

# Incorporating Innovations in Online Product Descriptions to Reduce Product Uncertainty in Agribazaar Portal

Nor Farzana Abd Ghani<sup>1</sup>, Nor Azila Mohd Noor<sup>2</sup>, Nor Iadah Yusop<sup>3</sup>, Huda Ibrahim<sup>4</sup>, and Mohd Khairudin Kasiran<sup>5</sup>

<sup>1,3,4,5</sup>School of Computing, College of Arts and Sciences  
Universiti Utara Malaysia, [farzana@uum.edu.my](mailto:farzana@uum.edu.my), [noriadah@uum.edu.my](mailto:noriadah@uum.edu.my), [huda753@uum.edu.my](mailto:huda753@uum.edu.my), [mkasiran@uum.edu.my](mailto:mkasiran@uum.edu.my)  
<sup>2</sup>School of Business Management, College of Business  
Universiti Utara Malaysia, [azila@uum.edu.my](mailto:azila@uum.edu.my)

## ABSTRACT

Previous researches indicate that online product description and other product information signals can mitigate product uncertainty and therefore build trust for buyer to buy product online. This paper discusses factors that contribute to mitigation of product uncertainty, specifically for agriculture product. An agribusiness portal in Malaysia is chosen for this study, in which a variety of agro based products are marketed. The relationships between product uncertainty on buying and selling activity, and also the role of product information signals on product uncertainty have been explored. Constructs were employed from literature review and existing research models. It has been discovered that product description together with value, facilitation of buying process, communication, third party product certification and seller description have different influencing power to reduce product uncertainty in agriculture product. By incorporating innovation in online product description, sellers' integrity will be raised, thus increasing online trust for purchasing agricultural products.

**Keywords:** -agribusiness, product uncertainty, product information signals.

## I INTRODUCTION

Agriculture has long been part of Malaysia's economic sectors. However, in 1980's the focus has been diverted to industrial developments. Nevertheless, the importance of agricultural sectors to the development of the country is undeniable. This has been strongly proven when agriculture receives a very significant emphasis in the Ninth Malaysian Plan (Bank Negara Malaysia, n.d.).

Throughout the period, the agriculture sector has been revitalized to become the third engine of growth where emphasis will be on *New Agriculture*. This involves large scale commercial farming, wider application of modern technology, production of high quality and value-added products, biotechnology discovery, increased convergence with information and communications technology (ICT), and participation of entrepreneurial farmers and skilled workforce (Wong, 2010).

Agribazaar is one of the Internet based portals initiated by the Department of Agriculture, Ministry of Agriculture and Agro-Based Industry Malaysia (MOA). It has been considered as a marketing channel which allows individual or organizations to register with the portal in order to promote their business and share their knowledge on best practices related to agro-based businesses (Nor Farzana & Faudziah, 2011).

According to Sutton (2001), marketing channels can be of different types, ranging from advertising channels, order processing channels, to customer support channels. Promoting the agricultural products is a challenging tasks due to the nature of the products itself. This requires a good strategy of marketing.

Agribazaar has been designed to improve market reach, efficiency, and productivity in the community involves in buying or selling agriculture products. Nevertheless, literatures have shown that many Malaysian agropreneurs face problems in distributing their products to customers and many do not know the existence of various internet based applications that can be used for improving their agro-based businesses (e.g. Zahurin, Huda, Nor Iadah, Rafidah & Wan Rozaini, 2007; Md. Salleh, HayrolAzril, Musa & D' Silva, 2009). Particularly, in the scenario of selling/buying agriculture product, when the

sample, touch, taste and feel of the product plays important part, buyers' trust in sellers is focused on whether sellers truly describe the product quality and freshness (Nor Farzana & Faudziah, 2011).

This paper begins with an overview on the role of online product descriptions and other information signals to help buyers' decide on purchasing the agro-based product. In order to make the discussion in context, Agribazaar has been chosen as a case study. The effect of product description and other information signals complementing with the description to the product uncertainty on buying/selling of agricultural products will also be described in the later section. This study has answered calls to expand the scope of research in the area of product uncertainty (Gefen, Benbasat & Pavlou, 2008), specifically to expand the knowledge of agriculture product trading. Suggestions made aims to nurture the practices of modern, yet innovative ways to sell agriculture product online.

## II ONLINE PRODUCT DESCRIPTION AND PRODUCT UNCERTAINTY

Researches have proved that online trading over the Internet faces a barrier in physical experience, credence and durable products, which cannot be easily described or sampled online (Hong & Pavlou, 2010; Dimoka & Pavlou, 2008; Jiang & Benbasat, 2005). This increases product uncertainty, as according to Bock et al. (2012), buyers estimate the variance in product quality based on subjective probabilities of the product's characteristics and whether the product will function as claimed by the seller.

