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Need to Undertake Empirical Research On Ethical and Islamic Investment

Without going to initiate the debate about the legitimacy of ethical and Islamic investing, the question may be raised that why investors choose to invest in mainstream ethical funds and Islamic ethical funds. The investment based on ethical or socially responsible criteria appeals to many investors, the general perception is that it most likely reduces portfolio performance. The financial theory argues that ethical investing will under perform over the long term because ethical portfolios are subsets of the market portfolio, which lack sufficient diversification. Further question raised is that selecting stocks according to ethical screening can be an expensive practice that may ultimately have a negative impact on net return. Therefore, the general perception has been that ethical portfolios are likely to underperform their conventional peers.

Declining to invest in the securities of unethical enterprises not only is a form of social protest, but can also have the effect of diminishing the demand for a company's securities. Diminishment of demand may have an adverse financial impact on a company. This may be a factor in influencing companies to change and to become more socially responsible. The question arises: Is an investor who declines to purchase the securities of enterprises deemed to be socially irresponsible at a disadvantage versus investors who have no such restrictions? In other words, did the investment performance of ethical investors suffer in comparison to those who are not so responsible?

On the other hand, Islamic ethical investors represent a unique ethical investment market. As at 2006, the Islamic banking industry held total assets of approximately \$360 billion, which is expanding, rapidly with an estimated annual growth rate of 15-20%. Islamic investors are concerned with a very different set of ethical criteria from mainstream ethical investors but the issues arising out of screening are similar. A large portion of the Islamic community has been excluded from stock market investments due to religious prohibitions on certain business activities and *riba* (interest). The issue of what to do with surplus funds and how to provide financial security for the future has plagued those determined to comply with religious injunctions. A major breakthrough occurred with religious rulings on equity investments and the establishment of Islamic ethical funds in the 1970s.

However, the performance of these funds has been mixed and investors have lacked a suitable benchmark with which to assess performance. The Dow Jones Islamic Market Index, New York; FTSE Islamic Index in London; Islamic Index in Kuala Lumpur, Islamic Shariah Index in Jakarta, etc, have been launched which provide the Islamic community with an acceptable universe of stocks to invest in and the benchmarks against which performance can be measured. Most

academic studies on ethical fund performance have until now looked into the average performance of ethical funds as a group against the unrestricted benchmark portfolios, ignoring any effect screening might have. The reason for this is obvious a lack of comprehensive data and information on the exact approach followed by the funds. The screeners deviated more clearly from conventional funds with respect to investment style. The influence of screening on performance may provide a first hand observation for Islamic ethical investors. Despite the increasing attention given by practitioners to Islamically ethical screened investments, there is scant academic research. Much attention needs to be given in this matter.

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INDONESIAN MANAGEMENT & ACCOUNTING RESEARCH

Volume 06, Number 01, January 2007

Table of Content	Page
Editorial	
An Evaluation of The Islamic Study in The Faculty of Economic : Basis for Curriculum Modification Siswanto	1 - 15
Human Resources Deveploment Practices in Some Selected Business Enterprises in Bangladesh : An Explanatory Study Mohammad Aktaruzzaman Khan Saleh Jahur	16 - 32
The Need for Implementation of Islamic Socio Accounting Bayu Eka Silvia	33 - 42
Some Thoughts About Accounting Conceptual Framework and Standarts For Awqaf Institutions Muhammad Akhyar Adnan Maliah Sulaiman Putri Nor Suad Megat Mohd Nor	43 - 60
On Use Factor Analysis in Analizing Service Quality Performance Gandhi Pawitan	61 - 73

ON USE OF FACTOR ANALYSIS IN ANALIZING SERVICE QUALITY PERFORMANCE

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Abstract: Performance measurement within organization is not only in financial aspect but also in a quality of services must take into account. This measure becomes extremely important when organization focus in purely delivering services, such as in higher education institution. This paper has an objective to identify key factors which affect services quality performance of the operational of the higher education organization. A SERVQUAL approach provides a description of the service quality, and factor analysis guides a clear overview of an important factor of the service quality performance. The approach was applied to measure performance of the service quality within the Faculty of Social and Political Science, Parahyangan Catholic University. The result indicated a service quality performance measurement gives guidance in service quality control and improvement.

JEL Classification: Q0

Keywords: SERVQUAL, performance measurement, quality improvement.

