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Balanced scorecard perspective on change and performance: a study of selected Indian companies

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Abstract

Balanced scorecard helps organizations to streamline vision and strategy with business activities and measures actual organizational performance against preset goals. In addition this instrument is used to assess financial processes, customer relations, internal business processes and learning and growth characters of an organization. The purpose of this study is to recognize the role balanced scorecard and change management play in better performance of organizations. The work also gains an insight into the effects of balanced scorecard and change on organizational performance. For the purpose, a questionnaire is developed and responses were collected from organizations which were segregated on the basis of public and private sector and also manufacturing and service industry. Statistical tools such as t- test and Correlation were applied to achieve the objectives.

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1. INTRODUCTION

Performance measurement is the process of quantifying the efficiency and effectiveness of past action [1]. A performance measurement system enables informed decisions to be made and actions to be taken because it quantifies the efficiency and effectiveness of past actions through the acquisition, collation, sorting, analysis and interpretation of appropriate data. Through the years, the Balanced

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Scorecard has evolved, from the performance measurement tool originally introduced [2], to a tool for implementing strategies [3] and a framework for determining the alignment of organization's human, information and organization capital with its strategy [4].

Organizational change refers to the adoption of an idea, procedure, process, or behavior that is new to an organization [5]. Recent developments have reinforced that we are moving from a world in which we determined our destination to one on which we must learn to navigate a path between myriad and future possibilities [6]. The increasing turbulence would necessitate the adoption of a more proactive and entrepreneurial policy within the organization [7]. The most well- developed view is that change generally is motivated by events in an organization's environment- some problem or surprise such as shortfall in expected performance, unexpected moves by competitors, shifts in technology, or new customer demand triggers a change [8, 9, 10, 11]

Despite the development of dozens of frameworks and techniques for measuring intangible assets such as intellectual capital and knowledge, a question arises whether the internal measurement of intangible assets for management purposes is associated with higher performance. Researches also highlight the role of balanced scorecard in the effective management of change. A study highlighted the successful implementation of balanced scorecard to revitalize the faculty and academic divisions [12]. It has been informed Balanced Scorecard Strategic Management System helped PSE&G, America's largest combined electric and natural gas company, set new levels of excellence in reliability, safety, innovation, and overall performance [13].

This paper aims at discovering a relation between balanced scorecard and change management. It also intends to illustrate the function of balanced scorecard in the effective management of change and resulting effective performance. To achieve this objective, literature related to balanced scorecard and change is reviewed. Studies presenting the successful employment of balanced scorecard for valuable change management are also appraised. In the light of literature review, hypotheses were formulated followed by research design and analysis. This article also examines the implications for theory and managerial practice.

2. DEFINING BALANCED SCORECARD (BSC)

The balanced scorecard, first proposed in the January- February 1992 issue of HBR ("The Balanced Scorecard- Measures that Drive Performance"), provides executives with a comprehensive framework that translates a company's strategic objectives into a coherent set of performance measures [14]. During a year-long research venture with 12 companies at the leading edge of performance measurement, Kaplan and Norton devised a "balanced scorecard"- a set of measures that provide top managers a fast but comprehensive view of the business. It has been understood that as the business landscape changed from

agricultural to industrial to informational; performance measures must adapt as well [15]. The information age is characterized by the conversion of intangible (employee skills, customer satisfaction, and information technology) rather than tangible assets (property, plant, and inventory) into competitive advantage [16]. BSC includes financial measures that tell the effects of actions already taken. And it complements the financial measures with operational measures on customer satisfaction, internal processes, and the organization's innovation and enhancement activities- operational measures that are the drivers of future financial performance.

The four perspectives of BSC are Financial Perspective, Customer Perspective, Internal Business Process Perspective and Learning and Growth Perspective.

2.1 Financial Perspective

It represents the long- term goal of the organizations- to provide superior returns based on the capital invested in the unit [17]. Financial Measures, has been the traditional method of analyzing organizational success and involves such elements as profitability, sales growth, and revenue per sales visit. Although the BSC stresses the need to incorporate additional measures to determine success, the need for Financial Measures is still an extremely strong element to determine success [18].

