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FACTORS INFLUENCING THE PERFORMANCE OF SUSTAINABLE OIL PALM GROWERS COOPERATIVE IN SABAH

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Abstract:

Almost one million hectares of oil palm in Malaysia have been planted by the oil palm independent smallholders (OPISH). Most of these farms are small size holding and scatters throughout Malaysia. These factors cause them to face several problems and consequently put their income below potential. To assist the OPISH, the government had introduced the oil palm grower cooperative known as Koperasi Penanam Sawit Mampan (KPSM). The objective of KPSM is to increase the oil palm yield, OPISH incomes, and as a platform of interaction between OPISH and extension officers to discuss their problems. However, cooperatives' performance can be influenced by several factors. This paper aims to study the extension officer and members' participation as independent variables. Good governance is incorporated as a moderator variable to investigate a cooperative's performance. The partial least squares (PLS 3.0) and structural equation modelling instruments are used to analyse the data in this study. Most of the respondents are male, and 22% are of the younger generation. The results demonstrated that good governance (p-value of 0.095(p<0.1) and t=1.669 (more than 1.64) has a moderate relationship between members' participation and cooperatives' performance. On the other hand, good governance did not strengthen the relationship between the extension officer and co-operatives performance.

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Keywords:

Extension Officer, Member's Participation, Good Governance, Cooperatives Performance

Introduction

The oil palm plantation area in Malaysia had reached 5.85 million ha until December, 2018 (Kushairi et al., 2019). From this number, almost one million hectares were planted by the oil palm independent smallholders (OPISH). OPISH is defined as an individual whose oil palm farm is less than 40 hectares and is not organized by any government agency such as FELDA, FELCRA, and many others. The smallholders is always facing several problems such as poor access to modern technology, insufficient credit facilities, incomplete infrastructure, inadequate agricultural extension services (Gideon, et al., 2018), manipulated by middlemen, and limited marketing platform. Furthermore, they have a relatively small farm, operated by ageing OPISH (average age is 59 years old, according to Shelyza & Zulkifli, 2016), and their location is scattered.

To support OPISH, the government has introduced the idea of establishing a cooperative. The government believes that by establishing a cooperative, it can assist in solving many problems facing by the OPISH. Previous research has shown that a cooperative can help create job opportunities, achieving economies of scale, provide cheaper agricultural input, market information, and reduce poverty level (Adefila, 2014, Mahazril et al., 2012). Therefore, Sustainable Oil Palm Growers Cooperative has been initiated by the government to assist the OPISH. Sustainable Palm Oil Growers Cooperative was registered under the Cooperative Act 1993 and listed under the category of an agricultural cooperative. In Bahasa Malaysia, Sustainable Oil Palm Growers Cooperative also is referred to as *Koperasi Penanam Sawit Mampan* (KPSM). The objective of KPSM is to increase the oil palm yield, the OPISH income and act as a platform of interaction between OPISH and the extension officer to discuss their problem. There are 26 KPSM that been established in Sabah until December 2019 however, only 10 KPSM actively running the business of selling FFB at the moment.

After three years of its establishment, currently is considered the appropriate time to evaluate the performance of the KPSM. As a newcomer in an established market, KPSM is required to increase its performance in order to achieve the objective that is to assist their members by adopting marketing strategies and distinctive positioning (Bakar, 2019). As Hafizah et al. (2016) have demonstrated in their study, there are many cooperatives in Malaysia suffer from weak performance and fail to achieve their goals. As suggested by Keeling (2005), this study used a statistical method to evaluate cooperative performance. Various factors could influence the cooperative performances such as competency of business management skills (Unal et al., 2008), members' participation (Hafizah et al., 2016) and knowledge about the cooperative principles and regulations (Adefila, 2012) Thus, the objectives of this study is to determine the factors influencing the performance of KPSM under the current management. The finding of this study is further used to express issues facing by KPSM. It is also utilized as a recommendation to be used by the decision-makers of the government agency.

