

ASSOCIATING BSC MEASURES TO SIZE, MARKET FACTORS AND ORGANIZATIONAL PERFORMANCE

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Abstract

In this research the relationship between organization size, market position, balanced scorecard (BSC) usage and organizational performance is examined. Using financial and non-financial measures BSC evaluates the performance of four perspectives of customers, financial, learning and growth and internal business processes. 100 companies which are operated in the finance sector in Sri Lanka were selected for the research. Organization size, market position, BSC usage were considered as independent variables and the dependent variable was organizational performance. The research hypotheses formulated and tested was whether the BSC usage positively associate with larger organization size and businesses with a strong market position. Descriptive statistics were used to examine the importance of identifying diversifying factors, and correlation regression and ANOVA analyses were performed to identify relationships between independent and the dependent variables. Finally, it is concluded that empirical evidence on relationship between BSC reliance on organizational performance and organization size and market position could be confirmed as per the results of this research.

Key words: Balanced Score Card, Performance Measurement, Organizational Performance

1. Introduction

Over the past few years, many organizations have implemented various kinds of traditional management tools (such as Benchmarking, Total quality management etc.) to measure the performance of the business organizations. The disadvantages of the above mentioned management tools and methods rapidly increased the need for a new performance measurement tool.

Kaplan and Norton in 1992 (published in Harvard Business review article 1992) states that, Balance scorecard is considered as a performance metric used in strategic management to identify and improve various internal functions of a business and the external outcome. It is used

as a measure and method of obtaining feedbacks. This is a process of identifying key outcomes and drivers that should help individual and division to become more aware of how their work fits in with the organization strategy. Giving individual and division regular report of their performance against key measures will help them monitor their own performance and identify areas for improvement. Under BSC, both financial and non-financial information is presented in the areas of profitability, internal efficiency, customers' responses, growth and innovations.

Under rapidly changing environment, traditional performance measurement methods could not be considered as a sound Management Accounting practice since it considers financial performance only. Other than that they concentrate on too few variables, do not ensure success and do not link to the long term organizational strategy. Therefore, these methods cause huge challenges & disadvantages for the companies in Sri Lankan context. Even though there were many difficulties in traditional performance measurement method, there are some downsides in implementation BSC method due to different myopia within the organization in Sri Lankan companies.

Hoque and James (2000) provided the knowledge about relationship between organization size, product lifecycle stage, market position, BSC usage and organizational performance based on a survey of 66 Australian manufacturing companies. This study attempt to contribute that limited body of knowledge replicating the study of *Linking Balanced Scorecard Measures to Size and Market Factors: Impact on Organizational Performance* by Zahirul Hoque and Wendy James (2000) to the Sri Lankan context.

The objective of this study is to search for relationship between organization size, market position, BSC usage and organizational performance in financial sector organizations including finance companies, banks and insurance companies in Sri Lanka.

The next section of this paper traces the various scholars' findings on BSC and through these empirical findings, research hypotheses were developed. The research method applied was described in the methodology. The other sections present the analytical results and finally the discussion, conclusion and limitations. To provide the rational for this study a self-developed questionnaire was used as the primary source of data.

1.1 Research Questions and Research Objectives

The research question is "Whether there is a relationship between organization size, market position, BSC usage and organizational performance?" This research question was divided in to following sub questions:

1. Does the BSC usage positively associate with: (a) larger organization size and (b) businesses with a strong market position?
2. Is the effect of BSC reliance on organizational performance more beneficial for large organizations than for small organizations/
3. Is the effect of BSC reliance on organizational performance more beneficial for organizations with a strong market position than for organizations with a weak market position?

The overall objective of this research was to search for a relationship between BSC usage and organization size and strength of market position. It also looked for a contingent relationship between organizational performance (the outcome variable) and the match between BSC usage and the two contextual variables mentioned above.

Generally, this research was carried out to explore the relationship between organization size, market position, BSC usage and organizational performance. Based on the research question this study addresses the following research objectives.

1. To see whether the balanced scorecard usage is positively associated with:
 - (a) Larger organization size;
 - (b) Businesses with a strong market position.
2. To identify the effect of BSC reliance on organizational performance will be more beneficial for large organizations than for small organizations.
3. To examine the effect of BSC reliance on organizational performance will be more beneficial for organizations with a strong market position than for organizations with a weak market position

1.2 Significance of the Study

The knowledge about the relationship between BSC and the organizational performance is an essential intangible resource to management of an organization to make better allocation and prioritizing decisions, enabling them to identify exactly which initiatives are necessary to achieve organizational goals.

