

SUPPLIER PERFORMANCE CRITICAL SUCCESS FACTOR IN OIL AND GAS INDUSTRY IN KALIMANTAN, INDONESIA

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ABSTRACT

The current activity trend of the oil and gas upstream sector shows increasing trend in production and exploration. In order to accommodate this, the availability of Goods and Services is becoming crucial to be fulfilled. Supply Chain Management (SCM) department needs to ensure that supplier will deliver the right Goods/ Services on time, that's why supplier management is needed. Moreover, to ensure the continuity of operations and to prevent the delayed of operations, SCM need to identify which one of the supplier development strategy, which consist of supplier inventive, communication, and competitive pressure that is best applied for Goods supplier and best applied for Services supplier.

The purpose and importance of this study is to deliver an outcome that will be of knowledge and beneficial to the oil and gas industry in Indonesia to improve their vendor performance system or as a knowledge reference for this industry to know whether the most critical supplier development strategy to be implemented on materials/goods supplier is the same or not with the most critical supplier development strategy to be implemented on services supplier, so the company is able to choose a good vendor performance management strategy and approach to gain better supply chain activity for better operation.

By using multiple linear regression method, this research delivers a conclusion that communication turns out to be the best critical

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supplier development strategy to be applied for Goods supplier and Services supplier.

Keywords: supplier development, communication, competitive pressure, supplier incentive.

INTRODUCTION

In an oil and gas company, operations are considered as the core activity which its essential tasks are to explore and exploit natural resources in order to produce oil, gas and condensate. The data of national oil and gas upstream sector investment in Indonesia from the period of 2006 until 2012 points out that the biggest investment allocation went for operation activity represented by production spending which shows an increasing trends of activities.

In order to accommodate the increasing trends of operations activity, it is SCM department's job to ensure that the company receives the right quality of goods/ services, with the exact promised delivery time from its suppliers. Therefore in order to ensure that the suppliers will commit to deliver the right quality at the agreed delivery time period as per formal agreement, SCM department should implement precise strategies to maintain supplier performance. Because once a vendor is unable to accomplish their duties, it could seriously impact the nature and flow of operations. These facts show that the suppliers have becoming one of the critical players in the cycle. It indicates that the SCM department should be more prudent and meticulous in reviewing supplier performance to ensure that all procurement activity is run effectively and efficiently in order to accommodate the increasing activity of operations.

Li, (2008) said that supplier management system have a positive impact on company's performance. Therefore, the purpose of this research is to discover critical supplier development strategies that could affect supplier performance. The researcher will define supplier development strategies that could affect the supplier performance success into three strategies, which are competitive pressure, communication, and supplier incentive. These strategies will be the foundation in the research to understand its impact with the supplier

performance success in the oil and gas industry particularly in Kalimantan, Indonesia.

Of all the literatures regarding supplier development and supplier performance, none has identified the development strategy in correlation with supplier performance applied in differentiating for supplier for goods and supplier for services. Thus this research will attempt to discover whether there is an influence between the supplier development strategy and supplier performance success in the oil and gas industry in Kalimantan, Indonesia the subject for goods supplier and for services supplier and to understand whether the critical supplier development strategies applied in impacting the success for materials supplier performance will come up with the same result with the critical supplier development strategies applied for services supplier.

This study is conducted to deliver an outcome that will be of knowledge and beneficial to the oil and gas industry in Indonesia to improve their vendor performance system or as a knowledge reference for this industry to know whether the most critical supplier development strategy to be implemented on materials/goods supplier is the same or not with the most critical supplier development strategy to be implemented on services supplier, so the company is able to choose a good vendor performance management strategy and approach to gain better supply chain activity for better operation.