Product descriptions made in the Agribazaar portal represent sellers' integrity and ability to describe product characteristics. Products in the portal are described by a limited text with an option to choose a suitable readymade static image or to use a real image to represent a close visual description of the product. Feedback obtained from a focus group discussion revealed that there is a need for the sellers to be able to describe their product interactively, apart from the text (Nor Farzana & Faudziah, 2011).

They feel that the website should offer facility for uploading pictures of their product or show a video of it. Many evidence supported this conviction as text and static images cannot convey rich information for example the

dynamicity of the product e.g. weight (Jiang & Benbasat, 2007).

Same scenario can also be found in other type of product, for example car, personal items and etc. Research done by Dimoka & Pavlou (2008) and Jiang & Benbasat (2007) found that product descriptions have been found to play significant role in mitigating product uncertainty and hence building trust amongst buyers. They also suggested that product uncertainty mitigation being applied to other types of product in testing the sellers' integrity towards building up trust (Dimoka & Pavlou, 2008).

Mitigating product uncertainty is indeed important to building trust for the buyer to purchase the experience products, like in the cases of online marketplace in China and Korea (Hong & Pavlou, 2010; Bock et al., 2012).

## III PRODUCT INFORMATION SIGNALS

Researches by Dimoka & Pavlou (2008), Szymanski & Hise (2000), Palmer (2002) and Jiang & Benbasat (2007) proved the fact that product descriptions plays significant role in mitigating product uncertainty and building trust for the buyer to buy the product. A theory on information signals explains that product descriptions along with other information of a product are cues or mechanism used to reduce information asymmetry (Spence, 1973). Many literatures have shown that information signal help buyers to reduce consumer uncertainty (Urbany, Dickson & Wilkie, 1989) and facilitate decision making (Burke, 2002).

Another theory to examine how far the Internet interface is helpful to a buyer in evaluating a product is theory of product diagnosticity (Kempf & Smith, 1998). IS theories on product representation (Suh & Lee, 2005) and online presentation formats (e.g. Jiang & Benbasat (2005); Jiang & Benbasat (2007)) provide justification on the role of online product descriptions to reduce the product uncertainty. The role of third party also cannot be neglected, as according to Stewart (2003), reputable third parties can transfer their trust to other entities. Therefore, trusted third parties in certifying the quality of product information is also needed in reducing the product uncertainty.

Effect of price can influence the product uncertainty. Theories on posted price from economics suggested that high prices signal high product quality (Pollack, 1977) and also buyers associated high prices with product quality (Milgrom & Roberts, 1986). Seller reputation also needed to be evaluated in terms of how they can influence the effectiveness of product information. Dimoka & Pavlou (2008) argue that information signals are relying upon the reputation of their source, in this case the seller and seller's self description.

Promoting the agricultural products is a challenging tasks due to the nature of the products itself. The shelf-life of the agriculture product especially vegetables and fruits is short (Nasrin, Molla, Hossaen, Alam & Yasmin, 2008). Therefore, it is crucial to maintain freshness and quality while the product is still in the process of selling.

#### IV METHODOLOGY

The research conducted on Agribazaar Portal covers three phases. First, online product descriptions posted in Buy and Sell section in Agribazaar portal was observed to comprehend the information posted online, such as the language used for selling the product. Figure 1 illustrates an example of online product description.

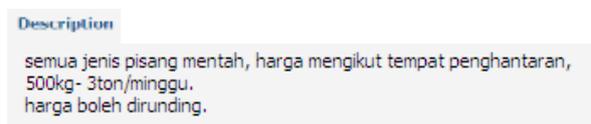


Figure 1. Example of a product description

Second, the ways Agribazaar users utilized the feature in the portal was observed to understand what kind of information signals used as a complement the description of the product, apart from describing using text, built-in images or customized images and others. This step attempts to understand whether the sellers' have good knowledge to use available features to describe their product in the portal. A snippet of full product description is shown in Appendix A. Personal details of the seller are disclosed due to privacy consideration.

