

# Impact of Balanced Scorecard Implementation on Financial Performance of Saudi Listed Companies

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**Abstract** Since its introduction in 1992, Balance Score Card (BSC) has been adopted by companies as a strategic management tool to improve their overall performance. This study aims to examine the impact of implementation of Balanced Scorecard (BSC) on the financial performance of Listed Companies in the Kingdom of Saudi Arabia. A sample of 57 companies from different business sectors was taken for this study. Financial performance of companies adopting BSC was compared with those who have not adopted BSC. Annual performance data for key financial parameters over a five-year period was taken for this comparison, and the average performance for these parameters was compared using t statistic. It was observed that adoption of BSC significantly improves the revenue growth, while it does not have much impact on other financial parameters such as Net margin, Current ratio and Operating Cash Flow/Net income.

**Keywords:** *Balanced Score Card, Listed Saudi companies, financial performance*

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## 1. Introduction

Balance Score Card (BSC) has gained significant importance in recent years as a strategic management tool that enables organizations to align their business activities to the vision and strategy of the organization and improve their overall performance [9]. BSC as a concept was first introduced by Robert Kaplan and David Norton in 1992. Saudi companies have started implementing this tool since last few years, though not much information is available on its impact on their business performance [3,10]. There have been cultural issues in implementing BSC in Saudi companies [6]. In Saudi Arabia, attempts to implement BSC have been made in different sectors including public sector institutions for improving the Knowledge management which have resulted in overall performance improvement of the organizations [1]. The current study aims to examine the impact of BSC on financial performance of organizations. The outcome of this study throws significant light on the effectiveness of BSC as a strategic management tool for improving business performance. So far only isolated studies have been conducted in Saudi Arabia on this topic and there is a lack of comprehensive information on effectiveness of BSC. Hence this study assumes great importance in the Saudi Business world.

## 2. Literature Review & Hypothesis Development

Balanced scorecard was introduced in 1992 and later evolved as a comprehensive tool for measuring and

monitoring organizational performance that complements financial measures. It takes into account non-financial measures such as customer satisfaction, internal processes and organization's ability to learn and improve its activities that drive future financial performance [9]. Studies have been conducted by several researchers to examine the impact of BSC implementation on overall performance of firms. A study conducted in the banking sector showed that bank branches implementing BSC showed superior performance than those who did not implement it [5].

Research carried out in dutch firms focused on optimal use of BSC for performance improvement Their study indicated that if use of BSC complements corporate strategy it has a positive influence on company performance. However, if it is not related to the strategy then the performance may decrease [4]. An empirical study of comparing the financial performance of two sister concerns of an electrical wholesale chain based in UK showed that the firm implementing BSC demonstrated better financial performance with respect to its sister concern that did not implement BSC [12]. Iselin et al studied the impact of BSC on the alignment of strategic goals and performance reporting [7].

Tahsin Nazim presented a critical analysis of BSC as a performance measurement tool. He argued that BSC is a highly comprehensive and effective tool for performance measurement of firms. (Nazim, 2011). Muhammad discussed the usage and issues in implementation of BSC as a tool for performance measurement [11]. W.B. Taylor used an experimental technique to examine the influence of BSC on mitigating the effects of motivated reasoning. The results indicated that managers who are involved in

selecting strategic initiatives perceive those initiatives as having been more successful than managers who are not involved in the strategy-selection process. Thus BSC indirectly influences strategy implementation and performance of firms [13]. A study in Kenyan service sector revealed that implementation of BSC has a positive impact of the firms' performance such as increased market share and profitability [8]. Banker et al found that performance of business managers was influenced by the strategically linked performance measures of BSC [2].

While these studies are available in the global arena, very little studies are available in Middle East and particularly for Saudi Arabian companies. Some of the significant studies in this region are mentioned in the introduction section above.

### 3. Research Design

This study is a non-experimental quantitative research. There are 165 companies in Saudi Arabian stock market. A representative sample of 57 of these companies was considered for this study. Financial data of these companies was obtained from the Saudi stock market website [www.tadawul.com.sa](http://www.tadawul.com.sa). Information about status of BSC implementation was collected through personal contact with the companies either by email, phone call or personal visit.

