

## **Effectiveness of Online Supplier Performance Evaluation**

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**Abstract:** Positive reforms of the institution in the conduct of assessments are strongly influenced by the latest technology adoption strategies. It is well known that the process of online system development often faces many difficulties that need to be addressed. This study was conducted to identify the effectiveness of online supplier performance evaluation methods and to classify the factors that assist in improvement through the analysis of the results. Data were collected by distributing questionnaire to the staff who used the online supplier's performance evaluation at Politeknik Sultan Salahuddin Abdul Aziz Shah, Selangor and were analysed using IBM SPSS 25. The results of this analysis show that the online performance evaluation of suppliers can effectively replace the traditional evaluation system. Hence, a few key points need to be discussed in order to provide useful inputs to the institution in the hope of making the online supplier's performance evaluation system more effective in line with what is expected of the current changes.

**Keywords:** supplier performance, online, evaluation

### **1.0 Introduction**

Supplier performance evaluation is an important mechanism to guarantee that the products and services received meet the specifications required and enable organizations to provide the latest list of suppliers in their respective fields. According to Van Weele (2010), supplier selection is part of the sourcing process and it is a vital part of success of the purchasing process.

Besides contributing in product innovation, they also contribute in achieving highly effective production system. Therefore, overall organisational excellence depends on the enhancement of supplier. However, the measurement system are too burdensome to be implement even though it helps in improving the supplier performance (Estampe, Lamouri, Paris & Brahim-Djelloul, 2013). Effective methods and systems are required for recording, evaluating and flourishing supplier performance (Kateryna Bulavina, 2013).

Therefore, a practical performance evaluation system can benefit from variety of operational aspects. Those are organizational decision making, communication along with internal and functional level, clarity of purchasing activities and departments, waste identification and newest items, and motivation for perceived staff. Moreover, Simpson's results reflex the extensive degree of assessment process with 41.7 percent agreement (Cousins, 2008 & Simpson, 2002).

As stated by Gordon (2008), the first advantage to be withdrawn from the concept of supplier's performance administration is to concentrate the

resources on better-quality activities, and reducing the effort in dealing with problems induced from supplier's performance, for instance late delivery, deformity, competitiveness weakening, or excess stockpile. In addition, advantages that companies can benefit from driven situation are competitive boost with low-priced, responsiveness and excellent services and goods, technology, minimising order cycle times, and orienting practices between firms and suppliers. Thereafter, firms can determine supplier's capability in innovation and develop their key relationships. Into the bargain, Simpson Siguaw & White (2002) states that the supplier verse buyer relationship can receive the utmost benefit from the evaluation system.

## 2.0 Methodology

This research is quantitative. The questionnaire is the technique of data collection selected in this research. Data were collected by distributing the questionnaire to thirty (30) staffs who used the online supplier's performance evaluation at Politeknik Sultan Salahuddin Abdul Aziz Shah, Selangor.

### 2.1 Reliability and validity

**Table 2.1:** Cronbach's alpha analysis summary

Cronbach's Alpha	N of Items
0.868	35

Cronbach's alpha is calculated to estimate the reliability and validity of the survey instrument and the results are given in Table 2.1. Cronbach's alpha analysis is a model of internal consistency and is based on the average inter-item correlations. According to Chakrapani (2004), the value of Cronbach's alpha of less than 0.5 is considered poor, and greater than 0.7 is considered acceptable. For this study, values of Cronbach's Alpha were in the range from 0.8 and 0.9 for the entire questionnaire which indicates an excellent reliability of the entire questionnaire. Thereby, it can be said that it is proved that the questionnaire is valid, reliable, and ready for distribution for the population sample.

### 2.2 Data analysis

For this research, descriptive statistics and inference statistics will be used (refer Table 3.2). Descriptive statistics were used to infer the overall study data, gives an insight into a variety of data collected and the difference between the data obtained. Statistical tests used were frequency, percentage, mean and standard deviation. Inferential statistical analysis was used to compare and correlate between variables in this study.

**Table 2.2:** Statistical tests that will be conducted

Section	Variable	Method of Analysis	Purpose
A	Demography	Percentage	To classify and display the data of respondents' background (Creswell, 2008; Nuzul, 2011)
B	Effectiveness	Arithmetic Measurements	To present the factor evaluation (mean) (Creswell, 2008; Nuzul, 2011)
C	Improvement	Arithmetic Measurements	To present the factor evaluation (mean) (Creswell, 2008; Nuzul, 2011)

### 3.0 Results and discussion

The findings of the data analysis were carried out with the help of IBM SPSS software Statistics 25. The analysis was conducted using descriptive and inference tests. Analysis begins with testing the frequency and percentage. These data represent the characteristics of the study sample demographic. Then, the mean and standard deviation analysis is carried out to answer the researches questions.