Literature Review

Cooperative Performance

Cooperatives' performance can be affected by a few factors. A weak structure, poor corporate governance, lack of understanding and low participation by their members have resulted in poor cooperative performance in Malaysia (Hafizah, et al., 2016). Likewise, Adefila (2012) shown that annual income, experience in farming, training and the number of memberships have significant influence on the cooperative performance. In a similar note, Nurjihan and Abdullah (2011) reported that operation cost and investment return could also affect cooperative performance.

Several instruments can be used to evaluate the cooperative's performance. Nurjihan and Abdullah (2011) suggested that cooperatives profit, sales and liquidity is used to examine cooperatives performance, whereas Sumedrea (2013) defined cooperatives performance as profit, sales and return of investment. Thus, KPSM performance had been measured based on profit and sales growth, as suggested by Mahazril et al. (2012). This method was supported by the United States Department of Agriculture.

Extension Officer

As mention earlier, KPSM was introduced by the government, and the extension officers' role is to aid the establishment of these organisations. Besides, the role of extension officers is also essential to aid small-scale farmers to increase their crop yields and household income. A few studies have emphasised that extension officers will profitably assist the small-scale farmers to obtain useful, appropriate, and practical knowledge in the domain of agriculture as well as significantly promotes sustainability product and their livelihood (Emmanuel *et al.*, 2016; Prager *et al.*, 2017). Those extension officer equipped with professional qualification in training has proven to be affecting the output of the small-scale farmer society (Khan, 2017). They act as a motivator, technical innovation and a leader to assist in institution building and mobilisation of resources in the small scale-farmer community (Okwoche and Asogwa, 2012). Interestingly, members' participation has proven to be the main factor influencing the poultry grower cooperative performance (Ching, et al., 2015). Thus, the extension officer roles are an essential element to contribute to the performance of cooperatives.

Apart from the support of the extension officers, the objectives of the cooperative can be achieved through the participation of its members. Mahazril et al., (2012) defined members' participation as the time spent by the members in all activities related to the cooperatives, especially decision making and cooperative governance. Interestingly, members' participation has proven to be the main factor influencing the poultry grower cooperative performance (Amini and Ramezani, 2008). Hence, members' participation is stated as an independent variable in this study.

Good Governance

Cooperative activities in Malaysia are susceptible to challenges and changes, and these risks need to be dealt with by the cooperatives themselves by practicing good governance (Intan et al., 2013). An understanding and observing the cooperative philosophy and principles by the employee will ensure the good governance of the cooperative operations (NCP, 2004). Monitoring and supervision by the board director on the cooperative activities will increase cooperative performance. Moreover, cooperative employees need to understand work procedures and provide services to cooperative members. They must have management

knowledge to develop ideas and innovation to ensure the successful cooperative (Siti, M., et al., 2019). In addition, the dynamic cooperative environment needs to be competent in carrying out operations of the cooperatives. As follows, the cooperative must have good governance, effective administration, clear rules and regulations (NCP, 2004). Accordingly, this research features good governance as a moderator variable to investigate the cooperative's performance. Based on the current discussion, it could be outlined that extension officer, member's participation and good governance play a decisive role in the performance of cooperatives (Figure 1). Kaufaman, Kraay & Mastruzzi (2009:5), "Governance consist of the tradition and institutions by which authority in a country is exercised. This includes the process by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies and the respect of citizens and the state for the institutions that govern economic and social interactions among them. The common minimum dimensions of cooperative can be developed through legitimacy, participation, professionalization accountability and transparency (Drona Lal Puri and Avanchawee Sujarittanonta 2016).

