

Impact of Customer Trust on Purchase Intention in Organic Rice through Facebook: A Pilot Study

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Abstract—Facebook is one of the new marketing channels used for selling and directly communicating with target consumers without implementation cost. Consumer trust is an important concern for online merchant to concern because it influences the way consumers make online purchases. This paper explores the impact of consumer trust on purchase intention in organic rice via Facebook. This pilot study was used to test the instruments' reliability and validity. Collected by using online questionnaire survey from a heterogeneous sample of 37 respondents regarding their purchase intention, the initial results from the regression analysis revealed that trust in farmers depends on their benevolence and trust in Facebook depends on information quality. However, the trustworthiness of farmers and Facebook does not play the critical role in determining the extent to which consumers trust and accept to buy organic rice through Facebook. The paper also outlines the limitations and directions for future research of this study.

Keywords—purchase intention; trust; consumer trust; organic rice; social network; Facebook

I. INTRODUCTION

In recent decades, the need of organic products has increased impressively in several developed countries such as the United States, Germany, and France or even in developing countries like China [1]. There is an increase in organic retail sales value in each country. As in developed countries, the demand for organic products in developing countries continues to increase and the price for these certified products is in premium rate. However, there are many consumers who are unwilling to pay higher price for organic produce because they are unclear in the difference of the characteristics of organic products. In addition, most organic agricultural products in developing countries like Thailand are sold in health shops, supermarkets, and discount stores that these organizations focus on price competition. That is, they prefer to promote the conventional products with low price rather than organic products at a premium on sale. Thus, the smallholder farmers cannot negotiate fair prices for their produce. To solve these problems, small farmers have to sell their products directly to local consumers for reducing the range of the organic supply chain [2].

Facebook is one of the social network sites that many online merchants use for communicating and selling their products and services to consumers. Moreover, several organizations develop a social media presence in order to

enable them to share information and engage with their stakeholders [47]. Therefore, Facebook may be an appropriate channel for farmers to directly contact and sell their quality rice to consumers. In Thailand, many farmers decide to sell their products through Facebook. Not only farmer such as farmbanchatjane (www.facebook.com/farmbanchatjane) welovefarmers (<https://www.facebook.com/ThaiFarmers>) who cooperate with others to sell their organic rice via Facebook but also people such as pookpintokao community (www.facebook.com/pookpintokao) and khonkinkhao community (www.facebook.com/khonkinkhao) who sympathize with smallholder farmers have created a Facebook community to collaborate with farmers. However, there are a few consumers who buy organic premium rice via Facebook commerce (F-commerce).

Because several prior studies stated that trust (both in sellers and in an intermediary) has significant effect on customers' decisions in social commerce context [3, 64, 65], the aim of this current study is to confirm that Facebook can probably act as the new marketing channel for farmers. This paper investigates the impact of customers' trust on purchase intention in organic rice through Facebook. It aims to address the following research questions: (1) How does each factor of trustworthiness affect the consumer trust in farmers? (2) How does each factor of trustworthiness affect the consumer trust in Facebook? (3) Is trust in farmers transferable to trust in Facebook? (4) How does trust in farmers and trust in Facebook effect on purchase intention in F-commerce respectively? The result might help farmers to define their marketing strategies for the achievement in F-commerce.

II. LITERATURE REVIEW

This section contains the theoretical background of the present research. First, the information of premium rice is presented. Second, the trust concept in the context of online commerce is discussed. Third, three attributes of organizational trustworthiness, including ability, benevolence, and integrity are introduced as antecedents of consumer trust in farmers and two variables from D&M IS success model namely information quality and system quality are introduced as antecedents of consumer trust in an intermediary. Fourth, we review literature related to two categories of trust, namely trust in an intermediary and trust in farmers. Finally, we will take a look at the impact of trust on purchase intention.

A. Organic rice

Organic rice is defined as the rice produced by organic farmers. There are many different types of rice with many different qualities to suit different consumer preferences. Quality factors relate to grain length, stickiness, aroma, texture, and flavor [5]. For example, Thailand's consumers prefer well-milled Indica rice (long-grain) that is soft and flaky when cooked. In contrast, Japanese's consumers prefer soft Japonica rice (short-grain) that tends to stick together when cooked. It can be easily seen that quality characteristics of premium rice would have to have low percentage broken, high glossiness, well-defined taste and aroma characteristics, and sticky but smooth texture that remains soft after cooling [6, 7].

In this paper, organic rice with high quality (premium rice) is defined as luxury goods. The luxury goods are defined by BusinessDictionary [8] as "products which are not necessary but which tend to make life more pleasant for the consumer. In contrast with necessity goods, luxury goods are typically more costly and are often bought by individuals who have a higher disposable income or greater accumulated wealth than the average." Thus, premium rice is agricultural product that has high price and preferred by small groups of people who are health conscious.

