

An Interpretation of Applicability of Balanced Scorecard and Performance of It Companies in Bengaluru City

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Abstract

Balanced Scorecard (BSC) is the technique which allows organizations to overpass the space amongst strategies and operations and it is used extensively for aligning business operations with strategies and vision of companies to improve standards of business and monitor performance of companies against their stated objectives. More than two fifth of employees viewed that the level of applicability of balanced scorecard in IT companies is moderate. Significant is prevailing in applicability of balanced scorecard in IT companies and profile of employees. Applicability of balanced scorecard has positive, significant and moderate relation with performance of IT companies. Therefore, IT companies should utilize balanced scorecard for planning and they must group all perspectives of balanced scorecard for ensuring balance. Further, they should employ balanced scorecard for framing strategy and execution.

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I. INTRODUCTION

Conventionally, most of companies use return on capital, profit margin and earning per share as their performance assessment measures. Because of dynamics of business, these measures are considered as one-dimensional, focused narrowly, incomplete and backward viewing of companies (Hoque et al 2001). To address, these problems, Kaplan and Norton (1992) introduce the skeleton of Balanced Scorecard (BSC) that evaluates performance of company comprehensively and accurately. Balanced Scorecard (BSC) is the technique which allows organizations to overpass the space amongst strategies and operations (Anand, 2014). It includes non financial and financial components from different perspectives in to a one unique structure (Pineno and Cristini, 2003) which is used widely in private sector companies, NGOs and government

sector across the world for aligning business operations with strategies and vision of companies to improve standards of business and monitor performance of companies against their stated objectives (Singh and Kumar, 2007).

Indian Information Technology (IT) sector is playing a significant role in putting India in the global IT map and it has highest reputation across the word and it creates most valuable brand image over the period of years (Vijayasri, 2013). IT sector is a very significant contributor to Indian economy in terms of domestic income generation, employment and export earnings and it has amazing potential to accelerate economic growth of India further (Singh and Kaur, 2017). To be competitive in domestic and international IT markets, IT companies have to perform outstandingly since their brand value and profitability are highly depending

on their performance. Measurement of performance of IT companies periodically is highly essential to improve their strategies, performance and compositeness. Hence, it is essential to study applicability of balanced scorecard and performance of IT companies in Bengaluru city.

II. REVIEW OF LITERAURE

Farooq and Hussain (2011) found that public sector companies used balanced scorecard to appraise their performance and applicability of balanced scorecard was positively associated with performance of companies. Bentes et al (2012) concluded that balanced scorecard was a tool used to evaluate performance of organization and employees and effectiveness of business strategies of organizations.

Asa et al (2013) revealed that balanced scorecard was utilized to measure existing business strategy and business performance of firms in both short and long runs and it was also used to improve performance of employees. Khatoon and Farooq (2014) showed that positive and significant relation exist amongst balanced scorecard and performance of companies and performance was depending upon four perspectives of balanced scorecard.

Umasankar and Shani (2015) showed that IT firms used balanced scorecard to evaluate their organizational and employees' performance through financial, community, internal business process, learning and innovation, environment and customer perspectives. Sahiti et al (2016) found that balanced scorecard had positive and significant impact on performance and profitability of companies.

Ondieki (2017) concluded that four components of balanced scorecard had positive and significant impact on performance of organization and employees. Al-Adwan (2018) revealed that balanced scorecard was used to assess non financial and financial performance of manufacturing companies.

III. METHODOLOGY

The present study is done in Bengaluru city. Employees of IT companies are chosen by using simple random sampling method. Data are collected from 325 employees of IT companies through questionnaire method. Percentages are worked out to know profile of employees of IT companies. Mean and standard deviation are computed to understand applicability of balanced scorecard in IT companies. t-test and ANOVA test are done to scrutinize difference amongst applicability of balanced scorecard in IT companies and profile of employees. Correlation analysis is carried out to examine relation amongst applicability of balanced scorecard and performance of IT companies.

IV. RESULTS AND DISCUSSION

4.1. PROFILE OF EMPLOYEES OF IT COMPANIES

The profile of employees of IT companies is given in Table-1. The results explain that 58.15 per cent of employees of IT companies are males, while, 41.85 per cent of them are females and 30.77 per cent of employees of IT companies are belonging to age category of 31 – 35 years, while, 9.54 per cent of them are belonging to age category of 41 – 45 years. The results disclose that 29.54 per cent of employees of IT companies are possessing B.E. while, 10.77 per cent of them are possessing M.Tech. and 32.62 per cent of employees of IT companies are software programmers, while, 18.15 per cent of them are software testers. And 36.31 per cent of employees of IT companies are bearing 4 – 6 years of work experience, while, 13.84 per cent of them are bearing 10 – 12 years of work experience.

