

Performance Evaluation using the Balanced Scorecard: The case of Sri Lankan Universities

W.M.R.B. Weerasooriya*

When considering education, quality of educational service and stakeholder satisfaction can be taken as more important. Most of the performance models are fails to address the evaluation of organizational performance. This study examines the performance of entire management faculties in Sri Lankan Universities and the perception level of management employees about the Balanced Scorecard (BSC). The study concluded that use of BSC can be highly benefited to universities and management staff welcome to BSC implementation, also identified that the knowledge about the BSC under managerial level is less.

Keywords: Performance Evaluation, Higher Education Institutes, Balanced Scorecard, Sri Lankan Universities.

1. Introduction

1.1 Background of the Study

The balanced scorecard (BSC) emerged as a conceptual framework for organizations to use in translating their strategic objectives into a set of performance indicators. Rather than focusing on operational performance and use of quantitative financial measures, the BSC approach links the organization's strategy to measurable goals and objectives in four perspectives: financial, customer, internal process and learning and growth. The purpose of this paper is to evaluate use of the BSC in the nonprofit sector, specifically at an institution of higher education. Case studies in higher education and personal perspectives are presented and the opportunities for and challenges of implementing the BSC framework in higher education are discussed.

To ensure academic excellence in a time of increasing competition in the higher education sector, a university must apply an appropriate performance measurement system that reflects and gives the opportunity to improve on its research and teaching quality, and on the quality of its facilities and staff. Such a performance measurement system should also incorporate the perspectives of all university stakeholders. The performance of a university must be evaluated via an appropriate method and the adoption of a robust performance measurement system can be key to improving the competitive status of a university, both locally and internationally, while at the same time maintaining its academic excellence.

The rest of the paper organized as follows: section 1 describes the problem of the study, objectives of the study, significance of the study; section 2 describes the literature review and higher educational system in Sri Lanka, performance evaluation in higher education institutions, Balanced Scorecard principles, application of the

*W.M.R.B. Weerasooriya, PhD Research Scholar, Graduate School of Management, Management and Science University, Malaysia - Email:wmbw@yahoo.com

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Balanced Scorecard framework in higher education; section 3 describes the model and the hypotheses; section 4 discuss the hypothesis testing and section 5 discuss the summary and conclusions.

1.2 Statement of the Problem

Many higher education institutions are trying to do stakeholders expectations. When attempting to implement their strategies, they give students only limited description of what they should do and why those tasks are important. Without clear and more detailed information, it's no wonder that many universities failed in executing their strategies. So that there were no good performances evaluation methods can be applied the universities or faculties other than the financial tools. In this connection, the BSC model is the suitable model to evaluate faculties as well as universities performances evaluation including financial and non financial activities. In addition to BSC is a well recognized strategic management and performance evaluation technique and it is proved that by applying this management technique, higher education institutions can improve its efficiency. Unfortunately, there is gap in application of the BSC in higher education in Sri Lanka. Hence, the research is aimed at performances evaluating in the Sri Lankan Universities as a new avenue. Accordingly, the research problem is defined as,

'How does 'The Balanced Scorecard use as a performances evaluation in the Sri Lankan Universities'.

1.3 Objectives of the Study

- i. To evaluate the relationship between Learning and Growth Perspective (LGP) with Internal Business Process Perspective (IBPP).
- ii. To evaluate the relationship between Internal Business Process Perspective (IBPP) with Financial Perspective (FP).
- iii. To evaluate the relationship between Internal Business Process Perspective (IBPP) with Customer Perspective (CP).
- iv. To evaluate the relationship between Customer Perspectives (CP) with Mission Achievement (MA).
- v. To evaluate the relationship between Financial Perspectives (FP) with Mission Achievement (MA).
- vi. To identify whether management staff in the Management Faculties in Sri Lankan Universities are knowledgeable on the BSC.

1.4 Significance of the Study

The BSC as a performance evaluation in Sri Lankan Universities in general is far from the past decade. Further, universities are increasingly, find it difficult to keep the all the stakeholders contented in an equitable manner. The unrest building up in any of the stakeholder's party in manifested in many foreign degrees, tough assessments, frailer rate and selection limitations etc. Very little concern is give to the process academic and non academic development is at a negligible level. Failure to adequately, address each perspective, in equal proportion may have lead to the mediocre level of performance. It is therefore; important to discover the performance evaluation in Sri Lankan Universities using BSC and it covered all perspectives interrelated with each other.

