requires seeking the factors affecting the adoption process. By assessing these factors will be fruitful to formulate the strategy in accelerating the adoption rate among farmers. The purpose of study is: (1) to explore the perception and attitude of farmers toward organic farmer; and (2) to examine the effect of perception and attitude on behavioral intention to adopt organic farming.

METHOD

Research Location and Sampling Procedure

The study is conducted in Sragen District, Central Java Province, Indonesia. This district is selected as research location by considering as the center of organic rice farming and it has potency to grow steadily. In such district, the certified organic rice farmer actually has been existed; however, most of farmers constitute conventional farmer and as well as semi-organic farmer. Since the objective of study is related to behavior intention to adopt organic farming,

therefore, the selected respondent exclude the organic farmers; instead the semi organic and conventional farmer.

Sampling Technique

The selection of respondents is undertaken by multistage sampling method. In the first step, of 8 sub-districts as main producer area of rice are selected randomly to obtain 5 sub-districts. Based on selected sub-district, and then select randomly 2 villages for each of sub-district. After the villages identified, afterwards generate sampling frame by listing all of the farmers both semi organic and conventional farmer in selected village. To determine the respondents, the systematic random sampling is employed. In each of village, as many as 30 semi-organic and 30 conventional farmers are selected as respondent. Therefore, the total respondent is 600 farmers consist of 300 semi organic and 300 conventional farmers. Data collection process carried out by face-to-face interviews using a structured questionnaire

Data Analysis

Data were analyzed descriptively using mean in term of perceived usefulness, environmental concern, perceived risk, attitude, and behavioral intention. To measure the extent of perceived and attitude level employed the Likert Scale with a range of 1 (strongly disagree) to 7 (strongly agree). The higher mean score implies the higher perception of the variable in question. All of these variables are latent/construct; hence, each construct will be described by some measurement variables. Meanwhile, inferential statistical test is performed to determine the relationship between perceived and attitude (as independent variables) to behavioral intention (dependent) using multiple linear regressions with ordinary least squares (OLS).

Model specification was formulated in the multiple linear regressions and written as follows:

$$BI = \beta_0 + \beta_1 PU + \beta_2 EN + \beta_3 AT + \beta_4 PR + \mu$$

Where:

- BI = Behavioral Intention
- PU = Perceived Usefulness
- EC = Environmental Concern
- AT = Attitude
- PR = Perceived Risk
- μ = error term,

Based on the model specification, the sign of coefficient in each of independent variables will supposed to be: $\beta_1 > 0$, $\beta_2 < 0$, $\beta_3 > 0$, $\beta_4 < 0$. These mean that the perceived usefulness, environmental concern, and attitude are expected to affect positively toward behavioral intention. Conversely, the perceived of risk will influence negatively on behavioral intention.

Significance Test

To examine the goodness of model, the significance test will be employed. There are two types of such significant test, namely F Test dan t test. The F test is used to determine whether a significant relationship exists between the dependent variable and the set of all the independent variables. The F test is referred to as the test for overall significance. The hypotheses will be tested is:

$$H_0: b_1 = b_2 = \dots = b_p = 0$$

H_a : One or more of the parameters is not equal to zero

In association with F test, the rule is reject H_0 if $p\text{-value} < \alpha$ or if $F > F_\alpha$, where F_α is based on an F distribution with p d.f. in the numerator and $n - p - 1$ d.f. in the denominator. If the test results reject H_0 , it means that at least one or all of independent variables affect the dependent variable or statistically significant. In other words, the models is "good" to predict the influence of the independent variables towards the dependent variable. Conversely, if the test results accept H_0 , implies there is no independent variables that affect behavioral intention. Thus, the model is inappropriate to predict the influence of independent variables against dependent variable (Gujarati, 2002)

Meanwhile, the t test is used to determine whether each of the individual independent variables is significant. A separate t test is conducted for each of the independent variables in the model. The hypotheses of t test are:

$H_0 : \beta_i = 0$

$H_a : \beta_i \neq 0$

The t test rule states that reject H_0 if p -value $\leq \alpha$ or if $t \leq -t_{\alpha/2}$ or $t \geq t_{\alpha/2}$ where $t_{\alpha/2}$ is based on a t distribution with $n - p - 1$ degrees of freedom. If the test results

is rejected H_0 , implies the variables tested have significantly effect on the dependent variable or statistically significant. In contrast, if the test results accept H_0 means that independent variables do not affect on the dependent variable (Gujarati, 2002).

