Implementation of Strategy in National Iranian Gas Company using(BSC) Approach

Fakhrossadat Hashemian

The master of educational management of Allameh Tabataba'i,s University
fa_hashemian@yahoo.com

Abstract: This study used descriptive survey to examine the performance of National Iranian Gas Company (NIGC) as evaluated by using balanced scorecard approach. The study population included all NIGC employees and customers. This study used stratified sampling to select its study sample of 350 proportionally from 30 provinces. The study sample consisted of 300 employees and 50 customers of NIGC. Final analysis examined data provided by 261 employees (including 100 managers and 161 specialists) and 51 customers. With a balance criterion of 2.33, single sample t-test results showed that general performance of NIGC is balanced in all perspectives ($p<0.01$). This study showed that there is a significant direct relationship between four studied perspectives ($p<0.01$). Analysis of variance (ANOVA) among factors showed that two perspectives of learning and growth, and internal process had the same balance level. Customer satisfaction had the highest balance. Finance had the lowest balance compared with non-financial perspectives. Step by step regression analysis showed that internal process ($\beta=0.38$) and learning and growth ($\beta=0.28$) were the best predictors of NGIC financial standing with learning and growth contributing the most to NIGC financial position. T-test on two independent groups showed that managers viewed NIGC more balanced in terms of internal process and learning and growth perspectives compared to employee's views. Metropolitan employees believed that NIGC was less balanced in learning and growth perspective when compared to employee believes in other cities. Employees perceived higher customer satisfaction compare to the level of satisfaction expressed by NIGC customers. Therefore, employees' perception of customer satisfaction was higher than real customer satisfaction. In conclusion, NIGC performance is balanced and satisfactory in all perspectives. To increase the balance, NIGC should concentrate on customer satisfaction and learning and growth together with employee satisfaction to improve non-financial perspectives which in turn shall increase NGIC financial standing.

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Introduction

Complexity of business environment and competition has made awareness about weaknesses and strengths together with continued productivity improvement very critical for organizations [7]. Performance evaluation is an important concept in performance management as a means for feedback. performance management refers to approaches which attempt to overcome the negative aspects of performance evaluation by emphasizing on a future-oriented continued processes, where managers and employees could work together to create opportunities for learning and gaining experience aimed at performance improvement [1].

Performance evaluation is an activity which goes back to when human started group living. However, its formal usage at individual and organization levels started in 1800 when Robert Owen introduced it to Scotland's Textile Industry.

There are two important views of performance evaluation system, namely, traditional and modern. In traditional view, management concentrates on short-term criteria for financial gains. There is no attention to investment and management of intangible assets which contribute the most to financial success of an organization [21]. Traditional performance evaluation system rarely considers organizational missions and strategic objectives. It does not associate itself with organizational programs and planed steps aimed at maximizing and coordinating employee efforts and intellectual assets [16].

Kaplan and Norton offered a new management approach which was capable of mapping strategy to activities which promote organizational development. They believed that balanced scorecard (BSC) could turn organizational mission and strategies into overall performance evaluation criteria in order to provide a framework for strategic management and assessment [35]. Balanced assessment helps organizations to overcome two main issues, namely, effective organizational performance evaluation and successful strategy implementation [28].

Balanced scorecard and strategy map help companies to translate, transfer, and assess their strategies [21]. Balanced scorecard has been widely used in recent years as one of the most comprehensive approaches available to organizations. Companies like Advanced Micro Devices (AMD), Shell, and Hewlett-Packard (HP) have implemented this approach and benefited from its outcomes. Balanced scorecard provides moment control and supervision over organizational functions by comparing results with organizational objectives and plans. This approach measures and evaluates the success level of work output and achievement level of strategic objectives by comparing organizational objectives against working plans [26].