It has been observed after review of literature that many researches have been conducted in areas of BSC adoption and diffusion, conceptual evolution of BSC, implementation and use of BSC and influence to performance of BSC etc. However, it was difficult to find empirical researches related to the association of BSC measures to size, market factors and overall impact on organizational performance in Sri Lankan context. Most of the companies do not apply BSC because the management of those companies does not have a sound awareness about the impact of BSC usage on the performance of the company. When considering Sri Lankan context, studying about the relationship between BSC and organizational performance will be more beneficially due to the result of this study would be fulfil the sufficient knowledge requirements of decision makers of many companies in Sri Lanka. Basically, this study provides most

important evidence about the relationship between organization size, market position, BSC usage and organizational performance.

Mainly this study provides the information to the following business organizations.

- Large scale business organizations
- Small scale business organizations
- Business organization with strong market position
- Business organizations with weak market position

The findings of this study will help the managements of the above mentioned companies for their decision making regarding the usage of the BSC. The research describes how BSC affects the organizational performance combining with the scale of the organization and market position of the organization. Managers could identify what is the scale of their business organization based on the criteria which are to be used in this research. As well as they can define the market position that they operated considering our measurement. If the management has the broad understanding about the position of the business organization and the relationship between the scale, market position and the balance scorecard and the organizational performance, they absolutely go for the precise decision regarding the usage of the BSC. This study can eliminate the improper opinions about BSC and increase the BSC usage in many industries in Sri Lanka.

2. Literature Review

When considering the adoption of balanced scorecard practices in Sri Lanka, study about the relationship between BSC measures to size, market factors and its overall impact on organizational performance of the companies in finance industry in Sri Lanka, cannot be neglected. In order to identify this relationship, a review of relevant literature is very important.

2.1 BSC

The BSC is a strategic performance measurement model which is developed by Robert Kaplan and David Norton (1992). Kaplan and Norton (1992) defined balanced scorecard as a collection of measures that provides top managers a fast but comprehensive view of the business. According to Malmi (2001) the BSC could be described as a performance measurement system containing both financial and non-financial measures. The BSC approach enhancements traditional financial measures with non- financial measures focused on at three other perspectives as customers, internal business processes, and learning and growth (Kaplan and Norton, 1992, 1996). According to Johnson and Kaplan (1987), performance measurement based on traditional management accounting system is no longer appropriate and less useful in today, due to the weaknesses of over-reliance on financial data, over emphasis is given on short term activities and no or less attention on intangible assets which creates value. In today's business environment more, focus is on managing intangible assets such as customer relationships, innovative products and services, high-quality operating processes which are non-financial in nature. According to Chan (2004), BSC goes beyond the traditional performance measurement tools since its does not refer only financial perspectives but also nonfinancial perspectives. It is also considered as a

strategy performance management tool since it provides useful insights to the mission and vision of the organization and it gives timely and relevant information. It can support to deliver facts on the chosen strategy more, manage feedback and learning process and determine the target figures. The BSC acts as a tool for organization to satisfy their stakeholders, like shareholders, customers or employees. The measures of the BSC span four perspectives: financial perspective, customer perspective, internal business processes perspective, and the organization's learning and innovation perspective.

Financial Perspective

The financial perspective is important for all shareholders and other investors of the organization. It answers to question: How does organization look to shareholders. This is a major quantitative benchmark which can be used to measure the performance of the organization. Other three perspectives translate their value additions into financial perspective. Ultimately, overall value creation can be measures through financial perspective. Examples of this perspective include financial ratios (ROI) and various cash flow measures.

Customer Perspective

Every organization exploits specific needs in the market. It can be done with target market consists of the customer groups. Customers look prices, quality of the products, services etc. This perspective answers the question: How should organization appear to their customers? Organizations always try to meet customer expectations which could be change at any time. Examples of this perspective include the amount of time spent on customer calls, number of customer complaints and customer survey data.

Internal Business Processes Perspective

This perspective answers for: What must excel at to satisfy organization's stakeholders? This is concerned about the activities and processes which actually add value to organization. Added value is basically expressed as the performance improvements as a result, optimal alignment between processes, activities and decision. Examples of this perspective are the length of time spent to an activity and the number of rework required.

Learning and growth perspective

This perspective is able to answer the question: How can organization sustain their ability to achieve their chosen strategy? Today business organizations have to operate within highly dynamic environment. So if organization wants to survive in the industry they have to have ability to face to the continuous changes of the environment. Learning and growth ability and innovative abilities are required to indicate whether an organization has capabilities to survive in the dynamic business environment. Examples of this perspective include the amount of revenue that comes from new ideas and length of time spent to introduce a new product or service to market.

