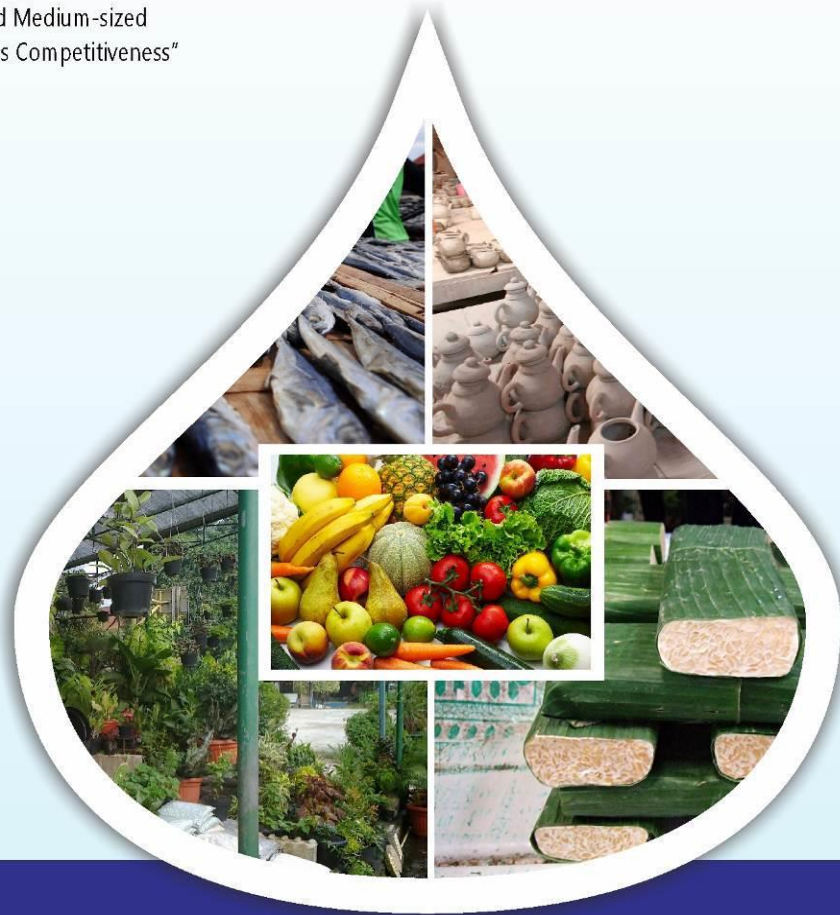




2016

"Small and Medium-sized
Enterprises Competitiveness"

ISBN 978-602-7577-70-1



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Agribusiness Development for Human Welfare



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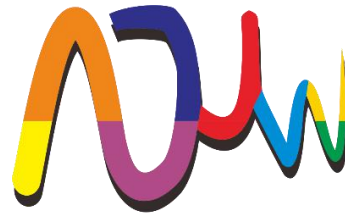
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AGRIBUSINESS
DEVELOPMENT FOR
HUMAN WELFARE

*“Small and Medium-sized
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Agribusiness Development
for Human Welfare

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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.

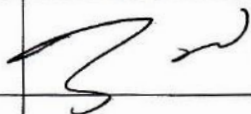
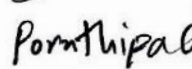

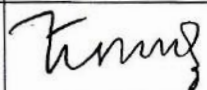
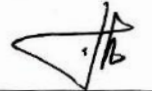
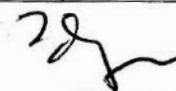
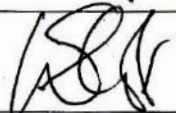
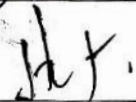
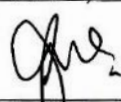

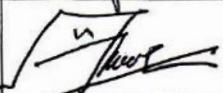
May 30, 2016

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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.

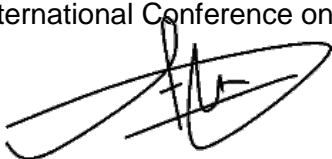
Especially, we are grateful to invited speakers, Prof. Zainal Abidin Mohamed and Asist. Prof. Pornthipa Ongkunaruk, for their willingness to share information and thoughts in this conference. As a bit report, that this conference has been attended by 85 speakers coming from five countries.