Balanced scorecard is a collection of quantitative criteria selected based on organizational strategy and used as a tool to maintain communication with employees and outside stakeholders. This communication is carried out based on a collection of past and future oriented criteria. It helps organizations to establish strategic objectives and work towards a strategic outlook. Balanced scorecard serves as a communication tool (using strategic map), a measurement system, and a strategic management system in organizations. It helps organizations to address three key issues: measurement of effective organizational performance, identification of intangible assets, and successful implementation of strategies [5].

Balanced scorecard assists in conducting an overall and multi dimensional assessment, integration of internal and external criteria, mapping of organizational strategy, establishing cause and effect relationship among assessment elements, considering qualitative and quantitatively criteria, applying key success factors, identifying intangible assets, effective coordination of organizational divisions, focusing on value added activities, creating suitable base for assessment of responsibility and accountability plus establishing a performance based rewarding system [19].

Balanced scorecard requires managers to answer four basic questions or look at their own function and company business from four different points of view [1]:

1) How customers view their organization (customer view)?
2) In what functions should they excel (internal view)?
3) Could they continue their improvement programs (innovative and learning view)?
4) How should they view their shareholders (financial view)?

Companies like Microsoft, Toyota, and Apple Computer use balanced assessment as a tool for long-term operation measurement to take their focus away from current operation measurements. These companies apply suitable strategies to emphasize on shareholders values (finance perspective), on market share and customer satisfaction (customer perspective), on overall competence and capabilities (internal process perspective), and on innovation and growth (employee perspective) [2].

An assessment approach should be capable of identifying the overall organizational standing relative to organizational objectives at any time (i.e. measure the gap between achieving objectives). It should also identify organizational standing relative to its operating environment (i.e. market, competitors, and other organizations). An assessment approach should measure the effectiveness of performed activities within an organization [7].

Large organizations employ technology experts for planning, control, and quality improvement. They rely on their economic and political prowess to contribute to national productivity with their quality products and process planning [6]. Strategy map of balanced scorecard provides a framework to demonstrate how organizations can map an intangible asset strategy to value creation processes.

The objectives of four perspectives are interrelated because of their cause and affect relationships. Objective coordination is the key to value creation and a sustainable strategy for four perspectives.

Intangible assets such as knowledge base and technology have direct effect on financial performance of an organization leading to increased revenues, reduced costs, and improved profitability. Improved intangible assets or the cause and effect chain of interrelationship affect the financial results and their contributions dependent on organizational environment and strategy.

Intangible asset valuation materializes when those assets are effectively integrated with other tangible and intangible assets. For example, quality of training is effective when employees have access to detailed and timely data through a process-oriented database system. Value creation is maximized when all tangible and intangible assets make coordinated contributions to organizational strategy.

Strategy map focuses on programs for organizational improvement such as activity based management (ABM) and total quality management (TQM). Any cost improvement depends on the quality of operational management and their accountability.

Activity based management can improve current operations through business development, prioritization, cost justifications, pursuit of profit, and performance evaluation [21]. A comprehensive management system can link strategy development and planning to strategy implementation. Strategic management process has three steps: strategy development, strategy implementation, plus strategy evaluation and control [18].