B. Trust in online commerce

According to Oxford Dictionaries [9], trust can be defined as "the belief that somebody/something is good, sincere, honest, etc. and will not try to harm or trick you." Generally, Mayer, Davis, and Schoorman [10] defined trust as "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party."

Found to be influencing consumer purchase intention in online commerce, trust has been explored in several studies. Trust in online commerce, both electronic and mobile commerce, involves a consumer belief on an unfamiliar seller, a product or service that they cannot actually see, touch, or try out [11, 12]. Many previous research show that when customer trust a website or vendor then they tend to purchase from that site [13, 14, 29]. Moreover, Kim, Ferrin and Rao [15] believed that trust and satisfaction are essential factors for successful business relationships in B2C electronic commerce. In public sector, trust is a mechanism for encouraging citizens to continue use public e-services and adopts e-government in widespread area [16, 17]. Park, Choi, Kim, and Rho [18] indicated that social network is a crucial instrument for communicating with the public and promote citizens' trust. It has become crucial for online merchant to build consumers' trust

C. Trustworthiness attributes as antecedents of trust

In terms of trustworthiness attributes as antecedents of trust in farmers, Mayer, Davis, and Schoorman [10] presented three factors of trustworthiness that effect on organizational trust. These factors consist of ability, benevolence, and integrity. Ability (or competence) refers to a company's ability to fulfill promises made with the consumers. Ability in the context of

farmers may include skills, competencies, and characteristics that enable them to plant organic food. Benevolence, according to Mayer, Davis, and Schoorman [10], refers to the trustee's belief to do good to the trustor from warm-heartedness. In general terms benevolence is the ability of a company concerning about consumer interests, not just its own self-interest. Finally, integrity is suggested as a company act in a consistent, reliable, and honest manner [10, 13]. McKnight, Choudhury and Kacmar [29] defined trustworthiness as a strong construct of trusting belief in web vendor based on consumer perception in website quality and reputation. Chen and Dhillon [13] also confirmed that the three attributes of trustworthiness are conducive to perform consumer trust.

In terms of trustworthiness attributes as antecedents of trust in intermediary, DeLone and McLean [20] presented the D&M IS Success Model. There are two constructs in the success of information system. These factors include system quality and information quality. In 2003 they added service quality into the D&M IS Success model and applied to measure the success of electronic commerce. Furthermore, many researchers revealed that website quality (referring to e-commerce website) has an effect on consumer trust and purchase intention [19, 21, 22]. Shin, Chung, Oh, and Lee [21] confirmed that the quality of internet shopping mall website can affect repurchase intention by enhancing or attenuating customer satisfaction, customer trust, and customer commitment in online transaction situation. They concluded that site quality, as well as customer communication, site design, information usefulness, payment system, shopping convenience, and transaction security significantly impact consumers' trust. Sin, Nor, and Al-agaga [22] explored factors affecting Malaysian young consumers' online purchase intention in social media websites. The results showed that three significant factors influencing young consumers' online purchase intention consist of perceived usefulness, perceived ease of use and subjective norm. McKnight and Chervany [19] revealed that web site quality and reputation are powerful levers that vendors can use to build consumer trust. In this regard, the present paper considers trustworthiness attributes as important antecedents of trust.

D. Social network trust and farmers trust

Online transactions through social network site involve trust in dyadic relationships between a buyer and a seller. Consumers decide to transact towards online channel when trust is formed. Verhagen, Meents, and Tan [23] presented that trust in e-commerce context can be divided into two categories: intermediary trust and seller trust. Their findings indicated that consumer perception of risk and trust has an effect on attitude towards purchase intention in C2C e-marketplace. Belanche, Casaló, Flavián, and Schepers [16] showed that trust in public e-service transaction can be separated in three components: provider, service, and underlying technology that are interrelated with each other. That is: citizen will trust in e-service if they trust the provider and technology characteristics. Meanwhile, trust in providers has higher important effect on e-service continuance use than trust in the delivery channel. Chow and Shi [24] conducted an empirical study to confirm the trust transference theory between consumer trust in social commerce and in the company and the effect of trust in

electronic word of mouth intention. Their findings concluded that social commerce trust has significant impact on forming company trust based on information and the members on the site. Therefore, the present paper takes into consideration both intermediaries' trust and farmers' trust as they are central to consumers' purchase behavior in social commerce.

E. Influence of trust on consumer behaviour

A considerable amount of literature has been published on trust towards consumer behaviour [16, 25, 26]. These studies suggest that trust is a key construct in consumer behaviour intention because it eliminates the uncertain feeling of consumer to purchase product via online channel [26]. Suh and Han [25] conducted an empirical study to find the factors effecting trust on customer acceptance of Internet banking. Their findings indicated that trust has significant effect on customer acceptance and is one of the most significant beliefs in customer's attitude towards using Internet banking. Gefen, Karahanna, and Straub [27] conducted an empirical study to find factors influencing online purchase intention based on the technology acceptance model (TAM) and trust. The results revealed that trust, as well as the perceived ease of use and perceived usefulness significantly impact the consumers' purchase intention. While Belanche, Casaló, Flavián, and Schepers [16] revealed that when citizen trust in the public e-service they tend to continually use the public e-services. This paper treats purchase intention as key construct which is directly affected by intermediary trust and farmer trust in social commerce.