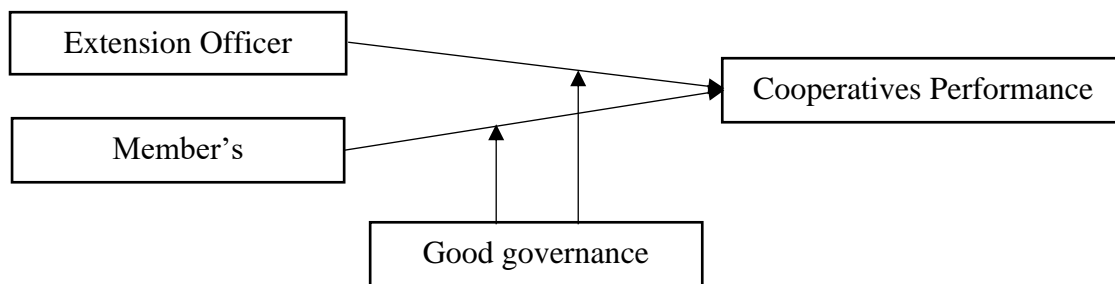


Figure 1: Demonstrates the Relationship Between Extension Officers, Members' Participation and Cooperative Performance with Good Governance as Moderating Influence the Performance of The KPSM

Methodology

A cross-sectional method with purposive sampling was applied in this study. The population of this study comprised of 120 cooperatives board of directors from 10 active cooperatives all over Sabah that have been operating more than 3 years. For this study 104 OPISH from the population were responded to the questionnaire with 86.7% respond rate. The questionnaire comprised five sections including demographic, two independent variables, a moderator and the dependent variable. Purposive sampling was employed in this study due to its advantage in focusing on specific characteristics of a population that are of interest, saving time and money while collecting data. Data was collected using a questionnaire. Respondents were verbally interviewed and asked to indicate their agreement or disagreement on a 5-point Likert with scale 1 representing "strongly disagree" and Scale 5 representing "strongly agree". Section A comprised demographic questions such as gender, age, academic level and occupation status. Section B consisted of ten items, designed to measure the roles of extension officer and was adopted and modified from Agholor et al., (2013). Section C assessed members' participation and by using six items that were derived from Hafizah et al., (2016). Section D focused on good governance, and the variables were measured using five items (Thuvachote, 2012). Finally, the cooperative performance section consisted of five items adapted from Mahazril et al. (2012). PLS-SEM version 3.0 was applied to analyse the research model. Bootstrapping and

method 5000 resample was used to confirm the significance of the path coefficients and the loading values (Hair *et al.*, 2017).

Results and Discussion

Table 1 demonstrates the OPISH demographic profiles participated in the study. The samples consist of 101 male respondents and three female respondents. Respondents' ages were divided into four groups, specifically 21-40 years (22%), 41-50 (18%), 51-60 (32%) and more than 61 years (28%). As for their education level, primary school leavers constituted of 12%, secondary school, 73%, and college/university 16%. Most of them have worked with other parties such as government (42%), private (41%) and 17% as self-employed.

Table 1: Demographic Profile of Respondents Involved in The Study

Variables	Categories	Frequency	Percent (%)
Gender	Male	101	97
	Female	3	3
Age	20-40	23	22
	41-50	19	18
	51-60	33	32
	>61	29	28
Education level	Primary School	12	12
	Secondary School	75	73
	University/College	16	15
Occupational status	Self-employment	17	17
	Government	44	42
	Private	43	41

This study used the Smart PLS 3.0 software to analyse the measurement model and the structural model. The consistency of each measurement and its reliability was determined using Cronbach alpha and composite reliability value (Sandhu *et al.*, 2011). As illustrates in Table 2, it was suggested that the measurement of this study is reliable when all the Cronbach's alpha values are more than 0.708 (Hair *et al.*, 2017). This study also used composite reliability (CR) to determine internal consistency reliability. The result shows that the composite reliability values range from 0.9 to 0.97. This finding confirmed that the CR values for all studied variables are also satisfactory (Hair *et al.*, 2017).