2.2 Customer Perspective

Choosing measures for the Customer Perspective of the BSC depends on the type of customers desired and the value that the organization provides to them [19]. The purpose of the Customer Perspective is to focus on the target customers. This will allow organizations to create strategies consistent with the type of customers they want to attract.

2.3 The Internal Business Process Perspective

It entails the procedures that an organization must develop and master to be successful. Many organizations will concentrate on such elements as order processing, delivery, manufacturing, and product development as examples. The focal point of this perspective is related to the Customer Perspective because to keep customers satisfied, an organization will need to focus on the components of the organization important to them. If target customers are dissatisfied when delivery is late, an organization must concentrate on the internal process of developing a more efficient delivery system or refining the system currently used. To accomplish this, managers are undertaking a rigorous internal analysis not only assessing the internal processes of the organization, but reviewing innovation since global competition has decreased the amount of time organizations can bring their products to market to be successful [20, 21].

2.4 Learning and Growth Perspective

This perspective is the backbone to a successful scorecard because it involves employee skills and information systems [22]. Learning and Growth can include such issues as employee satisfaction, alignment of employee skills with jobs, number of employee suggestions implemented, and hours of employee training. Depending on the actual employee skills and desired employee skills, some

organizations change job descriptions, relocate employees to other departments, and/or implement incentive programs designed to motivate employees to provide suggestions, receive education or training, and/or gain tenure through continued employment [23].

3. DEFINING CHANGE

Many organizational events are commonly classified as change, including restructuring, downsizing, mergers and acquisitions, strategic change, and cultural change. Change is defined as “an empirical observation of difference in form, quality, or state over time in an organizational entity” [24, p. 512]. Organizational change is also defined as “a managed system, process, and/or behavioral response over time to a trigger event” [25, p. 10]. This definition focuses on change as a process or action. The notion of “resistance to change” is often attributed to Kurt Lewin [26].

Lewin evolved his concept “based on the ‘person’ as a complex energy field in which all behavior could be conceived of as a change in some state of a field” [27, p. 30]. The status quo represented an equilibrium between the barriers to change and the forces favouring change. He believed that some difference in these forces—a weakening of the barriers or a strengthening of the driving forces—was required to produce the unfreezing that began a change. He held that it was more effective to weaken the barriers than to strengthen the drivers [28]. Scholars disagree on the source of resistance in Lewin’s analysis. Lewin emphasized the role of the individual [29]. It has been said that Lewin’s early force-field analysis put the person at the center of attention, with forces for change battling against individual resistances to change such as habits and practices, and dislike of insecurity and the unknown. Other scholars state that Lewin saw work taking place within a system of roles, attitudes, behaviors, norms, and other factors, any and all of which could cause the system to be at disequilibrium. In this sense, resistance to change was a systems phenomenon, not a psychological one (although the psychology of humans in the system certainly is an element of the total system) [31]. Further the kinds of changes change agents can bring are elaborated by [32]. Up gradation of technology, training employees regarding upcoming plans and targets and encouraging informal channels are few of the modes to bring technological, people and structural changes respectively.

4. FACTORS INFLUENCING PERFORMANCE

4.1 Balanced Scorecard vis-à-vis manufacturing and service industry

A wide range of research documenting the application of BSC in healthcare [33], education [34], banking [35] and retailing [36] has been reported. The evolving applications of BSC and strategy map in the healthcare sector in Ontario, Canada, have been illustrated. A number of innovative approaches adopted by healthcare organizations and health systems in their implementation of Kaplan and Norton’s

strategy map and balanced scorecard are described. In 1995, Peel Memorial Hospital in Brampton, Ontario, BSC provided with a “framework for performance management and evaluation; the ability to translate the organization’s strategic objectives into coherent performance measures; the alignment of seemingly disparate elements with organizational objectives and a focus on accountability at all levels.

Hypothesis 1: There is significant difference on mean scores of Balanced Scorecard vis-à-vis manufacturing and service industry.

4.2 Change vis-à-vis manufacturing and service industry

More than a decade ago, at the end of the dot-com boom, the IBM business model was facing challenging times with the continuing decline of its mainframe business and the commoditization of the firm’s personal computer market. The efforts of IBM are highlighted which were made to resurrect itself provide meaningful lessons for other multinational corporations looking to pursue higher margins, globalize their operations, and change and reduce their cost structures. Heifetz’s adaptive leadership model has been proposed as the primary process for initiating change in today’s more business-oriented academic environment in which colleges and universities are required to compete to attract students and are facing greater scrutiny and accountability from outside constituencies. Another study identifies ways for organizationally complex, community-based health improvement initiatives to avoid “failures” with regard to client outcomes.