III. CONCEPTUAL MODEL AND HYPOTHESES

A. The conceptual model

This study focuses on purchase intention through Facebook for organic agricultural product based on consumer trust in the seller and the intermediary. The research model is proposed to address this issue as shown in Fig. 1. All variables hypothesized in this study are discussed next.

B. Research hypotheses

1) Factors of trustworthiness and trust in farmers

In the context of organic product purchasing through Facebook, organic farmers are defined as merchants who sell their product via online channel. In agriculture context, expected quality is one of the most important factors that influence consumers' intention to purchase food [4]. Papanagiotou, Tzimitra-Kalogianni, and Melfou [4] studied the consumers' expected quality towards intention to purchase high quality pork meat. Their findings showed that pork appearance and the country of origin are important factors for consumers' purchase decisions. Consumers need to confirm in the quality of product before making decision to buy some foods. Thus, the sources of product are an important indicator that confirms customer perception on product quality.

Factors found to be influencing customer trust have been explored in several studies. Mayer, Davis, and, Schoorman [10] showed that the employee who has high perception in ability,

benevolence, and integrity of organization they highly trust in organization. Lee and Turban [11] presented the factors influencing consumer trust in internet shopping. The results indicated that merchant integrity is a major positive determinant of consumer trust in Internet shopping. Similarly, Das [28] investigated the linkage of retailer personality, perceived quality and purchase intention with retailer loyalty. The results indicated that retailer personality and retailer perceived quality are considerable antecedents of purchase intention. McKnight, Choudhury, and Kacmar [29] revealed that trust in an online vendor consists of trusting beliefs and trusting intentions. They found that if consumer perceived the competence, benevolence, and integrity of the vendor they tend to trust the vendor and intend to purchase from the website. Based on the prior research findings presented above, the following three hypotheses are suggested:

H1: Perceived competence (PC) has a positive effect on Trust in farmers (TFM)

H2: Perceived benevolence (PB) has a positive effect on Trust in farmers (TFM)

H3: Perceived integrity (PI) has a positive effect on Trust in farmers (TFM)

2) Factors of trustworthiness and trust in an intermediary

DeLone and McLean [20] presented three constructs in the success of information system namely system quality, information quality, and service quality. System quality in the internet environment context, according to DeLone and McLean [30], refers to usability, availability, reliability, adaptability, and response time (e.g., download time) of qualities that are valued by users of an e-commerce system. To measure the information quality in the context of e-commerce, they suggested that the web content should be personalized, complete, relevant, easy to understand, and secure. Meanwhile, service quality refers to the overall support delivered by the service provider such as IS department, a new organizational unit, or outsourced to an Internet service provider (ISP). It consists of assurance, empathy, and responsiveness. In this paper, however, service quality is out of scope because all services are supported by social network provider.

Previous research has indicated that information quality of website has a positive impact on consumers' trust [31, 32]. These research results confirmed that if a website provides an accurate and timely information, consumer tend to make their decision to purchase products via online channel. Meanwhile, Bai, Law, and Wen [33] confirmed that Chinese online consumer intend to buy products via travel website if the website presents useful information and usability. Shin, Chung, Oh, and Lee [21] concluded that site quality, as well as customer communication, site design, information usefulness, payment system, shopping convenience, and transaction security significantly impact consumers' trust. It is the truth that trust is a key factor in facilitating online transactions and is a significant predictor of a consumer's intention to purchase [34, 35]. In this regard, the following hypotheses are proposed for an examination of the relationship between information quality and trust:

H4: Information Quality (IQ) has a positive effect on Trust in Facebook (TFB)

H5: System Quality (SQ) has a positive effect on Trust in Facebook (TFB)

3) Trust transfer from farmers to an intermediary

Stewart [36] suggested that trust may transfer from different kinds of sources. For example, consumers in a traditional sales channel can be transferred their trust to a web-based channel [37, 38, 39]. On the other side, trust can transfer between targets. In terms of trust transfer process, anyone trusts in unknown person because they trust in a known person who has certain relation with the unknown person [36]. In World Wide Web, trust is transferred from one website to another across hypertext links based on the perceived interaction and similarity of the source of the transferred trust [36]. Moreover trust can be transferred from web services to mobile services [26, 40]. Belanche, Casaló, Flavián, and Schepers [16] showed that trust in public e-service transaction can be separated in three components: provider, service, and underlying technology that are interrelated with each other. That is: citizen will trust in public e-service if they trust in provider characteristics and technology characteristics. Meanwhile, trust in provider has higher important effect on the continuous use of public e-service than trust in the delivery channel. Gefen, Karahanna, and Straub [27] confirmed that consumers' trust has resulted from four portions: 1) customers' belief that the vendor is honest and sincere, 2) customers' belief in intermediary that safety and reliability, 3) having a typical interface, and 4) designing easy-to-use website. Their findings revealed that customers are influenced by both trust in vendor and technological aspects of the website interface. As stated earlier, trustworthiness of merchant helps build customers' trust in an intermediary. Based on the above theoretical observations, the hypothesis is proposed:

