Analyze the Effectiveness of Teachers' Performance at International Schools in Sri Lanka Using Structural Equation Model

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Abstract-**Performance management plays a major role in human resource management and it is widely used method to evaluate the employees in an effective manner. Performance management was measured through different variables. In this study measurement of performance, training and development, setting standards and organizational culture are used to evaluate the teachers' performances.**

When considering the private education system in Sri Lanka, most of the Principals, Vice Principals and Sectional Heads in the School Network are retired principals or vice principals from the public sector but they are not specialized in the discipline of Human Resource Management.

Most of the international schools do not conduct quality performance appraisals and training (Cambridge and Edexcel training). This will not be enough to identify the performance of the teachers. Further, Setting performance standard is very important when considering the performance management of the teachers. In addition, Organizational culture plays a major role when considering the performance of the teachers.

*Keywords***: Performance management, performance evaluation, Training, setting standard, organizational culture**

I. BACKGROUND OF THE ISSUE

Performance Management is a very important functional area of the duties and responsibilities of an executive. At the same time performance appraisal, training and setting standard is a vital requirement for a developing organization. Performance Appraisal is defined as the systematic process of identifying, measuring, influencing and developing job performance of the employees in the organization in relation to the set norms and standards for a particular period of time in order to achieve various purposes (Opatha, 2009). When considering the private education system in Sri Lanka, most of the Principals, Vice Principals and Sectional Heads in the School Network are retired principals or vice principals from the public sector. Their qualifications range from first degree, Post Graduate Diploma in Education (PGDE) and Masters of Education. Some Principals were in Sri Lanka Education Service (SLES grade III) and specialized in the discipline of education, but not specialized in the discipline of Human Resource Management. However, they try to conduct school administration systems efficiently and effectively, even though they do not have adequate experience in performance management and performance appraisal. Sometimes this may affect the school negatively. At the same time teachers also often have only a little awareness of performance appraisal and its benefits.

Most of the international schools do performance appraisals and training (Cambridge and Edexcel training) only once a year. This will not be enough to identify the performance of the teachers. One performance appraisal will not give proper idea of the employees and the decision taken on that will affect the good employees and it will affect the outcome of the organization too. In addition, they rarely conduct training programs to improve the teachers' performance. Normally examination body conducts training once a year to give an idea about syllabus changes but school conducts training programs very rarely. Further, setting standard should be done properly otherwise it will not improve performance management system of the school.

II. OBJECTIVES OF THE STUDY

The main objective of this study is to critically evaluate the effectiveness of the existing performance management systems of international schools in Sri Lanka.

This study intends to fulfill the following specific objectives.

1. To explore the existing performance management systems of the international schools in Sri Lanka.
2. To understand the user perception on the level of effectiveness of the performance management systems of international schools in Sri Lanka.
3. To provide the suggestions to improve the existing performance management system and recommend suitable system.

III. SCOPE OF THE STUDY

This research is carried out to study on the academics' performance management in the international schools in Sri Lanka. In this study only the teaching staff's performance management is considered. Further, research is carried out from 40 schools located in the

Western province since there are only a very few international schools in other provinces in Sri Lanka.
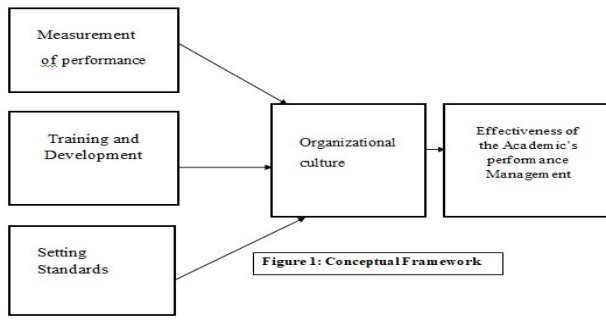
IV. CONCEPTUALIZATION

Figure 1: Conceptual Framework

V. RESEARCH METHODOLOGY

This research is an exploratory research. Exploratory research might involve a literature search or conducting focus group interviews. The exploration of new phenomena in this way may help the researcher's need for better understanding, may test the feasibility of a more extensive

Study, or determine the best methods to be used in a subsequent study.

