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**Enhancing Work Performance of Extension Agents among Cocoa Farmers  
in Malaysia: The Influence of Human Resource Development Skills**

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**Abstract** : This study examines the relationship between human resource development skills (leadership skill, decision making support skill and social skill) with work performance of extension agents' among cocoa farmers in Malaysia. The study used stratified sampling technique to select 668 cocoa farmers who are exposed to extension programmes facilitated by the extension agents' of Malaysian Cocoa Board in the three regions of Malaysia. The data were analyzed using descriptive statistics, correlation and regression analysis. Significant and positive correlation ( $p < 0.01$ ) existed between each variables and work performance. Regression analysis results showed that leadership skill, decision making support skill and social skill were significant predictors to enhance work performance. The  $R^2$  value of 0.564 indicates that the three skills give 56.4% explanation of the variance in extension agents' work performance. The result also suggested that decision making support skill ( $\beta = 0.321$ ) was the most important factor that influence work performance followed by leadership skill and social skill. Hence, decision making support skill, leadership skill and social skill should be taken into consideration in enhancing work performance, especially among farmers and the extension agents who work with them for a continuous performance improvement in their work. In general, there is an information gap between farmers, public extension agents, and academia that needs to be bridged through operational HRD efforts and holistic approaches, so it is recommended that training programmes be conducted in extension agents' line of work to improve their skills in sharing new technology.

**Keywords:** 1.Cocoa farmers, 2.Extension agents, 3.Human resource development, 4.Skills, 5.Work performance.

## Introduction

Malaysia is among the top grinding cocoa countries falling into the fifth position globally and also occupies the number one position in the whole continent of Asia [1]. Presently, the local cocoa production

capacity has reduced drastically to the extent that they cannot sustain the grinding sector and this has resulted to the imbalance between the upstream and the downstream sector [2,3]. However, the development of the cocoa upstream activities is not keeping pace with the downstream industry by depending on imported cocoa beans to meet the needs of the processing industry [4]. This situation arises as cocoa becomes least favourable crop among farmers due to factors such as price of cocoa beans, pest and diseases and labour constraints [5], both the plantation sector and smallholder decided to abandon cocoa production for other more profitable crops like oil palm, rubber and pepper [6]. This setback has resulted to yearly decline of cocoa production in the country (Figure 1) [7]. To achieve sustainable improvement in cocoa production, there is need for extension agents to develop the level of skills and knowledge required in human resource development for effective technology transfer and its dissemination processes to cocoa farmers.

By not refusing to recognized or acknowledge the importance of HRD skills on workers performance, this paper studies the association of HRD skills (specifically on leadership skill, decision making support skill, and social skill) with work performance. With the aim that this study can assist extension agencies and Cocoa Board to better understand how human resource development influences their work performance. Additionally, the research findings will also contribute knowledge to the examined agencies by developing extension agent capability towards bringing work performance into proper or desirable coordination with the standards set by the management. Thus, this study was carried out to determine the relationship between human resource development and extension agents' work performance among cocoa farmers in Malaysia. Specifically, the objectives to be achieved are as follows:

1. To examine the level of human resource development skills and extension agents work performance among cocoa farmers in Malaysia.
2. To determine the relationship between human resource development skills and extension agent work performance among cocoa farmers in Malaysia.
3. To identify the most important human resource development skills that contributes to work performance of the extension agents among cocoa farmers in Malaysia.

### Research framework

The research framework as proposed in Figure 1 composed of the independent variable (HRD skills) and the dependent variable (work performance). Direct relationship existed between HRD skills and work performance. Based on the proposition of Human Capital Theory (HCT), levels of productivity (i.e. work performance) are influenced by HRD skills [43,44,45,46]. In line with the proposition of HCT, the research framework suggests that HRD skills such as leadership skill, decision making support skill and social skill primarily influence their level of work performance.