H6: Trust in farmers (TFM) has a positive effect on Trust in Facebook (TFB)

4) Trust and purchase intention

Trust is believed that is an important factor effecting on online commerce. many studies have been conducted to investigate the effects of trust on purchase intention [27, 62]. Kim, Ferrin, and Rao [15] defined consumer behavior towards online purchasing in three phases: pre-purchase, purchase, and post-purchase. Their findings found that in pre-purchase period, trust has an effect on consumer's purchase decision in combination with perceived risk and perceived benefit and has an impact on consumer e-loyalty through satisfaction in post-purchase period. Furthermore, they confirmed that online consumers' trust and perceived risk have strong impacts on purchasing decisions [31]. Besides, several research claimed that trust in e-commerce context can be divided into two categories: intermediary trust and seller trust. Both had a significant correlation with online purchase intention [41, 42]. Based on these findings, the following hypotheses are defined to establish a positive relationship between the two constructs:

H7: Trust in farmers (TFM) has a positive effect on Purchase Intention (IN)

H8: Trust in Facebook (TFB) has a positive effect on Purchase Intention (IN)

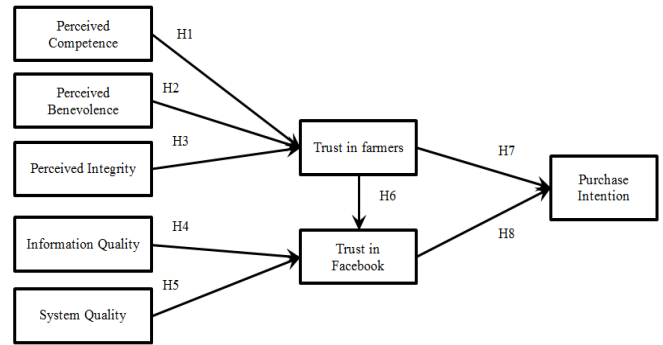


Fig. 1. The proposed model

IV. RESEARCH METHODOLOGY

A. Measurement development

The measurement items were adapted from the existing literature wherever possible. Table V illustrated the measures that have been devised to test the research hypotheses. This proposed research model includes eight constructs measured with multiple items. In order to test the eight hypotheses constructs, we adapted most items from prior published literatures then translated into Thai and reviewed for the content validity that can be seen in Table V. A 5-point Likert scale on an interval level was used to measure the dependent variable. All items are ranged from 1 = strongly disagree to 5 = strongly agree.

B. Survey procedure and response rate

This paper presents a pilot test in order to make sure that the questionnaire items were properly developed to meet the research objectives and to ensure the validity of questionnaire items that were slightly modified for clarity. We examined the responses to the preliminary instrument for consistency and revised the items in the questionnaire, such that there are no redundant items, and all the items are phrased clearly and concisely.

To ensure that the measured trusts were based on direct behavioral experience with the object, only responses from those who had previously used the Internet and social network application were included in the analysis. Thus, an online survey was employed to collect data in order to easily reach to targeted group who use the Internet. Concerning the online survey for the pilot study, it was posted on social network application such as Facebook and Line using snowball sampling. The data collection process lasted for one week. By the due date, a total of 41 responses were received and 37 responses have been used for statistical analysis after excluding the invalid responses.

V. FINDINGS

To perform a statistical analysis on the gathered data, the SPSS 11.5 for Windows was used to test the reliability of the measurement model, examined the data on demographics of the respondents by using descriptive statistics (i.e. frequencies and percentage). Descriptive statistics (i.e. mean and standard deviation) was conducted in order to generate the data on each items of each construct, and regression analysis was used to test the hypotheses.

A. Profile of respondents

A total number of 37 responses were utilized in the analysis. Regarding the demographic profile of the respondents in Table I, it can be easily seen that the number of females (72.97%) was significantly larger than that of males (27.03%). The majority of respondents were between the ages of 36 to 45 years old (54.05%). In terms of educational level, most respondents were educated at higher than Bachelor's degree approximately 64.86%. Most respondents work as Government officials, followed by Private Sector employees, self-employed and State enterprise employee. Respondents with earnings between 30,001 – 50,000 baht constitute approximately 37.84% of the total respondents. The majority of respondents have ever used online purchasing (83.78%).