The supplier performance success factors variables will be viewed from the perspective of the purchasing firm only. Since the perspective will be from the Company's perspective, thus the success factors will be limited to supplier development strategies of the Company. The data will be collected through questionnaires instruments that will be distributed to some employees who work in Production Sharing Contract (PSC) of Oil and Gas Companies that have sites in Kalimantan Island, Indonesia, only such as VICO Indonesia, Total E&P Indonesie, Chevron Indonesia, and Medco E&P. The authors chose Kalimantan because Kalimantan contributes more than 30% of national oil and gas resource. This is represented by four major Oil and Gas Companies (IATMI) and due to the ease of access of data collection for this research.

The scope of this study will be focused on the drilling main material and services supplier. The authors chose to limit the scope to drilling supplier because drilling activities mostly contribute the biggest spending of materials and services for the operations activities. With this limitation of main drilling material and services supplier, automatically the research will only cover high and tremendous procurement process value. However, this study will not differentiate the amount of value of the procurement considering that no matter how much the amount of value, the ultimate goal is eventually to ensure that the goods/services are delivered on time with the right quality and quantity.

The respondent that will be chosen as the target of sampling population will only be employees that work in the supplier performance management relation, employees with an experience of handling or have been involved in assessing drilling material and services supplier performance. By restricting this issue, hopefully their answers of the questionnaires will be based on their knowledge and experience.

The supplier development strategy that will be used in this research will be limited to competitive pressure, communication, and supplier incentive due to the relevancy with SCM Process in Oil and Gas industry in Indonesia. While the parameter for supplier performance success will be defined by delivery and quality, due to in most researches, these two factors are always shown in the top three of the list of supplier success parameters.

LITERATURE REVIEW

Supplier Development

The capability of supplier to supply the goods/ services needed by the company will influence the company's performance (Carr et al., 2008; Lasch & Janker, 2005), which is why supplier management is needed. An imperative factor in supplier management is supplier development. Jones et al., (2003) stated that the purchasing firm (company)'s guidance could not be separated in supplier development. There are many literatures regarding the importance of supplier development in giving positive impact for the company's benefits. A finding

presented by Carr et al., (2007) asserts that the supplier development support does have a positive impact on supplier improvement capabilities, in that case the capability refer to the product quality.

Many researchers have offered their definition on supplier development, which can describe the importance of supplier development. One of them is the theory of Krause et al (1997) which has concluded that “supplier development was defined as any effort of a company on a supplier to increase the performance and capabilities of the supplier to meet the company’s short and /or long-term supply needs”. Based on the definitions of supplier development that has existed, Researcher concludes that supplier development could be defined as all of the strategies that a company can develop that are expected to enhance supplier’s performance as per the company’s requirement and needs so as to avoid the misleading of supplier performance and ensuring the sustainability of the company in the long term.

According to its definition, there are two factors that need to be highlighted as the main concept of supplier development, which are supplier development strategy and supplier performance. According to the literature of Monczka et al (1993), there are strategies that a company could implement in order to improve supplier performance such as increasing supplier performance expectations, wide sourcing strategy, early supplier design involvement, supplier performance improvement rewards and direct supplier development. Other literature revealed that other strategies to be applied for improving supplier performance are “creating competitive environments among suppliers, supplier assessment, feedback communication, supplier certification programs, promised current and future benefits, site visit and training program” (Krause, 1997). Therefore, based on the literature sources, the supplier development strategies can be divided into three main strategies, which are competitive pressure, communication, and supplier incentive.

Supplier Development Strategies

a. Supplier Incentive

Some literatures stated that supplier incentive could be one of the supplier development strategy to improve supplier performance. According to Rodriguez (2009) and Daniel & Ellram (1997), Moncza

et al (1993) and Krause et al (2000), have tested that supplier rewards could be one of the strategies to support the implementation of the supplier development. Such rewards could be in the form of giving an award to the supplier in the form of satisfaction letter or certificate in return when the supplier has given great performance of delivering goods and services to the company. It is also a strategy to give the supplier encouragement for them to perform well in terms of increasing their capability in volume of business and in return they will get the leverage as future preference supplier from the company.

b. Communication

Relationship between partners is like a key and its hole, it is important and necessary. An example is when a purchasing company attempts to acquire their product to a supplier. The supplier needs to share their information such as material/inventory, production schedule and line of productions. It is necessary to have a good and cooperative interaction between buyers (purchasing companies) and its suppliers including the supplier improvement program.