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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FACTORS INFLUENCING THE ATTITUDES OF VEGETABLE FARMERS TOWARD THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN PENINSULAR MALAYSIA

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ABSTRACT

The development of ICT, gadgets and mobile applications has expanded exponentially so much so, nobody in the country from children to elderly leave home without a gadget. This development is also being observed among farm producers. It is posited that farmers used ICT for both personal use as well as in their production as ICT will improve production and procurement of farm supplies efficiency. This research attempts to explore the types of ICT that Malaysian vegetable farmers used and factors that are influencing them to use ICT in their farm production. The study used the Technology Acceptance Model framework to analyze factors affecting ICT use. Face to face interviews were conducted on 360 respondents which were sampled by proportionate stratified sampling. A standard questionnaire was used to collect all relevant data needed for analysis. Descriptive factor and regression analyses were employed to the data gathered to obtain the required results and objectives. The respondents comprised 86.2 % male; Age from 17 to 78 years with a mean of 47 years old; most are educated until secondary schools. Four factors, namely Perceive Usefulness, Perceived Ease of Use, Subjective Norm, and Facilitating Condition, were found to be positively influencing the attitude of Malaysian vegetable farmers toward ICT usage. To enhance ICT usage among vegetable farmers, farmers training and extension should be intensified. ICT info-structure should be extended to rural areas to facilitate ICT use.

Keywords: TAM, factor analysis, regression, Malaysia

INTRODUCTION

Technology has remained an important driver of change for centuries. Last two decades have witnessed numerous significant innovation and development in the area of information and communication technology (ICT). This development in the area of ICT has triggered a lot of changes in agricultural sector as well. Majority of public in Malaysia nowadays own ICT tools. This is based on the recent statistics from the Malaysian Communications and Multimedia Commission (MCMC) shown that there are more than 13 million mobile phone subscribers in the country, with the penetration rate now surpassing the 50 percent mark while more than 84 million SMS were sent every day (Llyod, 2005). According to a report by the local newspaper, Utusan Melayu (2008), there are 500,000 of Malaysian blogs were

created while more than half million people in Malaysia have access to internet at their home in 2006. This fact shows that millions of Malaysian people able to possess their own ICT tools (Hassan et al. 2008). This development is also being observed among farm producers. It is posited that farmers used ICT for both personal use as well as in their production as ICT will improve production and procurement of farm supplies efficiency.

ICTs used in agriculture include computers, radio, television, internet, CD-ROMs and telecommunication networks (Shetto, 2008). Through mobile phones market accessibility has improved, investment promoted, risk from disasters are reduced, and are known to contribute to empowerment of societies through enhancing access to information (Scott et al., 2004).

Malaysia is one of the countries that has high demand for ICT business but instead of this, level of ICT practice among farmers in developing country like Malaysia is still at average level. According to Farmers Organization Authority Malaysia (2004), the ICT practice provides input or data regarding current technology, seed, and the price of agriculture products to farmer and breeder. Moreover according to Obie china (2004), agricultural farmers have the opportunity to access information through ICT and have the opportunity to create networks with development agencies and other farmers, thus increase their chances to strengthen their agriculture business. According of that, this research attempts to explore the types of ICT that Malaysian vegetable farmers used and factors that are influencing them to use ICT in their farm production.

METHODOLOGY

Technology Acceptance Model (TAM)

This study considers technology acceptance model (TAM) as base and few more factors have been added to investigate attitude of vegetables farmers toward the use ICT. TAM is a user's intention based model. It has been developed to explain a theoretical base for many empirical studies on users acceptance of computer technology in past. The factors, Perceived usefulness (PU), Perceived Ease of Use (PE), Subjective Norm (SN) and Facilitating Condition (FC) predict attitude (A) of users towards the ICT.