TABLE I. DESCRIPTIVE STATISTICS OF RESPONDENT'S CHARACTERISTICS

	Item	Frequency	Percent
Gender	Male	10	27.03
	Female	27	72.97
Age	Less than 20	1	2.70
	21-25	1	2.70
	26-35	12	32.43
	36-45	20	54.05
	46-55	3	8.11
Highest education level	Lower than Bachelor's degree	3	8.11
	Bachelor's degree	10	27.03
	higher than Bachelor's degree	24	64.86
Occupation	Government officials	20	54.05
	State enterprise employee	1	2.70
	Private Sector employees	9	24.32
	self-employed	5	13.51
	Others	2	5.41
Average income per family per month	Less than 15,000 baht	3	8.11
	15,001 – 30,000 baht	6	16.22
	15,001 – 30,000 baht	10	27.03
	30,001 – 50,000 baht	14	37.84
	50,001 – 100,000 baht	1	2.70
	More than 100,000 baht	3	8.11
online purchasing experience	Yes	31	83.78
	No	6	16.22

B. Reliability and Validity analysis

Prior to the data analysis, the measurement instruments were evaluated for reliability. All constructs were tested for reliability, using Cronbach's alpha test. Nunnally [43] confirmed that the score for each construct should be greater than 0.7 to be considered reliable. The values of Cronbach's alpha were calculated and summarized in Table II. The Cronbach's alpha ranges from 0.691 to 0.971. Hinton, Brownlow, and McMurray [44: p. 364] have presented that four-cut-off point for reliability: excellent reliability (0.90 and above), high reliability (0.70 to 0.90), moderate reliability (0.50 to 0.70) and low reliability (0.50 and below). The aforementioned values present that of the 8 constructs, 7 possessed high reliability and the remaining one illustrated moderate reliability (Perceived Competence). As can be seen in Table II, according to increase the Cronbach's alpha value of Perceived Competence, PC3 would be removed because removal of any question, except PC3, would result in a lower Cronbach's alpha. Although its value possessed moderate reliability but nearly as high as 0.70 thus these Cronbach's alpha values can be implied that all the constructs were internally consistent. As a result, the questionnaire was found to be appropriate for further data collection.

To test the proposed model, multiple linear regression analysis was performed. First of all, the data were checked the normality before applying regression tests. In terms of multiple regression procedures, the data had been tested for multicollinearity before the actual regression model was tested to be effective. the variance inflation factors (VIFs) for all the value of independent variables were identified to be less than 10, all the values for tolerance were greater than 0.2 and correlation were less than 0.8 [44: p. 348], then the independent variables would not correlate very highly, therefore regression tests will be carried out next. The correlation values of all variables were less than 0.8 as shown in Table VI. To ensure content validity, we adapted the items from prior studies; whereas, all definitions were adapted based on an in-depth literature review (Table V). Meanwhile, the multicollinearity result for all independent variables in this study was accessed as shown in Table III. The VIFs were less than 4 and the tolerance were greater than 0.2.

C. Findings

In order to perform a statistical analysis, SPSS 11.5 for Windows were used to test the reliability of the measurement model to investigate the data on demographics and to test the hypotheses. To test the proposed model, multiple regression analyses were conducted on the constructs. Table IV shows the results of regression analysis based on the relationships proposed in the research model.

TABLE II. DESCRIPTIVE STATISTICS OF ITEMS AND CRONBACH'S ALPHA

Construct	Mean	SD	Cronbach's Alpha	
			if Item deleted	Reliability
Perceived Competence (PC)				0.691
PC1	4.38	.594	.617	
PC2	3.95	.743	.436	
PC3	4.00	.667	.699	
Perceived Benevolence (PB)				0.730
PB1	3.97	.600	.798	
PB2	3.62	.794	.510	
PB3	3.32	.709	.541	
Perceived Integrity (PI)				0.931
PI1	3.57	.689	.933	
PI2	3.68	.626	.904	
PI3	3.62	.681	.862	
Information Quality (IQ)				0.865
IQ1	3.65	.588	.852	
IQ2	3.62	.721	.851	
IQ3	3.59	.725	.803	
IQ4	3.62	.758	.794	
System Quality (SQ)				0.960
SQ1	4.24	.760	.958	
SQ2	4.35	.789	.907	
SQ3	4.30	.845	.957	
Trust in Facebook (TFB)				0.971
TFB1	3.41	.865	.966	
TFB2	3.41	.798	.947	
TFB3	3.38	.794	.958	
Trust in farmers (TFM)				0.912
TFM1	3.62	.639	.888	
TFM2	3.57	.647	.843	
TFM3	3.65	.716	.890	
Purchase Intention (IN)				0.875
IN1	3.00	.624	.884	
IN2	3.24	.796	.776	
IN3	3.05	.815	.789	