2. Literature Review

2.1 Higher Educational System in Sri Lanka

The University Grants Commission (UGC) was established under the Universities Act. No.16 of 1978. The functions of the UGC are to allocate funds to the universities and university institutes, serve as the central admission agency for undergraduate studies in universities, planning and monitoring of academic activities of the university system in order to maintain academic standards and implement national policies in respect of university education. There were 31 higher educational institutes are operating under UGC (it includes 15 state universities, 07 post graduate institutes and 09 other institutes) in Sri Lanka.

Ministry of Higher Education with the University Grants Commission (UGC) having continuous dialog with academia, trade unions and other key stakeholders to uplift higher education system to the desired level. Ministry of Higher Education is taking measures to strength its institutional framework and established Quality Assurance and Accreditation Council (QAAC) under the UGC. The QAAC is key objective is ensure excellence in higher education through quality assurance. Finally it become highly recognized and ranked university in world and meets global requirements. Further identify that the QAAC system was interrelated with the BSC technique.

2.2 Performance Evaluation in Higher Education institutions/ Universities

The higher education sector is one area of the public sector where the introduction of the performance measurement (PM) poses dilemmas (Ulrich, 2006). Higher education institutions are being described as loosely coupled systems (Weick, 1976) or organized anarchies (Cohen and March, 1974) with weak regulation and control mechanisms: indicators which predict low PM impact. PM principles in higher education institutions encounter important implications for the management of these organizations and have certainly changed the internal management of the higher education institutions and the role and everyday existence of the academic manager in far-reaching ways (Deem, 2004).

Absent from these common performance-based indicators are the measurement categories and specific metrics suggested by a BSC approach. Institutions of higher educations (IHEs) need measurable indicators that reflect value and excellence achieved through investments in technology, innovation, students, faculty, and staff (Nefstead and Gillard 2006). Current ranking systems in higher education consider the multiple information of higher education but do not offer guidance on the selection and organization of performance measures in terms of performance drivers or diagnostic indicators. Moreover, these ranking systems often do not relate performance indicators to the institution's mission or provide guidance toward continuous quality improvement (Beard 2009).

2.3 Balanced Scorecard Principles

Achievement of equilibrium is at the core of the BSC system (Kaplan, R.S. and Norton, D.P.1992, 1996, 2001). Balance must be attained among factors in three areas of performance measurement: financial and nonfinancial indicators, internal and external constituents, and lag and lead indicators. Equilibrium must also be

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attained between financial and nonfinancial measures; nonfinancial measures drive the future performance of an organization and are therefore integral to its success. Further, the use of nonfinancial measures allows problems to be identified and resolved early, while they are still manageable (Gumbus 2005). A key function of the BSC is its use as a performance measurement system. The scorecard enables organizations to measure performance through a variety of lead and lag indicators relating to finances, customers, internal processes and growth and development (Niven 2003). According to Niven (2003), lag indicators are past performance indicators such as revenue or customer satisfaction, whereas lead indicators are "the performance drivers that lead to the achievement of the lag indicators".

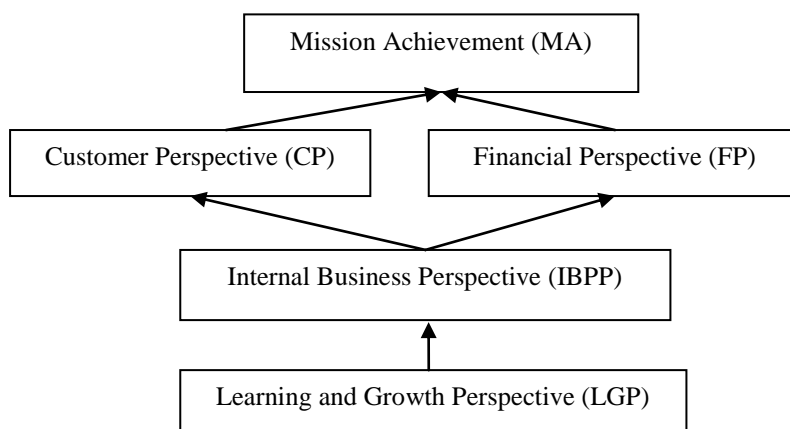
2.4 Application of the Balanced Scorecard Framework in Higher Education