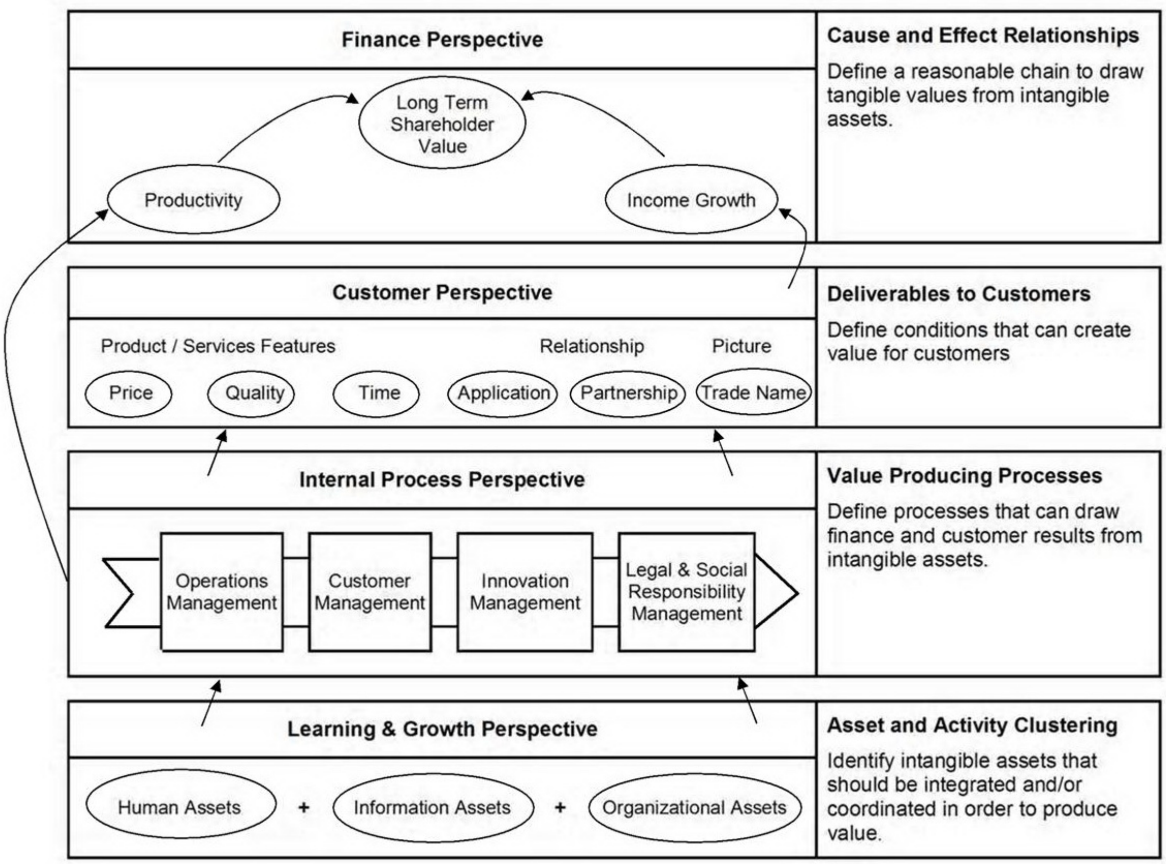
Strategic initiative attempts to narrow the gap between the real performance and the expected (desired) performance in achieving strategic objectives [31]. Balanced scorecard is a powerful management tool because it facilitates identifying problems and offering solution.

Balanced scorecard is a system that provides managers with a comprehensive outlook of organizational operations within four important organizational perspectives. This system defines a meaningful link between organizational perspectives and the organization as a whole. Organizational strategies are broken into defined operational objectives and, subsequently, implemented accordingly.