In addition, to investigate the multicollinearity problem could be done by looking at the value of Variance Inflation Factor (VIF). In statistical term, the VIF quantifies the severity of multicollinearity

Table 1. Perceived Usefulness toward Organic Farming among Semi and Conventional Farmers

Code	Measurement	Semi		Conventional	
		mean	SD	mean	SD
PU1	Practicing organic farming would improve land fertility	6.31	0.536837	5.963333	0.700207
PU2	Practicing organic farming would increase the productivity	5.91	0.629726	5.336667	1.137674
PU3	Practicing organic farming would enhance the effectiveness on paddy cultivation so reducing cost production	5.946667	0.641765	5.37	1.232137
PU4	Practicing organic farming would make easier in preparation of land (tillage)	6.3	0.569574	5.903333	0.659879
PU5	I would find organic farming useful in term increasing income	5.94	0.61454	5.25	1.196777
PU6	Practicing organic farming gives me greater control over my work in paddy field	5.693333	0.703043	5.09	1.273042
PU7	The price of selling organic rice is very good for me to start practicing organic farming	5.946667	0.852199	5.13	1.421208
PU8	The advantages of organic farming will outweigh the disadvantages	5.716667	0.691363	5.053333	1.320214
PU9	Over all, practicing organic farming will be advantageous	6.046667	0.582196	5.306667	1.250801
Mean		5.978889		5.378148	

in an OLS regression analysis. Juanda (2009) revealed that in the regression equation model, if VIF value was less than 10 indicated there was no multicollinearity in the model.

RESULT AND DISCUSSION

Farmer's Perception and Attitudes on Organic Farming

Perceived Usefulness

Perceived of usefulness is defined as "the degree to which a person believes that using a particular system would enhance his or her productivity" (Davis, 1989). The farmer's perception toward the usefulness of organic farming (PU) is presented in Table 1. Since PU as a latent variable, there are 9 measurement variables of PU in both semi organic and conventional farmer. Based on Table 1 shows that the highest score for semi organic farmer is attained by point 1 (PU1) namely organic farming will improve soil

fertility, followed by PU4= easier for preparation of land (tillage) and PU9 = generally will be advantageous.

This result is consonant with the study of Sukristiyonubuwo *et al* (2011) that revealed the farmer's reason to convert paddy farming systems from conventional into organic primarily to improve land fertility and facilitate the land preparation.

Attitude toward organic farming practices

Attitude is defined as "the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question" (Azjen, 1991). The attitude of farmers toward organic farming practice is presented in Table 2. In general, the attitude score in both farmer's type toward organic farming is enough high. Further, there is a similarity between semi and conventional farmer in term of rank of attitude. Farmer place AT1

Table 2. The Attitude toward Organic Farming among Semi and Conventional Farmers

Code	Measurement	Semi		Conventional	
		mean	SD	mean	SD
AT1	Practicing organic farming is a good idea	6.143333	0.50029	5.756667	0.799742
AT2	Practicing organic farming is a wise idea	6.11	0.587979	5.62	0.926532
AT3	Practicing organic farming is a pleasant idea	5.843333	0.716823	5.293333	1.213341
AT4	I like the idea of practicing organic farming.	5.93	0.647945	5.253333	1.254752
AT5	Practicing organic farming will bring profit for me	5.976667	0.646153	5.336667	1.33012
	Mean	6.000667		5.452	

Table 3. Environmental Awareness toward Organic Farming

Code	Measurement	Semi		Conventional	
		mean	SD	mean	SD
EN1	Protecting the environment by practicing organic farming will secure my livelihood as farmer	5.94	0.625329	5.556667	0.877128
EN2	Pollution generated by conventional farming harm people.	5.906667	0.898506	5.366667	1.096767
EN3	Environmental concern by practicing organic farming benefits everyone.	6.136667	0.564847	5.503333	1.116907
EN4	Environmental concern by practicing organic farming beneficial to protect natural predator	6.043333	0.607745	5.573333	0.942115
EN5	I practice organic farming to support environmental conservation task	6.05	0.601698	5.436667	1.090851
Mean		6.015333		5.487333	

(practicing organic farming is good idea) as the first rank followed by PU2 (organic farming practice as wise idea). They also deem that the organic farming will bring profit for them as the third order. The mean of total measurement score indicates the score of semi organic farmer still is higher than conventional farmer i.e., 6.000667 vs. 5.452.