Table-1. Profile of Employees of IT Companies

Profile	Number of Employees	Percentage
Gender		
Male	189	58.15
Female	136	41.85
Age Category		

21 – 25 years	51	15.69
26 – 30 years	74	22.77
31 – 35 years	100	30.77
36 – 40 years	69	21.23
41 – 45 years	31	9.54
Education		
B.E.	96	29.54
M.E.	52	16.00
B.Tech.	77	23.69
M.Tech.	35	10.77
M.C.A.	65	20.00
Designation		
Software Developer	84	25.85
Software Designer	76	23.38
Software Programmer	106	32.62
Software Tester	59	18.15
Work Experience		
1– 3 years	92	28.31
4 – 6 years	118	36.31
7 – 9 years	70	21.54
10 – 12 years	45	13.84

4.2. APPLICABILITY OF BALANCED SCORECARD IN IT COMPANIES

The view of employees on applicability of balanced scorecard in IT companies is given in Table-2.

Table-2. View of Employees on Applicability of Balanced Scorecard in IT Companies

Applicability of Balanced Scorecard	Mean	Standard Deviation
My company adopts balanced scorecard effectively	3.93	1.04
My company utilizes balanced scorecard for planning	3.33	1.17
My company uses four perspectives of balanced scorecard for performance measurement	3.96	1.02
My company groups all perspectives of balanced scorecard for ensuring balance	3.25	1.14
My company has reporting system for balanced scorecard to check progress of strategy	3.88	1.08
My company monitors the	3.91	1.05

measures of balanced scorecard and takes proper actions		
My company uses balanced scorecard for employees to make them to realize their responsibilities	3.86	1.12
My company applies balanced scorecard to connect tactical operations with strategic objectives	3.82	1.11
My company employs balanced scorecard for framing strategy and execution	3.37	1.16
My company uses balanced scorecard for long run success	3.98	1.01

The employees are agreed with their companies adopt balanced scorecard effectively, their companies use four perspectives of balanced scorecard for performance measurement, their companies have reporting system for balanced scorecard to check progress of strategy, their companies monitor the measures of balanced scorecard and takes proper actions, their companies use balanced scorecard for employees to make them to realize their responsibilities, their companies apply balanced scorecard to connect tactical operations with strategic objectives and their companies use balanced scorecard for long run success, while, they are neutral with their companies utilize balanced scorecard for planning, their companies group all perspectives of balanced scorecard for ensuring balance and their companies employ balanced scorecard for framing strategy and execution.

4.3. PROFILE OF EMPLOYEES AND THEIR VIEW ON APPLICABILITY OF BALANCED SCORECARD IN IT COMPANIES

The distribution of employees based on their view on applicability of balanced scorecard in IT companies is given in Table-3. Mean \pm SD is used to divide the level of applicability of balanced scorecard in IT companies into low, moderate and high. Mean value is 37.29 and SD value is 5.73.

Table-3. Distribution of Employees Based on their View on Applicability of Balanced Scorecard in IT Companies

Level of Applicability of Balanced Scorecard	Number of Employees	Percentage
Low	73	22.46
Moderate	140	43.08
High	112	34.46
Total	325	100.00

Amongst 325 employees, 34.46 per cent of them viewed that the level of applicability of balanced scorecard is high, while, 22.46 per cent of them viewed that it is low.

4.3.1. Gender and Applicability of Balanced Scorecard

The relation amongst gender of employees and applicability of balanced scorecard is given in Table-4.

Table-4. Gender and Applicability of Balanced Scorecard

Gender	Level of Applicability of Balanced Scorecard			Total	t-Value	Sig.
	Low	Moderate	High			
Male	38 (20.10)	79 (41.80)	72 (38.10)	189 (58.15)	4.870	.000
Female	35 (25.74)	61 (44.85)	40 (29.41)	136 (41.85)		
Total	73 (22.46)	140 (43.08)	112 (34.46)	325 (100.00)	-	-

(The figures in the parentheses are per cent to total)

Amongst 189 employees who are male, 38.10 per cent of employees viewed that the level of applicability of balanced scorecard is high, while, 20.10 per cent of them viewed that it is low. Amongst 136 employees who are female, 29.41 per cent of employees viewed that the level of applicability of balanced scorecard is high, while, 25.74 per cent of them viewed that it is low.