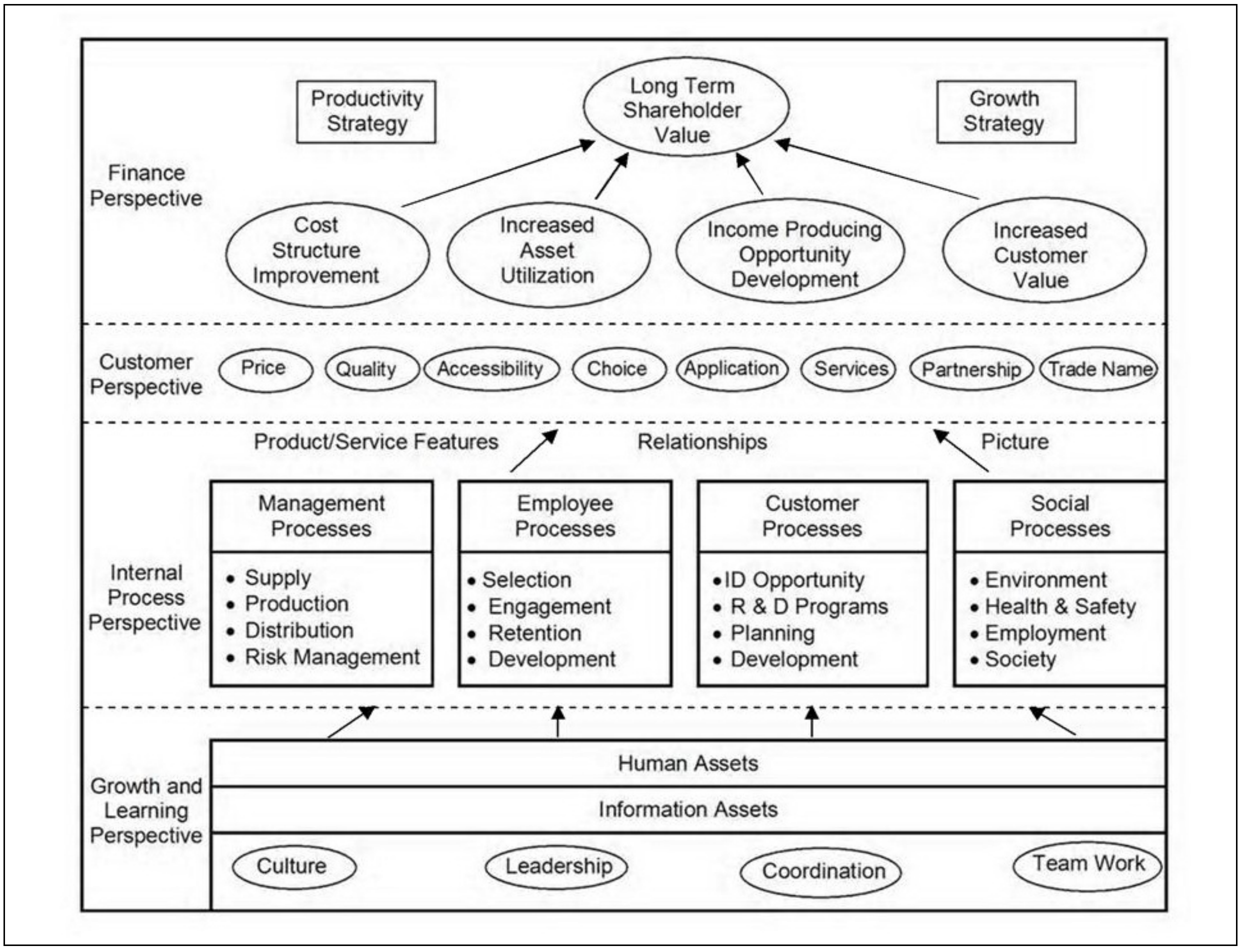
A review of management literature, previous research on the subject, and this study indicate that balanced scorecard has found its place in organizational performance development and improvement when compared with similar models and its application is rapidly expanding.

Managers and practitioners should recognize the importance of using balanced scorecard as a comprehensive performance evaluation model. It is a flexible, beneficial, effective, constructive, and comprehensive model. Kaplan and Norton first introduced balanced evaluation approach in 1992. It was later developed into balanced scorecard.

The application of balanced scorecard has recently been expanded and found its way into diverse areas including education (Beard, D. 2009, Mahesan et al. 2011, Mehregan, M. R. 2009, Shaghooii, P. 2009, Kordloo, B. 2010, …), industry (Valderrama et el, 2009, Wong, W. H, F., et. al. 2008, Ebrahimi, S. O. 2005, …), sports (Winanada M, & Qualizza D. 2009, Madella, A. et al, 2005, Amir Nejad, S. et al, 2008, Solaimani et al, 2009, …), services (Mc Phail, R. et al, 2008, Keshtkar, H. 2011, Tayyebi Tolooe, 2011, Samie Zadeh, R. et al, 2008, ….), and organizations and enterprises (Beland, S. 2012, Hiroshi et al, 2003, Paroline & Robert 2006, Valereiy & Blackmon 2008, Sepehrian 2010, Mozafari, M 2010, Bagheri, Z. 2010, …).