The study involves comparison of financial performance of BSC adopters with non-adopters of BSC. The following 4 parameters were taken as a measure of financial performance:

- Revenue growth – indicates efficiency of use of resources
- Net margin – indicates profitability of the company
- Current ratio – indicates liquidity, and
- Operating Cash Flow (OCF)/Net income – indicates the quality of earnings

Financial data of 5 years, i.e. from 2010 to 2014 was collected from the Saudi official website. The 57 companies selected for the study belonged to the following broad business sectors:

- Manufacturing sector
- Trading sector
- Service sector

The average performance of the companies for the financial parameters listed above was computed. Also, based on the information about their adoption or non-adoption of BSC, the companies were grouped into two categories namely, BSC adopters and BSC non-adopters. The average performance of each parameter of BSC adopters was compared with that of non-adopters. This analysis was performed separately for each business sector and all sectors taken together. The statistical significance of the difference in mean performance for all sectors taken together was examined using 't' test.

### 4. Results and Discussion

Our sample consisted of 57 listed companies as shown in Table 1. They were randomly chosen from different sectors of the Saudi listed companies, as shown below:

Table 1

Sector wise distribution of the sample			
Business Sector	Adopters	Non Adopters	Total
Manufacturing	10	24	34
Services	4	11	15
Merchandising	4	4	8
<b>Total</b>	<b>18</b>	<b>39</b>	<b>57</b>

We first present the descriptive statistics for each sector individually, and then the descriptive statistics for the whole sample.

#### 4.1. Descriptive Statistics

In order to compare the impact of BSC adoption on the financial performance of BSC adopter's v/s non-adopters, we considered the following financial parameters:

Revenue growth – indicates efficiency of use of resources

Net margin – indicates profitability of the company

Current ratio – indicates liquidity, and

Operating Cash Flow (OCF)/Net income – indicates the quality of earnings

Sector wise comparison of financial performance against the above parameters is shown in Table 2, Table 3 and Table 4.

In the Table 2 we have presented the descriptive statistics for the manufacturing sector. When we compare the mean for each financial indicator, it is observed that the mean for adopters in all financial indicators taken into analysis (except earning quality) are more than that of non-adopters.

There are differences between the four indicators in the strengths and weaknesses of influence of BSC for adopters and non-adopters. The differences are very clear in liquidity indicator: the mean is 4.6 for adopters and 2.86 for non-adopter, as well as the efficiency indicator: the mean is 3.36 for adopters with standard deviation 2.32, and for non-adopters it is 1.45 with a standard deviation 0.54.

It may also be observed that the indicators of profitability and earning quality are having very week differences: the mean for profitability is equal to 0.32 with the standard deviation of 0.44 for adopters, and for non-adopters the mean profitability is 0.14, with a standard deviation of 0.25. In case of earning quality, the mean is equal to 1.4 with the standard deviation of 1.21 for adopters, and for non-adopters, the mean is 0.99 with the standard deviation of 1.69.

Table 2

Descriptive Statistics for manufacturing sector					
Sr.	Parameter	Adopter		Non adopter	
		Mean	S.D.	Mean	S.D.
1	Revenue growth(efficiency)	3.36	2.32	1.45	0.54
2	Net margin(profitability)	0.32	0.44	0.14	0.25
3	Current ratio(liquidity)	4.60	5.15	2.86	2.08
4	OCF/Net income(earning quality)	1.40	1.21	0.99	1.69

In the below Table 3, we have presented the descriptive statistics for the services sector. When we compare the mean for each financial indicator, it is observed that only the Revenue growth (efficiency) is more for adopters than

that of non-adopters. The mean revenue growth for adopters is 4.32 with the standard deviation 2.32, and the mean revenue growth for non-adopters is equal to 1.36 with the standard deviation 0.36.

The other financial indicators for the services sector (profitability, liquidity and earning quality) indicated that the non-adopters of BSC are having higher values than those of the adopters. This result is somewhat unexpected. It may be due to a small sample size. Further deeper study into the services sector might be required to develop a better understanding of this behavior.

Table 3

Descriptive Statistics for Services sector					
Sr.	Parameter	Adopter		Non adopter	
		Mean	S.D.	Mean	S.D.
1	Revenue growth (efficiency)	4.32	2.36	1.36	0.36
2	Net margin (profitability)	-0.19	0.62	0.08	0.15
3	Current ratio (liquidity)	2.28	2.77	2.40	2.39
4	OCF/Net income (earning quality)	0.37	1.54	1.73	3.16

In Table 4 we have presented the descriptive statistics for the merchandizing sector. When we compare the mean for each financial indicator, it is observed that the mean for adopters in all financial indicators taken into analysis are more than that of non-adopters, except liquidity which is almost same.