2.2 Organizational size

Organizational size might be used as a structural property or a contextual variable and it can be measured in several ways by using floor space, sales volume, net assets, etc. Measuring performance is a major part of any organization. It raises a question whether the organization size impact on organizational performance. Contingency theories of organizations by Burns and Stalker (1961), Lawrence and Lorsch (1967), and Woodward (1965) claims that organizational size may be a criterion that effect on designing, formulating and implementing a management process in an organization. Ezzamel (1990), and Libby and Waterhouse (1996) advocate that with the expansion of the organizational size management control processes have a tendency to become more specified and erudite. Further, it indicated that competitive environment, a larger size and greater organizational capacity to learn are associated with the Management Accounting systems and there is a significant positive relationship with organizational capacity to learn and change in management accounting and control systems. Malina and Selto (2001) in their study of a large manufacturing organization identified that there is an indirect relationship between BSC's management control function and improved performance may lead to enhance organizational efficiency and profitability.

2.3 Market position

Generally market position refers to the customers' perception for a particular brand or a product relative to competitors' brands and products. Consequently, it is a ranking of product, company or brand in terms of its sales volume, turnover etc. compared to competitors. Most of the companies evaluate their market position to make strategic marketing decisions such as which customers to serve, to find the place in competitive landscape etc. In order to do so it is important to determine and measure the current market position of the company. Generally market position is determined by computing market share as a percentage to total market revenue since investors consider it as a possible sign of competitiveness of a company. Consequently it could be taken as a measure of organization performance. When looking for empirical findings related to market position as a performance measure, Merchant (1984) claims that the firms which are in a weak market position, demand more for adaptability and creativity than internal communication, when the firms which are having strong market position demand more for internal communication. It has been identified that there is no significant relationship with budgeting and product life cycle, strength of market position.

2.4 Past studies on BSC measures and its impacts on size, market position and organizational performance

When considering the relationships between BSC performance measures and organizational performance and market related factors, several studies and surveys could be found out and practitioners have represented their opinions based on the results. Bryant (2004) argued that the firms which are having a performance measurement system that contains both financial and non-financial measures are getting more benefits than the firms that rely solely on financial measures. Braam and Nijssen (2004) emphasized that only implementation of BSC is not enough to

improve the performance. In order to obtain quality information and to improve organizational performance it required to have positive influence of organizational strategies to BSC. Sim and Koh (2001) indicated that innovative technique, new product development time and customer performance measures are related to lower manufacturing costs, higher sales, and greater market share it can be used as a tool for long term value creation process in organization.

Banker et al. (2000) examined the relationship between improved financial performance and Non-Financial Measurements (NFM) in a Hotel chain where a new incentive programme included an emphasis on customer satisfaction, performance measures and indicated that there is a positive relationship between customer satisfaction measures and future accounting performance. Customer satisfaction is a single measure but it directly associates with the impacts on financial performance. By including non-financial measures into an incentive plan, it improved both financial and non-financial performance. Ittner et al. (2003) indicated that the measurement satisfaction has a positive relationship with greater overall measurement diversity and with greater non-financial measurement but no association with economic performance measures. He found a negative relationship between BSC usage and financial performance (ROA) in a study of financial services industry and indicated that while 20% of the respondents reporting using the BSC, over 75% of these firms reported not relying on business models that causally link performance drivers to performance outcomes. It stated that there is little evidence that ROA and sales growth have a positive association with strategic performance measures. Nelson Waweru and Enrico Uliana (2008) on their study on Changes in Management Accounting stated that, change in management accounting systems have a positive relationship with larger size, decentralized structure, high opportunities to learn and high attention on strategies.

Davis and Albright (2004) found in their study, the bank branches which implemented BSC outperformed and provided the evidence for the ability of BSC to improve financial performance of an organization. Hoque and James (2000) surveyed Australian manufacturing firms in order to identify the relationship between the usage of typical BSC measures and superior performance. They have identified that there is a significant relationship between organizational size and BSC usage. Consequently, the results indicated that greater BSC usage is associated with increased organizational performance, but this relationship does not significantly depend on organizational size, product life cycle, or market position. Jusoh, Ibrahim and Zainuddin (2008) attest this opinion based on the results of his study of Malayasian manufacturing companies which indicated that firm performance is positively associated with the overall BSC measures usage and there was no significant effect of the usage of financial and customer measures the usage of financial and customer measures although they heavily focus on financial measures rather than non-financial measures. Further it argued that the use of BSC measures in the form of internal business process and innovation and learning measures demonstrated to have a significant influence on performance.