Table 2: Internal Consistency and Average Variance Extracted

Constructs	Cronbach Alpha	Composite Reliability	AVE
Cooperative Performance	0.972	0.978	0.899
Extension officer	0.976	0.987	0.818
Governance	0.974	0.979	0.885
Members' Participation	0.941	0.956	0.812

Convergent validity is the dimensions to which two measure of constructs correlates positively with alternative measures of the same construct (Hair *et al.*, 2017). In order to confirm the convergent validity value, this study examined the average variance extracted (EVA) values. As shown Table 2, the convergent validity was also achieved as AVE values for all constructs are higher than 0.5. The results demonstrate that all studied variables have satisfactory convergent validity that enables the next level of analysis.

Discriminant validity is the degree to which a construct is not correlated from other constructs by empirical standards (Hair *et al.*, 2017). This study applied Fornell-Larcker in assessing discriminant validity. Fornell -Larcker analysis compares the square root of the average variance extracted (AVE) values with the latent variable correlations. The square root of each construct's average variance extracted must be higher than its greater correlation with any other construct. AVE must be higher than its correlations with any other variable's construct. It proves that the construct shares more variance with its associated indicators than any other construct. Table 3 shows the diagonal values in bold are higher than off-diagonal ones which indicates that discriminate validity to prevailed for all studied variables.

Table 3: Fornell – Larcker Analysis

Cooperatives Performance	0.948			
Extension officer	0.151	0.904		
Good Governance	0.441	0.246	0.941	
Member's participation	0.390	0.208	0.773	0.901

Heterotrait-monotrait (HTMT) analysis also used in this study. HTMT analysis estimated what would be the accurate correlations between two constructs if they were correctly measured (Hair *et al.*, 2017). In particular, HTMT value must be lower than HTMT_{0.85} value of 0.85 or HTMT_{0.90} value of 0.90 to avoid the problem of discriminant validity (Kline, 2011; Gold *et al.*, 2001). The results in Table 4 show that all the values passed the HTMT_{0.85} (Kline, 2011) and HTMT_{0.90} (Gold *et al.*, 2001). This result indicates that all studied variables passed the HTMT test, implying that the discriminant validity has been ascertained. Satisfactory findings of the measurement model are significant before continuing the next level to investigate the relationships between studied variables in the structural model.

Table 4: Heterotrait-Monotrait Analysis

Cooperatives Performance			
Extension officer	0.12		
Good Governance	0.45	0.232	
Member's participation	0.404	0.214	0.806

HTMT_{0.85} (Kline, 2011) or HTMT_{0.90} (Gold *et al.*, 2001)

Chin (1998) categorized the coefficient determination (R^2) of 0.19, 0.33 and 0.67 as weak, moderate and substantial respectively. The coefficient determination (R^2) of the model is 0.201, which implied that extension officer roles and member participation and cooperative performance collectively explained 20.1% of the changes or variations in cooperatives performance. Thus, the R^2 in this study can be considered as weak.

This study investigated the moderating role of extension officer (EO) on the relationship between governance (G), members' participation (MP) and cooperatives performance (CP). The results of the structural model are displayed in Table 5.

Table 5: Path Coefficients For Hypothesis Testing

Hypotheses	Beta	Standard Deviation	T Statistics	P Values	Decision
G*EO -> CP	0.312	0.348	1.617	0.106	Rejected
G*MP-> CP	0.237	0.202	1.669	0.095*	Accepted

**p<0.01, *p<0.1, Note: EO= extension officer, MP=member's participation, G= good governance, CP= cooperatives performance

As suggested by Hair et al., (2017) the p -value 0.106 (above than 0.1) and t value 1.617 (lower than 1.64) indicates that extension officer is not moderating the relationship between good governance and co-operatives performance. This finding suggests that the governance extension officer exerts a non-significant moderating role between extension officer and co-operatives performance. By way of explanation, good governance fails to moderate the relationship between extension officer and co-operatives performance.