Environmental concern

Environmental concern is "altruism toward other human being, to incorporate both self interest, or egoism, and concern with other species or the biosphere itself" (Stern *et al* 1993). In term of organic farming the aspect of environmental awareness is central issue. The more awareness the higher appreciation toward organic farming practices. Table 3 shows the highest rank for semi organic is EN3 and followed by EN5 and EN4. Semi organic farmer places organic farming benefit everyone, support environmental conservation and protect natural predator as the three best reasons. Meanwhile, conventional farmer proposes EN4, EN1 and EN3 respectively in term their environmental concern expression. There is similarity in EN 3 and EN4 but conventional farmer has own opinion that practicing organic farming will secure their livelihood as farmer (EN1) as a key factor.

Perceived risk toward organic farming practice

Perceived risk is "the one's perception of the uncertainty and adverse consequence of desired outcome" (Fu *et al* 2006). Farmers' perceptions related to the risks that could be emerged if they practice organic farming presented in Table 4. It is indicated that the semi-organic farmers are most concerned about the risk for PR1 which will reduce revenue, followed by PR3 (the risk of production) and then the PR4 (marketing risks). Meanwhile for conventional farmers the highest score is points PR2 that is uncomfortable (anxiety), followed by PR1 (the possibility of reduced income) and PR3 (production risk). Table 4 also indicates the differences in the pattern of perception compared to the previous construct. In term of perceived risk, all of measurements variables score demonstrate that the conventional farmer is always greater than the semi organic farmer. The mean score for all items also approve that perceived risk is higher for conventional farmers (2.5200 vs. 3.3200). The study of Prihtanti (2014) in Sragen and Karanganyar also revealed that the level of risk perceived by conventional farmers is greater than

farmers who have practiced organic farming system.

Behavioral intention to adopt organic farming

Ajzen (1991) argued that Behavioral Intention (BI) reflects how hard a person is willing to try, and how motivated he or she is, to perform the behavior. Table 5 shows the intention of both farmer types to adopt organic farming. For semi organic farmers, it appears that the highest score is the point 1 (in1) that they intend to practice pure organic farming in the future, followed by point 5 (IN5) namely intend to practice

The Effect of Perception and Attitudes toward Behavioral Intention

The result of data analysis presented in Table 6 and 7. Such tables indicate the effect of perception and attitude toward behavioral intention in semi organic farmer and conventional farmer's cases respectively. Based on Table 6 indicates that PU, EN and AT influence positively toward behavioral intention for organic farming adoption. Meanwhile, PR affect negatively toward intention to adopt organic farming. The coefficient regression show that the

Table 4. Perceived of risk toward organic farming

Code	Measurement	Semi		Conventional	
		mean	SD	mean	SD
PR1	Practice of organic farming may cause my income decline.	2.626667	1.136483	3.36	1.57862
PR2	I will feel uneasy if I practice organic farming method.	2.503333	1.013284	3.393333	1.579114
PR3	I do not think it is good to practice the organic farming because of risk production.	2.613333	1.092918	3.343333	1.413784
PR4	I do not think it is good to practice the organic farming because of risk marketing concern.	2.58	1.023274	3.333333	1.50436
PR5	It is riskier to practice the organic farming than conventional.	2.45	0.869879	3.323333	1.44421
PR6	The organic farming will fail to fulfill my satisfaction.	2.38	0.719253	3.186667	1.377733
PR7	I think it is not safe to practice organic farming technology because it just experimental stage and has not been implemented yet massively by agricultural expert and other farmers	2.486667	0.875047	3.3	1.491335
Mean		2.52		3.32	

after being introduced. While, the conventional farmers also showed similar behavior intention by choosing points 1 and 5 (IN1 and IN 5) as the first and second rank. In aggregate average mean for the intention of the adoption of organic farming, the score for growers of organic semi is higher than conventional farmers (5.8426 vs. 4.9227). It shows that the intention of adoption in semi-organic farmers is more likely to practice organic farming.

increased 1 % of PU, EN, and AT will raise the intention to adopt organic farming amounted to 0.254%, 0.306%, 0.454% respectively. In contrary, the increase of PR 1% will reduce the intention of 0.063%.