Balanced Scorecard Framework [20]



Organizational Strategic Map

Some research findings indicated that all four perspectives, namely, learning and growth, internal process, customer, and finance were balanced in organizational performance evaluation (Keshtkar, H. 2011, Mozafari, M 2010, Shaygan 2007, Shaghooii, P. 2009, Ebrahimi, S. O. & Shariefy 2005, Sadefi 2007, Madella et al 2005, Chen & Chen 2011, …), while other researchers demonstrated imbalance among four perspectives (Bagheri, Z. 2010, Mahammadi 2008, Mc Phail 2008). Some studies emphasized on the importance of learning and growth in the effective and efficient achievement of objectives (Valderrama 2009, Mc Phail 2008, Solaimani et al, 2009).

Other studies (Winanda 2009 and Solaimani et al, 2009) showed that organizational success in achieving strategic objectives depended on the development and planning of several perspectives, especially, internal processes in order to prove their importance.

Some researchers (Adriana B. R. 2008, Wong, W. H, F. et. al. 2008, Fallah 2009 and Solaimani et al, 2009) have concluded that paying attention to customer relationship is critical for organizational growth and development. Therefore, customer perspective is the most important perspective in organizational success (Chen & Chen 2011, Habib & Sartorius K, 2011 and Amir Nejad, S. (2008)). These studies considered financial advancement to be dependent on paying attention, emphasizing and developing the other three perspectives.

Balanced evaluation, as a valuable tool in managers' hands, facilitates removing the existing shortcomings in the traditional approaches. It provides new capabilities to managers to implement, analyze, supervise, and plan strategies that make the highest contribution to organizational success and efficiency. The advantages of this approach are many as it creates employee consensus, directs activities toward organizational strategy, integrates strategic planning, optimizes resource allocation, and improves management effectiveness.

Performance evaluation in this study is referred to identification of indexes and criteria based on balanced scorecard and its four main perspectives. The task was carried out by considering NIGC strategies and scoring (quantifying) criteria to determine the level of strategic convergence of NIGC activities and the acceptability of their performance.

Methodology

The methodology used in this study is descriptive-practical. This study has used correlation method and compared averages within and between groups. Statistical population for this study included all NIGC managers and specialists in Distribution and Province Network (30 provinces) plus all customers who receive unlimited benefit from Company services. A sample of NIGC managers, employees, and customers was selected from the study population. Sampling method was stratified random sampling proportional to 30 provinces. A study sample of 350 was obtained including 300 employees and 50 customers. Employees answered questions on 4 assessments perspectives, while customers only answered to questions on customer perspective.

Data Collection Tool

Data collection tool in this study was a 55-item questionnaire with 45 items for three non-financial perspectives (15 items each) and 10 items for financial perspective. A typical five-level Likert item was used for scoring non-financial items on the questionnaire with 5 = very high and 1 = very low. A 10-level scoring was used for financial items, with 1=10% and 10=100%.

The reliability of Performance evaluation Questionnaire measured 0.73 by Cronbach alpha. The reliability of individual perspectives was 0.78 for learning and growth (15 items), 0.72 for internal process (15 items), 0.70 for customer (15 items), and 0.65 for finance (10 items). All measured reliabilities were acceptable.

In order to assess questionnaire's content reliability, this study sought experts and specialists opinions that were familiar with management and performance evaluation. The questionnaire was given to two groups of university professors in the fields of management or assessment and measurement. They were asked to assess the degree of correspondence between questions and the intended content with 5 degrees of confidence. They were to express their opinions using a 5-level grading scheme with 1 representing low level and 5 representing high level of correspondence between questions and a given perspective. Correspondence coefficient of judgments was calculated at 0.74 as the representation of content reliability. The coefficient was ideal and, therefore, management experts judged the questionnaire with suitable content reliability and the concepts considered for questions covered all four perspectives of balanced scorecard.