According to Prahinski & Benton (2004), communications could be divided more specifically into feedback, indirect influence strategy, collaborative communication and formality. Simpson et al., (2002) and Jones et al., (2003) also have suggested that supplier performance could be enhanced by putting the perception of same understanding between the company and its supplier regarding company's requirement and vision and what level of satisfaction that the supplier currently gives to the company, so that they will understand the gaps that still need to be fulfilled.

c. Competitive Pressure

Referring to Modi and Mabert (2007), competitive pressure is the competitiveness of a situation created by fairly competing many potential suppliers which is done by a company to be perceived by its suppliers in order to make its suppliers give the company the products or services that are complied with the company's requirements in terms of quality or delivery performance. Moreover, according to Spekman and Carraway (2006), as the consequences of competitive pressure strategy, the suppliers that has perceived the competitive pressure condition will need to increase their capabilities in terms of activities, information and processes to be more effective and efficient

in delivering their product or services to the company

Supplier Performance

a. Quality

Taking reference of quality from APICS (1999) quality can be determined into conformance and design. Quality in conformance can be seen directly when a product has no defects. While quality in design mostly indicated by customer satisfactory level on its product features. Cheraghi (2004) also stated that quality always last, from the past until today latest literatures because of its something that will be longed in the product/usage during the time of usage. Quality has always become an important force of any major substance in the world and so does supplier performance. Quality also became one of the performance indicators that have been tested in Hald & Ellegaard (2011) literature.

b. Delivery Performance

According to Cheraghi (2004) delivery is another major and consistently measured factor that defines the quality of the supplier performance because it is presenting the commitment from the requirement in a certain and limited time. Failure to satisfy delivery requirements might bring serious impact and regarded as contract violation. Delivery performance also became one of the performance indicators that have been tested in Hald & Ellegaard (2011) literature.

Table 1. Summary of Literature Review on Questionnaires' Variables

Variables	Definitions	Items Questions
Supplier Incentives	<ul style="list-style-type: none"> - Supplier incentive is one of the supplier development strategies to improve supplier performance. - Supplier rewards could be one of the strategies. - Such rewards could be in the form of giving an award to the supplier in the form of satisfaction letter or certificate - The leverage as future preference supplier from the company. (Rodriguez (2009), Daniel & Ellram (1997), Moncza et al 	<p>My Company gives Annual Awards for the best performance Goods/ Materials suppliers/vendors</p> <hr/> <p>Suppliers/ vendors will be given satisfaction letter or certificate whenever they perform great in delivering the materials for my Company</p>

Variables	Definitions	Items Questions
	(1993) and Krause et al (2000))	My Company will give leverage of future preference for the suppliers/vendors who has constantly perform a great delivery of materials
Communication	<ul style="list-style-type: none"> - The supplier needs to share their information such as material/inventory, production schedule and line of productions. - a good and cooperative interaction between buyers (purchasing companies) and its suppliers - supplier improvement program. - communications could be divided more specifically into feedback, indirect influence strategy, collaborative communication and formality. (Prahinski & Benton (2004)) - Putting the perception of same understanding between the company and its supplier regarding company's requirement and vision and what level of satisfaction that the supplier currently gives to the company (Simpson et al., (2002) and Jones et al., (2003)) 	<p>My Company always gives regular feedback to suppliers regarding their performance evaluation</p> <p>The suppliers is asked for good cooperative interaction with my company by sharing the information of information like material/inventory, production schedule, line of productions, and etc</p> <p>Suppliers will be noticed of their scores regarding their level of satisfaction performance they currently gives to the company</p>
Competitive Pressure	<ul style="list-style-type: none"> - competitive pressure is the competitiveness of a situation created by fairly competing many potential suppliers which is done by a company to be perceived by its suppliers (Modi and Mabert (2007)) 	<p>My Company always conducts drilling main materials procurement activities through Tender system</p> <p>My Company always do a fair Drilling Materials Tender process or Direct Selection Process by</p>

