Social and Management Research Journal,
Vol 19, No 1 (2022) 133-143
DOI: 10.24191/smrj.v19i1.17263

The Influences of Dealer-Buyer Relationship Quality, Subjective Norm, and Perceived Value on the Repurchase Intention of Fertilizer among Opish Farmers

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Received: 7 January 2022
Accepted: 11 February 2022
Online First: 28 February 2022

ABSTRACT

Businesses must build a solid relationship with the customers to ensure continuous support for companies to succeed. However, for an agricultural commodity such as fertilizer, knowledge of factors that affect the repurchase of fertilizers by Malaysian oil palm farmers is limited in the existing literature. This study aims to understand the determinants of Oil Palm Independent Smallholder (OPISH) farmers' intention to repurchase the same brand of fertilizers. It emphasizes the role of dealer-farmer relationship quality, the perceived value of Technology Advisory and Transfer Services (TUNAS) officers, and the subjective norm on repurchase intention. The distribution of 1200 questionnaires to OPISH farmers in Peninsula Malaysia, Sabah, and Sarawak led to the applicable return rate of 85.1% (943) completed responses. The multiple regression analysis demonstrated significant positive relationships between TUNAS officers' perceived value, dealer-farmer relationship quality, and OPISH farmers' repurchase intention. However, subjective norm had no significant relationship with OPISH farmers' repurchase intention. The results suggested that selling

farming products such as fertilizer requires a strong correlation between the sellers and farmers and the technical advisory personnel. Effective communication between sellers and farmers, continual follow-up programs, and technical advice are essential in developing a continuous relationship. The study's expressed contribution towards employing the dealer-farmer relationship and perceived TUNAS officers' value, which received little mentioning in the existing literature.

Keywords: *fertilizer, Malaysia, OPISH farmers, Repurchase intention*

INTRODUCTION

Agriculture is one of the main economic sectors of Malaysia. It contributes to the economic growth and helps to increase people's per capita income. In Malaysia, agriculture projects is designed in a way that is structurally in the 'form of smallholdings owned by families and households in rural areas' (Shafai & Moi, 2015). These smallholder farmers received subsidies and significant aids from the Malaysian government through the Department of Agriculture and various farmer's associations. Shafai and Moi (2015) explains that the subsidy incentive encompasses acquiring chemical fertilizer, pesticides, and seeds. The purchase of farm machinery, irrigation systems, structural systems for land, and land clearing are made through aid (Shafai & Moi, 2015). The Department of Agriculture only extended the grants to the farmers during their agricultural projects' start-up phase. No financial (i.e., cash) incentive is available in the subsidized program (Shafai & Moi, 2015). The use of agrochemicals for fertilizers, particularly for commercial consumption in the country, is significant due to the modern practices in the fields (Mordor Intelligence, 2018). The number of distributors and retailers in the fertilizer industry is huge in Malaysia. As a resulst, farmers countrywide are allowed to have easy access to fertilizers at competitive prices.

In Malaysia, the fertilizer consumption per unit of arable land in 2016 was 1,723.4 kilograms per hectare (Indexmundi, 2019). Malaysia produced around 2.8 million metric tons of fertilizer in 2017 (Statista, 2018). Naturally, oil palm is one of the major agricultural sectors in Malaysia. However, a literature review disclosed that knowledge of factors that affect

the repurchase of fertilizers by Malaysian oil palm farmers is limited in the existing literature. According to Nordin *et al.* (2014), the information found in previous works on fertilizer usage primarily focused on the aspects of marketing, agro-climatic conditions, or utility maximisation. Consumer decision-making processes are relatively complex to understand and analyse. Companies that consistently fulfill the market needs would gain competitive advantages (Widana *et al.*, 2015). To be competitive, companies should understand how consumers make their purchase decisions and the factors involved in the process. Satisfied consumers may become permanent buyers for the firm's product's brand. In addition, several relevant authorities in the Malaysian Agriculture Industry commented that the nation's fertilizer industry is efficient and intensely competitive. Therefore, it is essential to understand how farmers made their fertilizers buying decisions, precisely their repurchase intention. The study aims to examine the determinants of oil palm independent smallholder (OPISH) farmers' intention to purchase the same fertilizer brand again.

LITERATURE REVIEW

Repurchase Intention

Repeat buying behavior is referred to the willingness to purchase the same products after people have experienced them (Khuong & Hong, 2016) and, commonly are from the same businesses. Suhaily and Soelasih (2017) proposed that repurchase intention manifests consumers' positive attitudes toward the products (or brands) and retailers. The sense of fulfillment or satisfaction that consumers have about products (or brands) is the one reason that led them to repurchase those items. In addition, Lien *et al.* (2011) believed that behavioral intention shared similarities to one's actual behaviour and held analytical (or diagnostic) value. Furtheremore, Wu *et al.* (2014) posit that consumers' perception of value is most likely; the critical aspect in their intention to repeat purchase.