Table 1 - Frequency Distribution of Employee Samples Proportionally Divided by Provinces

No.	NIGC Province Branches	Frequency	Frequency in Percent	Cumulative Frequency
1	Razavi Khorasan	13	5.0	5.0
2	Ardabil	6	2.3	7.3
3	Gilan	13	5.0	12.3
4	Golestan	8	3.1	15.3
5	Lorestan	6	2.3	17.6
6	Khuzestan	17	6.5	24.1
7	South Khorasan	3	1.1	25.3
8	Yazd	6	2.3	27.6
9	West Azerbaijan	9	3.4	31.0
10	North Khorasan	5	1.9	33.0
11	Hamadan	10	3.8	36.8
12	Fars	17	6.5	43.3
13	Kerman	6	2.3	45.6
14	Isfahan	25	9.6	55.2
15	Semnan	7	2.7	57.9
16	Qom	6	2.3	60.2
17	Qazvin	7	2.7	62.8
18	Kermanshah	5	1.9	64.8
19	Kurdistan	5	1.9	66.7
20	Zanjan	6	2.3	69.0
21	Tehran	40	15.3	84.3
22	East Azerbaijan	15	5.7	90.0
23	Mazandaran	11	4.2	94.3
24	Booshehr	5	1.9	96.2
25	Markazi (Central)	10	3.8	100.0
Total		261	100	

In analyzing the collected data, we first determined the position of averages of study variable on a 1 to 5 scale after linear transformation of all four perspectives. Based on recommendation made by the adviser and evaluation experts, five-level Likert scale was divided into 3 ranges, namely, 1-2.33 representing low balance, 2.33-3.66 representing suitable balance, and higher than 3.66 representing high balance.

Correspondence between financial and non-financial perspectives indicated the desirability of

NIGC performance. Correspondence between averages of employee and customer opinions in customer satisfaction perspective was a good representation for the desirability of NIGC performance. To study the secondary findings, we used analysis of variance within grouping, one-way analysis of variance, and post-hoc analysis. We used step by step regression analysis for prediction of finance perspective with the help of the three non-finance perspectives.

Findings

From questionnaires distributed to the study sample, 261 NIGC employees and 51 customers responded. Employee questionnaires were from 25 provinces out of 30 and customers were from Tehran Province. Table 1 shows the frequency distribution of employee questionnaires received from provinces.

From responding NIGC employees, 57 were female and 204 were male with average age of 31.45 years. From responding NIGC customers, 15 were female and 36 were male with average age of 30.05 years.

Among NGIC employees, 20 employees had high school and technical school diplomas; 156 had bachelor's degrees; and 85 had master's and doctorate degrees. Professional experience of 31 employees was 5 years or less; 87 employees had 5 to 10 years; 53 employees had 10 to 15 years; and 90 employees had more than 15 years of professional experience. There were 240 official and 21 non-official employees. There were 5 managers, 95 directors and deputy directors, 129 senior specialists or specialists, and 32 supervisors or operators.

Table 2 presents means, standard deviations, correlation coefficients, Kolmogorov-Smirnov test results for four perspectives in the employee group. Table 2 shows Employee Performance Profile for four main perspectives of balanced scorecard.

Table 2, Descriptive Statistics for Balanced Scorecard's Four Main Perspectives (df=259, n=261)

Statistics							
Variables (Perspectives)	Mean (M)	Standard Deviation (SD)	1	2	3	4	Kolmogorov-Smirnov Test *
Learning and growth	2.91	0.63	0.78				
Internal process	2.98	0.49	0.75**	__			
Customer	3.40	0.54	0.62**	**	__		
Finance	2.54	0.85	0.55**	**	**	0.65	

Notes: **Cronbach Alpha Coefficient for each perspective are placed on secondary diagonal of matrix p<0.01
* Distribution of variables is Normal.