Finally, In addition to the steps above, other constructs regarding the online product description and other product information signals was employed from the literature

review. Following arguments by Burke (2002) on facilitating decision making as part of product information signals; communication facility between buyers and sellers, and facilitating buying process available in the portal are considered as essential to be studied. Sampling activity was completed and measurement items were then developed to test these hypotheses:

H1 = A complete product description (PD) is negatively associated with Product Uncertainty (PU)

H2= High offer value (VL) is negatively associated with Product Uncertainty (PU)

H3 = Facilitating buying process (US) is negatively associated with Product Uncertainty (PU)

H4 = Intense communication (CM) is negatively associated with Product Uncertainty (PU)

H5 = Strong third party product certification (TP) is negatively associated with Product Uncertainty (PU)

H6 = A complete seller description (SD) is negatively associated with Product Uncertainty (PU)

#### A. Research Sampling

A survey was conducted for four months to obtain empirical evidence from Agribazaar users, whom consist of buyers and seller. A total of 56 respondents participated in the online survey however, only 44 responses were completed and fit to be analysed using SPSS package.

Low response signifies lack of users who actively participated in the buying and selling in the portal. This is evidenced from the second phase observation in the portal, whereby the total population of users who are actively made offerings in the Buy and Sell section is approximately only 200 unique users, although total registered users are more than 68,000 unique users (MimosBerhad, n.d.).

#### V EXPERIMENTAL FINDINGS

This section discusses findings as the result of analysis made on the quantitative data obtained.

#### A. Result Analysis

The stated hypotheses regarding the influence of independent factors on product uncertainty were tested using multiple regressions. Cronbach Alphas of the measures were all comfortably

above the lower limit of acceptability as suggested by Nunnally (1978) that is  $\alpha > .65$ . Hence, all the measures were highly reliable.

Prior performing to the actual hypotheses tests, correlations between the constructs were derived. Table 1 below shows the correlation structure of the data used in this study.

**Table 1: Construct Correlation Matrix**

Factors	PU	PD	VL	US	CM	TP	SD
PU	1.0						
PD	-.73**	1.0					
VL	-.73**	.61*	1.0				
US	-.44**	.34**	.43**	1.0			
CM	-.51**	.58**	.50*	.53**	1.0		
TP	-.61**	.53**	.61**	.47**	.77*	1.0	
SD	-.70**	.54*	.55*	.55*	.64*	.73*	1.0

The finding shows a significant negative correlations exist between PU and PD ( $r = -.73$ ), VL ( $r = -.73$ ), US ( $r = -.44$ ), CM ( $r = -.51$ ), TP ( $r = -.61$ ) and SD ( $r = -.70$ ); suggesting support for all the hypothesized relationship. The individual hypotheses were then tested using a multiple regression prediction model with PU as the dependent variable and PD, VL, US, CM, TP and SD as the independent variables.

The results obtained as shown in Table 2 revealed that all the six constructs were found to be significant in the prediction model. The results provide support for hypotheses H1, H2 and H3, that is the relationships between PD ( $\beta = .38$ ;  $p < .01$ ), VL ( $\beta = .36$ ;  $p < .01$ ) and US ( $\beta = .01$ ;  $p < .01$ ) with PU. Also, hypotheses H4, H5 and H6 were also supported where significant relationships found between PU and CM ( $\beta = .14$ ;  $p < .01$ ), TP ( $\beta = .02$ ;  $p < .01$ ) and SD ( $\beta = .37$ ;  $p < .01$ ). F value of 17.58 indicates that all the six independent variables significantly influence product uncertainty with 74 percent of the variation in product uncertainty.

**Table 2: The influence of independent variables (IV) on product uncertainty**

IV	B value
PD	.38**
VL	.36**
US	.01**

CM	.14**
TP	.02**
SD	.37**

Note:  $R^2 = .74$ ;  $F = 17.58$ ; Sig.  $F = .00$ ; \*\*  $p < .01$

## VIINCORPORATING INNOVATIONS IN SELLING AGRICULTURE PRODUCT ONLINE

In this paper, the role of product information signal and product description in mitigating product uncertainty was investigated and various innovations were suggested to improve selling agriculture product online.

When queried on the problem with the portal, users highlighted issues such as the authenticity of 'true' sellers and whether the sellers would make necessary action to facilitate the selling. This is true in the context of whether seller truly describe themselves (SD), and whether buyers need to communicate with the seller (CM); with influencing power of .37 and .14, respectively.

The seller need to be aware should there any queries from the buyer regarding the product through mechanisms offered in the portal (private message, posted contact details such as email, address and phone number). Another aspect that users highlighted in the survey is there is a need to include knowledge sharing facility, in terms of buyers' testimony on the product and on the sellers' previous transactions to reduce product uncertainty.

Buying and selling activities takes place when the customers contacted the sellers through email or telephone after the sellers posted the product information in the portal. It can be seen that the portal is still in first stage of the e-business model as discussed by Ho & Tang (2001).