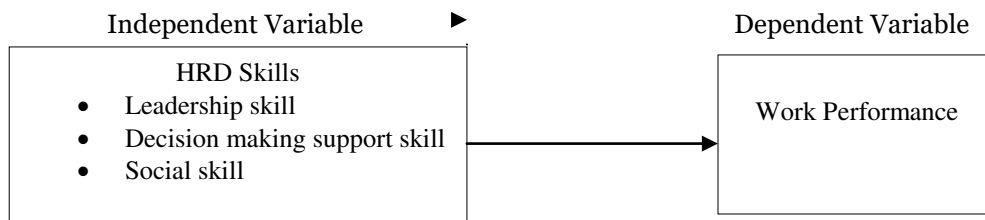


Figure 1: Research Framework of the Relationship between HRD skills and Work Performance

### Theoretical background

Human capital theory was used in this study as the basis for research framework design. Research has revealed that skills and knowledge has a lot of influence on work performance. The theory of human capital introduced by [8], asserts that work performance is determined by investing in human capital that lead to human capital outcomes [8,9]. He came to a conclusion that if individual employee in a particular organization acquires functional skills and knowledge, there would be increase in human abilities which will serve as a reflection of future success possibility in individual and organizational performance.

According to [8], the investments in human capital improve abilities of the people physically and mentally and hence increase their work performance potential. In general, he emphasized the components that are of great significance or value in human capital development namely education and training. Their importance can be very obvious such that employees that have more education and training have the prospect of performing better than employees who are not.

By conceiving human capital as a form of outcomes that is produced as the final consequence of investments, [9] was of the opinion that it can also be conceptualized as a form of human capital that is duty related and non-duty related. Duty-relatedness expresses a doubt if investing in human capital and outcomes are specifically related to specific tasks such as developing farmers' capabilities [9]. In agricultural extension, human capital related duty is associated with the activities of human resource development such as leadership experience, decision making experience, interpersonal relationship and clients experience [10]. They see human capital theory as the totality of knowledge and skills acquired by individual relation to the process of education and training from other walk of life that will bring improvement to the quality of work performed [11].

Applying this theory to the study, education and training is an investment in general human capital needed by the employees for enhanced performance in their duty [12]. Empirical evidence pointed out that specific human capital investment in human resource development which comprises leadership skill, decision making support skill and social skill, have greater impact on work performance of extension agents [13]. This suggests that human resource development skills are paramount to the performance of individual employee in agricultural extension agencies. Hence, this study was aimed at investigating how human resource development skills influenced work performance of extension agents (Figure 2). This study tested the following hypotheses:

H1: Leadership skill will influence extension agents' work performance.

H2: Decision making support skill will influence extension agents' work performance.

H3: Social skill will influence extension agents' work performance.

H4: Leadership skill, decision making support skill and social skill act together to influence work performance.

### **Extension Agents Work Performance**

Agricultural extension agents have been described as being remarkable of having the potential to transfer and facilitate knowledge, skills and technologies needed to support and inspire farmers' to have better production and income [14]. It was confirmed by [15] that agricultural extension systems have different result when their impact and performances are put into consideration. [16] earlier revealed that the economic and social impact of extension programmes in some countries are very high, while the way and processes used in delivering extension systems in most of the developing countries has over the time not effective to meet different challenges demanded technologically by the farmers and the people living in rural areas. Consequently, for extension activities to have effective delivery that will lead to performance, it depend on how the extension agents utilize the knowledge they have with required skills and expertise. By paying particular attention to this, the performance of individual workers is to a great

extent very important to bring about the expected results based on the acquire knowledge and skills which have a lot of influence on them [17]. The individual performance of employee in an organization is purely dependent on their policies based on the abilities, knowledge and skills acquired about organizational task which was considered as an important factor to enhance the productivity and output that is needed to sustain their effective performance and response of the clients [18].