Table 2 shows that there is a positive and significant relationship between finance and learning and growth ($r=0.55$, $p<0.01$). There is a positive and significant relationship between finance and internal process ($r=0.58$, $p<0.01$). There is a positive and significant relationship between finance and customer ($r=0.40$, $p<0.01$). The Figure 1 shows the profile of the four perspectives from employee's point of view.

For hypothesis testing, averages above 2.33 were considered as desirable and balanced for each performance evaluation and its underling subsets. In order to compare observed means with desirable means, we used single-sample t-test.

For hypothesis testing of finance and non-finance perspectives (i.e. learning and growth, internal process, and customer), an average higher than 2.33 indicated that the performance of NIGC was balanced. Another indicator for balanced performance of NGIC was the balance between employee and customer opinions on customer perspective and its subsets. Another indicator is predictability of finance perspective with the help of non-finance perspectives to be discussed later. Table 3 shows the results of single-sample t-test on study variables.

Table 3 shows that the averages customer satisfaction in NIGC employees' and customers' opinion are higher than the desirable and balanced average (i.e. 2.33) and observed statistic for both groups is higher than the critical value of table at 0.01 level. This is indicative that customer satisfaction is balanced in the opinion of both groups, which in turn is another indicator for NIGC balanced performance.

In order to draw more suitable and practical conclusion on four perspectives of performance evaluation, researcher used step by step regression analysis to determine which non-finance perspective was a better predictor of finance. Table 4 shows the results of this analysis.

Table 3 - Means, Standard Deviation, Mean Differences, and T Statistic for Finance and Non-finance Perspectives (n_1=261, n_2=51)

Statistics					
Perspectives	Mean (M)	Standard Deviation (SD)	Mean Differences (MD)	Degree of Freedom (df)	t-statistic
Finance	2.54	0.84	0.21	260	4.06**
Non-finance	3.09	0.49	0.77	260	25.40**
Customer from `employees' opinion	3.40	0.54	1.07	260	32.14**
Customer from `customers' opinion	2.74	0.46	0.41	50	6.40**

** p<0.01

Table 4 - Standard Coefficients, Correlation Coefficient Squared and It's Variation in Step by Step Regression Model for Predicting Finance Perspective

Model	Variables	R^2	B	SE B	β	t	$F_{(1.256)}$
1	Internal process	0.36	1.03	0.08	0.60	12.06**	145.44**
2	Internal process Learning & growth	0.39	0.65 0.35	0.12 0.10	0.38 0.28	5.13** 3.18**	84.10**

**p <

A significant model was obtained after considering the result of concurrent regression analysis for predicting finance perspective with the help of three non-finance perspectives, (R^2=0.39, $F_{(1,256)}$=84.10, p<0.01). Results of step by step regression analysis showed that customer variable was not a good predictor ofr finance perspective and therefore was eliminated from the model (t=0.96, p>0.05). Internal process turned out to be a good predictor of finance and a standard deviation equal to 0.38 confirms that (t= 0.51, p<0.01). Learning and growth was also a good predictor of finance and a standard deviation equal to 0.28 clarifies its variation (t= 3.18, p<0.01). The final regression equation is as follows: Finance = Learning and growth (0.28) + Internal process (0.38)

Table 5 - Average, Standard Deviation, Average Differences, t Statistics for Four Perspectives and Their Subsets (n= 261, df=260)

Statistics				
Perspectives	Mean (M)	Standard Deviation (SD)	Mean Differences (MD)	t
Finance View	2.54	0.84	0.21	4.06**
Asset Management	2.77	0.88	0.44	8.10**
Increased Income	2.49	0.93	0.17	2.92**
Reduced costs	2.36	0.95	0.03	0.55
Customer View	3.40	0.53	1.07	32.14**
Satisfaction	3.59	0.70	1.26	28.91**
Services	3.53	0.66	1.20	29.34**
Performance	3.42	0.68	1.09	26.02**
Time	3.48	0.73	1.15	25.64**
Access	3.42	0.63	1.09	27.92**
Quality	3.02	0.58	0.69	19.12**