1. Introduction

Pullman, Verma, and Goodale (2001) stated that defining an appropriate service strategy could be challenging within a multicultural customer. This is very relevant condition that faced by the higher education management. Figure 1 shows a system of higher education, which contains six main factors, such as input, process, output, control, internal environment, and external environment. The input contains a combination of several components, materials, peoples, money, and knowledge. These components entered and processed into some activities to produce some outputs, such as graduate students, research, public services, and some publications. They are needed to control these components from the beginning into the end, since the institution has to maintain its vision and mission, objective, and standard quality.

There are two environments that constrain their activities, such as internal and external environment. It is a challenging how to use these environments as a driven factor to improve organization performance. The higher education system offers a product which has a service characteristic, such as intangibility, inseparability, variability, and perishability. Hays and Hill (2001) stated that there was a relationship between employee motivation and provided service quality. They also found that higher levels of both employees' motivation positively affect service quality.

In general the education institution aims to develop a whole human capabilities and competencies, through a process of implementation of the curriculum, social interaction, and internal external environment. They have to control the quality professionally through a continuous quality improvement. The important step in the improvement of the quality, that the institution can assess its quality service performance. Assessment is done by developing an appropriate measurement of their quality service performance.

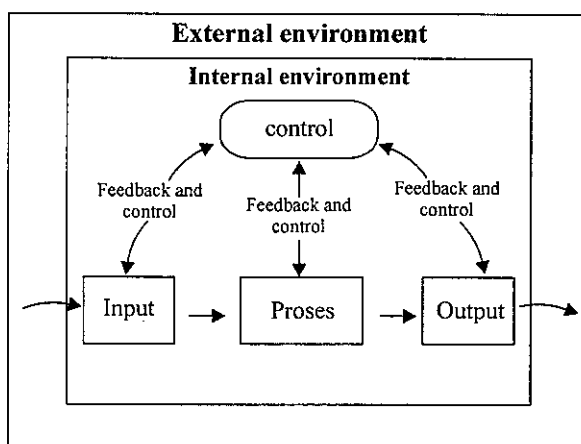


Figure 1. Higher education as a system of process

This study was done at Faculty of Social and Political Science, Parahyangan Catholic University in 2003. Figure 2 shows a description of the student body and Figure 3 shows number of graduated student from 2002 to 2005. The Faculty conducted a bachelor degree program in Public Administration, Business Administration, and International Relation. There are three curriculums with around 200 courses, and hundred of lecturer (Luis, 2003). Figure 2-a, shows a decreasing figures numbers of active students, which was also followed by the number of graduated students (Figure 2-b). There have not been studied yet a reason of a decreasing trends of the figures. Hence this situation has been motivated to look at an internal environment, which is a quality of service performance.

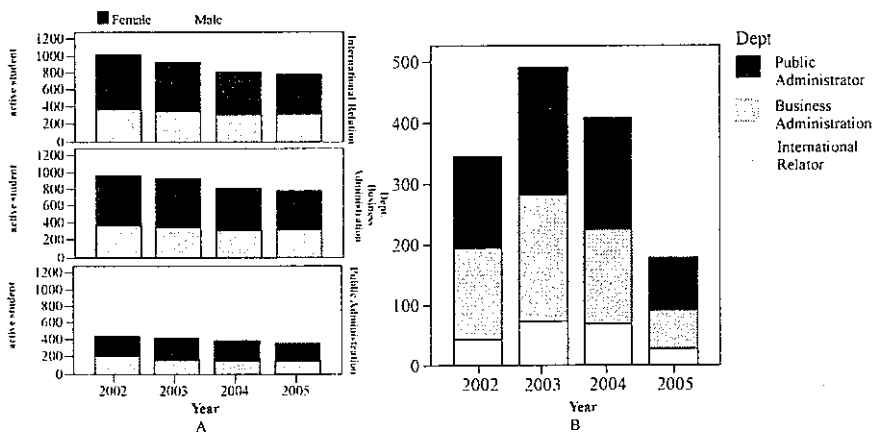


Figure 2. Figures of Faculty of Social and Political Science, Unpar. (a) number of active student from 2002 to 2005 and (b) number of graduated student from 2002 to 2005 (Parahyangan Catholic University, 2005).

This paper concern to describe and identify factors those affect the quality of service performance. Also it aims to exercise how to develop an instrument in measuring a quality of services, and also develop a methods how to analyse the data based on the measurement by the instrument.

1. Background and research question

1.1. Framework of the Service quality performance

Performance measurement belongs to institution culture that values planning, organizing, leading, and controlling. Service quality becomes a critical aspect in competitive age within any fields of activities, which have an extensive relationship with users. Organization performance is not only measure as a financial performance, but also mean service quality performance. Quality means the totality of features and characteristics of a product or service that bears on its ability to satisfy given needs.