Variables	Definitions	Items Questions
		<p>complying to the regulation</p> <p>The Number of Direct Selection and/or Direct award process for drilling materials that have been conducted are below the number of its Tender process</p> <p>My Company always prohibit and have a firm sanction for any kind of bribery and corruption in the procurement process</p>
Supplier Performance	<ul style="list-style-type: none"> - Quality is determined into conformance and design. (APICS (1999)) - A product has no defects. Customer satisfactory level on its product features. Quality always last, from the past until today latest literatures (Cheraghi (2004)) - Delivery is presenting the commitment from the requirement in a certain and limited time. (Cheraghi (2004)) - Failure to satisfy delivery requirements might bring serious impact and regarded as contract violation. (Cheraghi (2004)) 	<p>Drilling main materials supplier XXX always deliver a good quality of product</p> <p>Drilling main materials supplier XXX always meet the delivery schedule of the requested product</p> <p>The delivered products of Supplier XXX has never given any future trouble for the company's operation</p> <p>My Company operation's schedule that related to the product brought from Supplier XXX is never been interrupted due to on time delivery of Supplier XXX</p>

RESEARCH METHODOLOGY

Research Model

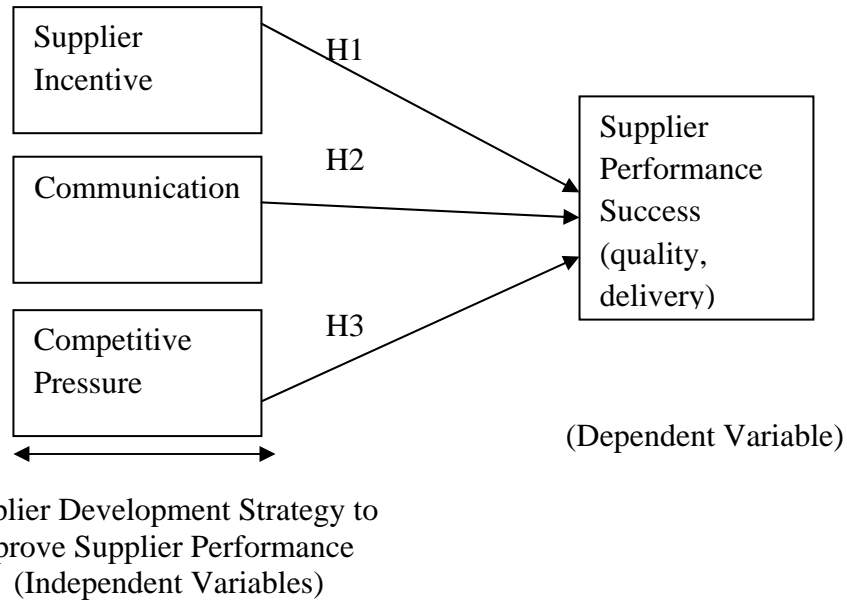


Figure 1. Research Model

Hypothesis

After creating the research model, in order to be able to answer the objectives of this study, some hypotheses should be proposed regarding the success strategy factor that could affect supplier performance. Based on the scope of this study, hypotheses will be proposed and conducted for oil and gas industry respondents regarding their experiences about strategy that is effective to be applied to improve supplier performance in the subject when the supplier is a goods/material supplier and when the supplier is a services supplier. There will be two types of hypotheses, which are H_0 and H_1 . H_0 hypothesis implies that there is no influence between variables being computed while H_1 hypothesis implies that there is influence between variables being computed