Dealer-Farmer Relationship Quality

The most common way to purchase Agrochemical products (like fertilizers and pesticides) is by acquiring them through local agricultural supply dealers (Young, 1972). These companies also disseminate information about the products and usage since it helps farmers increase their crop yields (Young, 1972). An efficient communication channel between dealers and farmers is crucial to guarantee that only eligible consumers receive subsidised fertilizers (Redza *et al.*, 2014). More importantly, enough evidence in the literature suggests that communication is vital to strengthening the consumer-supplier relationship (Redza *et al.*, 2014). Therefore, the following hypothesis is formulated:

H1: Dealer-farmer relationship quality significantly influences OPISH farmers' intention to repurchase the same fertilizer brands.

Subjective Norm

Subjective norm can function as the beliefs representing one's thoughts about in-group members' acceptance of a specific behaviour (Mukhtar & Butt, 2012). In this context, subjective norm is the perception of society's pressure on individuals whether to perform or not to perform a particular action. These social influencers may be family members, friends, peers, teachers, politicians, celebrities, or essential people. Besides that, farming neighbors (Young, 1972), families, friends, and agricultural organisations (Hall & Rhoades, 2010) are the social influencers of farmers' buying decisions toward Agrochemical products and the adoption of organic farming. Empirically, it has been used to predict the intention to use pesticides among vegetable farmers (Bond *et al.*, 2009). Thus, the following hypothesis is formulated:

H2: Subjective norm significantly influences OPISH farmers' intention to repurchase the same fertilizer brands.

Perceived Value

Hoe *et al.* (2018) described customer perceived value as the consumer's general evaluation of the value of a product or service compared to its benefits and worth. On the other hand, Zeithaml (1988) sees perceived value as the 'consumer's overall assessment of the utility of a product (or service) based on perceptions of what is received and what is given' (p.14). From both Hoe *et al.* (2018) and Zeithaml's (1988) descriptions, the study defines customers' (i.e., OPISH farmers) perceived value as the overall assessment trade-off of the salient benefits and given components with the TUNAS officer's services. Perceived value is the key motivator of individuals' intention to repurchase products or services (Fang *et al*., 2016). Hence, the following hypothesis is formulated:

H3: Perceived value of TUNAS officers' services significantly influences OPISH farmers' intention to repurchase the same fertilizer brands.

METHODOLOGY

The research design involves a survey using a structured questionnaire adopted and adapted from previous studies. Trained enumerators distributed and explained the structured questionnaires to targeted samples. The research population comprises almost one (1) million independent smallholder farmers in Malaysia either in Peninsular Malaysia, Sabah, and Sarawak in all agricultural sectors such as rubber, palm oil, and pineapples. However, the study's sampling frame is that individuals dealing with oil palm, specifically the independent smallholder farmers, comprise about 250,000 farmers. Therefore, based on the sampling frame, the total number of questionnaires distributed is 1200. Data was then collected using the quota sampling method to determine an adequate representation of all groups. The period of the data collection was from the second week of January 2019 until the fourth week of February 2019. Overall, it took seven weeks to complete the data collection nationwide.

RESULTS AND DISCUSSION

Demographic Profiles

The distribution of 1200 questionnaires to the OPISH farmers in Peninsula Malaysia, Sabah, and Sarawak led to the applicable return rate of 85.1% (943) complete responses. Most of the farmers were male (78.5%), 46 to 50 years old. Most of them (63.2%) studied until secondary school, and only 11% had tertiary education. 72.1% of the total 943 farmers surveyed relied solely on being farmers. There were 263 farmers (27.9%) who stated that they have permanent jobs. For this group of farmers, 52.5% work in the government sector, and 47.1% work in the private sector. The farms' size ranged from 0.1 hectares to 80 hectares, with a mean size of 4.65 hectares. 44.9% have farms between 1 to 3 hectares, whereas 33.9% have a farm size between 3 to 6 hectares. 36.8% of the farmers yielded between RM1001 and RM2000, and 26.5% yielded between RM501 and RM1000. 62.8% of the farmers managed their farms/plantations themselves, and the remaining 35.1% hired outsiders to manage the farms/plantation for them. Only 54.1% of the farmers surveyed had attended the Malaysian Palm Oil Board (MPOB) program. MPOB F1 is the most preferred fertilizer (38.7%) followed by MPOB F4 (27.6%) and MPOB F5 (25.3%). 68.3% of the farmers have had the experience of obtaining services from the MPOB's TUNAS officer.