Hypothesis 2: There is significant difference on mean scores of Change vis-à-vis manufacturing and service industry.

4.3 Balanced Scorecard vis-à-vis private and public sector

The effects of regulatory constraints and their relaxation on managerial discretion and internal fit in the context of the U.S. airline industry have been investigated. The ability to achieve fit under changing conditions may express a dynamic managerial capability necessary for adaptive organizational change. Moreover, broad-based use of efficiency programs such as six sigma has expanded the use of balanced scorecard in major US businesses like GE, 3M and American Express [37].

Hypothesis 3: There is significant difference on mean scores of Balanced Scorecard vis-à-vis private and public sector.

4.4 Change Management vis-à-vis private and public sector

Change and improvement processes adjust to the shifting environment and what’s being learned about what works and what doesn’t. Federal, state and local governments in the United States invests hundreds of millions of dollars in university leadership courses, executive development programs and off-site retreats for mid-level and senior managers to bring effective change in the existing practices. The UK Government’s major modernization program for local government and its aim to use technology to bring about a radical transformation in the delivery of public services is also considered as a change initiative. In the USA, initial research investigating the power of specific turnarounds strategies such as school

improvement planning [38]; the provision of expert assistance [39, 40, 41] adoption of comprehensive reform models [42, 43]; and reconstitution and related takeover strategies, including privatization [44, 45, 46, 47] is underway. At HSBC Argentina, few weeks' program and new language started to emerge surrounding new behaviors and new ways of working, all of which could be experienced through everyday interactions. HSBC Argentina engaged the entire organization in changing its culture through the application of tens of thousands of specific and individual actions.

Hypothesis 4: There is significant difference on mean scores of Change vis-à-vis private and public sector.

4.5 Balanced Scorecard and Organizational Performance

Kaplan and Norton define BSC as “a framework that helps organizations translate strategy into operational objectives that drive both behavior and performance [48]. An overview of the statistical evidence on the performance consequences of intangible asset measurement is also provided [49]. There are some evidences that non- financial performance measures are positively associated with performance [50, 51, 52, 53, 54, 55, 56, 57]. It has been suggested that companies adopting performance measurement system would improve their corporate performance and profitability by identifying the causal relationships between actions and performance [58]. The results of a survey that found that most Chinese firms have used non- financial performance measures to maintain a competitive advantage are analyzed. The use of an Aligned Balanced Scorecard as a means to enhance the scorecard approach is advocated in order to improve leadership effectiveness as a tool for developing high performance management systems.

Hypothesis 5: There is significant relationship between Balanced Scorecard and Organizational Performance.

4.6 Change and Organizational Performance

Many of the organizations competing in the fast-changing business environment are in a constant search for a robust strategy to help survive the new global economic order, making achieving improved performance continuously imperative. The relationship between change interventions and organizational learning is examined. It seeks to identify the factors that affect organizational learning and its influences on organizational effectiveness [59].

Hypothesis 6: There is significant relationship between Change and Organizational Performance.

4.7 Balanced scorecard and Change

Several empirical studies find out that non- financial measures such as customer satisfaction are positively related to financial indicators such as stock prices and revenues [60, 61, 62]. Comparing financial performances of two sets of banking branches of the same institution before and after one set has implemented a BSC, it was found that the financial performances of the branches that implemented the Balanced Scorecard system improved while the financial performance of the control set of branches did

not change. How balanced Scorecard Strategic Management System helped PSE&G, America's largest combined electric and natural gas company, set new levels of excellence in reliability, safety, innovation, and overall performance. As a result of using BSC, the company reduced customer complaints by 40 percent, described successful operations, got people throughout the organization focused on activities to produce better outcomes, and transformed PSE&G's culture into one that emphasize excellence, accountability, and continuous improvement [63]. The results of successful implementation of BSC at the Kenneth W. Monfort College of Business at Northern Colorado, a 2004 Malcolm Baldrige National Quality Award recipient, and at the University of Wisconsin- Stout, the first university to receive the award in 2001. An adapted form of the Balanced Scorecard is a component of the Malcolm Baldrige National Quality Award (2003). The program is the vehicle of implementation for Malcolm Baldrige National Quality Improvement Act (1987). The primary objective of the program is to help U. S. business improve their competitiveness in the global market by identifying role- model organizations, recognizing them and disseminating their practices throughout the United States.