Hypothesis 1: Goods/ materials supplier in hypotheses

H₀: There is no influence between supplier incentive, communication, and competitive pressure with goods/ material supplier performance success in oil and gas industry

H₁: There is influence between supplier incentive, communication, and competitive pressure with goods/ material supplier performance success in oil and gas industry

Hypothesis 1a

H₀: There is no influence between supplier incentive with goods/ material supplier performance success in oil and gas industry

H₁: There is influence between supplier incentive with goods/ material supplier performance success in oil and gas industry

Hypothesis 1b

H₀: There is no influence between communication with goods/ material supplier performance success in oil and gas industry

H₁: There is influence between communication with goods/ material supplier performance success in oil and gas industry

Hypothesis 1c

H₀: There is no influence between competitive pressure with goods/ material supplier performance success in oil and gas industry

H₁: There is influence between competitive pressure with goods/ material supplier performance success in oil and gas industry

Hypothesis 2: Services supplier hypotheses

H₀: There is no influence between supplier incentive, communication, and Competitive pressure with Services supplier performance success in oil and gas industry

H₁: There is influence between supplier incentive, communication, and Competitive pressure with Services supplier performance success in oil and gas industry

Hypothesis 2a

H₀: There is no influence between supplier incentive with Services supplier performance improvement success in oil and gas industry

H₁: There is influence between supplier incentive with Services supplier performance improvement success in oil and gas industry

Hypothesis 2b

H₀: There is no influence between communication with Services supplier performance improvement success in oil and gas industry

H₁: There is influence between communication with Services supplier performance improvement success in oil and gas industry

Hypothesis 2c

H₀: There is no influence between competitive pressure, with Services supplier performance improvement success in oil and gas industry

H₁: There is influence between competitive pressure with Services supplier performance improvement success in oil and gas industry

Sampling Technique

In acquiring data, population that will be the target of data sourcing are employees of oil and gas companies who work in supplier performance management relation and employees who have had experience of handling and accessing the drilling material and services supplier performance. Because their answers of the questionnaires will be based on their knowledge of historical data in implementing the supplier development strategy in affecting the success of the supplier performance.

According to Sekaran & Bougie (2010, p297), the sample size of the research when it is a multiple linear regression research should be ten (10) times or more of the variables existed in the study. Since that total independent variables is three (3) and the dependent variables is one (1), thus the total variables in this study is four (4). That is why the sample size of this research should be 4 x 10 or 40 respondents. And since the questionnaires for defining Goods Supplier and Services Supplier are different, then total data that will be gathered for this research is 80 data

Data Collection

The research data collection will be conducted on April to oil and gas companies in Kalimantan. This research will utilize questionnaires as the instrument of data collection. The questionnaires' content will be in the form of Scale Likert of 1 until 6. Usually Scale Likert will

provide a 5-point scale or 7-point scale (Sekaran & Bougie, 2010), but this research will use a 6-point scale in order to provide the researcher with more certain and precise answers and thus minimizing bias. Scale 1 will represent respondents who “strongly disagree” with the questionnaire’s statements and scale 6 will represent respondents who “strongly agree” with the questionnaire’s statements. The respondents will be asked to choose their level of agreement or disagreement regarding their last experience of implementing supplier performance strategy that could affect the success of supplier performance in their company.

Data Analysis

After all questionnaires have been distributed and collected, Researcher will conduct validity and reliability test. Validity test is used to know whether the questions that have been established in the questionnaires regarding is valid. It means that the instrument the researcher has established is already correct. The questions are considered valid if having the corrected item-total correlation above 0.3. If all of the questions are valid, then the reliability test will be conducted.