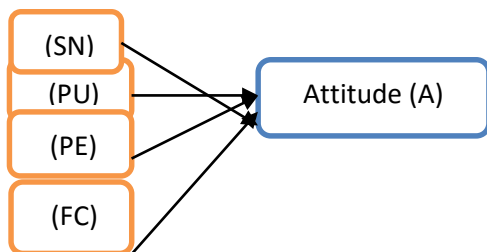


Figure 1. The Proposed Model (Adopted from TAM by Davies in 1986)

Data and Analysis

A total of 360 farmers were involved in the survey as samples from Perak, Pahang, Kelantan, Terengganu, Johor, Melaka, Negeri Sembilan and Selangor in Peninsular Malaysia were chosen. By using proportionate stratified random sampling method, the vegetable farmers were stratified according to the types of group and randomly selected from the list obtained from Department of Agriculture (DOA) database in order to have a representative of the vegetable farmers population. Face - to – face interviews were carried out using a semi – structured administrated questionnaire. A survey, was concluded in July till September 2015. Descriptive, factor and regression analyses were employed to the data gathered to obtain the required results. The regression analysis was conducted to test the proposed hypotheses and identify how different factors affect the attitude (A) of vegetable farmers to accept the ICT as the dependent variable.

RESULT AND DISCUSSION

Demographics profile

In this study, among these participants, 86.2 % (313) were male. Age of the respondents ranged from 17 to 78 years with a mean of 47 years old. In terms of highest education received, 20.9 % of the respondents have degree/diploma/ certificates education, while 33.9% have SPM certificate, 22.1 % have UPSR/ PMR, and 8.8 % have no formal education. As far as farming experience is concerned, 33.1 % of respondents have 1 – 5 years' experience, 22 % have 6 – 10 years, 18.4 % have 11 to 20 years and 16.3% have above 21 years' experience as a farmers.

Results of factor and Regression Analyses

In measurement model, the internal consistency is being tested to show the internal consistency is being tested to show the strength of the model. The reliability measures were above the minimum recommended level of 0.70 to ensure the sufficient internal consistency of measurement model. The result of

factor analysis and reliabilities for various constructs are given in table 1. Factor analysis yielded four factors based on the minimum Eigen value one. The sum of squared loading based on extracted four factors including PU, PE, SN and FC. The factors produced a cumulative value of 64.907% in explaining the total variance of data. The appropriated of the factor analysis was tested by two important factors i.e Kaiser-Meyer-Olkin (KMO) and

Bartlett's test of sphericity. The KMO overall measure of sampling adequacy was 0.933 which is within the recommended level and statistically significant at $p < 0.05$. The Bertlett's test of sphericity was 5701.454 and statistically significant at $p < 0,05$ which is the indication of good correlation among questions in the questionnaire analysis.

Table 1. Factors that Influence the Use of ICT among Vegetables Farmers

| Factors and measured variables | Sub variables loading | Variance (% of explained Eigenvalue) | Cronbach's Alpha |
|---|-----------------------|--------------------------------------|------------------|
| Perceived usefulness (PU) | | | |
| I use ICT to facilitate communication with customers and suppliers | 0.815 | 43.839 | 0.906 |
| ICTs such as the Internet can enhance my knowledge of farming and marketing | 0.766 | | |
| Using ICT can improve my farm productivity | 0.745 | | |
| ICT can enlarge my suppliers network | 0.744 | | |
| ICT can expand my customers network | 0.660 | | |
| By using ICT can reduce my farm operation cost | 0.505 | | |
| It is easy for me to use applications available in my handset / tablet / computer | 0.501 | | |
| Peceived of ease (PE) | | | |
| Record keeping much more easier by using ICT | 0.868 | 9.21 | 0.91 |
| I can quickly learned how to use existing applications on the handset / tablet / computer | 0.811 | | |
| ICT does not give any problem for me | 0.759 | | |
| My interaction with the ICT would be clear and understandable | 0.695 | | |
| ICT never disappointed me when I use it. | 0.670 | | |
| I would find interaction with ICT is so flexible | 0.661 | | |
| Subjective Norm (SN) | | | |
| My workers encourage my to use ICT in farm management | 0.796 | 6.591 | 0.895 |
| My family encourage me to use ICT in business | 0.788 | | |
| Agricultural officer advise me to use ICT in farm management | 0.756 | | |
| My clients suggest that I should use ICT in business management | 0.702 | | |
| Suppliers encourage me to use ICT | 0.672 | | |
| My close friends suggest to me to use ICT in farm operations | 0.614 | | |
| In general, government sectors and agencies have been supporting the use of ICT among farmers | 0.539 | | |
| Facilitating Condition (FC) | | | |
| I have the resource necessary to use the ICT | 0.732 | 5.267 | 0.753 |
| I have knowledge necessary to use the ICT | 0.642 | | |
| My farm has electrical supply connected | 0.636 | | |
| My farm has fixed telephone line connected | 0.590 | | |
| I think that using ICT fit well with the way I like to work | 0.510 | | |