This research was done as a cross sectional research. Cross sectional research means

One-shot or cross-sectional studies are those in which data is gathered once, during a period of days, weeks or months. Many cross-sectional studies are exploratory or descriptive in purpose. They are designed to look at how things are now, without any sense of whether there is a history or trend at work. The interviews were held to achieve the objectives of the study. The unit of analysis was individual and time horizon was 27[th]January of 2017 to2[nd] of February 2018.

VI. POPULATION AND SAMPLE

Population is the total of all the individual schools that have certain characteristics and are of interest to a researcher. This research is limited to the 40 international schools.

They are International schools in Sri Lanka. The purposive sampling technique was used to select the sample. A purposive sample, also commonly called a judgmental sample, is one that is selected based on the knowledge of a population and the purpose of the study. Total number of registered international schools in Sri Lanka is nearly 84 and 40 International

Schools are selected as the sample which represents the 50%.

Table 1: Sample of the study

Organization Type	Population	Sample Size
International Schools	84	40

VII. SAMPLE OF THE STUDY

20 teachers were selected from each school and given the questionnaire. 800 teachers were given the questionnaire and collected the feedback.

VIII. DATA COLLECTION

Primary Data Collection Method

- Questionnaire with structured questions

Questionnaires a List of a research or survey questions asked to respondents, and designed to extract Specific information. Purposive sampling method was used for the primary data collection as the 40 international Schools located in Sri Lanka was selected.

Very often questionnaire was filed while discussing with them. Then it was easy to triangulate information provided by them.

Table 1.1: Questions related to variables

Questions	Evaluated Variables
Question 1-12	Measurement Of Performance
Question 13-27	Training and development
Question 28-32	Setting Standard
Question 33-40	Organizational Culture
Question 41-45	Effectiveness of the academics' performance

Secondary Data Collection Method

Secondary information is collected through the documents available in the schools such as: Number of teachers by their qualification, number of teachers by their age, gender composition of the academic staff, their qualifications, the turnover and the existing performance appraisal form etc.

IX. DATA ANALYSIS

Researcher has done qualitative analysis. Principals of the 40 schools were interviewed based on the structured questions mentioned in the appendix. These (45) questions are based on the main five variables.

Measurement Development

Measurement development explores the reliability scores for the construct measure followed by confirmatory factor analysis (CFA). The reliability tests examine the internal consistency of the item in a measure to determine whether each observed variable should be retained or any exclusion should be done. This process follows the development of an individual measurement model for each construct measure to CFA and the overall measurement model to check the dimensionality of the construct and validity of the measures.

Indices of model parsimony

Parsimony fit measure as a measure is developed to give information with regard to the best model among a set of competing models having concerned its fit relative to the complexity. It is noted that when the model is simpler the parsimony fit for the model is more. The parsimony goodness-

of-fit index (PGFI) and parsimony normed fit index (PNFI) are some of the examples for the parsimony fit measures.

The present research employed the CMIN\DF, RMSEA, GFI, IFI, TLI and CFI. The summary of the measure of a model's fit indices (measures) reported in this present study are presented in the Table

Table 1.2: Measure of a model's fit indices

Level of Model Fit	Overall Model Fit					
	Model Fit			Model Comparison		
Fit Measures	CMIN\DF	RMSEA	GFI	IFI	TLI	CFI
Recommended for further Analysis if	> 3	> 0.08	< 0.9	< 0.9	< 0.9	< 0.9
Acceptable Scale for good as well as adequate fit	≤ 3	≤ 0.06	≥ 0.9	≥ 0.9	≥ 0.9	≥ 0.9