Reliability test is used to know whether the collected answers of the respondents are already consistent, accurate and predictable. A research instrument is considered having a high reliability when the instrument is stable, dependable and predictable (Sudarmanto, 2005). Reliability can be tested by using alpha Cronbach method. This method is used to predict the correlation among questions in the questionnaire. The research is considered to be reliable when having alpha Cronbach value of more than 0.7

After the instruments are considered valid and reliable, in order to test hypotheses that have been established, Researcher will use statistical analysis from multiple regression computation. In Multiple regression method, the influence could be identified between one variable of dependent variable and more than one variable of independent variable (Levine et al, 2008). From the multiple regression method, the analysis could be found from significance test analysis and determination analysis result. Since the industry that will be analyzed are divided into two categories, which are goods or material supplier

and services supplier, thus the statistical analysis will be conducted on the two types of suppliers mentioned

By conducting significance test analysis, Researcher will be able to determine whether there is influence between the dependent variable (success of supplier performance) with at least one of its independent variables (strategy factors to improve supplier performance). According to Levine (2008), the influence existence could be detected by checking the F significance value (p-value) of the computed data. In this step, Researcher will determine the level of confidence of the research. If F significance value (p-value) is lower than the level of confidence, then Researcher should reject H_0 , and it means that Researcher should accept H_1 and vice versa.

FINDINGS

Validity and Reliability

After all of the questionnaires have been gathered, the first step is to check the validity and reliability of the instruments. The result shows that all of the variables in this research model are all considered valid because they have value of corrected item-total correction above 0.3. While for the reliability test shows that all of the questions in the questionnaire are all reliable because the result shows they all have alpha cronbach above 0.7. From here it can be said that the instrument is already correct and it can be used to further identify the research objectives.

Table 2. Validity Test Result

Variables	Points	Goods Supplier	Services Supplier	Validity
Supplier Incentives	SI1	0.731	0.934	Valid
	SI2	0.518	0.838	Valid
	SI3	0.584	0.871	Valid
Communication	C1	0.766	0.857	Valid
	C2	0.782	0.836	Valid
	C3	0.796	0.793	Valid
	C4	0.762	0.845	Valid

Variables	Points	Goods Supplier	Services Supplier	Validity
Competitive Pressure	CP1	0.854	0.908	Valid
	CP2	0.913	0.892	Valid
	CP3	0.835	0.839	Valid
	CP4	0.854	0.860	Valid
Supplier Performance	SP1	0.966	0.900	Valid
	SP2	0.966	0.927	Valid
	SP3	0.920	0.867	Valid
	SP4	0.948	0.859	Valid

Table 3. Reability Test Result

Variables	Goods Supplier	Services Supplier	Reliability
Supplier Incentive	0.738	0.914	Reliable
Communication	0.887	0.912	Reliable
Competitive Pressure	0.928	0.924	Reliable
Supplier Performance	0.980	0.947	Reliable

F- Test

The model is computed using level of confidence of 95%. Based on the first regression linear for goods supplier in Table 4 and Table 5, the F sig are both 0,000. This value is lower than 0.05, therefore they are significant statistically. It means that the regression model could be used to predict goods and services supplier performance or in other words supplier incentive, communication and competitive pressure jointly affect goods and services supplier performance.

Table 4. Anova Result of Goods Supplier

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.434	3	4.811	46.065	.000 ^a
	Residual	3.760	36	.104		
	Total	18.194	39			

a. Predictors: (Constant), CP, SI, COMM

b. Dependent Variable: GSP

Table 5. Anova Result of Services Supplier

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.602	3	2.534	9.811	.000 ^a
	Residual	9.298	36	.258		
	Total	16.900	39			

a. Predictors: (Constant), CP, SI, COMM

b. Dependent Variable: SSP

Multiple Linear Regression

Table 6. Coefficient Regression of Goods Supplier

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.702	.554		4.874	.000
	SI	.192	.092	.224	2.085	.044
	COMM	.362	.082	.540	4.438	.000
	CP	-.202	.068	-.272	-2.963	.005

