

The Influence of Organizational Factors on the ability and skills of Agricultural Extension Providers of Thailand.

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The aim of this study is to investigate the influence of organizational factors; top management support, goal alignment and management style and the skills and ability of agricultural extension providers of Thailand. This study collected the data from agricultural extension providers that are registered under the Ministry of Agriculture and Cooperatives of Thailand. Data analysis has been undertaken by using the PLS-SEM through Smart-PLS. Findings revealed that all factors of the organization; top management support, goal alignment and management style have a positive association with the skills and ability of agricultural extension providers of Thailand. These finding showed that the policies should have emphasis on the organizational factors that are necessary for the improvement of skills and ability of agricultural extension providers.

Key words: *Organizational Factors, Skills and Ability, Agricultural Extension Providers.*

Introduction

The agricultural sector is the most prominent sector of most developing countries concerning contribution to the Gross Domestic Product (GDP) of the country. Therefore, this sector also considers the backbone of the economy of most developing countries in the world. Similarly,

in the economy of Thailand, the agricultural sector is playing a vital role in the improvement of the economy while eliminating the poverty of the country (Jermstittiparsert, Sriyakul, & Rodoonsong, 2013). The contribution of the agricultural sector in the GDP is more than 10% and employed 39% of the workforce of the country in 2006. In the 1980s the contribution in the GDP of the agricultural sector was more than 25 percent while the commodities of the agricultural sector had 60 percent weight in the total export of the country. While rice and shrimp are the leading export products of Thailand in the world, corn, tapioca, coconuts, soybeans, sugarcane and rubber are also major agricultural products of the country (Heis, 2015). United States, Nigeria, Japan and China are the main trading partners and ranked first with regards to the importation of rice from Thailand. Japan, Malaysia, the United Kingdom and Benin are the main trading partners and ranked second in terms of importation of natural rubber from Thailand. Furthermore, Taiwan, Netherland, Japan, Canada and South Africa are the main trading partners and ranked third in terms of the importation of processed chicken from Thailand. In addition, Korea, Germany and the United States are the main trading partners and ranked fourth in terms of the importation of frozen and chilled shrimp from Thailand. Additionally, Indonesia, Ireland, Korea, Ghana and the United Kingdom are the main trading partners and ranked fifth in terms of the importation of tapioca products from Thailand (Niemmanee, Kaveeta, & Potchanasin, 2015).

Thailand terrain consists of mountains and hills that generally cannot be cultivated; the approximate estimation is two-fifth of Thailand. According to a survey, one-tenth of the mountain area is cultivated now. A survey conducted in the 1970s shows that 58 percent of the land that had mountains are converted into agricultural land and out of this land about 28 percent was for unplanned crops and 19 percent as for paddy. According to this analysis, total of 43 percent of Thailand consists of agricultural land (Banchuenvijit, 2016). Table 1 below shows the value-added production of the agricultural sector of Thailand. The value-added production of rice is \$2931.65 while the mouse is \$2335.42. Furthermore, value-added production of cassava is \$1946.10 while the potato is \$1877.23. The value-added production of vegetables and fruits are \$3350.19 while sugarcane is \$2955.96. In addition, value-added production of rubber is \$1781.64 while livestock is \$3448.67. The value-added production of forestry is \$1361.67 while the fishery is \$27.8711 and the total value of production contributed in agriculture are 225,576.50.

Table 1: Production of Agricultural Sector

Types of Agriculture Products	Production (Value-Added)
Rice	2931.65
Mouse	2335.42
Cassava	1946.10
Potato	1877.23
Vegetables and Fruits	3350.19
Sugarcane	2955.96
Rubber	1781.64
Livestock	3448.67
Forestry	1361.67
Fishery	2787.11
The total value of production contributed to agriculture	225,576.50