Table 5 demonstrates the analysis result of the moderating effects of governance between members' participation and co-operatives performance. The p -value 0.095 (lower than 0.1) and t value 1.669 (above than 1.64) indicated that governance is moderating the relationship between members' participation and co-operatives performance.

Discussion

The objective of this study is to investigate the factors influencing the KPSM performance by focusing on the extension officer roles, member's participation and good governance. Almost 97% of the respondents are male. One of the main factors explaining this phenomenon is that female OPISH shows less interest to involve in the cooperatives, because their husband is seen as more fitting to represent their family. Only 22% of the Y generation involved in this program. The number implies that the younger generation is not inclined to participate in cooperative activities. They prefer to work in other sectors such as manufacturing, services and hospitalities as they perceive the agriculture sector has a lower status and uncertainty income. This statement supported by Mahazril *et al.* (2012) who conducted a study in Kedah cooperative where they found that the young generation was not interested in participating as a board cooperative. Likewise, only 15% of the respondent possesses university qualification. This statement supported by Mubirigi (2016) which revealed that individual with a certain level of academic qualification is not interested in participating in an agricultural cooperative, and they prefer to work in another sector (Mubirigi, 2016).

The R^2 value of this model is 0.201, which indicates that the extension officer roles and member participation and cooperative performance collectively explained 20.1% of the changes or variations in cooperatives performance and can be considered as weak. However, the results were normal in social science studies due to the huge number of factors involved, and it is usually challenging to recognize and describes all these factors in one study (Amini & Ramezani, 2008).

Also derives from the study, good governance obtains p-value of 0.095 ($p < 0.1$) and $t = 1.669$ (more than 1.64) which means that hypothesis is accepted. The results show that good governance does moderate the relationship between members' participation and cooperatives performance. This result suggests that good governance able to strengthen the positive and significant relationship between member's participation and cooperatives performance. Preferentially, the member has believed that by understood the principle and philosophy of cooperatives, it could assist the cooperative performance. They will apply the theories to ensure a smoother and controllable on cooperatives operation. In similar notes, Siti, et al. (2019) supported this finding when they revealed that member's knowledge of the principles is important factors towards cooperatives good performance. As such, the cooperatives will fail if the members have inadequate knowledge and unaware of the cooperative principles. Similarly, a study conducted by Bhuyan (2000) found that lack of practice to cooperatives principles is a big obstacle to a cooperative successful. One possible reason is the active members' participation would bring high commitment, effective management, and assist the KPSM to remain on a good track. These results are consistent with the research conducted in Malaysia by Mahazril et al. (2012), which found that the active participation of members contributes to a good performance of cooperatives. Additionally, Othman et al. (2013) revealed that members' involvement and continuous support of the cooperative programs are an important element to ensure the successful cooperatives.

Next, the result of this study indicates that the moderating role of good governance on the relationship between extension officer and co-operatives performance is not significant. This study obtains a p-value of 0.106 ($p > 0.1$) and $t = 1.617$ (less than 1.64), which means that the hypothesis is rejected. It can be concluded that good governance does not strengthen the relationship between the extension officer and co-operatives performance. The reason behind this finding is may be due to the variation of the learning technique or course syllabus provided by the extension officer. Respondents perceive that good governance courses are complicated and challenging. They do not know how to apply the knowledge, although they have attended the training. Moreover, most of the respondents possess a moderate education level. It means they need more time to adapt and adopt all the knowledge regarding good governance on cooperatives operation.

Conclusion and Recommendation

As a conclusion, from the findings of this study, KPSM needs to prepare themselves with the right knowledge to point out new opportunities to the oil palm growers in order to bring KPSM to the next level of development. Besides, KPSM should increase the efficiency of the cooperative in providing services to the OPISH through education and training. As a late entrant in this industry, KPSM must be more innovative and creative in their business activities to become more sustainable. Therefore, it is recommended to conduct future studies and investigate the other factors that could influence the cooperatives performances such as capital, competitors, locations, and members' attitude.

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