While implementation of the BSC cannot guarantee a formula for accurate decision making, it does provide higher education with "an integrated perspective on goals, targets, and measures of progress" (Stewart and Carpenter-Hubin 2000-2001). Some IHEs have taken the step of measuring performance indicators through the implementation of a BSC approach. These IHEs have identified the important characteristics of the scorecard: inclusion of a strategic plan; establishment of lag and lead performance indicators; improvement of efficiency, effectiveness, and overall quality; and inclusion of faculty and staff in the process (Rice and Taylor 2003). Successful implementation of the BSC framework in higher education relies on the progression through various steps as part of the process. The first step is clear delineation of the mission and vision, including translating this vision into specific strategies with a set of performance measures. The final step involves creating a feedback mechanism whereby the IHE can evaluate its overall performance using updated indicators and revise its strategies when needed (Stewart and Carpenter-Hubin 2000-2001).

3. Methodology and Model

Considering the relationship between research variables, the following theoretical framework was proposed for the purpose of the study.

Conceptual Framework



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3.1 Hypothesis Development

Purpose of this study is to examine the hypothesized relationship between one independent variable; LGP and four dependent variables; FP, CP, IBPP and MA. The develop model shows this relationship.

Hypothesis One - *The LGP has a positive influence on the IBPP.*

Hypothesis Two - *The IBPP has a positive influence on the FP.*

Hypothesis Three - *The IBPP has a positive influence on the CP.*

Hypothesis Four - *The CP has a positive influence on the MA.*

Hypothesis Five - *The FP has a positive influence on the MA.*

In addition to examine the perception level of the management staff the balanced scorecard. Thus the last hypothesis define as,

Hypothesis Six - *Employees at universities are knowledgeable of the BSC and its direction and purpose of the organization.*

3.2 Questionnaire

The questionnaire was designed to achieve the research objectives as well as to obtain additional information. It also contains information distribution of the questionnaire (including 91 questions under each variables and study the level of perception about the BSC) to the designed target groups. Forty Six (46) questionnaires distributed to the Head of the departments of the management faculties in each university. Most questions in this research were closed ended, based on a Likert Scale.

4. Findings

4.1 Sample Composition and Response Rate

Fourty six (46) departments selected for this and response thirty nine (39) departments from each universities. The overall response rate is 84.78%. Most of the universities response rate reached 100% except University of Colombo, University of Sri Jayewardenepura and Sabaragamuwa University of Sri Lanka. The University of Sri Jayewardenepura has recorded 63.64 %. (Response 07 departments out of 11)

4.2 Reliability

An exploratory study to test the reliability of the instrument of the proposed BSC framework in Sri Lankan Universities was conducted. This study was based on 39 departments in Management Faculties in each University out of 46 departments. The internal consistency was measured using the Cronbach's alpha coefficient to test separately all the items of each criterion. Table 4.1 displays the result that consists of the reliability values. The alpha values range from 0.713 to 0.909 indicating that all scales are acceptable. All factors reflect values greater than 0.7 which can be suggested as being adequate for testing the reliability of the criteria.

The highest reliability ration showed CP (0.894). The MA (0.723) was the lowest reliability. As a dimension wise job satisfaction recorded the highest (0.909) and

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lowest ratios (0.713) in quality of service to the community, quality of planning and revenue focus.

Table 4.1: Internal reliability of the Performance Indicators in Sri Lankan Universities

Performance Indicators Criterion	Reliability	Performance Indicators Criterion	Reliability
Customer Perspective	0.894	Financial Perspectives	0.808
Quality of Graduate	0.732	Cost Focus	0.729
Quality of Service to the community	0.713	Revenue Focus	0.713
Customer service	0.752	Training, Development and welfare activities Focus	0.873
Job satisfaction	0.909	Survive Focus	0.715
Internal Business Process Perspective	0.841	Mission Achievement	0.723
Quality of Teaching, Learning process and other facilities	0.823	Mission and Objectives	0.723
Management Information	0.836		
Learning and Growth Perspectives	0.879		
Quality Assurance	0.727		
Quality of Planning	0.713		
Quality of Academic Staff Development	0.840		
Quality of Management staff Development	0.725		

4.3 Univariate Analysis

Under this section, evaluate mean and standard deviation of various groupings of a single dependent and independent variables. The CP, IBPP, LGP, FP and MA were investigated interactions between factors as well as the effects of individual factors. In addition to by using univariate model evaluate each variable in the Universities performance.