Table 2 below shows the future goals of the agricultural sector of the country. It mentions that in 2000 there were only 7.7 million population that engaged with the agricultural sector while in 2010 it was 10.1 million and in 2020 it will be 12.71 million. GDP per capita goals are also increasing with time as 2000 was only 220, 2010 was 400 and in 2020 it will be 900. Furthermore, poverty goals reduced; 64.0 percent poverty in 2000 while in 2010 it was 40 percent and in 2020 it will be only 30 percent. In addition, GDP growth of agricultural sector goals also increases as it was 9.0 percent in 2000 while 10.0 percent in 2010 and it will be 16.0 percent in 2020. Additionally, land engaged in the agricultural sector also increases as it was 3.0 percent in 2000 while 20.0 percent in 2010 and it will be 50.0 percent in 2020. Similarly, the goals of the banking portfolio about the agricultural sector also increases with the passage of time as it was 1.0 in 2000 while 15.0 in 2010 and it will be 20.0 in 2020. Likewise, the erosion of soil also reduces that was 20.0 percent in 2000, while 80.0 percent in 2010 and it will be 90.0 percent in 2020. Finally, the export goals also increase as there were 5.5 billion in 2000, 6.78 billion in 2010 and there will be 7.92 billion in 2020.

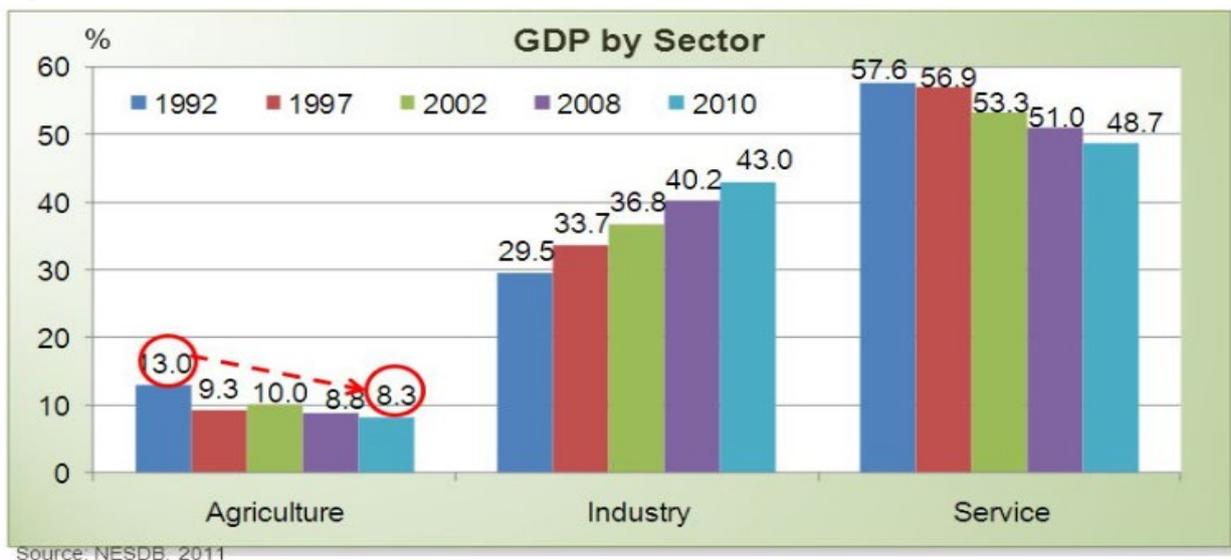
Table 2: Goals of the Agricultural Sector

Indicator	2000	2010	2020
Population (Million)	7.7	10.1	12.71
GDP / Capita	220.0	400.0	900.0
Poverty (percent)	64.0	40.0	30.0
Agricultural GDP growth (Percent)	9.0	10.0	16.0
Agriculture as a percent of GDP	90.0	75.0	50.0

Land under agriculture (Percent)	3.0	20.0	50.0
Fertilizer Application	0.50	8.0	15.0
Percent bank's Portfolio to Agriculture	1.0	15.0	20.0
Soil erosion Protection (Percent total Land)	20.0	80.0	90.0
Agricultural Exports (Billion)	5.5	6.78	7.92