Hypothesis 7: There is significant relationship between Balanced Scorecard and Change

5. RESEARCH DESIGN

5.1 Need for study

It has been observed after review of literature that balanced scorecard is used in order to rejuvenate organizations. This tool has also proved to be an effective tool resulting in better performing organizations. However, there has been no empirical study so far to show the relation between balanced scorecard and change, and their joint impact on organizational performance. Therefore, it was felt that there is need to explore the relation between balanced scorecard and change and how these affect performance of any organization.

5.2 Objectives of study

1. To study the concepts of balanced scorecard and change.
2. To assess the relationship between balance scorecard, change and organizational performance.

5.3 Research Design

Balanced scorecard and change are latent independent variables leading to organizational performance, which is dependent variable. Five constructs are identified for BSC namely: general, financial, customer, internal process, and learning and growth perspectives. For change five constructs namely; general, technological, social, leadership, and structural change are identified. In order to collect data on various dimensions of the study, a research instrument was designed based on extensive literature review. The instrument was based on five- point likert scale with choices 'strongly agree', 'agree', 'neither agree nor disagree', 'disagree' and 'strongly disagree'. The organizations chosen for the research

fall under fortune 500 companies. Initially the questionnaire had 72 statements. The questionnaire was reviewed by experts for their feedback. After necessary modifications, senior managers were contacted for their responses since they are more aware of the application of balanced scorecard and changed occurring in the organization. The questionnaire was sent to 75 potential respondents, out of which only 50 responses were received. The reliability and validity of the instrument was determined with the help of factor analysis and computing Cronbach alpha. The value of Cronbach alpha for the entire instrument as well as for each construct was more than 0.700. Those variables with low factor loadings(less than 0.400) were deleted and the questionnaire was refined. As a result, 45 statements remained in the final questionnaire. After final data collection 105 responses turned out to be valid and considered for the analysis.

6. DATA ANALYSIS AND HYPOTHESES TESTS RESULTS

Table 1: Independent Sample t- test

Nature of industry	N	Mean	Std. Deviation	Std. Error	t	Sig.(2-tailed)
General Perspective (BSC)	1 21	4.1429	.76064	.16599	1.023	.309
	2 84	4.2976	.58143	.06344		
Financial Perspective	1 21	4.0238	.67964	.14831	.628	.531
	2 84	4.1865	1.13465	.12380		
Customer Perspective	1 21	4.0357	.69050	.15068	.379	.706
	2 84	4.0893	.54970	.05998		
Internal Business Process perspective	1 21	3.9116	.63964	.13958	.517	.606
	2 84	3.9830	.54698	.05968		
Learning and growth Perspective	1 21	3.7460	.76307	.16652	.199	.843
	2 84	3.7817	.73084	.07974		
Balanced Scorecard	1 21	3.9720	.55140	.55140	.736	.463
	2 84	4.0676	.52760	.52760		
General perspective(Change)	1 21	4.0000	.85147	.18581	.498	.619
	2 84	3.9048	.76629	.08361		
Technological Change	1 21	3.5238	.82502	.18003	2.241	.027
	2 84	3.8899	.62618	.06832		
Social Change	1 21	3.5952	.69636	.15196	.228	.820
	2 84	3.6349	.71627	.07815		
Leadership Change	1 21	3.7619	.94365	.20592	.431	.667
	2 84	3.6667	.89676	.09784		
Structural Change	1 21	3.9762	.78224	.17070	.976	.332
	2 84	3.7619	.92644	.10108		
Change	1 21	3.7714	.67535	.14737	.001	.999
	2 84	3.7716	.67601	.07376		
Performance	1 21	4.19	.814	.178	.952	.343
	2 84	4.00	.821	.090		

Table 1 presents the t- value and significance difference on mean scores of balanced scorecard and change vis-à-vis manufacturing and service industry. There is no significant difference on mean scores of balanced scorecard with regard to service or manufacturing industry. Significant difference ($p=.027$) is found on the mean score of technological change vis-à-vis nature of industry. The mean value of technological change with respect to manufacturing and service sector comes out to be 3.5238 and 3.8899 respectively. There is no significant difference on mean scores of change with respect to nature of industry.