Effectiveness of the Academics' Performance: Initial Findings

Researcher developed 5 questions to measure the "Effectiveness of the Academics' Performance". Standardize estimates of initial Effectiveness of the Academics' Performance is follows;
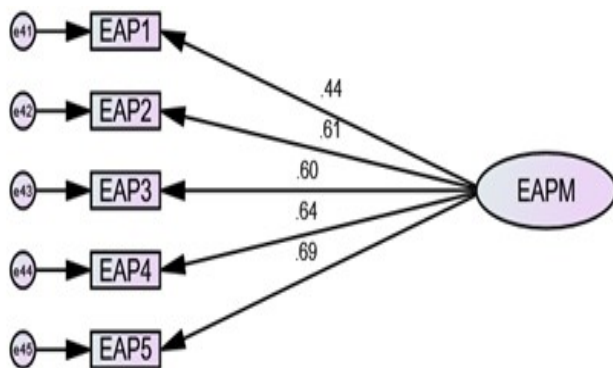

Fig.2: Standardize estimates of initial effectiveness of academics' performance

Initial inspection of the inter-item correlation matrix revealed that all items of Effectiveness of the Academics' Performance were highly correlated (see above figure). Effectiveness of the Academics' Performance is measured using 5 items. Initial inspection of the inter-item correlation matrix revealed that 5 items of Effectiveness of the Academics' Performance were highly correlated but fit indices in initial model were not at acceptable level, and therefore refined the measurement model.

Table 1.3: Fit indices in model if effectiveness of teachers' performance

	Achieved Fit Indices					
Fit Measures	CMIN\DF	RMSEA	GFI	IFI	TLI	CFI
Initial	24.357	0.171	0.938	0.863	0.724	0.862
Final	0.880	0.000	0.998	1.001	1.002	1.000

Composite Construct Reliability = 0.722

According to the results given in the Table, the composite reliability of Effectiveness of the Academics' Performance was acceptable. This indicated the 5 items are reliable and valid for this variable.

Structural Equation Model (SEM) Testing and Hypotheses Testing

With the use of SEM, this hypothesized model can be statistically tested in a simultaneous analysis of the entire system of variables to determine the extent to which it is consistent with the data. If the goodness-of-fit is adequate, it means that the relationships among variables in the hypothesized model are supported by the data.

The individual measurement model fit was tested for all the dependent and independent variables in the proposed and competing models. In this process 13 items were removed from the individual models to achieve a better fit to the data. The fit statistics justify the deletion of 13 items from different construct measures. Modifications in the individual measurement model also substantially improve the other fit indices in the overall measurement model.

In this Section, a structural equation model test was conducted to test the adequacy of the structural Equation model. It examined all relationships in structural equation model. Using reliable and validated 32 measurement items for five variables measures, the structural equation model is tested and the model fit is improved.
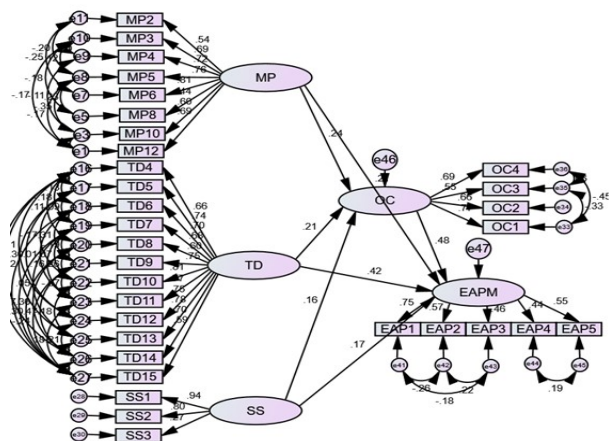

Fig 3: Initial Structural Equation Model

Initially structural Equation model (Figure 4) was examined. But Fit indices in initial model were not at acceptable level, and therefore refined the measurement model and it is stature at this point.

Table1.4: Achieved Fit Indices

Achieved Fit Indices							
Fit Measures	χ^2 (df)	CMIN\DF	RMSEA	GFI	IFI	TLI	CFI
Initial	4114.866 (405)	10.160	0.107	0.778	0.768	0.714	0.766
Final	4093.058 (403)	10.156	0.107	0.779	0.769	0.714	0.768

These reduce χ^2 value 4114.866 (df 405, $p < 0.05$) to 4093.058 (403, $p < 0.05$) along with improving other fit indices in the final full model. The application suggested modifications in the individual measurement model and also substantially improved the other fit indices in the full model.