The mean revenue growth (efficiency) of adopters is 2.21 with the standard deviation of 0.31, whereas the revenue growth for non-adopter is 1.48 with the standard deviation of 0.27. The mean earning quality for adopters is 1.04 with the standard deviation of 0.09, whereas for non adopters, the mean earning quality is -0.07 with the standard deviation of 2.57.

Table 4

Descriptive Statistics for merchandising sector					
Sr.	Parameter	Adopter		Non adopter	
		Mean	S.D.	Mean	S.D.
1	Revenue growth (efficiency)	2.21	0.31	1.48	0.27
2	Net margin (profitability)	0.11	0.07	0.10	0.11
3	Current ratio (liquidity)	1.72	1.04	1.81	1.24
4	OCF/Net income (earning quality)	1.04	0.09	-0.07	2.57

The Table 5 shows the descriptive statistics for all sectors taken together. Here we may observe that Revenue growth for BSC adopters is higher than that of the non-adopters. The financial performance in other indicators, however, does not show a conclusive trend.

Table 5

Descriptive Statistics for all sectors					
Sr.	Parameter	Adopter		Non adopter	
		Mean	S.D.	Mean	S.D.
1	Revenue growth (efficiency)	3.48	2.09	1.42	0.46
2	Net margin (profitability)	0.15	0.14	0.15	0.15
3	Current ratio (liquidity)	3.31	4.18	2.62	2.09
4	OCF/Net income (earning quality)	1.23	0.98	1.42	1.81

Table 6 shows the comparison of each parameter across different sectors. It is observed that the mean revenue growth of adopters (3.32) is higher than that of non-adopters (1.43), and the mean difference is (1.89). This indicates that the adoption BSC results in revenue growth.

The second financial indicator i.e. profitability of adopters (0.03) is less than that of non-adopters (0.12), with the mean difference of -0.09. This indicates that BSC adoption may not improve the profitability of the firms. Even though we may expect that revenue growth will be accompanied by increased profitability, we see a different result here. The reduced profitability might be due to inefficient management of cost, such as cost of goods sold, operating expenses & other expenses etc. Thus, companies specially in the manufacturing and services sectors should be more carefully in controlling costs. The third indicators is Liquidity (Current Ratio). The mean liquidity of adopters (3.49) is higher than that of non-adopters (2.63) with the mean difference mean of 0.86, which indicates that BSC adoption helps companies in providing better liquidity than non-adopters. The last indicator is Earning Quality, which is a ratio of Operating Cash Flow to Net income. If operating cash flow is closer to profit, the quality of earning will be more. The mean earning quality for adopters (1.13) is higher than that of non-adopters (1.09), with the mean difference equal to 0.04. It means that BSC adoption improves the quality of earning.

The results of Table 6 are summarized below:

- The average efficiency of adopters (3.32) is higher than that of non-adopters (1.43)
- The average profitability of adopters (0.03) is less than that of non-adopters (0.12)
- The average liquidity of adopters (3.49) is higher than that of non-adopters (2.63)
- The average earning quality of adopters (1.13) is higher than that of non-adopters (1.09)

Thus, it may be seen that BSC adopters have indicated better financial performance than that of non-adopters in 3 out of 4 parameters, namely, efficiency, liquidity and earning quality. The profitability of adopters is marginally less than that of the non-adopters.

Table 6

Comparison of Financial parameters between sectors					
Financial Indicators	Adopter		Non adopter		Mean Diff.
	Mean	S.D.	Mean	S.D.	
<b>Efficiency (Revenue Growth)</b>					
Manufacturing	3.36	2.32	1.45	0.54	
Merchandising	2.21	0.31	1.48	0.27	
Services	4.32	2.36	1.36	0.36	
<b>Average efficiency</b>	<b>3.32</b>	<b>2.09</b>	<b>1.43</b>	<b>0.46</b>	<b>1.89</b>
<b>Profitability (Net Margin)</b>					
Manufacturing	0.08	0.44	0.14	0.25	
Merchandising	0.11	0.07	0.10	0.11	
Services	-0.19	0.62	0.08	0.15	
<b>Average profitability</b>	<b>0.03</b>	<b>0.43</b>	<b>0.12</b>	<b>0.21</b>	<b>-0.09</b>
<b>Liquidity (Current Ratio)</b>					
Manufacturing	4.68	5.15	2.86	2.08	
Merchandising	1.72	1.04	1.81	1.24	
Services	2.28	2.77	2.40	2.39	
<b>Average liquidity</b>	<b>3.49</b>	<b>4.18</b>	<b>2.63</b>	<b>2.09</b>	<b>0.86</b>
<b>Earning Quality (OCF/Net income)</b>					
Manufacturing	1.48	1.21	0.99	1.69	
Merchandising	1.04	0.09	-0.07	2.57	
Services	0.37	1.54	1.73	3.16	
<b>Average earning quality</b>	<b>1.13</b>	<b>1.19</b>	<b>1.09</b>	<b>2.27</b>	<b>0.04</b>