4.3.1 Customer Perspective (CP)

A focus on the CP requires feed back from current student and pass out graduates related to university strategic evaluation. The overall mean and standard deviation calculated by using SPSS statistics for eleven universities were recorded 3.65 and 0.52 respectively. According to the each dimension, the highest mean value represented by the quality of graduate, it was 3.97 and the lowest value in CP represented that the Quality of Service to the community it was 3.13. The student class achievements, degree completion rate, graduate employability and levels of the

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professional course have been included questions in to quality of the graduate dimension under CP.

4.3.2 Internal Business process Perspective (IBPP)

This perspective was used to identify critical process in achieving objectives. The mean and standard deviation from the analysis were representing the 3.61 and 0.42 respectively. According to the each dimension, the highest mean value represented by the Management Information, the mean value recorded 3.97. The information requirements for the job effectiveness were included in this perspective.

4.3.3 Learning and Growth Perspective (LGP)

The LGP of the BSC is important aspect relate each others. Also it measures the importance of the LGP to entire university performance. The overall mean and standard deviation from the analysis were representing the 3.71 and 0.55 respectively. According to the each dimension, the highest mean value represented by the quality of planning the mean value was 3.92 and the lowest value in the quality of management staff development it was 3.44. The new courses incorporated, new plans/ projects, academic activities and making provisions on unavoidable circumstances are included in Quality of Planning dimension.

4.3.4 Financial Perspective (FP)

The FP of the BSC is important aspect considering the past. Traditionally it was suitable performance measurements which were applied profit as well as non profit organization. The overall mean and standard deviation from the analysis were representing the 2.55 and 0.51 respectively. According to the each dimension, the highest mean value represented by the Survive focus the mean value is 3.06 and the lowest value in FP represent that the Cost Focus it was 2.45. The student enrollment and funding per students were included in Survive Focus dimension.

4.3.5 Mission Achievement (MA)

This perspective was used to identify critical process in achieving objectives. The calculated Mean values and S.D are given bellow. The head of the departments in eleven (11) universities to consider how their departments were perceived by the mission, objectives and strategies. Also it measures the importance of the MA to entire university performance.

4.4 Hypothesis Testing

The Correlations procedure computes Pearson's correlation coefficient. Correlations measure how variables or rank orders were related. Pearson's correlation coefficient measure of linear association with two variables can be perfectly related. Under this section, by using the Pearson's correlation coefficient evaluated linear association with two variables according to designed conceptual framework, in addition to relationships between dimensions included each variable.

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4.4.1 Relationship between LGP and IBPP

As per first hypothesis in this study, the coefficient between LGP and the IBPP is 0.642 (p value <0.01) which means that the LGP has a significant positive influence on the IBPP (table 4.3). Therefore, hypothesis H1 is supported. According to the table 4.2 the highest relationship recorded between Quality of Planning and Quality of Teaching, Learning and Facilities (r = 0.527, p value <0.01). Also there were negative relationship between Quality of Planning and Management Information (r = -0.003, p value <0.01). In addition to table 4.2 represented that the all other relationship recorded r = 0.472, r = 0.369, r = 0.494, r = 0.470, r = 0.304 and r = 0.336 in positively correlated.

Table 4.2: Relationship between key dimensions of LGP and IBPP.

Dimensions	Quality of Teaching, Learning and Facilities	Management Information
Quality Assurance	0.472(**)	0.369(*)
Quality of Planning	0.527(**)	-0.003
Quality of Academic Staff Development	0.494(**)	0.470(**)
Quality of Management Staff and Teamwork	0.304	0.336(*)

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

4.4.2 Relationship between IBPP and FP

The second hypothesis in this study the coefficient between IBPP and the FP is r = 0.570 (p value <0.01) which means that the IBPP has a positive influence on the FP (table 4.3). Therefore, hypothesis H2 is supported. The highest relationship recorded between management information and Training development and welfare activities (r = 0.486, p value <0.01). The lowest relationship recorded the management information and revenue focus. (r = 0.017, p value <0.01). In addition to that the all other relationship recorded r = 0.433, r = 0.341, r = 0.274, r = 0.291, r = 0.307 and r = 0.182 in positive manner.