TABLE III. MULTICOLLINEARITY RESULTS

Model	Collinearity statistics		
	Tolerance ≥ 0.2	VIF ≤ 4	Eigenvalue > 10
TFB = PC + PB + PI			
PC	.665	1.505	.019
PB	.276	3.627	.009
PI	.352	2.842	.004
TFM = IQ + SQ			
IQ	.834	1.199	.017
SQ	.834	1.199	.013
TFB = TFM			
TFM	1.000	1.000	.014
PI = TFB + TFM			
TFM	.740	1.352	.013
TFB	.740	1.352	.027

TABLE IV. REGRESSION ANALYSIS

Model	t	β	R ²	F	Hypothesis (supported)
TF = PC + PB + PI			.587**	15.639	
PC	0.581	0.800			H1 (no)
PB	3.572	0.761**			H2 (yes)
PI	-0.287	-0.054			H3 (no)
TS = IQ + SQ			.381**	10.474	
IQ	3.410	0.504**			H4 (no)
SQ	1.400	0.207			H5 (yes)
TFB = TFM			.260**	12.307	
TFM	3.508	0.510**			H6 (yes)
PI = TFM + TFB			.230	5.088	
TFM	1.662	0.291			H7 (no)
TFB	1.494	0.261			H8 (no)

** . Correlation is significant at the 0.01 level (2-tailed)

To investigate H1, H2, and H3, perceived competence, perceived benevolence, and perceived integrity were simultaneously regressed on trust in farmers. The results of which are shown in Table IV. The three constructs significantly accounted for 58.70% of variance in Trust in farmers ($R^2 = 0.587$, $F = 15.639$, $p < 0.01$). The results indicated that only perceived benevolence had a positively influence trust in farmers ($\beta = 0.761$, $t = 3.572$, $p < 0.01$). On the other hand, perceived competence and perceived integrity had no influence on trust in farmers ($\beta = 0.800$, $t = 0.581$, $p > 0.01$; $\beta = -0.054$, $t = -0.287$, $p > 0.01$). It is clear that there is support for H2 as perceived benevolence positively influenced trust in farmers. Therefore, H1 and H3 as perceived competence and perceived integrity were rejected.

To examine H4, and H5, information quality and system quality were regressed on trust in Facebook. The results revealed about 38.1% of the variance in trust in Facebook ($R^2 = 0.381$, $F = 10.474$, $p < 0.01$). The results indicated that information quality had a positive influence on trust in Facebook ($\beta = 0.504$, $t = 3.410$, $p < 0.01$). On the other hand, system quality had no influence on trust in Facebook ($\beta = 0.207$, $t = 1.400$, $p > 0.01$). It is clear that there is support for H4 as information quality had a positive influence on trust in Facebook. Therefore, H5 as system quality was rejected.

To test H6, trust in farmers was regressed on trust in Facebook. The results revealed that about 26.0% of the variance on trust in Facebook can be significantly accounted for trust in farmers ($R^2 = 0.260$, $F = 12.307$, $p < 0.01$; $\beta = 0.510$, $t = 3.508$, $p < 0.01$). Therefore, H6 was supported.

To test H7 and H8, trust in farmers and trust in Facebook were regressed on purchase intention. The findings revealed that both trust in farmers and trust in Facebook had no influence on purchase intention to buy organic rice via Facebook which accounted for 23.0% of variance in purchase intention ($R^2 = 0.230$, $F = 5.088$, $p > 0.01$). Trust in farmers ($\beta = 0.291$, $t = 1.662$, $p > 0.01$) has no significant effect for purchase intention ($\beta = 0.261$, $t = 1.494$, $p > 0.01$). Therefore, H7 and H8 were rejected as shown in Table IV. Fig. 2 shows the result of this analysis.