The ministry of agriculture in Thailand has an abundance of financial and natural resources resulting in the majority of the workforce are attached to this prominent sector of the country (Jomo, 2019). The agricultural sector of Thailand has a slump situation these days. Its contribution in GDP reduces dramatically and comparatively less than the contribution of other sectors of the country (Anwer, Farooqi, & Qureshi, 2015). As mentioned in Figure 1 the contribution of the agricultural sector in the GDP of the country is reducing with the passage of time in 1992; contribution was 13.0% but in 2010 it continues decreasing to reach only 8.3%. On the other hand, the contribution in the GDP of the industry sector of Thailand is increasing with the time as only 29.5% contribution was observed in 1992 but a continued increase reaching 43.0% in 2010. Therefore, the contribution to the GDP of services sector is quite attractive. Although its contribution was decreased due to 57.6%, observations in 1992 and 2010 the contribution reduced to 48.7% but still a quite appropriate contribution shown by the services sector of the country. Figure 1 regarding the contribution of agriculture, industry and services sector of Thailand in the GDP of the country is mentioned below:

Figure 1. Contribution to the GDP



The agricultural sector of Thailand needs to be improved through implementing different strategies and technologies. due to the continual decline in performance. There is a need to

improve the organizational factors that influence the ability and skills of agriculture extension providers. When they have more than satisfactory skills, they can improve the quality of the products and the production of the agricultural sector of the country. Thus, the purpose of this study is to examine the organizational factors that influence the ability and skills of the agriculture extension providers of Thailand.

Literature Review

This section provides the operational definitions of understudy variables such as Ability and Skills about Agricultural Extensions, top management support, goal alignment and management style. It also provides the literature on the relationships among the understudy variables.

Ability and Skills about Agricultural Extensions

It refers to the skills and ability of the agricultural extension providers that enhance the capacity and production of the agricultural sector of the country. In addition, it also means that the ability and skills of agricultural extension providers that improve the sources of farmers that increase the capacity of agriculture production (Tata & McNamara, 2018). Hence the agricultural extensions are necessary for the improvement in the agricultural sector of the country and it depends upon the skills and ability of its providers. Similarly, in modern worlds, agricultural extensions are needed to explore the different ways of agricultural activities as well as the improvement in the production process of the agricultural sector, but the quality of the extensions depends upon the ability and skills of its providers (Prokopy et al., 2015).

A study by Hermans, Klerkx and Roep (2015) explains that currently agricultural extensions are the necessary part of the agricultural sector for its improvement in every process and production and all of these features are depends upon the ability and skills of its providers. Furthermore, skills and abilities about agriculture extensions refer to the abilities and skills of its providers that are necessary for the improvement of the agricultural production of the country (Blackburn & Robinson, 2016). In addition, Lwehabura (2018) conducted a study on the skills of students who are associated with the agricultural sector and defined the skills and abilities of agriculture extensions mean the skills and abilities of its providers. As much as they are experts, ablers and acquire a high level of skills, the agricultural sector has increasing benefits and improve their production with the help of provided extensions to the sector. Thus, the ability and skills of the extension providers regarding agriculture are necessary for the improvement of the agricultural sector of the country and this study use this variable as dependent variable of the study.

Top Management Support

It refers to the support of management to execute any type of policy, order and the objective of the organization. Without that support the organization cannot achieve their goals. Furthermore, “top management support is defined as devoting time to the program in proportion to its cost and potential, reviewing plans, following up on results and facilitating the management problems involved with integrating ICT with the management process of the business” (Lee, Shiue, & Chen, 2016). A study by Shao, Feng and Hu (2016) explains the support of the top management referring to the approval of projects and plan after investigating its cost, benefits and potentials. This support is necessary to execute any plan in the organization and the success of the project. In addition, “support of top management” is defined as the approval of any project after ensuring the effective and efficient quality management system that is implemented and maintained to achieve these quality objectives to ensure that adequate resources are provided to meet the organization’s objectives to regularly review the effectiveness of the management system (Al Shaar, Khattab, Alkaied, & Manna, 2015). Additionally, support of the top management refers to the grant of the proposal after examining its feasibility, quality, efficiency, implementation, available resources and the objectives of the proposal (García-Sánchez, García-Morales, & Bolívar-Ramos, 2017). Thus, support of top management is necessary for the approval of any project which is necessary for the improvement of the agricultural sector of the country and this study uses this variable as the independent variable of the study.