Agribazaar classifies the agriculture product information into categories by product type and provides useful contact for potential customers. More interactive features such as customization of the product/item offering, in which users can add pictures, video and include more description of their product should be added to the portal. One important description to reduce doubt on sellers is the usage of Google Map facility to share the location of the seller.

In order to enhance the usability, needs of the users should be the determining factor for all design decisions such as the site structure, page layout, colours, graphic design, style and

navigation. By understanding users' needs and designing the portal to suit their needs, effective portals can be achieved. In addition, timely update on the news and latest information are necessary in order to ensure that business matching opportunities are not to be missed and knowledge relating to best practices in agriculture can be shared amongst users.

Some security mechanism should be incorporated in the portal to establish trust without revealing sensitive information. An example would be using VeriSign Authentication Service that allows sellers and buyers to conduct online business with confidence (Symantec Group, n.d.).

One discovery that is important in the area of product uncertainty is, for enhancing trust in buyers to buy agriculture product online, third party product certification (TP) and facilitating buying process (US) do not make great influence to product uncertainty (US and TP influencing powers are .01 and .02, respectively). On the other hand, major influence in reducing product uncertainty is contributed from the way product is described (PD), how far price and product offered match with the buyers' need (VL) and finally the sharing of complete sellers' description (SD) to complement with the product description.

## VII CONCLUSION AND FUTURE WORK

Enhancement of the new Agribazaar2.0 portal has making its completion in the early of 2011, yet the users of the portal still struggle to use the new features in the portal effectively to market their product. From the users' point of view, promoting the agricultural products is a challenging tasks due to the nature of the products itself. The shelf-life of the agriculture product in certain cases is hard to predict.

Knowledge sharing facility between buyers and other buyers may help potential buyers to make decision. Also, how far the seller willing and able to share information on their product will play major role to ensure the product fit with the buyers' need. Therefore, it takes innovative ways to improve how the offering is made, in order to convince the buyers to purchase.

Essentially, it takes more than online descriptions of the product to convince the buyer, when they cannot use their senses to touch, feel, smell and taste the product until they are evaluated physically. From this research, we discover in

enhancing trust for purchasing agriculture products online, all proposed factors conform to the literature, in which product description together with value, facilitating buying process, communication, third party product certification and seller description can reduce product uncertainty in agriculture product.

The limited number of respondents in this study, however, could be overcome if the data were to be collected qualitatively using face to face interviews and focus group discussion. More researches can be conducted to further understand specific issues such as online trust when purchasing other product, generally. By understanding this and other issues certainly will transform the mind-set of the people to treat agriculture as a lucrative business, increase interaction, and better relationship within the Agriculture community.

## ACKNOWLEDGMENT

The authors wish to thank the Universiti Utara Malaysia for funding this study under University Grant Scheme, S/O code 11931, and RIMC for the administration of this study.

## REFERENCES

- Bank Negara Malaysia.(n.d.)*The Ninth Malaysia Plan*. Retrieved from [http://www.bnm.gov.my/files/publication/sme/en/2005/chap\\_8.pdf](http://www.bnm.gov.my/files/publication/sme/en/2005/chap_8.pdf)
- Bock, G.-W., Lee, J., Kuan, H.-H. and Kim, J.-H. "The progression of online trust in the multi-channel retailer context and the role of product uncertainty," *Decision Support System*, 2012.
- Burke, R. R. "Technology and the customer interface: what consumers want in the physical and virtual store," *Journal of the Academy of Marketing Science*, vol.30 (4), 2002, pp. 411-432.
- Coyle, J. R. and Thorson, E. "The Effects of Progressive Levels of Interactivity and Vividness in Web Marketing Sites," *Journal of Advertising* (30:3), 2001, pp. 65-77.
- Dimoka, A. and Pavlou, P. "Understanding and mitigating product uncertainty in online auction marketplaces," In: *Alfred P. Sloan Foundation: Industry Studies Annual Conference*, 2008.
- Gefen, D., Benbasat, I., Pavlou, P. "A research agenda for trust in online environments," *Journal of Management Information Systems*, 24 (4) (2008), 275-286.
- Ho, J. and Tang, R. "Towards an Optimal Resolution to Information Overload: An Infomediary Approach", *Proceedings of the International Conference on Supporting Group Work*, 2001, pp.91-96.
- Hong, Y. and Pavlou, P. (2010). "Product Uncertainty in Online Marketplaces in China: An Econometric Model," *Americas Conference on Information Systems*.
- Jiang, Z. and Benbasat, I. "Virtual product experience: Effects of visual and functional control on perceived diagnosticity in electronic shopping", *Journal of Management Information Systems*, vol. 21(3), 2005, pp. 111-147.
- Jiang, Z. and Benbasat, I. "The effects of presentation formats and task complexity on online customers' product understanding", *MIS Quarterly*, vol.31 (3), 2007, pp. 475-500.
- Kempf, D. and Smith, R. "Consumer Processing of Product Trial and the Influence of Prior Advertising: A Structural Modeling

Approach" *Journal of Marketing Research*, vol.35 (3), 1998, pp. 325-338.