2.5 Sri Lankan studies on BSC

In Sri Lankan context, a study has been carried out in order to identify the gap between theory and practices of management accounting in public quoted companies in Sri Lanka by Fonseka, Manawaduge and Senaratne (2005), indicated that there is a considerable gap exists between MA theory and MA practice in businesses in Sri Lanka. Furthermore, it can be identified that the use of BSC analysis for formulating business strategy is in a lower level of the selected organizations. Consequently, BSC has a low usage in selected sample of quoted companies in Sri Lanka. Weerasooriya (2013) and Senaratha and Patabendige (2014) identified in his study of NGO that organizational performance is positively related with strategic planning, mission achievement, customer processes, internal business processes, financial processes, volunteers' development and employee learning and growth by evaluating the use of the BSC in the institution of higher education in Sri Lanka. According to the study, 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 university should identify their program and procedures are needed to develop to meet the performance indicators. Velnampy and Nimalathasan (2007) have found in their study that the total perspectives have a significant influence to the organizational performance and they are positively correlated with organizational performance. Specially learning growth and financial perspectives are significantly contributing organizational performance in private banks and learning growth perspective in state banks.

Various studies have been carried out on this area, but a detailed study related to the association of BSC measures to size, market factors and overall impact on organizational performance, has not yet been conducted in Sri Lankan context, especially in quoted public companies.

3. Methodology

This research study investigated whether there is a relationship between the size of organizations and market position as related factors of BSC usage and explore how organizational performance is affected by different uses of BSC in different settings. For that purpose hundred companies (100) which are operated in the finance sector in Sri Lanka were selected.

3.1 Research approach

This study utilized a quantitative approach to investigate the relationship between the size of organizations and market position as related factors of BSC usage and organizational performance.

3.2 Population and sample

The population of the research study represented all authorized financial institutions registered under Central Bank of Sri Lanka including Licensed Commercial Banks, Licensed Finance Companies, Registered Finance Leasing Establishments, Authorized Primary Dealers,

Authorized Money Broking Companies and insurance companies which have been registered under Insurance Regulatory Commission of Sri Lanka (IRCSL). Sample of hundred companies were selected from the population representing all the categories for the purpose of the study.

Table 1: Sample of Study

Category	No. of Companies	As %
Institutions registered under Central Bank of Sri Lanka	86	86%
Companies registered under Insurance Regulatory Commission of Sri Lanka	14	14%
	100	100%

3.3 Data collection

The primary source of data collection is a standard questionnaire which was developed based on a survey of Australian manufacturing firms in order to identify the relationship between the usage of typical BSC measures and superior performance by Hoque and James (2000). The response rate of the study was 53%. In order to conduct our study we modified the above questionnaire as to comply with the requirements of the study since this study was carried out for the companies in finance companies in Sri Lankan context. After modifying and developing the questionnaire and a pilot test was carried out and the questionnaire was further developed based on the responses obtained.

Table 2: Variables and Measurement

Variable	Measurement
Organization Size	Annual Sales Turnover Total Assets Number of Employees
Market Position	Market (Revenue) Share
BSC Usage	Operating Income Sales Growth Return on Investment Number of New Services Introduced Time to Market New Services Survey of Customer Satisfaction Number of Customer Complaints

	Market Share On time Delivery of Services Customer Response Time Cycle time from Order to Delivery
Organizational Performance	Return on Investment Margin of Sales Capacity Utilization Customer Satisfaction Product Quality

3.4 Conceptual model

After analyzing literature, a conceptual diagram could be generated in order to derive hypotheses of the study which looks for a relationship between organizational size, market position, BSC Usage and organizational performance.