Goal Alignment

It refers to the alignment of the organizational goals with the goals of every type of management that is working for the success of the organization (Mom, van Neerijnen, Reinmoeller, & Verwaal, 2015). “Goal alignment or strategic alignment, is the process by which you keep your workforce working towards your company's overarching goals. When company-wide goals are set, steps must be taken to ensure that employees are informed not only as to what they should be working on, but also why” (Ayers, 2015). Furthermore, a study by Dittrich, Koers, Berkers, Becker and Montalvo (2015) defined the alignment of the goal as the goals of the top management are matched with the goals of the bottom management of the organization. The alignment between the organization and top management are part of the goal alignment. In addition, goal alignment or the act of aligning goals in an organization involves ensuring that both people from top to bottom in an organization and divisions, branches and departments, are working to achieve similar goals (Yilgor et al., 2017). Thus, goal alignment is necessary for the success of any project and

essential for the improvement of the agricultural sector of the country and this study uses this variable as the independent variable of the study.

Management Style

Management Style refers to the working of all types of management that are striving to achieve the organizational goals. The style of management means the working style of the organization that is adopted by the management to achieve the aligned goals of management and organization (Al-Hamdan, Nussera, & Masa'deh, 2016). In addition, “the management styles are the behavioural patterns that a leader adopt to influence the behavior of his followers, i.e. the way he gives directions to his subordinates and motivates them to accomplish the given objectives. The management styles can either be classified based on the behavioural approach or situational approach” (Johansen & Cadmus, 2016). Furthermore, it is also defined as the working style of the leaders that are adopted to influence the followers in terms of giving the task, instructions and knowledge about the fulfillment of organizational goals. Similarly, “management style is the manner in which an organization manages its employees and their work activities which will vary depending on factors such as the characteristics of employees, the work activities engaged in and the culture of the organization. A successful management style should effectively build teams and be able to motivate” (Way, Jimmieson, & Bordia, 2016). Thus, the management style is necessary for the success of any project that is also essential for the improvement of the agricultural sector of the country and this study uses this variable as the independent variable of the study.

Top Management Support and Ability and Skills about Agricultural Extensions

The support of top management has influenced the skills and ability of the agriculture-related extensions providers. The decisions of the agriculture-related extensions providers have followed the support of top management of the organization (Capalbo, Antle, & Seavert, 2017). Agriculture-related extension providers always decide with the support of their top management and the ability and skills of the agriculture-related extension providers which vary depending on the variation in support of top management. Similarly, a study by Smith and Siciliano (2015) conducted on top management support found that every decision of the organization depends on the approval of the top management and agriculture-related extension providers also decide with approval of top management. In addition, the support of top management has a positive and significant association with the ability and skills of agriculture-related extensions providers (Lamichhane et al., 2016). Likewise, a study conducted by Clark et al. (2016) on the management support and found that support of top management has a positive influence on the ability and skills of agriculture-related extension providers. Thus, the support of the top management can improve the ability and skills of

agriculture-related extension providers and this study examines the relationship between the top management support and the ability and skills of agriculture-related extension providers and develop the following hypothesis:

H1: There is a positive association between the top management support and the ability and skills of agriculture-related extension providers.

Goal Alignment and Ability and Skills about Agricultural Extensions

The alignment of the organization and management goals have influenced the skills and ability of the agriculture-related extension providers. Agriculture-related extension providers always make a decision that is aligned with the goals of the organization and the ability and skills of the agriculture-related extension providers also differ with the variation in the goals of the organization. Similarly, a study by Spann (2017) found that every decision of the organization depends on their goals and agriculture-related extension providers also take a decision that is related to the goals of the organization. In addition, the alignment of the goals of management and the firm has a positive and significant association with the ability and skills of agriculture-related extension providers (Kopainsky, Huber, & Pedercini, 2015). Likewise, a study conducted by Thompson (2019) and found that the alignment of goals have a positive influence on the ability and skills of agriculture-related extensions providers. Thus, the alignment of the goals of management and firm can improve the ability and skills of agriculture-related extension providers and this study also examine the relationship between the alignment of the goals and the ability and skills of agriculture-related extensions providers and develop the following hypothesis:

H2: There is a positive association between the goal alignment and the ability and skills of agriculture-related extension providers.