The institution should aware the shift of customer paradigm, which is called user power. The paradigm has a focus on the user need and has several aspect, such as: (i). Increasing productivity with improved quality; (ii). quality is defined in terms of meeting user needs; (iii). quality measured by continuous user satisfaction; (iv). quality is part of every function; (v). poor quality is a management responsibility; and (vi). quality is continuous improvement;

Service quality improvement can be approached as a never ending process, which is a cycle of Plan, Do, Check, and Act -- PDCA (see Figure 3). The standard quality was defined within the planning step, where the standard can be adjusted as a changing of user needs. The doing is a step of how to deliver services as been designed, which involve methods and procedures. The controlling is how to keep the standard always become focus of activities, which is a dynamic activities of comparing between scheduled and realization (action). Service quality improvement can be done when the next step of planning is conducted, through measurement and evaluation of their performance.

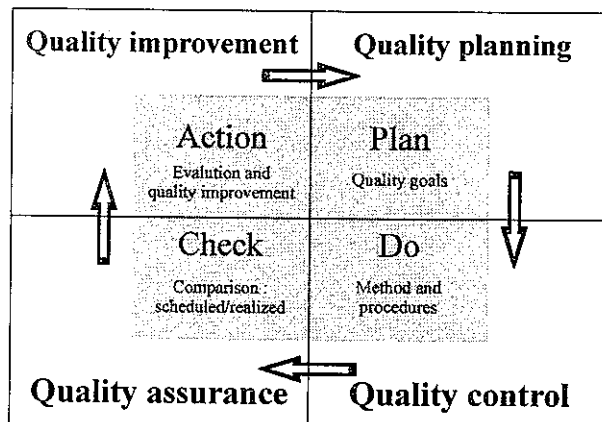


Figure 3. A cycle of quality improvement

1.1. Service quality measurement

Service quality can be described into five dimension, those are tangible, reliability, responsiveness, assurance, and empathy (Zeithaml, Parasuraman, and Berry, 1990). Fitzsimmons and Fitzsimmons (2006) stated that the customer paradigm put a user as a main focus in delivering services. It will drive the quality improvement into as close as to customer needs. Hence a model of the service quality performance measurement will involve either institution measurement or user perception measurement. Figure 4 shows these two types of measurement, which may be considered as a component of controlling of the learning processes in Figure 1.

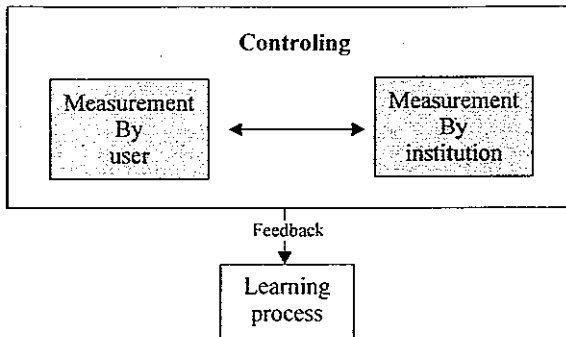


Figure 4. A model of service quality performance measurement

The measurement can be done by using SERVQUAL approach. SERVQUAL approach defines five dimension of service quality into tangible, reliability, responsiveness, assurance, and empathy (Fitzsimmons and Fitzsimmons, 2006). Tangible, is the appearance of physical facilities, equipment, personnel, and communication materials. Reliability is the ability to perform service dependably and accurately. Responsiveness is the willingness to help customers and provide prompt services. Assurance is the knowledge and courtesy of employees and their ability to convey trust and confidence. Empathy is the caring, individualized attention to the customers.

The instrument of the measurement was developed by defining indicators for each dimension. The indicators measure a perception of the respondent, and it may be a case a perception of one indicator correlated with others.

1.1. Research question

Indicators of the service quality give a good overview of the service quality performance of the organization, but summarizing the indicators value into their dimension could give a misleading information. This is a case where there is exist a correlation among indicators. Hence, how do the service quality's indicators values could be summarize? How the factors could be extracted and give a priority of the factors?

The extracted factors can be an useful information, which can be used as a basis of service quality improvement. It also gives a description of the performance of their service quality.