4.4.3 Relationship between CP and IBPP

Third hypothesis in this study, the coefficient between IBPP and the CP is r = 0.643 (p value <0.01) which means that the IBPP has a significant positive influence on the CP (table 4.3). Therefore, hypothesis H3 is supported. The highest relationship recorded between Quality of Teaching, Learning and other Facilities and Customer Service (r = 0.628, p value <0.01). Also there were lowest relationship between Management Information and Quality of Graduate (r = 0.236, p value <0.01). Other relationships recorded as r = 0.251, r = 0.252, r = 0.490, r = 0.417 and r = 0.330.

4.4.4 Relationship between CP and MA

Focusing on the fourth hypothesis in this study, coefficient between CP and the MA is r = 0.573 (p value <0.01) which means that the CP has a positive influence on the MA

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(table 4.3). Therefore, hypothesis H4 is supported. The highest relationship recorded between Customer Service and MA ($r = 0.565$, p value <0.01). Also there were lowest relationship between Quality Graduate and MA ($r = 0.263$, p value <0.01). Other relationship mention in table 4.26 were $r = 0.274$ and $r = 0.481$,

4.4.5 Relationship between FP and MA

Focusing on the fifth hypothesis in this research, the coefficient between FP and the MA is $r = 0.222$ (p value <0.01) which means that the FP has a positive influence on the MA (table 4.3). Therefore, hypothesis H5 is supported. The highest relationship recorded between Revenue Focus and MA ($r = 0.312$, p value <0.01). Also there were negative relationship between Survive Focus and Mission ($r = -0.096$, p value <0.01) and cost focus with MA ($r = -0.002$, p value <0.01). Others are in positive manner.

Table 4.3: Summary of the Correlation with each perspective

Total Sample (n = 39)	CP	IBPP	LGP	FP	MA
Customer perspective	1	0.643(**)	0.807(**)	0.430(**)	0.573(**)
Internal Business Process Perspective	0.643(**)	1	0.642(**)	0.570(**)	0.510(**)
Learning and Growth Perspective	0.807(**)	0.642(**)	1	0.613(**)	0.571(**)
Financial Perspective	0.430(**)	0.570(**)	0.613(**)	1	0.222
Mission Achievement	0.573(**)	0.510(**)	0.571(**)	0.222	1

** Correlation is significant at the 0.01 level (2-tailed).

4.5 Employees at management level in management faculties are knowledgeable of the BSC and its direction and purpose of the organization

After comparison of the knowledge of BSC modal from the management staff in the universities: 15.4% know it very well, 41.0% know only part of it, and 43.6% do not know it at all (nearly 85% have not perfect knowledge about this concept), so that we can reject the H6. In addition to need for awareness according to the BSC 88%, 85% do not satisfied the exiting performance measurement system and 50% suggested that they need new evaluation system.

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Tables 4.4: Employees at management level in management faculties are knowledgeable of the BSC and its direction and purpose of the organization

Topic	Questionnaire Results
Satisfaction with the existing performance measurement framework	Satisfied – 15.4% Neutral – 69.2% Unsatisfied – 15.4%
Need of new performance evaluation system	Urgent – 17.9% Neutral – 30.8% Not urgent – 51.3 %
Knowledge of the concept of the Balanced Scorecard	15.4% Know it very well 41.0% Know only part of it. 43.6% Do not know what it is
Need awareness programme of the concept of the Balanced Scorecard	69.2% agree 17.9% neither agree nor disagree 12.8% disagree

5. Summary and Conclusions

5.1 Summary

In this research described the methodology is implemented for the data of eleven (11) Sri Lankan universities. As per table 4.5, final results of the universities assessment by the overall mean score compared with each perspective in each university. According to the table given below, the highest average score for measurement of universities was recorded under the LGP (3.7115) and recorded lowest average under the FP (2.5470). The LGP measured the university quality assurance, quality of planning, quality of academic staff development and management staff development and teamwork. As per the overall judgment, the universities prioritize based, research and innovative activities conduct to the society.