Factor Analysis

The result for the independent variables' K.M.O. was 0.959. Based on Kaiser's (1974) range of values, the K.M.O. for the independent variables was 'marvelous' (in the span of 0.90 to 1.00). Thus, it indicates that the sample was adequate and may proceed further for factor analysis. Bartlett's Test of Sphericity for the independent variables showed a significant value (Approx. Chi-Square = 29853.116, $p < 0.001$). It indicates the significance of the correlation matrix and appropriateness for factor analysis. Hair *et al.* (2010) stressed that if Bartlett's test value is highly significant ($p<0.001$); therefore, the factor analysis is applicable. The K.M.O result for the dependent variable was 0.826, which is in the 'meritorious' range (in the span of 0.80 to 0.89). Hence, this indicates that the sample was adequate and may proceed further for factor analysis. The dependent variable's Bartlett's Test

of Sphericity showed a significant value (Approx. Chi-Square = 1976.172, $p < 0.001$), which specified the significance of the correlation matrix and appropriateness for factor analysis. Overall, the result is consistent with Hair *et al*.'s (2010) recommendation.

Multiple Regression Analysis

Based on the result in Table 1, this study's variance (*r*-squared) was 58.4%, which specified that all factors used, explained 58.4% of the OPISH farmers' repurchase intention. Only two variables have significant relationships with the dependent variable from the three variables. The perceived value ($\beta = 0.105$; $p < 0.01$) and Farmer–dealer relationship ($\beta = 0.074$; $p < 0.05$) significantly influenced repurchase intention. Whereas subjective norm ($\beta = 0.008$; $p > 0.05$) is not a predictor of repurchase intention. The results showed that the two hypotheses (i.e., H1 and H3) are supported, whereas one (i.e., H2) is not supported.

Table 1: Multiple Regression Analysis

Regression Analysis Variables		Standardised Beta Coefficients	*p*-value
Perceived Value		0.105**	0.000
Farmer-Dealer Relationship		0.074*	0.032
Subjective Norm		0.008	0.068
R	0.764		
R2	0.584		
Adjusted R2	0.579		
F value	127.316		
Sig. F value	0.000		
Durbin Watson	1.852		

This study presented an investigation on the predictors of OPISH farmer repurchase intention. Multiple regression analysis revealed the existence of significant relationships between the dealer–farmer and the TUNAS officers' perceived value with OPISH farmers' repurchase intention. In contrast, subjective norm showed a non-significant association with OPISH farmers' repurchase intention. Selling farming products such as fertilizer required someone who knows and understands the nature of such product, the soil conditions, and farming/agricultural best practices.

These attributes are essential to ensure that farmers would benefit from further improving their farms' performance. Therefore, the representatives, agents, suppliers, or traders of the fertilizers must know the technical and scientific aspects of the products they recommend or sell to the farmers. In addition, the TUNAS officers' perceived value is a significant factor in influencing the farmers' decision to continue purchasing the same fertilizer brand of fertilizer again. Thus, it would be an opportunity for the trader/dealer/supplier of fertilizers to strategise with the TUNAS officers to create sessions/programs with the farmers. This upfront and direct approach allow the farmers to have a better sense of confidence and trust towards fertilizers. The farmers' confidence and trust emanate from the fact that both the TUNAS officers and trader/dealer/supplier of fertilizers comprehensively support them.

CONCLUSION

The study's expressed contribution is to employ the dealer-farmer relationship and perceived TUNAS officers' value, which received little mentioning in the existing literature. Besides adding to the current knowledge to the literature of repurchase intention, the study's findings would beneficially aid the government agencies, traders, and retailers, in dealing with repurchase intention among OPISH farmers more prudently and systematically. The promotional effort in the fertilizer business should extend beyond mere commercial advertising (as advertising was not a determinant of repurchase intention). Instead, it should involve education campaigns for farmers on modern farming techniques, fertilizer usage, and farm management. It could also include trade shows or exhibitions during certain agricultural events such as MAHA, *Hari Peladang*, Smart Farming Expo, and Malaysia Palm Oil Expo. Such activities allow farmers to interact with those with the experience, knowledge, and skills related to oil palm farming and business.

However, this research is limited to a cross-sectional study that evaluates the direct relationship between the predictors and the criterion. In this study, individual farmers indicate the type of fertilizers they purchased or repurchased without examining their understanding and awareness of product knowledge. Also, there was no prior investigation about the

purchasing mechanism, including the decision-maker on fertilizers buying. This study was based only on the perception of individual OPISH farmers. Other fertilizer users, conceptualised as the dependent oil palm farmers, like those registered under FELDA and FELCRA, were not part of the research. Hence, future studies may want to consider the perception of dependent oil palm farmers, such as those enrolled under FELDA and FELCRA, and gauge their challenges in influencing their repurchase intentions. The use of fertilizer is also seen to be appropriate for other types of crops. Therefore, it seems logical to investigate different agricultural industries (like cocoa, rice, vegetables, flowers) and agricultural input industries (like seeds, pesticides, equipment) to generalise this study's findings.