a. Dependent Variable: GSP

$$Y_1 = 2.702 + 0.192X_1 + 0.362X_2 - 0.202X_3 \text{ (Equation 4.1)}$$

Table 7. Coefficient Regression of Services Supplier

		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	3.195	.907		3.523	.001
	SI	.234	.098	.308	2.393	.022
	COMM	.235	.084	.369	2.804	.008
	CP	-.225	.103	-.299	-2.195	.035

a. Dependent Variable: SSP

$$Y_2 = 3.195 + 0.234X_1 + 0.235X_2 - 0.225X_3 \text{ (Equation 4.2)}$$

From the above both equation of goods supplier and services supplier coefficient regression, it shows that supplier incentive and communication have a positive impact to goods supplier performance, while competitive pressure has a negative impact to goods supplier performance. The positive impacts on supplier incentive and communication to goods and services supplier performances make sense because when supplier is given incentive, they will tend to do their best performance in order to be able getting the rewards. And so is the communication variable. If the company or buying firm regularly conducts sessions with supplier regarding to communicate about what the company's future needs and vision and the level of satisfaction of the supplier performance all of the gap between the company and the supplier would be fulfilled. While the negative impact on competitive pressure on goods and services supplier performance is also makes sense because when the supplier is given more competitive situation like tender process, they will tend to try to lower their prices and in consequences reduces their quality in order to win the tender process. That is why their performance will be decreasing in terms of delivery and/or quality of products/services.

T- Test

T-test could also be done in order to find out the Constanta significance and dependent variable. The above linear regression equation will be tested whether the independent variables are actually valid to predict the dependent variable. t-Test could be analyzed from the p-value. If using p-value analysis, if p-value (sig) > 0.05 then accept H₀ and vice versa.

Since that result test for each independent variable for goods and services supplier shows a significant value that are lower than 0.05 for all of the independent variables, which are goods supplier resulted p-value of 0.044 for supplier incentive, 0.000 for communication and 0.005 for competitive pressure, while for the services supplier resulted p-value of 0.022 for supplier incentive, 0.008 for communication and 0.035 for competitive pressure, therefore the decisions will be rejecting H_0 for all of the sub-hypothesis explained before. It means that supplier incentive, communication and competitive pressure is independently significant in affecting both goods and services supplier performance.

CONCLUSION AND RECOMMENDATIONS

All of the statistical method that has been conducted is used to answer the research questions put forth in the first chapter. Therefore some points that could be concluded from this research are Supplier incentive, communication and competitive pressure all have impact with both goods supplier and services supplier performance success in oil and gas industry, both for jointly effect and independent effect. Communications has the biggest effect of 54% to goods supplier performance, while competitive pressure has an effect of 27.2% to goods supplier performance and supplier incentive only affect 22.4% to goods supplier performance. While to the services supplier performance, Communication have the biggest effect of 36.9%, while supplier incentive have a affect of 30.8% to services supplier performance and competitive pressure only affect 29.9% to services supplier performance. Therefore it can be concluded that the critical success supplier development strategy that affects supplier performance for goods/ materials supplier is the same result with the critical success supplier development strategy that affecting supplier performance for services supplier, which is communication.

Table 8. Comparison Result between Goods and Services Supplier

EFFECT PERCENTAGE	Goods Supplier	Services Supplier	Remarks
Supplier Incentive	22.40%	30.80%	Communication for both Goods & Service supplier plays the most important factor to be developed.
Communication	54%	36.90%	
Competitive Pressure	27.20%	29.90%	

Some recommendations as the result of this research and for future research are since communication is the most critical and highly significant strategies in supplier development strategies that could affect the supplier performance both for goods supplier and services supplier, therefore oil and gas Company should put more focus and effort on communication handling with supplier in order to help them improve their performance and benefit the company itself, companies should try to look for a way where competitive pressure also could bring a positive impact on the supplier performance. Thus they will be able to gain the service level expected and pricing level, another factor that could be taken into consideration for future research is by doing the research from the perspective of the supplier. And compare the result what is the most critical factors that could enhance their performance

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