1. Research Methods

1.1. Model

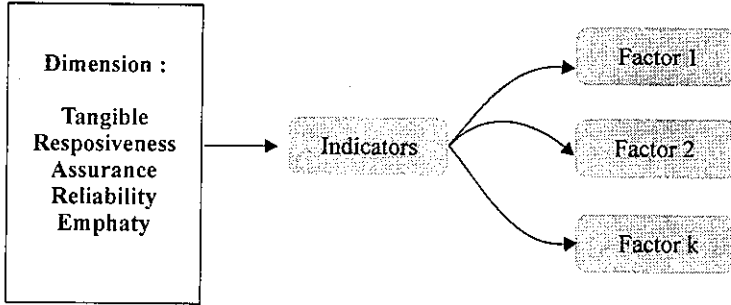


Figure 5. Research model

Figure 5 gives an overview of research model, which uses a five dimension of the service quality. A set of indicators were defines from each dimension, and factors were extracted from them. This is a descriptive research, which will be describes a service quality performance, using SERVQUAL approach. The indicators of the service quality are collected and extracted into several factors.

1.1. Instrument and data collection

Instrument of SERVQUAL was developed by defining some indicators for each dimension of service quality. The indicators are defined by Likert scale, which is defined as strongly agree (score 5), agree (score 4), indifference (score 3), disagree (score 2), strongly disagree (score 1) (Sekaran, 2000). The indicators for each dimensions are defined as shown in Table 1.

Dimension	Quest Number	Indicators
Tangible	Q1	Staff looking clean and neat
	Q2	Layout of the facility is arranged accordingly
	Q3	There is available an up to date infra-structure to support delivering the services
Reliability	Q4	Number of staffs are enough to performs the task
	Q5	Staff gives a correct information
	Q6	Staff re- check a registration form
	Q7	Staff delivers a services accurately
	Q8	Registration procedures are easy to understand

Responsiveness	Q9	Staffs can give a response promptly
	Q10	Staffs are always available and ready to help
	Q11	Staffs can identify a fault promptly
	Q12	Staffs can do a task as expected
Assurance	Q13	Staffs can be trusted
	Q14	Staffs are familiar with their task
	Q15	Staffs can answers questions logically and systematically
Empathy	Q16	Staffs is always polite
	Q17	Staffs have ability to communicate
	Q18	Staff' s can give a personal intention
	Q19	Staffs can be contacted easily
	Q20	Staffs can give a guidance and suggestion

Data collection was done by a survey. A population is defined to be a student body of the Faculty of Social and Political Science. A survey was done using a purposive non-random sampling. It was assumed that the respondents have had experienced and encountered with services. Then respondent was selected mostly from student who have studied at least 4 (four) semester (year 2001). Hence the respondents gave their perceptions on the delivered services by the faculty. The sample size was a hundred with sampling error ± 0.1 and 95% confidence. The research was conducted during January 2003.

1.1. Data analysis

A descriptive statistics were generated for indicators and correlation matrix for the indicators. A descriptive statistics was used to get a respondent's profile. Further analysis was done by factor analysis. Factor analysis was done by applying the principal component method for extracting the factors, and also varimax rotation approach.

2. Result and analysis

2.1. Respondents' profile

Descriptions of the respondents were shown in the Table 2. It was assumed that the gender did not affect their perception. But it may be affected by the length of their study.

Table 2. A description of the respondents by year of their study.

Year	Frequency	Percent	Valid Percent	Cumulative Percent
1999	6	6.0	6.0	6.0
2000	3	3.0	3.0	9.0
2001	88	88.0	88.0	97.0
2002	3	3.0	3.0	100.0
Total	100	100.0	100.0	

1.1. Description of the service quality performance.

The perceptions of the respondents were summarized in Table 3. The results indicated a positive responses for all indicators. We assume that a spectrum of the service quality performance was distributed normally from the worst to the best, with an average indicated an indifferent situation. The service quality performance was defined by the score of each dimension, and it was defined by an average of the probability of the standardized mean scores of the indicators. Table 3 showed that 44.4% of the mostly respondent considered the tangible dimension below the average. The similar situation also can be interpreted for the responsiveness and empathy. But the reliability indicated 69.6% of the mostly respondent were upper the average. The similar also for assurance dimension.

Table 3. Mean of the indicators and service quality performance scores

Dimension	Tangible				Reliability				Responsiveness			
Question	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
Mean	4.08	3.68	3.56	3.48	3.88	4.22	3.47	4.12	3.66	3.71	3.46	3.60
Scores	44.4%				69.6%				33.5%			
Dimension	Empathy											
Question	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20				
Median	3.68	3.94	4.11	3.57	3.62	3.37	3.43	3.87				
Scores	60.8%				31.6%							

Table 3 shows result that the empathy factor gives the lowest performance and the reliability gives the highest performance. The indicators may portray inter correlation among them, hence ordering based on this result may lead to unfair justification. This problem can be overcome by applying factor analysis.