Management Style and Ability and Skills about Agricultural Extensions

The style of the management has influenced the skills and ability of the agriculture-related extensions providers. Agriculture-related extension providers always make a decision that is by the management and the ability and skills of the agriculture-related extensions providers also vary with the variation management style. Similarly, a study by Craig et al. (2016) and found that every decision of the organization depends on management style and agriculture-related extensions providers also take a decision that is related to management style. In addition, management style has a positive and significant association with the ability and skills of agriculture-related extensions providers (Mao & Hale, 2015). Likewise, a study conducted by Tóth and Kučas (2016) and found that management style has a positive influence on the ability and skills of agriculture-related extensions providers. Thus, the

management style can improve the ability and skills of agriculture-related extensions providers. This study also examines the relationship between the management style and the ability and skills of agriculture related extensions providers and develop the following hypothesis:

H3: There is a positive association between the management style and the ability and skills of agriculture-related extension providers.

Research Methods

This study is related to agriculture-related extension providers and these agriculture extension providers of Thailand are the respondents of the study. According to the ministry of agriculture, Thailand, around 16986 agriculture extension providers are working in the agricultural sector and by using systematic random sampling, every 40th extension provider was selected. A total of 425 survey questionnaires were sent to the selected extensions providers and every questionnaire consists of several questions having five-point Likert scale.

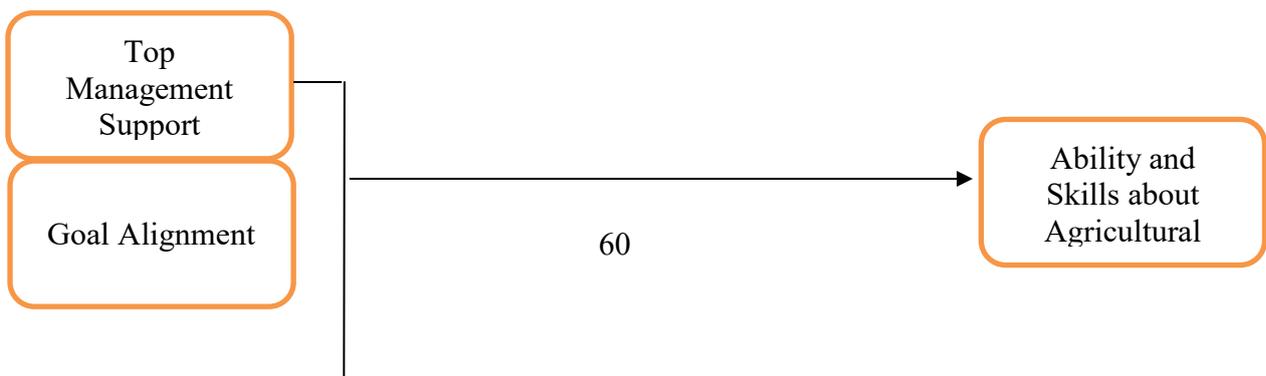
Measures

This study used the ability and skills of agriculture-related extensions (ASAE) providers as dependent variables that have twelve items. Top management support (TMS), goal alignment (GA) and management style (MS) are used as independent variables that have eighteen, twelve and sixteen items respectively (Rezaei, Asadi, Rezvanfar, & Hassanshahi, 2009). Every item has a five-point Likert scale to answer the question.

Data Collection Procedure

Around 16986 agriculture extension providers are working in the agricultural sector according to the ministry of agriculture in Thailand and by using systematic random sampling, every 40th extension provider was selected. Total of 425 survey questionnaires was sent to the selected extensions providers. After 20 days of mail, 315 responses were received from the agriculture extension providers. Fifteen questionnaires did not meet the standard and were eliminated from the study leaving 300 valid responses for data analysis purposes.

Research Framework



Management
Style

The results show two models, the first model is the measurement model and the second model is a structural model. In the first model, the validity of the data was checked. This has two types of validity convergent and discriminant. There are four tests for the convergent validity, first test is factor loading that is greater than 0.50 for all items, the second test is Cronbach's Alpha that is greater than 0.70 for all variables, the third test is composite reliability (CR) that are also greater than 0.70 for all variables and the last test is AVE that is also greater than 0.50 for all variables that mean no issue with convergent validity. Table 3 below shows the factor loadings:

Table 3: Factor Loadings

Items	Loadings	Alpha	CR	AVE
ASAE1	0.841	0.826	0.872	0.505
ASAE111	0.854			
ASAE12	0.857			
ASAE3	0.478			
ASAE5	0.520			
ASAE8	0.653			
ASAE9	0.662			
GA1	0.790	0.912	0.926	0.510
Table 3 (continue)				
Items	Loadings	Alpha	CR	AVE
GA10	0.723			
GA11	0.690			
GA12	0.719			
GA2	0.752			
GA3	0.706			
GA4	0.678			
GA5	0.754			
GA7	0.669			
GA6	0.718			
GA8	0.694			
GA9	0.662			

MS1	0.739	0.920	0.931	0.529
MS10	0.736			
MS11	0.787			
MS12	0.686			
MS13	0.652			
MS14	0.721			
MS15	0.702			
MS18	0.743			
MS2	0.722			
MS5	0.746			
MS8	0.780			
MS9	0.702			
TMS1	0.196	0.840	0.886	0.500
TMS10	0.844			
TMS11	0.763			
TMS12	0.770			
TMS16	0.749			
TMS3	0.141			
TMS5	0.738			
TMS8	0.846			
TMS9	0.855			

The second validity is discriminant validity which can be checked through Fornel Lacker and HTMT. Fornel Lacker is the old criteria for checking the discriminant validity. The results of Fornel Lacker criteria are mentioned in Table 4 below while outer loadings are mentioned in Table 5.