Table 5. Behavioral Intention toward Organic Farming

Code	Measurement	Semi		Conventional	
		mean	SD	mean	SD
IN1	I intend to practice organic farming in future	5.94	0.609073	5.343333	1.120852
IN2	In choose farming method to increase income, organic farming is my priority	5.823333	0.565557	4.803333	1.294956
IN3	I would like recommend the organic farming to my relatives and friend	5.826667	0.646541	4.743333	1.4916
IN4	I'll intend to practice organic farming as soon as possible	5.75	0.797676	4.746667	1.369455
IN5	I'll practice organic farming soon after it is introduced.	5.873333	0.803809	4.976667	1.309646
	Mean	5.842667		4.922667	

In case of conventional farmer, there is similarity with semi organic farmer (Table 7). It seemed that the PU, EN and AT influence positively toward behavioral intention to adopt organic farming. Likewise, the PR affect negatively toward behavioral intention. However, in term of the magnitude of response there are quite differences. The increased 1 % of PU, EN, and AT cause the increased of intention to adopt organic farming amounted to 0.319%, 0.231%, 0.326% respectively. Meanwhile, the increased of PR 1% will affect on reducing 0.186% of behavioral intention.

Study in other field, for instance Yi *et al* (2006) is also attest the positive and significant effect of perceived usefulness on the intention to accept certain technology. Similarly, the study of Fagan *et al* (2008) and Suki & Suki (2011) revealed a positive relationship and significant between PU and adoption intention to use computers and 3G technology, respectively. Meanwhile, study of attitude toward intention conducted Sheeran and Tylor (1999) revealed that attitude-behavioral intention correlation was 0.45. In addition Godin and Kok (1996) reported a mean attitude-intention correlation of 0.46. it is obviously, there is positive correlation between attitude and behavioral intention.

Table 6 shows that $R^2 = 48.3 \%$ which indicates that 48.3 % variation of the dependent variable (behavioral intention) of semi organic farmer explained by the independent variable (PU, EN, AT and PR). In other word, 51.7 % intention to adopt organic farming is explained by other factors that are not included into the model. Meanwhile, Table 7 indicate that $R^2 = 59.6\%$ that implies 59.6 % variation of the dependent variable of conventional farmer explained by independent variables.

Further, regarding to the sign of coefficient value, it is obviously that all of the coefficient variables are appropriate with the hypotheses' proposal. The simultaneous effect of independent variables toward dependent variable can be investigated by the F-statistic probability value. In case of semi organic farmer, probabilistic of F- statistic obtained at 0.000 which is less than the significance level used at 1 %. It means that at least one independent variable affects the dependent variable significantly. In addition, for conventional farmers indicate the similarity case related to F-statistic value.

Table 6. Results of Analysis the Factors Affecting Behavioral Intention of Semi Organic Farmers

Variables	Coefficient	t-statistic	Probability	VIF
C	-.082	-.176	0.861	
PU	.254	3.412	0.001**	1.533
EN	.306	4.842	0.000**	1.565
AT	.454	6.663	0.000**	1.766
PR	-.063	4.842	0.104	1.133
R ² = 48.53% Prob(F-stat)= 0.000 F-stat = 69.512				

Noted: * = significant at α 5%; ** = significant at α 1%;
VIF = Variance Inflation Factor

Table 7. Results of Analysis the Factors Affecting Behavioral Intention of Conventional Farmers

Variable	Coefficient	t-statistic	Probability	VIF
C	.778	1.764	0.79	
PU	.319	3.450	0.001**	4.002
EN	.231	3.077	0.002**	2.225
AT	.326	3.728	0.000**	4.007
PR	-.186	3.077	0.000**	1.542
R ² = 59.6% Prob(F-stat)= 0.000 F-stat = 108.703				