The t-value is 4.870 and it is significant at one per cent level elucidating significant difference prevails in applicability of balanced scorecard amongst gender of employees.

4.3.2. Age Category and Applicability of Balanced Scorecard

The relation amongst age category of employees and applicability of balanced scorecard is given in Table-5.

Table-5. Age Category and Applicability of Balanced Scorecard

Age Category	Level of Applicability of Balanced Scorecard			Total	F-Value	Sig.
	Low	Moderate	High			
21 – 25 years	12 (23.53)	21 (41.18)	18 (35.29)	51 (15.69)	6.445	.000
26 – 30 years	12 (16.22)	31 (41.89)	31 (41.89)	74 (22.77)		
31 – 35 years	29 (29.00)	46 (46.00)	25 (25.00)	100 (30.77)		
36 – 40 years	20 (28.99)	27 (39.13)	22 (31.88)	69 (21.23)		
41 – 45 years	0 (0.00)	15 (48.39)	16 (51.61)	31 (9.54)		
Total	73 (22.46)	140 (43.08)	112 (34.46)	325 (100.00)	-	-

(The figures in the parentheses are per cent to total)

Amongst 51 employees who are belonging to age category of 21 – 25 years, 35.29 per cent of employees viewed that the level of applicability of balanced scorecard is high, while, 23.53 per cent of them viewed that it is low. Amongst 74 employees who are belonging to age category of 26 – 30 years, 41.89 per cent of employees viewed that the level of applicability of balanced scorecard is high, while, 16.22 per cent of them viewed that it is low. Amongst 100 employees who are belonging to age category of 31 – 35 years, 25.00 per cent of employees viewed that the level of applicability of balanced scorecard is high, while, 29.00 per cent of them viewed that it is low.

Amongst 69 employees who are belonging to age category of 36 – 40 years, 31.88 per cent of employees viewed that the level of applicability of balanced scorecard is high, while, 28.99 per cent of them viewed that it is low. Amongst 31 employees who are belonging to age category of 41 – 45 years, 51.61 per cent of employees viewed that the level of applicability of balanced scorecard is high, while, none of them viewed that it is low.

The F-value is 6.445 and it is significant at one per cent level elucidating significant difference prevails in applicability of balanced scorecard amongst age category of employees.

4.3.3. Education and Applicability of Balanced Scorecard

The relation amongst education of employees and applicability of balanced scorecard is given in Table-6.

Table-6. Education and Applicability of Balanced Scorecard

Education	Level of Applicability of Balanced Scorecard			Total	F-Value	Sig.
	Low	Moderate	High			
B.E.	35 (36.46)	37 (38.54)	24 (25.00)	96 (29.54)	10.232	.000
M.E.	16 (30.77)	25 (48.08)	11 (21.15)	52 (16.00)		
B.Tech.	7 (9.09)	42 (54.55)	28 (36.36)	77 (23.69)		
M.Tech.	3 (8.57)	14 (40.00)	18 (51.43)	35 (10.77)		
M.C.A.	12 (18.46)	22 (33.85)	31 (47.69)	65 (20.00)		
Total	73 (22.46)	140 (43.08)	112 (34.46)	325 (100.00)	-	-

(The figures in the parentheses are per cent to total)

Amongst 96 employees who are possessing B.E., 25.00 per cent of employees viewed that the level of applicability of balanced scorecard is high, while, 36.46 per cent of them viewed that it is low. Amongst 52 employees who are possessing M.E., 21.15 per cent of employees viewed that the level of applicability of balanced scorecard is high, while, 30.77 per cent of them viewed that it is low. Amongst 77 employees who are possessing B.Tech, 36.36 per cent of employees viewed that the level of applicability of balanced scorecard is high, while, 9.09 per cent of them viewed that it is low.

Amongst 35 employees who are possessing M.Tech, 51.43 per cent of employees viewed that the level of applicability of balanced scorecard is high, while, 8.57 per cent of them viewed that it is low. Amongst 65 employees who are possessing M.C.A., 47.69 per cent of employees viewed that the level of applicability of balanced scorecard is high, while, 18.46 per cent of them viewed that it is low.

The F-value of 10.232 and it is significant at one per cent level elucidating significant difference prevails in applicability of balanced scorecard amongst education of employees.

4.3.4. Designation and Applicability of Balanced Scorecard

The relation amongst designation of employees and applicability of balanced scorecard is given in Table-7.