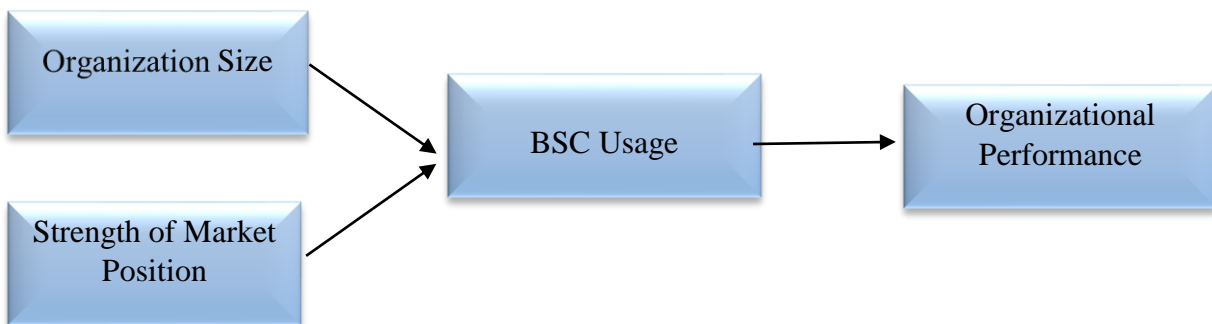


Figure 1

Source: Author constructed

3.5 Hypothesis

Following hypothesis were developed to get a highly useful answers to research questions and to realize the research objectives in their null forms.

1. BSC usage is positively associated with:
 - (a) Larger organization size;
 - (b) Businesses with a strong market position.
2. The effect of BSC reliance on organizational performance is more beneficial for large organizations than for small organizations.

3. The effect of BSC reliance on organizational performance is more beneficial for organizations with a strong market position than for organizations with a weak market position.

3.6 Operationalization

In operationalization, the measure of variable was considered. In Table 1 the measurement of variables used in this research are indicated.

3.7 Testing strategies

First objective of the research is to see whether the BSC usage is positively associated with larger organization size and businesses with a strong market position. Multiple regression analysis was used to estimate the relationship between organization size, market position and organizational performance.

$$Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + e$$

Where,

α_0 = Intercept

X_1 = Organization Size

X_2 = Market Position

Y = Organizational Performance

To test hypothesis two and three (H_2 , H_3) to identify the effect of BSC reliance on organizational performance will be more beneficial for large organizations than for small organizations and to examine the effect of BSC reliance on organizational performance will be more beneficial for organizations with a strong market position than for organizations with a weak market position, two way ANOVA procedure was used. ANOVA was used since the sample size is small.

4. Findings and discussion

4.1 Descriptive Statistics

Organisation Size

Sales turnover, total assets and number of employees were used to measure the organization size. These three measures were highly correlated ($P < 0.001$).

Table 3: Correlations

		Annual sales turnover	Total number of employees	Total assets of company
Annual sales turnover	Pearson	1	.821**	.870**
	Correlation			
	Sig. (2-tailed)		.000	.000
	N	53	53	53
Total number of employees	Pearson	.821**	1	.902**
	Correlation			
	Sig. (2-tailed)	.000		.000
	N	53	53	53
Total assets of company	Pearson	.870**	.902**	1
	Correlation			
	Sig. (2-tailed)	.000	.000	
	N	53	53	53

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

These three measures were used as a proxy for size, one at a time when conducting the research but the results were parallel throughout. It was transformed using the square root of the variable for use in regression analysis, due to the non-normality of size. The descriptive statistics for the contextual variables and the four perspectives of BSC in its original and transformed form is represented in the Table 4.

Table 4: Descriptive Statistics

	<i>(n=53)</i>			
	Mean	Standard Deviation	Theoretical Range	Actual Range
Organization Size	16.8514*	2.2922*	N/A	11.29-21.16*
Market Position	3.25	1.072	1-5	1-5
Overall BSC Usage	3.7684	.80537	1-5	3-5
Financial Perspective	3.8962	.87628	1-5	2-5
Internal Business Perspective	3.6840	.88816	1-5	1.75-5
Innovation and Learning Perspective	3.8302	1.06943	1-5	1-5
Customer Perspective	3.6509	.86927	1-5	2-5
Organization Performance	3.8377	.96799	1-5	1.60-5

*Transferred to log values.

Table 5: Factor loading*(n = 53)*

Item	Descriptive Statistics			Factor Loading After Varimax Rotation			
				Factor 1	Factor 2	Factor 3	Factor 4
	Actual Range	Mean	Std	Financial Perspective	Internal Business Perspective	Customer Perspective	Learning & Growth Perspective
Operating Income	1-5	3.87	.94	.832	.360	.276	.117
Sales Growth	1-5	3.89	.91	.834	.458	.099	.006
Return on Investment	1-5	3.98	.93	.756	.280	.429	.256
No. of New Services Introduced	1-5	3.83	1.07	.137	.158	.115	.962
Time to Market New Services	1-5	3.62	1.08	.539	.601	.361	.250
Survey of Customer Satisfaction	1-5	3.66	.94	.454	.275	.728	.278
No. of Customer Complaints	1-5	3.64	.92	.524	.626	.404	.217
Market Share	1-5	3.85	.97	.808	.194	.399	.227
On-time Delivery of Service	1-5	3.66	.92	.381	.660	.405	.329
Customer Response Time	1-5	3.64	.88	.242	.484	.794	.028
Cycle Time from Order to Delivery	1-5	3.81	.92	.435	.695	.441	.110