## 4.2. Hypothesis Testing

The difference in the mean performance for different parameters between adopters of BSC and non-adopters of BSC was tested using 't' test. The results are presented below:

### **H<sub>01</sub>: There is no difference in the Revenue growth of BSC adopter and that of non-adopters**

The mean revenue growth for adopters and non-adopters compared using t Test. The mean revenue growth for BSC adopter was 3.32 with a standard deviation of 2.09, whereas that for non-adopters was 1.43 with a standard deviation of 0.46. The mean difference between them was 1.89. The observed t statistic for this data was 5.42, with a p value of 0.00. Hence the null hypothesis was rejected. It implies that the mean revenue growth for adopters is significantly higher from the mean revenue growth for non-adopters.

### **H<sub>02</sub>: There is no difference in the Net margin of BSC adopter and that of non-adopters**

The mean Net margin for adopters and non-adopters compared using t Test. The mean Net margin for BSC adopter was 0.03 with a standard deviation of 0.43, whereas that for non-adopters was 0.12 with a standard deviation of 0.21. The mean difference between them was -0.09. The observed t statistic for this data was 0.018, with a p value of 0.98. Hence the null hypothesis was accepted.

It implies that there is no significant difference between the mean Net margin for adopters and that for non-adopters.

### **H<sub>03</sub>: There is no difference in the Current ratio of BSC adopter and that of non-adopters**

The mean Current ratio for adopters and non-adopters compared using t Test. The mean Current ratio for BSC adopter was 3.49 with a standard deviation of 4.18, whereas that for non-adopters was 2.63 with a standard deviation of 2.09. The mean difference between them was 0.86. The observed t statistic for this data was 1.04, with a p value of 0.30. Hence the null hypothesis was accepted. It implies that there is no significant difference between the mean Current ratio for adopters and that for non-adopters.

### **H<sub>04</sub>: There is no difference in the OCF/Net income of BSC adopter and that of non-adopters**

The mean OCF/Net income for adopters and non-adopters compared using t Test. The mean OVF/Net income for BSC adopter was 1.13 with a standard deviation of 1.19, whereas that for non-adopters was 1.09 with a standard deviation of 2.27. The mean difference between them was 0.04. The observed t statistic for this data was 0.41, with a p value of 0.67. Hence the null hypothesis was accepted. It implies that there is no significant difference between the mean OCF/Net income for adopters and that for non-adopters.

All these results are presented in [Table 7](#) below.

**Table 7**

Sr.	Parameter	Category	Mean	S.D	Mean Diff.	t Stat	p Value
1	Revenue growth	Adopter	3.32	2.09	1.89	5.42	0.00
		Non Adopter	1.43	0.46			
2	Net margin	Adopter	0.03	0.43	-0.09	0.018	0.98
		Non Adopter	0.12	0.21			
3	Current ratio	Adopter	3.49	4.18	0.86	1.04	0.30
		Non Adopter	2.63	2.09			
4	OCF/Net income	Adopter	1.13	1.19	0.04	0.41	0.67
		Non Adopter	1.09	2.27			

## 4.3. Limitations of the Study

This study did not consider the cultural issues in implementing BSc and their impact on financial performance of companies. They might create some barriers in effective implementation of BSC in Saudi companies as mentioned by Idris [6]. A larger sample size also might help in bringing out the impact of BSC adoption in a more significant manner.

Operating Cash Flow/Net income. There is further scope for conducting a more detailed study with a larger sample size to develop better understanding of the impact of BSC adoption on financial performance of companies.

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## 5. Conclusion

References show that adoption of Balanced Score Card in Saudi Arabian companies started around 2004. However, the process of adoption appears to be rather slow in Saudi companies. We studied a sample of 57 listed Saudi companies from various sectors to examine the impact of BSC adoption on their financial performance. Out of the four parameters were selected as indicative of financial performance of the companies, it was observed that the adoption of BSC significantly affects the revenue growth in a positive manner. However, BSC adoption does not appear to have any significant impact on other financial parameters such as Net margin, Current ratio and

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