TABLE V. RESEARCH VARIABLES AND MEASUREMENTS

factor	definition	Measurement items	Reference
Perceived Competence (PC)	The extent of the consumers' belief towards farmers that is able to fulfill their promises with skills and expertise to produce goods.	I think the farmers have the necessary abilities to carry out their work.	[10], [41], [45]
		I think the farmers have sufficient experience in planting organic products that they offer.	
		I think the farmers have the necessary resources to carry out their activities successfully.	
Perceived Benevolence (PB)	The extent of the consumers' belief towards farmers that care for consumers' interests, not just their own benefits.	I think the products of farmers take into account the desires and needs of their consumers.	[10], [41], [45]
		I think the farmers would not do anything intentional that would prejudice the consumers.	
		I think the farmers are interested in my well-being, not just their own.	
Perceived Integrity (PI)	The extent of the consumers' belief towards farmers that is able to fulfill their promises with consistent, reliable, and honest manner.	I think the farmers usually fulfill the commitments they assume.	[10], [24], [41], [45]
		I think the farmers are sincere and honest.	
		I think the farmers are truthful in their dealings with me.	
Information Quality (IQ)	the extent of the consumers' belief towards information of Facebook that are relevant, sufficient, accurate, and timely.	Facebook provides me with information relevant to my needs.	[12], [46], [47]
		Facebook provides me with sufficient information.	
		Facebook provides me with accurate and up-to-date information.	
		Facebook provides me with precise resource of organic food.	
System Quality (SQ)	The extent of the consumers' belief towards Facebook in the access speed, ease of use, navigation, and visual appeal.	Facebook is easy to use.	[12], [18], [46]
		Facebook is easy to navigate.	
		Facebook quickly loads all texts and graphics.	
Trust in Farmers (TFM)	Overall consumer trust in farmers of organic products.	I think the farmers are reliable.	[46]
		I think the farmers keep promises and commitments.	
		I think the farmers keep customers' best in mind.	
Trust in Facebook (TFB)	Overall consumer trust in Facebook.	I think Facebook is secure.	[46]
		I think Facebook is reliable.	
		I think Facebook is trustworthy.	
Purchase Intention (IN)	The behavioral intention to purchase organic food via social network site.	I would not hesitate to purchase organic rice via Facebook.	[41]
		Given the opportunity, I will purchase organic rice via Facebook.	
		I think about purchasing organic rice via Facebook.	

TABLE VI. MEAN, STANDARD DEVIATION, AND CORRELATION BETWEEN VARIABLES OF PROPOSED MODEL

	Mean	S.D.	PC	PB	PI	IQ	SQ	TFB	TFM	IN
PC	4.108	0.527	1							
PB	3.640	0.569	.556**	1						
PI	3.622	0.624	.343*	.796**	1					
IQ	3.622	0.591	.298	.499**	.567**	1				
SQ	4.297	0.769	.520**	.372*	.234	.407*	1			
TFB	3.396	0.797	.270	.481**	.484**	.588**	.412*	1		
TFM	3.613	0.616	.484**	.762**	.579**	.565**	.452**	.510**	1	
IN	3.099	0.671	.266	.574**	.468**	.366*	.390*	.410*	.424**	1

** . Correlation is significant at the 0.01 level (2-tailed)

*. Correlation is significant at the 0.05 level (2-tailed)

PC: Perceived Competence; PB: Perceived Benevolence; PI: Perceived Integrity; IQ: Information Quality; SQ: System Quality; TFB: Trust in Facebook; TFM: Trust in farmers; IN: Purchase Intention

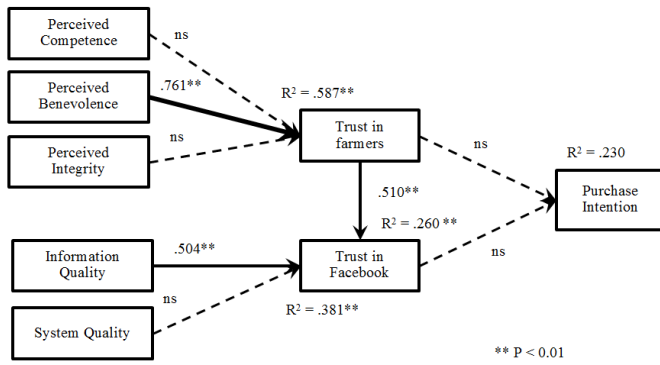


Fig. 2. Model testing results

VI. DISCUSSION AND IMPLICATIONS

A. Discussion

This research attempts to study the impact of customer trust on purchase intention in organic rice through Facebook. However, this study cannot guarantee that the results are sound because the sample is quite limited. That is, this pilot study was used to test instruments' reliability and validity. Consequently, discussion and implication section will be discussed the initial results from the regression analysis.

This pilot study contributes to an overall primary understanding of electronic commerce via Facebook by examining the constructs of trust leading to purchase intention in organic rice. Consumers' trust is an important consideration in electronic commerce [41, 46, 58, 59]. In addition, trust in farmers and trust in an intermediary are the key factors in the increase of purchase intention.

Several theoretical and practical implications arise from these primary findings. First, this study clarified the relationship among three constructs of consumers' perception (competence, benevolence, and integrity) and trust in farmer in an online shopping setting. Partially consistent with the previous study, McInnes, Lin, and Li [57] revealed that with a higher perception of benevolence, integrity, and competence, consumers have a higher level of trust. Nevertheless, the results show that benevolence is the only one construct affecting the consumers' trust in farmers. The finding is attributed to the fact that consumers want to make sure that the farmers care about the consumers' needs and do their best to satisfy the consumer or meet the consumers' expectations, including the fact that they are sincere and honest to fulfill their promises and carry out duties. Previous study reveals that Thailand's rice has higher quality than other countries like Vietnam, but Thai farmers usually use pesticides and chemical fertilizers for their cultivation rather than using organic fertilizers [48]. Thus, many Thai consumers have expressed their concern about farmers' benevolence more than farmers' competence and integrity.