### **Human resource development and work performance**

Human resource development is the process that has to do with the development and or unleashing the expertise in employees through training and development with the aim of improving process, individual and organization performance [24]. The end product of every human resource development effort is to improve individual employee performance through programmes planned and put into practice to improve their capacity or competence for effective performance [19]. Human resource development is designed purposely to enable individual employee to make every effort in achieving their goals. Also, previous researcher suggested that if there are no capable employees that have such qualities like skills, knowledge and experience to achieve positive results, then to attain the goal of organization becomes an illusion [20]. However, several studies have examined the connection between HRD and work performance. Studies conducted by [21] established that HRD is correlated to performance and also revealed that human capital investment has a significant positive impact on employees' performance. Also, findings of the study carried out by [22] established that HRD practices are related to the attitude, behaviour and workers' performance. Furthermore, [23] research on impact of HRD and organizational performance revealed that the practices of developing employee lead to a higher level of organizational and workers' performance. Human resource development as conceptualized by different researchers above means that the present level of workers in an organization in the area of skills and knowledge can be increase through capacity building to high level for the purpose of achieving enhanced performance of organizational workforce [20].

### **Leadership skill and work performance**

The concept of leadership as it is relate to agricultural extension calls for action and strategically important since it has to do with influencing and developing group of farmers in the community, by which extension agents can be seen as someone who has leadership capability to bring innovation, change and development not only to the farmers but also to the resources within the community [25]. At this point in time, the similarity between extension agents' leadership role and farmers demands the display of relevant skills to carry out their function among diverse groups of rural dwellers [26]. The importance of leadership skills has been generally agreed upon to explain both employee and organizational performance in different employment sectors [27]. The ability of extension agents to display leadership competence determines to a great extent the success of an extension services organization. Extension workers should have understanding of the importance of farmers in achieving the goals of the extension services, while motivation and encouragement of those farmers will be very crucial to achieve the organization goals. It is commonly accepted that for any organization to be effective, there is need for an effective leadership and that attempt to neglect this aspect will lead to poor performance of the organizational [28,29]. In addition, it is broadly acknowledged for an individual to be effective, its leadership quality and approach is a determinant. The behaviour exhibit by a leader will positively affect their outcomes in terms of effectiveness and efficiency which may affect effective performance [30].

H1: Extension agents' leadership skill will influence their work performance.

### **Decision making support skill and work performance**

Workers are employed by their employers to be able to solve problems and make effective decisions when the need arises, but employees often do not have skills that meet employers' expectation [35]. [36] stated that decision has to do with the result of a composite social process and cannot just be an easy and unitary event but take a longer period of time. They opined that taking decision can be characterized by active factors that begin with identifying motivation for action, and end with an interest to take a specific action of commitment. [37] defined decision as a continuing process of weighing different option attached to a particular goal which usually comes about if there is available solution to be implemented. While on the other hand defined decision making as the process of recognizing and making a selection from a number of alternative solutions to a problem based on available situation. Moreover, understanding decision making skills is of great significance as it is evidence in research that good decision making skills are related to superior performance [31]. Nevertheless, they emphasized the importance of identifying such decision making skill by arguing that to know why an organization is doing what they are doing and why they are performing on the other way, those who represented the decision makers and the skills they have should be studied. Furthermore, Result of study conducted by [32,33,34] indicated that for extension agents to maintain favourable decision making pattern that will lead to work performance, there is need for more training. Finally, maximum effects would likely occur as this study will offer a promise that decision making skills are indeed able to bring change into the ability of the extension agents and farmers for enhance work performance.

H2: Extension agents' decision making support skill will influence their work performance

### **Social skill and work performance**

A greater part of different occupations involve the use of social skill, which may be in terms of working with the public, coworkers or a particular set of clients. Social skills have always been important in the work place as individual require raising their frequency of skillful interaction with others in order to accomplish their task [35]. [38] revealed that social skill has been very important to organizations in that they are now using more team based arrangement as well as employed more service-oriented jobs. Generally, it was reported that people with strong social skill have high performance rating having experience positive social interactions with people [39]. Lately, a theory was constructed about social skill being a moderator that enhances people's performance [40]. [41] confirmed that social skill moderated the association that exists between conscientiousness and work performance in such that the correlation was stronger for individuals with higher social skill. In the research conducted by [42], result of the study showed high positive correlation between social skill abilities of the extension agents and their performance by pointed out among all individual variables, social skill is the strongest contributor in explaining the extension agents' performance.