Md. Salleh Hassan, HayrolAzril Mohamed Shaffril, Musa Abu Hassan and D' Silva, J. L. "Developing Agriculture in Malaysia: Internet Utilization among Malaysian Youth Agro-Businessman", *European Journal of Social Sciences*, vol. 11(2). 2009. pp 214-234.

Milgrom P. and Roberts, J. "Price and Advertising Signals of Product Quality," *Journal of Political Economy*, vol.94(4), 1986, pp.796-821.

MimosBerhad.  
(n.d.) *Agribazaar*. Retrieved from [www.agribazaar.com.my](http://www.agribazaar.com.my)

Nasrin, T.A.A., Molla, M.M., Hossain, M.A., Alam, M.S. and Yasmin, L., "Effect of postharvest treatments on shelf life and quality of tomato", *Bangladesh Journal of Agricultural Research*, vol.33(4), 2008, pp.579-585

Nor Farzana Abd Ghani and Faudziah Ahmad. "An Interpretive Analysis of Issues and Challenges in Internet-Based Application Usage for Malaysian Agriculture Sector," *WSEAS Transactions on Information Science and Applications*, 2012.

Nunnally, J.C. (1978). *Psychometric Theory* (2<sup>nd</sup> ed). New York: McGraw Hill Book Company

Palmer, J. W. "Web site usability, design, and performance metrics", *Information Systems Research*, vol.13(2), 2002, pp. 151-167.

Pollack, R.A. "Price Dependent Preferences," *American Economic Review*, vol. 67, 1977, pp. 64-75.

Raney, A. A., Arpan, L. M., Pashupati, K. and Brill, D. A. "At the Movies, On the Web: An Investigation of the Effects of Entertaining and Interactive Web Content on Site and Brand Evaluation," *Journal of Interactive Marketing* (17:4), 2003, pp. 38-53.

Spence, M. "Job market signaling". *Quarterly Journal of Economics*. vol.87, 1973, pp. 355-74.

Stewart, K.L. "Trust Transfer on the World Wide Web," *Organization Science*, vol.14(1), 2003, pp. 5-17.

Suh, K.-S. and Lee, Y. E. "Effects of Virtual Reality on Consumer Learning: An Empirical Investigation in web-based Electronic Commerce," *MIS Quarterly*, vol.29 (4), 2005, pp. 673-697.

Sutton, K. "Agribusiness On A Grand Scale – Felda's Sahabat Complex in East Malaysia". *Singapore Journal of Tropical Geography*, Vol. 22, No. 1, pp. 90 - 105. 2001.

Symantec Corporation. (2011). *Legal Repository*. Retrieved from [www.verisign.com/corporate/index.html](http://www.verisign.com/corporate/index.html)

Szymanski, D. M. and Hise, R. J. "e-Satisfaction: An initial examination", *J. Retailing*, vol.76(3), 2000, pp. 309-322.

Urbany, J.E., Dickson, P.R. and Wilkie, W.L. "Buyer uncertainty and information search," *Journal of Consumer Research*, vol.16 (2), 1989, pp. 208-215.

Wong, C.K., (2010). *An Untapped e-commerce opportunity*. Retrieved December 1, 2011. From: <http://www.zippycart.com/ecommerce-news/1186-malaysia-an-untapped-ecommerce-opportunity.html>

Zahurin Mat Aji, Huda Ibrahim, Nor Iadah Yusop, Rafidah Abdul Razak, Wan Rozaini Sheik Osman. (2007). "Rural Internet Centre (RIC) as a Mean for Bridging the Digital Gap in Rural Communities: Assessment of Current Situations". In *Managing Worldwide Operations and Communications with Information Technology. IRMA 2007 Vancouver, Canada*. Khosrow-Pour, M (Ed). (pp. 1167-1171). Idea Group Publishing.



Offer Information	
Delivery :	Provided
Packaging :	Not Included
Payment :	Cash On Delivery
Location :	Selangor
Offer Type :	Offer to Sell

Offerer Information	
Name :	said mahathir bin mohamm
Username :	dasirtns2
State :	
Email :	dasirtns2@yahoo.com
Mobile :	0166012602

Duration	
	09/12/2011 - 01/06/2012 (180 days)

Appendix A: Example of a fullonline product description