Noted: * = significant at α 5%; ** = significant at α 1%;
VIF = Variance Inflation Factor

To determine whether the independence variables have significant effect toward the dependent variable individually can be detected by the t-statistic probability value of each independent variable. Table 6 demonstrates that the factor which affects the intention to adopt organic farming is PU, EN, and AT with the probability t statistic value 0.001, 0.000, and 0.000 respectively. These variables significantly affect to intention at level α of 1%. Meanwhile, the PR variable has t statistic value 0.104 or do not significantly affect in intention at level α of 5%. In case of conventional farmer indicate all of independent variables individually affect the intention at level α 1%

Based on statistical analysis (Table 6 and 7), therefore, the equation model of factors affecting the intention to adopt

organic farming in research location could be written as follows:

$$BI_{\text{semi}} = -0.82 + 0.254 \text{ PU} + 0.306 \text{ EN} + 0.454 \text{ AT} - 0.063 \text{ PR} + \mu$$

$$BI_{\text{conv}} = 0.778 + 0.319 \text{ PU} + 0.231 \text{ EN} + 0.326 \text{ AT} - 0.186 \text{ PR} + \mu$$

The equation model show that although the intercept is different (positive and negative direction), however in general the sign of coefficient regression resulted the same direction. The positive affect is exhibited by PU, EN, and AT; whereas PR is negative. All of variables are consonant with hypothesis arrangement.

The problem is frequently emerged in the OLS is multicollinearity. As mentioned before, the existence of

multicollinearity problem in the model could be detected by variance inflation factor (VIF) value. The rule of thumb states that if VIF value is less than 10, it indicates there is no multicollinearity. The results of data analysis in both semi organic and conventional farmer indicate that the VIF values of all independent variables are below 5. In other words, it is obvious that there is no multicollinearity in the model.

In general, referred to analysis result (Table 6 and 7) exhibits that model used in this study is a good enough. It could be indicated by statistical criteria testing and econometric parameter. The statistical criteria are demonstrated by the value of R-squared, F-statistic, and t-statistics. Meanwhile, one of the econometric criteria can be examined by looking at the results of multicollinearity test. However, it is likely the conventional farmer model is slightly better than semi organic based on statistical criteria.

CONCLUSION

The perception of the usefulness (PU), environmental concern (EN) and attitude (AT) has a positive and significant effect on the intention to adopt organic farming in both semi organic and conventional farmer. The positive affect of three variables (constructs) against the intention of adoption demonstrates these constructs play significant role in decision process to adopt or reject the organic farming practice. The implication is; to encourage adoption process, the government should be able to convince the farmers that organic farming can provide benefit or advantages to practice. The significant role of environmental concern implies the need of program to raise the awareness of sustainability agricultural development. It requires a better support from government i.e., education and training for farmers in order to be more skilled and also shaping a good attitude toward organic farming practice.

Meanwhile, the perceived risk (PR) has negative effect on the intention of adoption although there is different

significance between semi organic and conventional farmer. It seemed that the conventional farmer is more sensitive over risk. However, the crucial point obtained is the lower of the risk will increase the chances of farmer to adopt organic farming. It implies that to encourage adoption process the government should facilitate the programs that can minimize the risk of production and the price. The efforts could be undertaken through education or extension of Good Agricultural Practice (GAP) and provide assistance in creating the market opportunities to acquire viable price.

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Discussion from Parallel Session

PAPER TITTLE	Rice Farmer's Perception and Its Effect Toward Intention to Adopt Organic Farming
AUTHOR	Ashari, Juwaidah S, Zainal Abidin M, Rika Terano
DISCUSSION	
QUESTION	<ol style="list-style-type: none">1. I appreciate the author for reading more journals to be refused2. All variable are defined appropriately
ANSWER	
SUGGESTION	<ol style="list-style-type: none">1. Adding the factor analysis on the paper will be more valuable2. Native check for English will be better3. The best paper4. Need a proof reader



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SECRETARIAT OFFICE

F3 Ground Floor, Agribusiness Department,
Universitas Muhammadiyah Yogyakarta
Jalan Lingkar Selatan Tamantirto,
Bantul. D.I.Yogyakarta 55183
Phone +62274 387656 (Ext 201)
Fax +62274 387646

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