H3: Extension agents' social skill will influence their work performance

### **Materials and methods**

The sample for this study consisted of productive cocoa farmers who are exposed to extension activities facilitated by the extension agents' of Malaysian Cocoa Board in the three (3) regions of Peninsular Malaysia, Sabah and Sarawak [7]. The study used stratified sampling technique to meet the 668 respondents from nine cocoa management locations in Malaysia and the sample size for this study was defined by using [47] table of a known population with 95% of reliability taken into consideration. The study employed stratified sampling method for the sample size selection. This was carried out by using a well structured six point likert scale questionnaire that was reviewed and pre-tested for validity

and reliability. The three-part questionnaire included; demographic and crops profile of respondents, human resource development with three dimensions (leadership skill, decision making support skill and social skill) and work performance with the use of eight constructs. The researcher employed IBM SPSS version 23 software for analyzing the data of this study. Thus, descriptive, bivariate correlation and multiple regression were used to analyze the data to determine the level of human resource development skills and work performance, relationship between human resource development skills and work performance and most important factor contributing to work performance.

## Results and discussion

### Farmers' demographic profile

The findings from the study according to Table 1 indicated that 47.9% of the farmers are above 61 years old which revealed highest numbers of the farmers involved in cocoa farming are older than 61 years of age. Out of 668 respondents the study found that majority are males of 582 equivalents to 87.1% with Malay race (33.8%) being involved more in cocoa production than other races in Malaysia. More so, 334 equivalents to 50% realized less than RM1,000 in a month and more than half of the respondents (67.8%) undertake cocoa farming as a part time job. The descriptive analysis of educational level of the respondents indicated that 480 (71.9%) had only completed primary education, 159 (23.8%) completed secondary education and only 22 (3.3%), 4 (.6%) and 3 (.4%) had Certificate, Diploma and Bachelor/Degree respectively.

**Table 1 Farmers' demographic profile**

Variables	Frequency	Percentage
<b>Farmers Age</b>		
≤30	16	2.4
31-40	50	7.5
41-50	100	15.0
51-60	182	27.2
≥61	320	47.9
<b>Gender</b>		
Male	582	87.1
Female	86	12.9
<b>Race</b>		
Malay	226	33.8
Chinese	62	9.3
Indian	1	.1
Orange Asli	131	19.6
Kadazan	126	18.9
Murut	16	2.4
Bajau	1	.1
Iban	69	10.3
Bidayuh	9	1.3
Others	27	4.0
<b>Monthly Income</b>		



<RM1000	334	50.0
RM1000-RM1999	248	27.1
RM2000-2999	59	8.8
RM3000-3999	21	3.1
≥4000	6	.9
<b>Focus of Work</b>		
Full Time	215	32.2
Part Time	453	67.8
<b>Educational Levels</b>		
Complete Primary School	480	71.9
Complete Secondary School	159	23.8
Certificate	22	3.3
Diploma	4	.6
Bachelor/Degree	3	.4
<b>Total</b>	<b>688</b>	<b>100</b>

### Crops profile

Findings from the study according to Table 2 revealed highest percentage of the farmers 507 (75.9%) started their cocoa plantation under programmes facilitated by the extension agents' of Malaysian Cocoa Board (MCB) in the three (3) regions from year 2006-2010. More than half of the farmers 396 (59.3%) used 3-5 clones for their cocoa plantation out of the clones presented to them by MCB extension agents. In the same way, 340 (50.9%) of cocoa farmers cultivated 1-3 hectares of cocoa farm land, while 316 (47.3%) cultivated less than or equal to 1 hectare of cocoa farm land. The descriptive analysis of source of information on cocoa technology by the respondents indicated that 51.4% received information from MCB extension agents, 21.3% of the farmers received information through their friends and 10.8% received information on cocoa technologies from their families.