Table 4: Fornel Lacker

	ASAE	CA	MS	TMS
ASAE	0.711			
CA	0.710	0.714		
MS	0.669	0.712	0.727	
TMS	0.505	0.519	0.469	0.707

Table 5: Outer Loadings

Items	ASAE	CA	MS	TMS
ASAE1	0.841	0.561	0.538	0.408
ASAE111	0.854	0.612	0.581	0.457
ASAE12	0.857	0.617	0.548	0.416

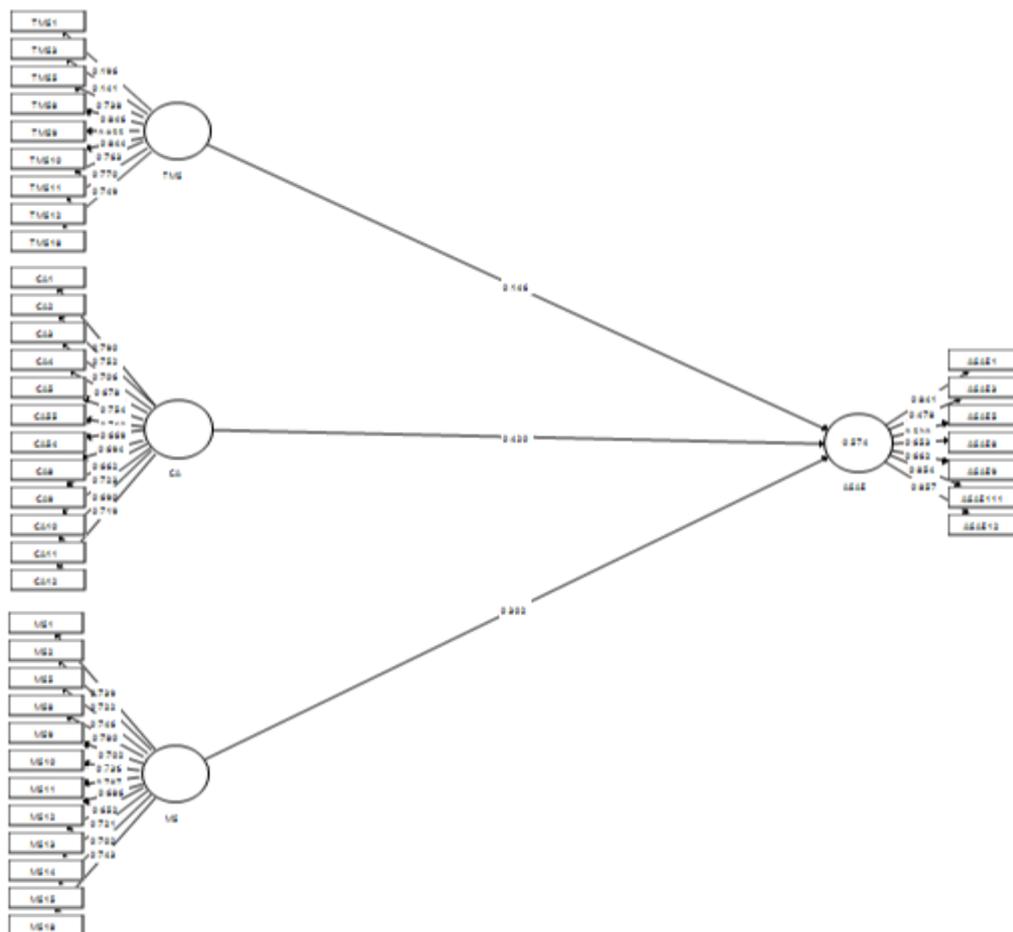
ASAE3	0.478	0.310	0.253	0.190
ASAE5	0.520	0.321	0.252	0.173
ASAE8	0.653	0.524	0.537	0.368
ASAE9	0.662	0.475	0.476	0.384
CA1	0.567	0.790	0.650	0.334
CA10	0.488	0.723	0.445	0.507
CA11	0.546	0.690	0.414	0.475
CA12	0.558	0.719	0.484	0.490
CA2	0.517	0.752	0.583	0.323
CA3	0.427	0.706	0.460	0.283
CA4	0.462	0.678	0.443	0.362
CA5	0.590	0.754	0.616	0.340
CA54	0.387	0.669	0.425	0.242
CA55	0.492	0.718	0.555	0.253
CA8	0.533	0.694	0.559	0.296
CA9	0.453	0.662	0.408	0.517
MS1	0.605	0.685	0.739	0.336
MS10	0.417	0.460	0.736	0.379
MS11	0.500	0.489	0.787	0.470
MS12	0.455	0.474	0.686	0.516
MS13	0.333	0.373	0.652	0.259
MS14	0.412	0.419	0.721	0.245
MS15	0.395	0.417	0.702	0.253
MS18	0.451	0.472	0.743	0.288
MS2	0.476	0.540	0.722	0.351
MS5	0.619	0.612	0.746	0.307
MS8	0.614	0.662	0.780	0.332
MS9	0.375	0.423	0.702	0.341
Table 5 (continue)				
Items	ASAE	CA	MS	TMS
TMS1	0.222	0.220	0.172	0.196
TMS10	0.403	0.386	0.352	0.844
TMS11	0.406	0.376	0.330	0.763
TMS12	0.422	0.456	0.365	0.770
TMS18	0.402	0.380	0.396	0.749
TMS3	0.170	0.241	0.182	0.141
TMS5	0.343	0.327	0.323	0.738
TMS8	0.359	0.398	0.390	0.846
TMS9	0.337	0.409	0.347	0.855

The second and latest criteria for checking the discriminant validity are HTMT ratio. According to these criteria, the values should be less than 0.50 and below Table 6 shows the HTMT ratio and all values are less than 0.50, showing discriminant validity is valid.