Further, the measurement indices with expected changes in statistics are affiliated to the error covariance. It increases the level of fit with the total amount of change in an acceptable way.

Modified final structural equation model fit indicates are acceptable. The modified structural equation model (Figure 4) was used to make a final decision to report the hypothesized paths.
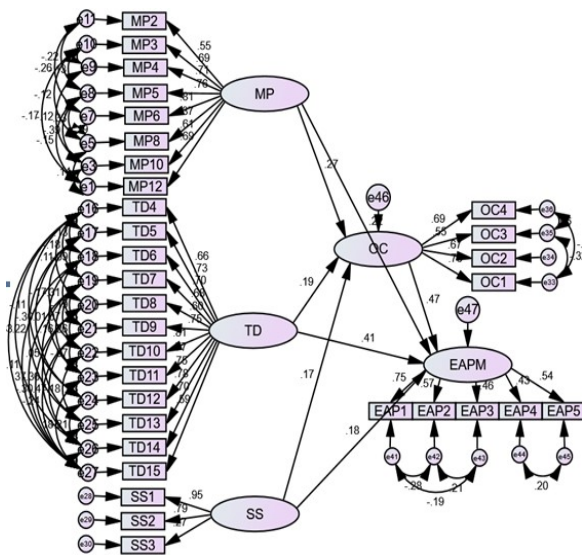

Figure 4: Modified Final Structural Equation Model

Table 1.5: Hypotheses

Hypotheses	Effect	P Value	Decision
OC >> EAPM	0.475	0.000	Supported
MP >> OC	0.269	0.000	Supported
MP >> EAPM	0.220	0.000	Supported
MP >> OC >> EAPM	0.128	0.001	Supported
TD >> OC	0.192	0.000	Supported
TD >> EAPM	0.413	0.000	Supported
TD >> OC >> EAPM	0.091	0.001	Supported
SS >> OC	0.168	0.000	Supported
SS >> EAPM	0.179	0.000	Supported
SS >> OC >> EAPM	0.080	0.014	Supported

X. FINDINGS

Table 1.6: Questions related to variables

Questions	Variables	Outcome
Question 1-15	Measurement of performance	Performance evaluation is done only once a year Only classroom observation is used for performance evaluation PE method should be changed Proper evaluation form should be used
Question 16-31	Training and development	Most of the schools do not conduct training program to improve teaching methodology etc.. Teachers participate only training programs conducted by exam boards only
Question 32-38	Setting Standard	Scheme of work is important for teaching. Sometimes covering syllabus is not done before the public exams Some teachers are not bothered to gain more qualifications and improve their performance.
Question 39-45	Organizational Culture	Most of the teachers give their Co-operation to make the school event successful. Most schools organize annual trips which improves the motivation and team building. There are cases that teachers wear inappropriate dress codes for the schools. Some schools discipline should be improved. There are situations that teachers use harsh words to students which are prohibited.

XI. FUTURE RESEARCH

This research further can be expanded by doing the study on the effectiveness of the academics' performance management at international schools located in south Asian region .In

addition, this research can be applied to the private universities in Sri Lanka and further expanded and do the research in south Asian region.

In addition, this research can be applied to other service sectors such as banking, insurance, Media, Hotels etc... So they can do the research "study on the effectiveness of employees' performance management at other service sectors."Further this research can be expanded to the production sector.

XII. CONCLUSION

This study was done to check the effectiveness of the teachers' Performance Management system at international schools in Sri Lanka. This research is limited to the 40 international schools which are located in Sri Lanka. Quantitative analysis done with 800 teachers. Further, It is revealed from structural equation model that there is a positive impact on effectiveness of the teachers' performance management from other (4) variables in this study.

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