1.1. Factor analysis of the service quality performance.

The objective of the factor analysis is to identify a relationship among variables which can be grouped as a factors or underlying dimensions. Factor analysis gives a result a set of factors which may describe phenomena. The factors were independent each others. Factor analysis is also used as a tool to reduce a dimension of the phenomena under study; hence the phenomena could be understood better (Hair, Anderson, Tatham, and Black, 1998).

The factors may be extracted from the variables if the correlation among variables are adequately formed. This condition was measured by Kaiser-Meyer-

Olkin Measure of Sampling Adequacy (MSA), and also the Bartlett's test of sphericity (Ghozali, 2004). The SPSS output was displayed in Table 4. The result showed that the correlations models are significant, hence there were a correlation among variables. Hence the factor analysis can be performed. The seventh variable was excluded since it has MSA value less than 0.5.

Table 4. KMO and Bartlett's Test

Kaiser -Meyer -Olkin Measure of Sampling Adequacy.		.753
Bartlett's Test of Sphericity	Approx. Chi -Square	466.567
	Df	171
	Sig.	.000

The principal component analysis was done to give a communality for each variables (Table 5.). This values shows a percentage contribution of the variation of to the total, such as the first variable (Q1) gave 60.6 % of the total variation of the factor. These communalities values indicates a common factors, which may shows that the larger communalities will relate a higher its correlation with their factors. The total variance explained was showed in table 6. A common factors analysis can be done further by extracting the variables and their eigenvalues. The factors are formed from the variables which have the eigenvalues greater than 1. The eigenvalue indicates a cummulative variation values described by the factor, as shown in Table 6.

Table 5. The communalities of the variables.

Dimension	Tangible				Reliability			Responsiveness			
	Q1	Q2	Q3	Q4	Q5	Q6	Q8	Q9	Q10	Q11	Q12
Communalities	.606	.624	.635	.491	.555	.698	.478	.756	.657	.666	.607
Dimension	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20			
Communalities	.597	.726	.659	.691	.521	.470	.443	.620			

Extraction Method: Principal Component Analysis.

The table shows that there are 6 factors extracted from the variables, with 60.5% of the variation can be explained. The other variables indicate a small eigenvalues, which give a little contribution into the explaining the total variation. Hence it may be a reasonable to decide that the 6 factors are the main factors in measuring the service quality.

Table 6. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.658	24.514	24.514	4.658	24.514	24.514	3.251	17.113	17.113
2	1.659	8.732	33.246	1.659	8.732	33.246	1.974	10.388	27.501
3	1.488	7.834	41.080	1.488	7.834	41.080	1.852	9.748	37.248
4	1.353	7.122	48.202	1.353	7.122	48.202	1.546	8.137	45.386
5	1.226	6.455	54.657	1.226	6.455	54.657	1.527	8.037	53.423
6	1.115	5.868	60.524	1.115	5.868	60.524	1.349	7.101	60.524
7	.994	5.234	65.758						
8	.881	4.634	70.393						
9	.835	4.394	74.787						
10	.749	3.942	78.729						
11	.659	3.469	82.198						
12	.565	2.972	85.170						
13	.529	2.786	87.955						
14	.493	2.593	90.549						
15	.466	2.450	92.999						
16	.399	2.098	95.097						
17	.340	1.788	96.886						
18	.315	1.660	98.545						
19	.276	1.455	100.000						

Extraction Method: Principal C

Table 7. Rotated Component Matrix

	Component					
	1	2	3	4	5	6
QT1	.139	.270	.442	.016	.204	.526
QT2	.094	.767	-.101	.092	-.049	-.076
QT3	.051	.718	.307	-.086	.039	.121
QT4	.301	.430	.339	-.163	-.051	.268
QT5	.384	-.041	.148	.236	-.009	.573
QT6	.061	-.062	.141	.810	-.004	.123
QT8	.145	.571	.068	.158	.317	.040
QT9	-.014	.110	.687	.519	.008	.047
QT10	.307	.076	.725	-.025	.147	-.084
QT11	.677	.019	.441	-.097	-.059	-.030
QT12	.762	.091	.016	.023	.100	.082
QT13	.716	.176	.108	.039	.190	.056
QT14	.231	-.071	-.014	-.083	.312	-.020
QT15	.103	.198	.147	.116	.753	.080
QT16	.289	.335	-.206	.601	.136	-.271
QT17	.659	.112	.216	.041	.143	-.068
QT18	.543	.234	-.167	.291	-.083	.034
QT19	.625	-.012	.068	.113	.185	-.023
QT20	-.208	.022	-.204	-.070	.006	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