Table-7. Designation and Applicability of Balanced Scorecard

Designation	Level of Applicability of Balanced Scorecard			Total	F-Value	Sig.
	Low	Moderate	High			
Software Developer	18 (21.43)	34 (40.48)	32 (38.09)	84 (25.85)	8.031	.000
Software Designer	18 (23.69)	30 (39.47)	28 (36.84)	76 (23.38)		
Software Programmer	23 (21.70)	52 (49.06)	31 (29.24)	106 (32.62)		
Software Tester	14 (23.73)	24 (40.68)	21 (35.59)	59 (18.15)		
Total	73 (22.46)	140 (43.08)	112 (34.46)	325 (100.00)	-	-

(The figures in the parentheses are per cent to total)

Amongst 84 employees who are software developers, 38.09 per cent of employees viewed that the level of applicability of balanced scorecard is high, while, 21.43 per cent of them viewed that it is low. Amongst 76 employees who are software

designers, 36.84 per cent of employees viewed that the level of applicability of balanced scorecard is high, while, 23.69 per cent of them viewed that it is low.

Amongst 106 employees who are software programmers, 29.24 per cent of employees viewed that the level of applicability of balanced scorecard is high, while, 21.70 per cent of them viewed that it is low. Amongst 59 employees who are software testers, 35.59 per cent of employees viewed that the level of applicability of balanced scorecard is high, while, 23.73 per cent of them viewed that it is low.

The F-value of 8.031 and it is significant at one per cent level elucidating significant difference prevails in applicability of balanced scorecard amongst designation of employees.

4.3.5. Work Experience and Applicability of Balanced Scorecard

The relation amongst work experience of employees and applicability of balanced scorecard is given in Table-8.

Table-8. Work Experience and Applicability of Balanced Scorecard

Work Experience	Level of Applicability of Balanced Scorecard			Total	F-Value	Sig.
	Low	Moderate	High			
1 – 3 years	27 (29.35)	36 (39.13)	29 (31.52)	92 (28.31)	7.909	.000
4 – 6 years	28 (23.73)	47 (39.83)	43 (36.44)	118 (36.31)		
7 – 9 years	10 (14.29)	36 (51.43)	24 (34.28)	70 (21.54)		
10 – 12 years	8 (17.78)	21 (46.67)	16 (35.55)	45 (13.84)		
Total	73 (22.46)	140 (43.08)	112 (34.46)	325 (100.00)	-	-

(The figures in the parentheses are per cent to total)

Amongst 92 employees who are bearing 1– 3 years of work experience, 31.52 per cent of employees viewed that the level of applicability of balanced

scorecard is high, while, 29.35 per cent of employees viewed that it is low. Amongst 118 employees who are bearing 4– 6 years of work experience, 36.44 per cent of employees viewed that the level of applicability of balanced scorecard is high, while, 23.73 per cent of them viewed that it is low.

Amongst 70 employees who are bearing 7– 9 years of work experience, 34.28 per cent of employees viewed that the level of applicability of balanced scorecard is high, while, 14.29 per cent of them viewed that it is low. Amongst 45 employees who are bearing 10– 12 years of work experience, 35.55 per cent of employees viewed that the level of applicability of balanced scorecard is high, while, 17.78 per cent of them viewed that it is low.

The F-value is 7.909 and it is significant at one per cent level elucidating significant difference prevails in applicability of balanced scorecard amongst work experience of employees.

4.4. RELATION AMONGST APPLICABILITY OF BALANCED SCORECARD AND PERFORMANCE OF IT COMPANIES

The relation amongst applicability of balanced scorecard and performance of IT companies was examined through correlation analysis and the results are given in Table 9.

Table-9. Relation amongst Applicability of Balanced Scorecard and Performance of IT Companies

Particulars	Correlation Co-efficient
Applicability of Balanced Scorecard and Performance of IT Companies	0.63**

** Significance at 1% level

The value of correlation coefficient amongst applicability of balanced scorecard and performance of IT companies is 0.63, it is moderately and positively associated with each other and it is significant at one per cent level.

V. CONCLUSION

The foregoing analysis demonstrate that more than two fifth of employees viewed that the level of

applicability of balanced scorecard in IT companies is moderate. Significant is prevailing in applicability of balanced scorecard in IT companies and profile of employees. Applicability of balanced scorecard has positive, significant and moderate relation with performance of IT companies. Therefore, IT companies should utilize balanced scorecard for planning and they must group all perspectives of balanced scorecard for ensuring balance. Further, they should employ balanced scorecard for framing strategy and execution.

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