If we consider the profit making organization the highest priority should goes to the Financial Perspective. As per the table given bellow we can prove the overall judgment as mention early.

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Table 4.5: Overall mean value in Customer, Financial, Internal Business Process and LGP in each university.

Sri Lankan Universities	Customer Perspective (Mean)	Internal Business Process Perspective (Mean)	Learning and Growth Perspective (Mean)	Financial Perspective (Mean)
University of Colombo	3.7955	3.6250	3.9000	2.6333
University of Sri Jayawardenepura	3.8766	3.8187	3.7643	2.4857
University of Kelaniya	3.4659	3.6635	3.9750	2.7500
University of Jaffna	4.4773	3.5962	4.6000	2.9000
Vavuniya Campus	4.4091	3.8077	4.4250	2.8333
University of Ruhuna	3.4091	3.3333	3.5833	2.4444
University of Eastern	3.5303	3.5769	3.3333	1.9778
University of South Eastern	3.4848	3.4487	3.2833	1.9778
University of Rajarata	3.2273	3.5288	3.5125	2.5500
University of Sabaragamuwa	3.3182	3.5897	3.6167	2.8222
University of Wayamba	3.5568	3.4904	3.3375	2.7667
<i>Total</i>	<i>3.6492</i>	<i>3.6055</i>	<i>3.7115</i>	<i>2.5470</i>

5.2 Conclusion

The framework proposed was based on an extensive review of the literature pertaining to BSC and performance evaluation in the management faculties in Sri Lankan universities. It indicates a strong reason to believe that the variables chosen for this study are appropriate. The study found that the management faculties in Sri Lankan Universities in strategic evaluation use performance indicators. The performance indicators are grouped into four core activities of the universities that are later called CP, IBPP, LGP and FP. The head of the departments believe that these indicators are used by their departments as well as overall faculty for performance evaluation and are key variables for the enhancement of the performance system of their universities. Most of the universities give priority to research and other academic related activities.

For application in the public universities, in order to improve the effectiveness of service delivery system for improved graduate employability rate, initiatives should be promoted to ensure that graduate gets jobs when they completed their studies in the public universities. The literature has highlighted that the most important goals for an institution of higher education are academic excellence, service excellence, managerial enrolment growth, strategic partnership, organizational development, and cost effectiveness and balance budget. The achieving particular goals each universities should identify their program and procedures are needed to develop to meet these requirements.

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Further recommendations based on the each perspective in BSC framework.

5.2.1 Customer Perspective

1. Academics should conduct regular surveys among stakeholders (Alumni, employers and students) to ensure that they provide relevant, quality instruction.
2. Develop community based extra activities.
3. Improve core workers services and commitments

5.2.2 Internal Business process Perspective

1. Develop students teaching, learning and other activities (including infrastructure facilities and teaching equipments)
2. Encourage to develop management information system

5.2.3 Learning and Growth Perspective

1. Encourage to develop academic and management staff development
2. In order to promote curriculum innovation, research and creativity to play a significant role in development

5.2.4 Financial Perspective

Develop self funded programme's, funds allocating to extra activities and staff development and emphasis important of increasing funding per students. Budget should allow staff members to attend conferences and other carrier development activities to keep them abreast of change in the world. Most of the respondents in questionnaires that budget were inadequate.

5.3 Limitations of the Study

1. All higher educational institutes (31) were not taken in to consideration. This study is limited to eleven (11) universities out of fifteen (15) universities and there management faculties. Therefore generalization of the finding may have a limited value. The other four universities were not selected due to the reasons of University of Moratuwa – No Management Faculty, University of the Visual and Performing Arts - No Management Faculty, Open University of Sri Lanka - No Management Faculty, University of Peradeniya - No Management Faculty and Uva Wellassa University – No pass out students (Miss Match with questioner)
2. Regarding the data collection, the numbers of questionnaires were not respondents (39 respondents out of 46 – 85%).The small sample size might cause a deviation in research assumptions; therefore it cannot represent the whole.

5.4 Further Research

This study is limited to eleven (11) universities out of fifteen (15) universities and there management faculties. In the hierarchy on university, academic as well as nonacademic activities were occurred. These were covered all university activities, in future there will be a approach to conducted research on each faculty level as well as corporate level to evaluate the performance in university.

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