Table 6: HTMT Ratio

	ASAE	CA	MS	TMS
ASAE				
CA	0.797			
MS	0.721	0.744		
TMS	0.595	0.604	0.537	

Figure 2. Measure Assessment Model



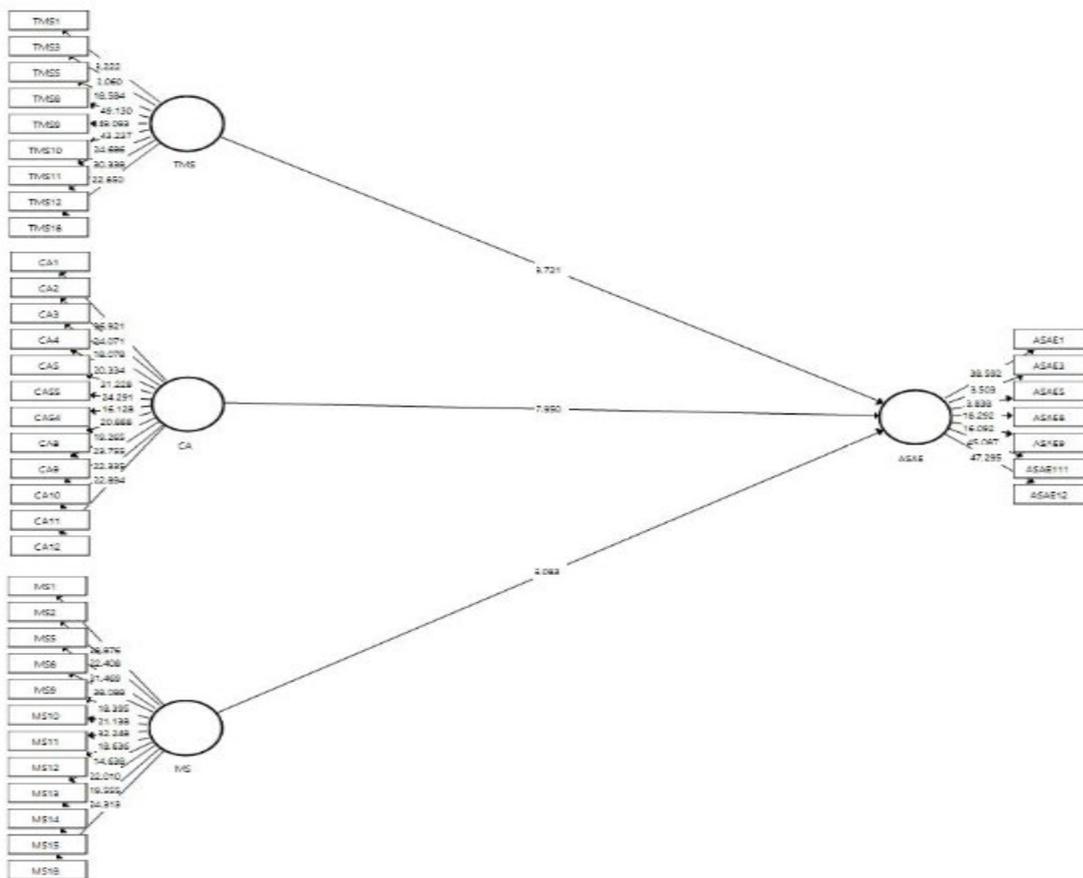
The results of the regression showed that significant positive association among all the independent variables (goal alignment, management style and top management support) and

dependent variable (ability and skill about agriculture extension) because the probability value is less than 0.05, T statistics greater than 1.64 and positive sign with all the beta values that are mentioned in Table 7 given below:

Table 7: Path Analysis

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
GA -> ASAE	0.420	0.424	0.056	7.463	0.000
MS -> ASAE	0.302	0.300	0.048	6.290	0.000
TMS -> ASAE	0.146	0.146	0.042	3.504	0.000

Figure 3. Structural Assessment Model



Discussions

Agricultural extensions are necessary for the improvement of agricultural production and also an emerging topic for research. Thus, the study aims to investigate the influence of organizational factors, namely; top management support, goal alignment and management style on the skills and ability of agricultural extension providers of Thailand. This study found that support of top management has a significant positive association with the skills and ability of agricultural extension providers of Thailand. The findings are similar to the results of Pretty and Bharucha (2015), who also found a positive association among the variables.

Furthermore, the results found that the alignment of the goals have a significant positive association with the skills and ability of agricultural extension providers of Thailand. The findings are matched with the results of Cohen and Reynolds (2015), who also found a positive association among the variables. In addition, findings also show that the style of the management has a significant positive association with the skills and ability of agricultural extension providers of Thailand. The findings are similar to the results of Small, Brown and Montes de Oca Munguia (2016) who also found a positive association among the variables. Finally, the study concluded that organizational factors, namely; top management support, goal alignment and management style positively influence the skills and ability of agricultural extension providers of Thailand. The results concluded that if top management support the decision of the extension providers, the goal of extension providers are aligned with the organizational goals and extension providers follow the management style, then the ability and skills of the extension providers improve, which improves the quality of the agricultural extension that also increases the production of agricultural sector.

This study has several limitations that help future researchers on this emerging topic. This study used only three organizational factors; many of the other factors also exist which influence the extension providers. This study investigated the extension providers of Thailand only and ignored the cross-country analysis. The mediation and moderation analysis was also ignored in this study and future study can add mediation and moderation effects in the model that may increase the scope of the study.

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