The above analysis shows that hypothesis 1, stating that there is significant difference on mean scores of Balanced Scorecard vis-à-vis manufacturing and service industry, is rejected. Also hypothesis 2, stating that there is significant difference on mean scores of Change vis-à-vis manufacturing and service industry is rejected.

Table 2: Independent Sample t- test

		N	Mean	Std. Deviation	Std. Error Mean	t	Sig.(2- tailed)
Nature of Sector							
General Perspective (BSC)	1	29	4.2759	.76064	.51036	.093	.926
	2	76	4.2632	.58143	.66067		
Financial Perspective	1	29	4.4885	.67964	1.75760	2.030	.045
	2	76	4.0263	1.13465	.58376		
Customer Perspective	1	29	4.1638	.69050	.60973	.934	.353
	2	76	4.0461	.54970	.56526		
Internal Business Process perspective	1	29	4.0345	.63964	.57481	.736	.463
	2	76	3.9436	.54698	.56186		
Learning and growth Perspective	1	29	3.5632	.76307	.88238	1.844	.068
	2	76	3.8553	.73084	.65735		
Balanced Scorecard	1	29	4.1052	.66137	.12281	.674	.502
	2	76	4.0269	.47557	.05455		
General perspective(Change)	1	29	4.0172	.85147	.61937	.756	.451
	2	76	3.8882	.76629	.83506		
Technological Change	1	29	3.7241	.82502	.84342	.857	.393
	2	76	3.8520	.62618	.61261		
Social Change	1	29	3.7644	.69636	.71063	1.229	.222
	2	76	3.5746	.71627	.70627		
Leadership Change	1	29	3.9172	.94365	.86605	1.637	.105
	2	76	3.5974	.89676	.90598		
Structural Change	1	29	3.8621	.78224	.86496	.401	.689
	2	76	3.7829	.92644	.91773		
Change	1	29	3.8570	.64765	.12027	.803	.424
	2	76	3.7390	.68328	.07838		
Performance	1	29	4.10	.814	.900	.503	.616
	2	76	4.01	.821	.792		

Table 2 presents the t- value and significance difference on mean scores of balanced scorecard and change vis-à-vis public and private sector. There is a significant difference on mean scores of financial

perspective ($p=.045$) with respect to public and private sector. The mean scores of financial perspective come out to be 4.4885 and 4.0263 vis-à-vis public and private sector respectively. No significant difference is found on the mean scores of other dimensions of balanced scorecard with regard to public and private sector. The analysis also shows there is no significant difference on mean scores of various perspectives of change management vis-à-vis public and private sector.

The t- tests results illustrates there is no significant difference on mean scores of Balanced Scorecard vis-à-vis private and public sector. Thus, hypothesis 3 is rejected. No significant difference on mean scores of Change vis-à-vis private and public sector is found, therefore hypothesis 4 is also rejected. This implies that balanced scorecard as well as change practices are handled similarly in public and private sector organizations.

Table 3: Correlations among BSC, Change , and Performance

	G 1	F	C	P	LG	BSC	GC	T	So	L	St	Chang e
General Perspective (BSC)												
Financial Perspective	.348**	1										
Customer Perspective	.370**	.348**	1									
Internal Process Perspective	.515**	.406**	.526**	1								
Learning and Growth Persp.	.457**	.383**	.539**	.668**	1							
Balanced Scorecard	.689**	.748**	.704**	.794**	.795**	1						
General Perspective (Change)	.380**	.346**	.552**	.620**	.563**	.634**	1					
Technological Change	.409**	.397**	.548**	.554**	.560**	.645**	.585**	1				
Social Change	.374**	.428**	.541**	.719**	.622**	.700**	.689**	.618**	1			
Leadership Change	.357**	.407**	.614**	.629**	.656**	.694**	.643**	.620**	.837**	1		
Structural Change	.223*	.253**	.467**	.483**	.516**	.500**	.417**	.530**	.688**	.781**	1	
Change	.406**	.428**	.643**	.706**	.690**	.746**	.746**	.777**	.905**	.929**	.827**	1
Performance	.424**	.392**	.552**	.564**	.614**	.665**	.380**	.494**	.543**	.653**	.519*	.617**