BSC Usage

To measure the BSC usage it was used a modified scale based on 20-item scale similar to that developed by Hoque et al.(1997). Four dimensions of BSC that incorporate by Kaplan and Norton's (1992) were included in this instrument. Respondents indicated the extent to which each item was used to assess their organization performance. It is a five point likert scale ranging from 1 (not at all) to 5 (to a great extent). A reliability check for the measure in this study generated a Cronbach alpha (Cronbach 1951) of 0.95, which is considered to be well above the lower limits of normal acceptability (Nunnally 1967). The factors were grouped into the four perspectives using the factor loadings as mentioned in Table 5. The results of factor analysis, were consistent with the four perspectives identified by Kaplan and Norton (1992). For each of the four perspectives, a mean score was calculated. Using the average of four perspectives, the hypothesis tests were performed in order to run the regression. Table 4 presents descriptive statistics for the measure.

Market Position

Market position was measured using a five-point Likert scale considering the company's revenue share, ranging 1 ("Your company's market (revenue) share is small and significant in comparison with that of the leading firms") to 5 ("Your company is the dominant firm in your segment of the market"). Following table presents descriptive statistics for this measure.

Table 6: Correlation Matrix

(Pearson Coefficients)
(n=53)

Variable	Organization Size	Market Position	Overall BSC Usage	Organizational Performance
Organization Size	1.00	0.53	0.546	0.479
Market Position		1.00	0.686	0.650
Overall BSC Usage			1.00	0.934
Organizational Performance				1.00

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

Significant at the 5 percent

Organizational performance

Organizational performance was measured by evaluating five dimensions of performance of return on investment, margin on sales, capacity utilization, customer satisfaction, and product quality as prescribed by Kaplan and Norton (1992). The reliability of the above five factors was by measured Cronbach's alpha (Cronbach 1951) and produced 0.954. Respondents were asked to

indicate their organization's performance of the company compared to their competitors along the above five dimensions on a scale from 1= below average to = above average. The results indicated that the five dimensions used for the performance instrument were positively and significantly related ($p < 0.05$) as represented in Table 6. Table 7 presents descriptive statistics for this measure.

Table 7: Correlation Matrix

(Pearson Coefficients)
($n=53$)

Variable	Return on Investment	Margin of Sales	Capacity Utilization	Customer Satisfaction	Product Quality
Return on Investment	1.00	0.830	0.779	0.753	0.833
Margin of Sales		1.00	0.854	0.830	0.811
Capacity Utilization			1.00	0.796	0.767
Customer Satisfaction				1.00	0.816
Product Quality					1.00

4.2 Multiple regression analysis

As per the Pearson correlation coefficient represented in Table 6 BSC usage is significantly and positively associated with organizational size with 0.546 correlation and strength of market position with 0.686 both are significant since p value is less than 0.05. The other two independent variables, organizational size and market position with 0.537 correlation coefficient. Multiple regression analysis was used to assess the relationship between BSC usage organization size and market position.

$$Y \text{ (BSC Usage)} = \alpha_0 + \beta_1 X_1 \text{ (Organization Size)} + \beta_2 X_2 \text{ (Market Position)} + e$$

Table 8: Coefficients

Model	<i>Coefficients</i>			t	Sig.
	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta		
(Constant)	0.528	0.582		0.908	0.368
Organization Size	0.123	0.042	0.351	2.966	0.005
Market Position	0.357	0.089	0.476	4.013	0.000

a. Dependent Variable: BSC Usage

Adjusted R² = 0.550

F = 30.584

P = .000b

The overall regression for two independent variables explained 55 percent of the variance in the dependent variable BSC usage where F=30.584 and P= 0.000. Therefore there is a significant relationship between BSC usage, organization size and market position. It indicates that the standardized coefficient for Beta both β_1 (Size) and β_2 (Market position) are positive and significantly associated with BSC usage ($\beta_1 = 0.351$, $p = 0.005$; $\beta_2 = 0.476$, $p = 0.00$). Ultimately this analysis authenticates the hypothesis of BSC usage is positively associated with larger organization size and businesses with a strong market position.