The model summary of the regression analysis is given in table 2.

The regression analysis was conducted to test the proposed hypothesis and to

identify how different factors affect the attitude (A) of vegetables farmers to accept ICT as dependent variable. The coefficient of determination is 38.9 % which shows that the variation explained in dependent variable due to independent variables.

The reports ANOVA where a significant F statistic justifies the appropriateness of the proposed model.

- Predictors: PU, PE, SN , FC.
- Dependent Variable: A

The value of standard error in our proposed model is 0.784 which is substantially less than the standard deviations of the dependent variable,

which further justifies that the use of proposed model is appropriate.

The relative order of preference of predictive factors of farmers intention toward use ICT based on the beta values (given in table 3) can be summarized as follows: The PEU ($\beta=0.533$), PU ($\beta=0.242$), SN ($\beta=0.152$) and FC ($\beta=0.144$). All beta values are positive indicating the positive relationships between predictors and attitudes.

These factors are statistically significant at 5% level of significance as the p value corresponding to all these factors are less than 0.05. Hence, H1, H2, H3 and H4 of no significant correlations between the factors and attitude failed to reject.

Table 2. Model Summary

| R | R square | Adjusted R Square | Std. Error of the estimate |
|-------|----------|-------------------|----------------------------|
| 0.623 | 0.389 | 0.381 | 0.78388 |

Table 3: Results of Regression Analysis

| Model | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|------------|-----------------------------|------------|---------------------------|--------|-------|
| | B | Std. Error | Beta | | |
| (Constant) | -0.004 | 0.042 | | -.094 | 0.925 |
| PU | 0.240 | 0.042 | 0.242 | 5.662 | 0.000 |
| PEU | 0.535 | 0.043 | 0.533 | 12.493 | 0.000 |
| SN | 0.150 | 0.042 | 0.152 | 3.557 | 0.000 |
| FC | 0.144 | 0.043 | 0.144 | 3.379 | 0.001 |

CONCLUSION

This study investigated the factor those effects the acceptance of use ICT among vegetable farmers in Peninsular Malaysia. Four factors, namely Perceive Usefulness, Perceived Ease of Use, Subjective Norm, and Facilitating Condition, were found to positively influencing the attitude of Malaysian vegetable farmers towards the use of ICT in vegetable production. The level of ICT practice among farmers in developing country like Malaysia is still at average level. In order to increase ICT usage and encourage farmers to use it, it is suggested that concerned parties should provide the farmers with ICT training and

skills courses. Since mobile phone and smart phones are gaining popularity and mostly used ICT tools, the responsible agencies or departments should provide them with agriculture information through mobile applications such as through SMS, Whatsapp and other applications.

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DISCUSSION FROM PARALLEL SESSION

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|--------------------|---|
| PAPER TITLE | Factors Influencing The Attitudes of Vegetable Farmers toward The Use of Information and Communication Technology (ICT) in Peninsular Malaysia |
| AUTHOR | Nor Haslina Nor R., Amin Mahir Abdullah, Norsida Man, Noliila Mohd Nawi |
| DISCUSSION | |
| QUESTION | <ul style="list-style-type: none">- What is the use of ICT on farm management? I wonder if the use of ICT is in ... activity ... farm management- Why don't use social media : FB, Twitter, Whatsapp, etc? |
| ANSWER | |
| SUGGESTION | <ul style="list-style-type: none">- It should explain the use of ICT movedays and in the correct ways |



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