**Table 2 Crops profile**

Variables	Frequency	Percentage
<b>Location of Office</b>		
Hilir Perak	124	18.6
Machang	100	15.0
Jengka	129	19.3
Tawau	33	4.9
Tenom	67	10.0
Ranau	39	5.8
Keningau	47	7.0
Kota Samarahan	95	14.4
Betong	34	5.0
<b>Year Started Planting Cocoa</b>		
At/Before 2000	73	10.9
2001-2005	88	13.2
2006-2010	507	75.9
<b>Number of Clones Planted</b>		
<3 Clones	229	34.3

3-5 Clones	396	59.3
≥5 Clones	43	6.4
<b>Hectare Cultivated</b>		
<1 Hectare	316	47.3
1-3 Hectares	340	50.9
3.1-5 Hectares	10	1.5
5.1-7 Hectares	2	.3
<b>Information on Cocoa Technology</b>		
MCB Extension Officers	643	51.4
Family	135	10.8
Friend	267	21.3
Pamphlet	44	3.5
Radio	13	1.0
Television	66	5.3
Newspaper	46	3.7
Internet	28	2.2
Others	9	0.7
<b>Total</b>	<b>688</b>	<b>100</b>

#### **Level of leadership skill, decision making support skill, social skill and work performance**

As presented in Table 3, the descriptive statistics of the contributions of leadership skill, decision making support skill and social skill to work performance of extension agents among cocoa growers. The mean scores and standard deviations of the level of agreement were determined based on the range of (1-2.669) as low, (2.67-4.339) as moderate and (4.34-6.00) is high as indication of measurement for the levels on a six-point likert scale of 6.00. As indicated in Table 3, the mean scores ranged from 4.54 to 4.72 and the standard deviation also ranged from 6.34 to .696. From Table 3, the level of work performance was high (M=4.68; SD=.643). All the factors that contributed to work performance also showed high mean scores with leadership skill (M=4.72; SD=.639) being the highest score, followed by decision making support skill (M=4.61; SD=.634), meanwhile the lowest being social skill (M=4.54; SD=.696).

**Table 3 Levels of work performance, leadership skill, decision making support skill and social skill**

<b>Levels</b>	<b>Mean</b>	<b>SD</b>
Work performance	4.68	.643
Leadership skill	4.72	.639
Decision making support skill	4.61	.634
Social skill	4.54	.696

#### **The influence of leadership skill, decision making support skill and social skill on work performance**

The relationship between leadership skill, decision making support skill, social skill and work performance were determined using Pearson correlation coefficients. Exploratory analysis was carried out to ensure non-violation of normality and linearity assumption. Bivariate correlation analysis result



showed that all the skills are significant and correlated. As shown in Table 4, the relationship between decision making support skill and work performance was the strongest and at same time have linear relationship ( $r=.683$ ;  $p<0.01$ ). The result also showed significant and positive correlation between social skill and work performance ( $r=.662$ ;  $p<0.01$ ) and between leadership skill and work performance ( $r=.660$ ;  $p<0.01$ ). Based on the findings of the study, hypotheses H1, H2 and H3 were supported and reject null hypothesis.

**Table 4 Bivariate correlation coefficients among leadership skill, decision making support skill, social skill and work performance.**

Variables		WP	LS	DS	SS
WP	Work performance	1			
LS	Leadership skill	.660**	1		
DS	Decision making support skill	.683**	.681	1	
SS	Social skill	.662**	.681	.708	1

\*\*Significant at  $p<0.01$  level.