Table 9: Multiple Regression Analysis

Variable	Coefficient	Estimate	t-value	p-value
<i>Panel A- Financial Perspective</i>				
Intercept	α_0	0.307	0.418	0.677
Organization Size	β_1	0.177	3.360	0.001
Market Position	β_2	0.189	1.685	0.098
<i>Panel B- Internal Business Perspective</i>				
Intercept	α_0	0.486	0.789	0.434
Organization Size	β_1	0.095	2.165	0.035
Market Position	β_2	0.490	5.195	0.000

Variable	Coefficient	Estimate	t-value	p-value
<i>Panel C- Learning & Growth Perspective</i>				
Intercept	α_0	2.220	2.034	0.047
Organization Size	β_1	0.027	0.361	0.719
Market Position	β_2	0.387	2.426	0.019

Variable	Coefficient	Estimate	t-value	p-value
<i>Panel D- Customer Perspective</i>				
Intercept	α_0	0.260	0.418	0.678
Organization Size	β_1	0.122	2.734	0.009
Market Position	β_2	0.413	4.343	0.000

Table 9 indicates the regression test results by exploring with the four perspectives of BSC. As per the results three perspectives of financial perspective, internal business perspective, customer perspective except learning and growth perspective ($\beta_1=0.027$, $t=0.361$, $p=0.719$, two tailed) are significantly and positively associated with organization size. Consequently, all three perspectives of internal business perspective, learning and growth perspective, customer perspective except financial perspective ($\beta_1=0.189$, $t=1.685$, $p=0.098$, two tailed) are positively and significantly associated with market position. But the significance of leaning and growth perspective for organizational size and financial perspective for market position do not substantially effects on overall BSC usage since there is a significant relationship which is represented in the overall multiple regression model. That results indicated that there is a significant relationship with BSC usage, organizational size and market position.

Table 10: F-Test

Perspective	Adjusted R ²	F test
Financial	0.371	16.332
Internal Business	0.569	35.261
Learning and Growth	0.148	5.517
Customer	0.541	31.678

The overall results of the Table 10 shows that the results of F-test for all the perspectives are positive and significant. Although the financial perspective and learning and growth perspective define the variance at a lower rate, internal business and customer perspectives define the variance at a higher rate.

Table 11: Tow-way ANOVA - organizational performance by BSC usage and organization size

Variable	Sum of Squares	DF	Mean Square	F	Sig-value
<i>Organizational Performance by BSC Usage and Organization Size</i>					
Intercept	582.699	1	582.699	1685.700	0.000
Organization Size	2.153	1	2.153	6.229	0.016
BSC Usage	15.273	1	15.273	44.184	0.000
Two Way Interaction	.150	1	0.150	0.433	0.514
Residual	16.938	49	0.346		

Table 12: Two-way ANOVA - Organizational Performance by BSC Usage and Market Position

Variable	Sum of Squares	DF	Mean Square	F	Sig-value
<i>Organizational Performance by BSC Usage and Market Position</i>					
Intercept	308.209	1	308.209	874.924	0.000
Market Position	1.206	1	1.206	3.425	0.070
BSC Usage	11.105	1	11.105	31.525	0.000
Two Way Interaction	0.022	1	0.022	0.063	0.803
Residual	17.261	49	0.352		

To test hypotheses two and three two way ANOVA procedure was carried out. Results indicated that although market position is not significant, organization size is significance (Sig. F=0.016, p-value <0.05). BSC usage is significance in both cases (p-value<0.05). Two way interaction with organization performance and market position is not significant. As per the results hypothesis two (The effect of BSC reliance on organizational performance is more beneficial for large organizations than for small organizations) and hypothesis three (The effect of BSC

reliance on organizational performance is more beneficial for organizations with a strong market position than for organizations with a weak market position) cannot be accepted.

4.3 Discussion

As per the result of the analysis stated above, there is a significant relationship between BSC usage, organization size and market position. One objective of this study which is ‘to see whether the balanced scorecard usage is positively associated with: larger organization size and businesses with a strong market position’ is achieved by the multiple regression analysis. And the analysis accepted the hypothesis 1: BSC usage is positively associated with larger organization size and businesses with a strong market position. It emphasizes the large organizations and organizations with strong market position more likely to use BSC than small organizations and organizations with weak market position. Large organizations have motivation as well as resources to use best performance measurement system such as BSC. Non-financial perspectives such as internal business and customer perspectives should be measured correctly to survive in strong position in within the market.