#### 3.1 Respondent demographics

This section presented summary contents of respondent background base on department, working experience, their experience in supplier management and number of suppliers had managed. The result will be discussed in term of percentage, as shown in Table 4.2. In total were 30 respondents, which accounted for 100% in this study.

**Table 3.1:** Demographic percentages

Variables	Respondent, N	Percentage (%)
Department		
Academic	28	93.3
Non-Academic	2	6.7
Working experience		
< 5 years	0	0
5 – 10 years	2	6.7
11 – 15 years	20	67
16 – 20 years	5	17
> 20 years	3	10
Experience in supplier's performance management		

< 2 years	2	6.7
3 – 4 years	1	3.3
5 – 6 years	20	67
7 – 8 years	5	17
> 8 years	1	3.3
Number of suppliers had managed		
0	2	6.7
1	2	6.7
2	1	3.3
3	20	67
> 3	5	17

Almost three quarters of the respondents from academic department. This group accounts for 93.3% with 28 respondents. The balance on quarter of the respondents amounted to 2 respondents from non-academic department.

Most of the respondents have working experience with range 11 to 15 years represent 67% of the respondents, followed by range 16 to 20 years with 17%. The 5 to 10 and >20 years had 2 respondent accounting with 6.7% for each group.

In terms of experience in supplier's performance management, most of the respondents were doing it more than 5 years formed 67% with 20 of the respondents

### 3.2 Finding of the research question 1

What are the effectiveness of online supplier's performance evaluation?

**Table 3.2:** Mean and standard deviation of effectiveness

Variables	Mean	Standard Deviation
How well does the SEP function in evaluating supplier's performance?	4.33	0.516
How well does the default criteria help in the evaluation of supplier's performance?	4.17	0.408
How easy is the system to use for evaluating supplier's performance?	4.67	0.516
How well does the system in representing the supplier's relevant information for selection purpose?	4.00	0.000

The effectiveness of system scored on mean in the average of 4.00 - 4.67. It shown that the result is positive. The SEP for evaluating supplier's performance was given a good mean of 4.33 by the participants. The second question (refer Table 3.2) on how well does the default criteria help in the evaluation of supplier's performance received a mean of 4.13, which is satisfactory. They saw the need to allow more criteria for assessing supplier's performance. The function for evaluating supplier's performance was

perceived as very easy to use with a very high mean of 4.67. The participants recognised that the system does present well the suppliers relevant information for selection purpose by giving a mean of 4.00.

### 3.3 Finding of the research question 2

What are the factors that contribute to improve the online supplier's performance evaluation?

**Table 3.3:** Mean and standard deviation of improvement

Variables	Mean	Standard deviation
Secure and is not accessible to the unauthorized users	4.75	0.544
More convenient to excess in the future	4.65	0.723
User friendly, minimum training	4.40	0.964
Less workload	4.27	1.125

Table 3.3 shows the mean and standard deviation of the factors that contribute to improve the online supplier's performance evaluation at Politeknik Sultan Salahuddin Abdul Aziz Shah. From the table, 'secure and is not accessible to the unauthorized users' has the highest mean value is 4.75 with standard deviation 0.544. From this research, four (4) improvements are suggested in order to improve supplier's performance evaluation system. Recommendations in order of priority are secure and is not accessible to the unauthorized users, more convenient to excess in the future, user friendly, minimum training and less workload.

### 3.4 Finding of the research question 3

What is the relationship between the effectiveness and the factors that contribute to improve the online the online supplier's performance evaluation?

**Table 3.4:** Correlation between Effectiveness dan Factors

Variables	Pearson correlation	Sig. (2-tailed)
Effectiveness of online supplier's performance evaluation	1.000	0.000
Factors that contribute to improve the online supplier's performance system	0.955	0.000

Correlational analyses were used to examine the relationship between the effectiveness of online supplier's performance evaluation and the factors that contribute to improve the online supplier's performance evaluation. Results indicated,  $r(30) = 0.955$ ,  $p < .00$ . These results show there is strong relationship between the effectiveness of online supplier's performance evaluation and the factors that contribute to improve the online supplier's performance evaluation.

#### 4.0 Conclusion

The results of this analysis show that the online performance evaluation of suppliers can effectively replace the traditional evaluation system. However, there is an opportunity to improve the system. Therefore, the system should be accessible using mobile apps and information is constantly updated.

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