The most important result from the factor analysis is a factor loading, which indicate a correlation between variable and factor. The rotation of the factor loading is needed to concentrate the significant correlation between variables and factors. The rotation gives a specific correlation between variable and factor, hence the factor can be determined and interpreted easily. The rotated factors were shown in Table 7, and showed six factors. The factors from the results can be considered as the most affecting factors which can be a focus of for further improvement. Based on percentage of explained variance by the factors, we can make an order from the most important factors, those are: (i). Factor 1 : Q12 (responsiveness); (ii). Factor 2 : Q2 (tangibles); (iii). Factor 3 : Q10 (responsiveness); (iv). Factor 4 : Q6 (reliability); (v). Factor 5 : Q14 (assurance); and (vi). Factor 6 : Q20 (empathy). The result shows that the responsiveness factor may a key factor in improvement of the service quality, followed by tangibles, reliability, assurance, and empathy.

1.1. Service quality improvement

Figure 7 shows how improvement can be done by evaluating the performance measurement. The evaluation was conducted in part of quality assurance. The SERVQUAL approach provides the quality performance measurement, then the stated performance could be used to evaluate current delivered services. The result from previous section indicated that the responsiveness factor may be put an attention to improve the performance, since this factor has the highest percentage of explained variance.

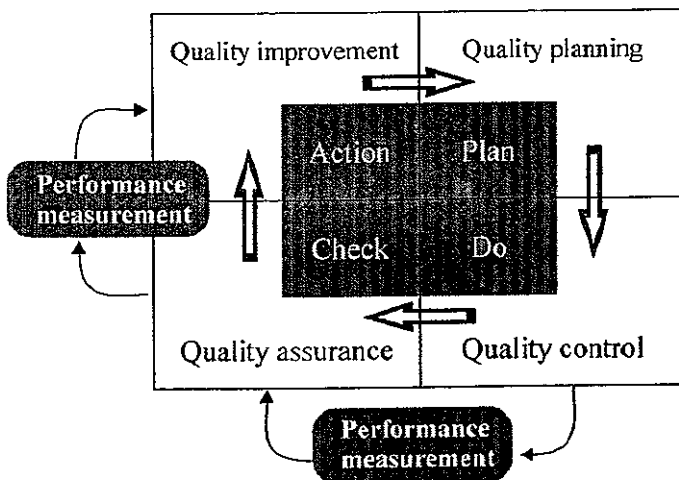


Figure 7. The role of performance measurement in service quality improvement.

1. Discussion

SERVQUAL approach defines dimension of service quality and measurement by defining some indicators which represent each dimension. Factor analysis gives an overview of the most affecting factors, which could be considered. A quantitative approach, SERVQUAL and factor analysis, gives a view of current performance of service quality. The result can be used as a bases of further improvement of service quality, though a more detailed improvement were not provided. A further technique can be done, such as quality function deployment, to get further detail of users need.

2. Conclusion

The users involvement in measuring the performance of service quality is positive for the organization in improving their performance. SERVQUAL and factor analysis gives an important result, which could be a consideration in improvement of the performance of service quality. Creating an instrument for measuring performance of service quality is the most important and critical step. Factor analysis can be applied to determine a key factor for further improvement of the performance.

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Indonesian Management and Accounting Research

Editorial

- An Evaluation of The Islamic Study in The Faculty of Economic :
Basis for Curriculum Modification
Siswanto 1 - 15
- Human Resources Deveploment Practices in Some Selected Business Enterprises in Bangladesh :
An Explanatory Study
Mohammad Aktaruzzaman Khan
Saleh Jahur 16 - 32
- The Need for Implementation of Islamic Socio Accounting
Bayu Eka Silvia 33 - 42
- Some Thoughts About Accounting Conceptual Framework and Standarts For Awqaf Institutions
Muhammad Akhyar Adnan
Maliah Sulaiman
Putri Nor Suad Megat Mohd Nor 43 - 60
- On Use Factor Analysis in Analizing Service Quality Performance
Gandhi Pawitan 61 - 73