Size of the organization reflects the same relationship with usage of BSC compared to the related literature but market position reflects a contradictory result in this research. Hoque and James (2000) demonstrated that BSC usage positively associated with organization size but not with the market position as a result of a research conducted using Australian manufacturing firms. Nevertheless, they mentioned that the result acquired by market position is unexpected because the positive relationship between BSC usage and market position has been hypothesized by the study. Further, they mentioned the reasons for that unexpected result as the instrument used or other factors such as sample selection or use of limited control variables. This research constructed with the sample of hundred companies in finance industry in Sri Lanka. So, the strategies are different from one industry to another industry. Therefore the sample selection could be identified as the major reason for the dissimilar results.

Study analyzed the relationship between BSC usage and organizational size and the market position. Davis and Albright (2004) argued that BSC usage influence to improvement of the financial performance of the organization. A positive correlation between BSC usage and organization performance has been resulted from the analysis of this study. However, that relationship is not depended on organization size and the market position. Then hypotheses 2 and hypotheses 3 are not supported by the results of the study. Even though, regression analysis confirmed the positive relationship between BSC usage and organization size and the market position, both size and market position do not influence the reliance of BSC on organizational performance. It means large organizations use BSC than small organization, and organizations with strong market position use BSC more than organization with weak market position, but both two are not significantly influence on the performance. Hoque and James (2000) evidenced the greater BSC usage is associated with increased organizational performance but this relationship does not significantly depend on organizational size, and market position, and product life cycle.

Empirical evidence on relationship between BSC reliance on organizational performance and organizational size and market position could be confirmed as per the results of this research.

5. Conclusion and Limitations

The purpose of this study was to identify whether there is a relationship between organizational size, market position, BSC usage and overall organizational performance in selected companies. BSC measures the financial and non-financial measures using four perspectives which are financial perspective, customer perspective, internal-business-process perspective, learning and growth perspective.

When accomplishing organization goals and objectives it is necessary to identify the effective allocation of resources and what are the decisions that should be given the priority. For this purpose, BSC provides the guide being a more important management control tool. BSC helps to identify whether organization's responsibility regarding employees, suppliers, customers, community and shareholders are fulfilled or not.

From this study it was tried to see whether the BSC usage is positively associated with: (a) larger organization size; (b) businesses with a strong market position, to identify the effect of BSC reliance on organizational performance will be more beneficial for large organizations than for small organizations and to examine the effect of BSC reliance on organizational performance will be more beneficial for organizations with a strong market position than for organizations with a weak market position.

The data was collected through a standard questionnaire which was developed based on a survey of Australian manufacturing firms. Data was analyzed using SPSS package to test the relationship between the size of organizations and market position as related factors of BSC usage and explore how organizational performance is exaggerated by different uses of BSC in diverse settings. The population of the research study represented all authorized financial institutions registered under Central Bank of Ceylon and insurance companies registered under IRCSL. The sample is 100 authorized financial institutions of the total population.

The findings of this study help the managements of the above mentioned companies for their decision making regarding the usage of the BSC. The research describes how BSC affect the organizational performance combining with the scale of the organization and market position of the organization. Managers could identify what is the scale of their business organization based on the criteria which were used in this research. As well as they could define the market position that they operated considering this measurement. If the management has a clear understanding about the position of the business organization and the relationship between the scale, market position, BSC and the organizational performance, they absolutely go for the precise decision regarding the usage of the BSC. This study could eliminate the improper opinions about BSC and increase the BSC usage in many industries in Sri Lanka.

The first limitation of this study is that this research has gone some way to linking BSC measures to organization size, market position, and impact on organizational performance in finance companies in Sri Lanka. Further, this research could explore more in specific categories for example SME s, not-for-profit organizations, and government organizations, manufacturing companies, hotels construction companies etc. Since this study focused on the Sri Lankan finance companies it would be beneficial to have a clear understanding about use of BSC and organizational performance in other types of organizations as well. But according to this study we cannot get broader understanding with regard to the BSC measures to organization size, market position, and impact on organizational performance in other type of companies other than finance companies. A second limitation of this study is that sample of the study is limited to only 100 companies which are operated in the finance sector in Sri Lanka. Therefore, there are constraints on generalizing of findings because of limitation associate with sample selection. This is not representing the whole sample. For this study we used only 100 finance companies were selected. It is not sufficient to generalize the findings to the population. Further it can be a significant obstacle in finding a trend and a meaningful relationship. And also, to build the hypotheses study is considered control variable to derive the relationship equation. Under this study has been considered only few control variables such as the size of organizations and market position as related factors of BSC usage. But the problem with regard to this is that there are other control variables such as product life cycle stage that can be influenced to the BSC usage.

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