### The effect of human resource development skills on work performance among cocoa farmers

In order to identify effect of the skills to work performance, Table 5 presents the result of the regression analysis and was based on the contribution of all independent variables to work performance. The three independent variables were supported and statistically significant; the result showed that decision making support skill ( $\beta=.321$ ;  $p<0.01$ ) was the most important contributing factor that explain work performance compare to leadership skill ( $\beta=.270$ ;  $p<0.01$ ) and social skill ( $\beta=.251$ ;  $p<0.01$ ). H1, H2 and H3 were supported as they were positive and significantly contributed to work performance. The summary statistics of the regression analysis show the variables for which the coefficients are statistically significant with  $R^2$  of .564. The work performances were attributed to the three dimensions of human resource development with a combined contribution of 56.4% to variance of work performance. Hence, the results indicated that hypotheses H4 were supported and reject null hypothesis.

**Table 5 The linear multiple regression of leadership skill, decision making support skill, social, and work performance**

Skills	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
Constant	.937	.129		7.243	.000
Leadership skill	.251	.035	.270	7.131	.000
Decision making support skill	.326	.040	.321	8.174	.000
Social skill	.232	.036	.251	6.391	.000

Significant; \*\* $p<0.01$ ,  $R = 0.751$ ,  $R^2 = 0.564$ ,  $Adj.R^2 = 0.562$ , Std. Error of the Estimate = 0.42613,  $\beta$  = standardized regression coefficient, t value = test statistics of  $\beta$

The results revealed that there were significant associations between HRD skills (leadership skill, decision making support skill and social skill) and work performance. It indicated that acquiring the right skill in human resource development will assist the extension agents in developing the potential and capability of the farmers towards adoption and application of cocoa technology available to them for improved performance.

The earlier proposed hypothesis in the study was that leadership skill, decision making support skill and social skill will influence work performance, and that they might act together to predict higher levels of work performance. The hypotheses were supported. The result for all three dimensions of human resource development was consistent with past research [48,28,49], in which they also found that extension agents work performance is influenced by leadership skill, decision making support skill and social skill.

Also, the result was supported by [50] and [42], they reported the need for extension agents to be equipped with knowledge and skills in human resource development through regular training programmes as it will enhance effectiveness for higher performance in their work. [51] opined that unproductive human resource development activities within organizations would not only affect the extension agent working pattern and practice but also responsible to delay in their operational process and impede performance. According to [52] and [28], for any organization to be effective, there is need for an effective leadership, the neglect of leadership aspect and approach will lead to poor performance of individual and organizational performance. Furthermore, there is a general belief that for any set of people or group to be effective, the quality and approach of their leaders matter most. This was confirmed by [30] that the exhibited behaviour of any leader goes a long way to positively affect their outcomes in an effective and efficient manner as well as facilitates the desires of the followers that results to effective performance.

The results of the regression analysis revealed in Table 5 indicated that the three variables influence and contributed significantly to work performance. The model indicated the significance of the three skills as their  $p < 0.05$ . Decision making support skills has the highest Beta value 0.321. The  $R^2$  value of 0.564 implies that three predictors explain about 56.4% of the variation in extension agents' work performance. This was confirmed by [53], in which decision making support skill is the most effective skills that established a good relationship with the performance of extension agents as it strengthened the agricultural extension service and help farmers to make sustainable production practices decisions on their farms.

### **Limitation, policy implication and conclusion**

The limitation of this study emanated from the usage of sample meant to be representative of whole population. Even though there is positive relationship between dependent and independent variables, work performance variance of 56.4% give explanation of three significant independent variables. The used of productive cocoa farmers also serves as limitation in this study due to the fact that it may not be a representative sample of other cocoa farmers which are not involved in extension agents facilitated programmes. There is need for more diverse samples for future research. The implication of the findings from this study is focusing on the need to integrate identifying skills that contributes to work performance into extension activities and human resource development programmes to improve the skills of extension agents on transfer of new technology among cocoa farmers. Many of the cocoa related technology transferred by the extension agents lack required skills for effective delivery such as leadership skill, decision making support skill and social skill. Given the importance of the required skills for technology transfer as well as capacity and potential development of extension agents and cocoa farmers, these three

skills should be entrenched in training programmes introduced by agricultural extension service agencies in Malaysia especially Malaysian Cocoa Board for enhance sustainable cocoa production.

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