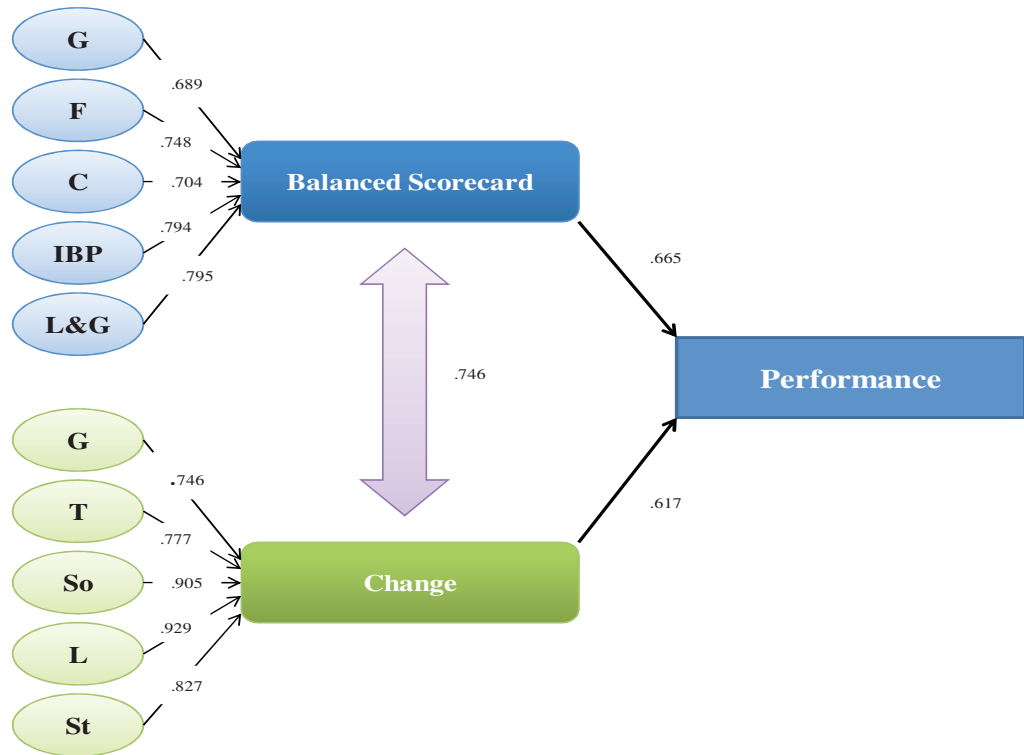
** . Correlation is significant at the 0.01 level (2-tailed).

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

The results of correlation exhibit significant relationship between balanced scorecard and organizational performance. Thus, hypothesis 5 is accepted. Analysis also shows significant relationship between change and organizational performance as a result hypothesis 6 is accepted. The value of r shows there is significant relationship between balanced scorecard and change. Hypothesis 7, stating there is significant relationship between balanced scorecard and change is accepted. This implies that balanced scorecard

perspectives and change positively impact the performance of the organizations. If balanced scorecard is used properly, change will be effective leading to effective and high performance.

FIGURE 1: MODEL PRESENTING VALUE OF CORRELATION



7. CONCLUSION

By now, the Balanced Scorecard's universal appeal as a management approach is well established. BSC provides a visual framework that integrates the organization's strategic objectives across these four perspectives. Change is more likely to happen when a clear reason for it exists. Any change effort offers both short-and long-term impact on organizational performance. The results of the study show that Indian organizations have incorporated the dimensions of BSC as a performance measurement tools and use it to create change and improve performance. There is not much difference in the use of BSC between public and private sector as well as service and manufacturing organizations.

Results also suggest that private and public sector organizations differ on the dimension of technological change while service and manufacturing organizations differ on financial perspective. BSC , change and

performance are highly correlated to each other thus substantiating the argument that performance is affected by BSC and change.

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