Second, the two most important quality components from D&M IS success model are information quality and system quality. The former component presented a significant association with trust in Facebook, supporting H4. This is

partially consistent with the previous studies which identified the effect of information quality on trust in an intermediary [31, 32, 33, 49, 50, 51]. Certainly, the quality information proper for presenting products would have to be reliable, accurate, consistent, concise, usable, and up-to-date [52]. Meanwhile, system quality showed little influence on trust in Facebook, which caused H5 to be rejected. It is worthwhile to explain why this hypothesis was not supported. Because of the development of network infrastructure, consumers do not really concern about speed, ease of use, navigation and visual appeal. Many previous studies claimed that electronic word of mouth (eWOM) has a strong impact on consumers' trust and purchase intention [63, 64]. Consequently, this construct may impact to non-existence on relationship of system quality to trust.

On the World Wide Web, trust can be transferred from one organization to another by hypertext link [36, 60] and from offline to online presence [61] including the result of the Belanche, Casaló, Flavián, and Schepers [16] study, which concluded that providers' trust is a strong determinant of intermediary trust. These are congruent with the study results. That is, trust in farmers is positively associated with trust in Facebook. This indicates that there was a transfer of trust from the farmers to Facebook. It has confirmed the tendency of online shoppers to trust the intermediary when they trust the farmer in the first place.

Finally, the results from the pilot study showed that both trust in an intermediary and trust in farmers have no effect on consumer's purchase behavior intention. However, it is different from the several prior studies. Kim, Ferrin, and Rao [15] revealed that consumer trust had a strong positive effect on a consumer's purchasing intention. A similar observation was made in the Hsu, Chang, Chu, and Lee's study [46] which found that trust in merchants and trust in group-buying website exert significant effects on customers' satisfaction and perception in quality of website and sellers. Moreover, both constructs had significant influence on repurchase intention. On the other hand, it is partially consistent with the Hong and Cho's study [41], that is, customers trust in the intermediary's quality and trustworthy but not trust in the individual seller who does business in the marketplace. It can be inferred from the present finding that trust is not a key role in increasing the purchase intentions. There appear to be more important factors than trust that influence purchase intention, such as attitude toward organic product, subjective norm, moral attitude and personal image [53, 54, 55].

B. Implications

According to the results from the pilot study, we can draw implications for farmers and practitioners. First, this research has shown that Facebook might not be an appropriate marketing channel to sell their organic products directly to consumers. However, it confirms that Facebook is suitable for distributing the product information and interacting with their target consumers.

Second, the findings showed that consumers intend to buy organic rice if it is certified by a reliable organization such as the Organic Agricultural Certification Thailand (ACT) and International Federation of Organic Agriculture Movements

(IFOAM). Consumers' anxiety in organic product quality had significant effect on trust in farmers. It means that farmers can effectively increase potential customers' purchase intentions by focusing on strengthening consumers' perception towards product quality.

VII. CONCLUSION AND LIMITATIONS

This research identified the factors affecting consumers' trust on purchase intention of organic agricultural products through Facebook based on trust in farmers and trust in an intermediary. The results indicated that farmers' benevolence had an effect on purchase intention through consumers' trust in farmers and information quality had effect on purchase intention through consumers' trust in an intermediary. The results imply that farmers need to encourage consumers' purchase intention by presenting organic product certification. Using social network application such as Facebook and Line, the farmers can inform their consumers about their organic rice.

This research has the following limitations. First, the small sample size is the key hindrance in generalizing the results to the entire consumers. That is, this study cannot guarantee that the results are sound, but it can conclude that the instruments are reliable and valid for collecting data from the samples. Thus, we intend to conduct similar studies in larger cohorts to strengthen our findings. The results will clarify and enrich the proposed model and will extend its boundaries.

Secondly, the previous report about strengthening the export capacity of Thailand's organic agriculture revealed that Thailand's organic consumers may be characterized as people who live in urban area and are middle-class consumers, with 1 to 2 children and average income of 30,000 to 60,000 Baht per family per month. Moreover they are housewives or female members of a family, who are more health conscious [56]. It further suggests that a further work should focus on the participants who have an average income of over 30,000 baht per family per month. These participants might be experienced in either buying or eating organic rice. With proper data, an empirical testing of the hypotheses that can be generated from the model will lead to a better understanding of the role of trust in purchase intention.

Thirdly, we are concerned about the impact of consumers' trust on purchase intention. There may exist other factors affecting consumers' purchase intention. Whether these results can be generalized with other factors, such as subjective norm, personal image, and attitude and kind of organic products can be sold via Facebook needs further research. This further research can take more benefits for farmers to increase their marketing channel.

Finally, the only two constructs from D&M IS success model, entitled information quality and system quality, are performed to examine the factors that affect consumer's trust in an intermediary. In fact, there are many existing factors that may affect trust. Thus, the further research may provide more factors to define consumers' belief in an intermediary.

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