ACKNOWLEDGEMENT

The team would extend our appreciation to Briar Resources Sdn Bhd for funding this research project and those Oil Palm Independent Smallholder (OPISH) farmers who participated in this research project.

REFERENCES

Bond, J. L., Kriesemer, S. K., Emborg, J. E. and Chadha, M. L. (2009). Understanding farmers' pesticide use in Jharkhand India. *Extension Farming Systems Journal, 5*(1), 53-61.

Fang, J., Wen, C., George, B. and Prybutok, V. R. (2016). Consumer heterogeneity, perceived value, and repurchase decision-making in online shopping. The role of gender, age, and shopping motives. *Journal of Electronic Commerce Research, 17*(2), 116-131.

Hair, J. F., Black, W. C., Babin, B. J. and Anderson, R. E. (2010). *Multivariate Data Analysis: A Global Perspective.* U.S.A.: Pearson Education.

Hall, K. and Rhoades, E. (2010). Influence of subjective norms and communication preferences on grain farmers' attitudes toward organic and non-organic farming. *Journal of Applied Communications, 94*(3), 1-14. DOI:10.4148/1051-0834.1192

Hoe, J. T. T., Dastane, O. and Selvaraj, K. (2018). Predicting consumer perception and its impact on purchase intention for residential property market. *Journal of Technology Management and Business, 5*(2), 59-77. DOI:10.30880/jtmb.2018.10.01.019

Indexmundi. (2019). Malaysia – fertilizer consumption. Retrieved on 25 January 2019 from https://www.indexmundi.com/facts/malaysia/fertilizer-consumption

Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika, 39*(1), 31-36. https://doi.org/10.1007/BF02291575

Khuong, M. N. and Hong, T. M. (2016). The impact of product packaging design on customer repurchase intention – a study of VinaMilk, Vietnam. *International Journal of Innovation, Management, and Technology, 7*(5), 219-223. DOI:10.18178/ijimt.2016.7.5.676

Lien, C. H., Wen, M. J., and Wu, C. C. (2011). Investigating the relationship among e-service quality, perceived value, satisfaction, and behavioral intentions in Taiwanese online shopping. *Asia Pacific Management Review, 16*(3), 211-223. http://dx.doi.org/10.1016/j.apmrv.2015.03.005

Mordor Intelligence. (2018). Agrochemicals market – Malaysia industry analysis, trends, and forecasts (2017 – 2022). Retrieved from https://www.mordorintelligence.com/industry-reports/agrochemicals-market-malaysia

Mukhtar, B. and Butt, M. M. (2012). Intention to choose Halal products: the role of religiosity. *Journal of Islamic Marketing, 3*(2), 108-120. https://doi.org/10.1108/17590831211232519

Nordin, S. M. Noor, S. M. and Saad, M. S. M. (2014). Innovation diffusion of new technologies in the Malaysian paddy fertilizer industry. *Procedia - Social and Behavioral Sciences, 109,* 768-778. https://doi.org/10.1016/j.sbspro.2013.12.542

Redza, A., Nordin, S.M., Saad, S. and Wahab, H. (2014). Inter-organization communication management between organizations in a subsidized fertilizer market in Malaysia. *U.M.K. Procedia, 1*, 33-41. https://doi.org/10.1016/j.umkpro.2014.07.005

Shafiai, M.H.M. and Moi, M.R. (2015). Financial problems among farmers in Malaysia: Islamic agricultural finance as a possible solution. *Asian Social Science, 11*(4), 1-16. DOI:10.5539/ass.v11n4p1

Statista. (2018). Production of fertilizer in Malaysia from 2013 to 2017 (in million metric tons). Retrieved on 25 January 2019 from https://www.statista.com/statistics/719086/fertilizer-production-malaysia/

Suhaily, L. and Soelasih, Y. (2017). What effects repurchase intention of online shopping. *International Business Research, 10*(12), 113-122. DOI:10.5539/ibr.v10n12p113

Widana, G.O., Wiryono, S.K., Purwanegara, M.S. and Toha, M. (2015). Exploring the impact of Islamic business ethics and relationship marketing orientation on business performance: The Islamic banking experience. *Asian Academy of Management Journal, 20*(1), 1-25.

Wu, L. Y., Chen, K. Y., Chen, P. Y. and Cheng, S. L. (2014). Perceived value, transaction cost, and repurchase-intention in online shopping: a relational exchange perspective. *Journal of Business Research, 67*(1), 2768-2776. https://doi.org/10.1016/j.jbusres.2012.09.007

Young, L. L. (1972). Dealer influence on farmers' decisions to purchase pesticides. Retrieved on 13 April 2019 from https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1036&context=aglecdiss

Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: a Means-end model and synthesis of evidence. *Journal of Marketing, 52*(3), 2-22. https://doi.org/10.2307/1251446