Reduced costs	3.35	0.85	1.04	19.35**
Internal Process View	2.98	0.48	1.07	21.49**
Production	3.15	0.64	1.09	20.65**
Technical Engineering	3.24	0.54	1.15	26.96**
Service Quality	3.06	0.74	1.09	15.87**
Innovation	3.19	0.65	0.69	21.39**
Operations	2.23	0.44	1.04	-3.49**
Learning & Growth View	2.91	0.62	0.58	15.03**
Human Assets	2.74	0.73	0.41	9.14**
Information Assets	2.89	0.65	0.56	14.07**
Organizational Structure	3.10	0.64	0.77	19.38**

**p<

In conclusion, learning and growth plus internal process are better predictors for finance when compared to customer. Next table compares averages of the four perspectives and their subsets with the balanced average of 2.33.

Table 5 shows that the averages of perspective subsets are higher than the balance average (2.33). Statistical data is higher than table values at 0.01 level and 260 degrees of freedom. Consequently, perspective averages and averages of their subsets are balanced ($p<0.01$). On the contrary, the average of reduced expense subset (2.36) does not show significant difference with the balanced average (2.33) and they are almost identical. Observed statistics (0.55) is less than the critical value at 0.05 level with 260 degrees of freedom.

Supplementary findings of sample study showed significant differences among averages of four perspectives ($F_{(1,260)}=172.72$, $P<0.01$, $\eta^2=0.39$). Post-hoc analysis and Bonferroni correction showed that finance and customer perspectives had significant differences with the other two ($P<0.01$). There was no significant difference between internal process and learning and growth ($P<0.01$).

Averages of internal process ($F_{(1,260)}=22.47$, $P<0.01$) and learning and growth ($F_{(1,260)}=8.34$, $P<0.01$) in two groups of managers and employees had significant difference. Both averages were higher in manager group.

Conclusions and Suggestions

Scholars consider this era as knowledge based information and economy era. In such era, management of large organizations and enterprises focus more attention on dealing with competition, development and implementation of organizational strategy and outlook, and the assessment of the extent organizational strategies are realization. Top managements of major companies endeavor on establishing their own strategies that help these organizations better compete at national and international levels. Realization of improvement and development plans for organizational performance depend on the awareness or ignorance of the current performance standing based on the organizational results and capabilities [1].

Companies select suitable indexes to make better judgments and decisions with respect to the performance of personnel, company divisions, and the whole organization. They use similar indexes for measuring the level of satisfaction among stakeholders. These companies try to prove their perceptions with sufficient proofs.

Performance evaluation is one of the main parts of a performance management system. It is an effective tool used for periodical, systematic, and comprehensive review of organizational activities and outcome. Performance evaluation can enable companies to clearly identify their improvement strengths and weaknesses. Organizations can use performance evaluation to plan for their improvement programs and use it to monitor organizational development and growth.

The limitations of traditional performance systems, their one-sidedness and their reliance on accounting information from one hand, and their lack of ability to account for intangible assets such as customer relationships, new products and services, high quality, accountable operational process, technology and databases, employee competence and motivation on the other hand have changed the way organizations view performance evaluation. Managers are now looking for a comprehensive, reliable, and flexible solution to assess their organizational performance. Such solutions could provide assurance about the implementation of company strategies and could help managers obtain accurate and sufficient information about the market standing of their company so that they could work toward improving their position. Managers are required not only to find proper solutions for addressing outside environmental issues. Managers will also be able to determine their internal advantages to assure long-term success and to direct employee activities toward strategic directions.

Balanced scorecard is a management tool which has become available during last decade to assist progressive companies to direct their activities toward their strategic directions. This system was proposed by Kaplan and Norton in 1992 as an integral part of strategic management. Balanced scorecard evaluates company performance based on criteria which are defined by examining company strategic objectives. These objectives are classified into four perspectives, namely, finance, internal process, learning and growth, and customer. Strategic objectives are evaluated based on this classification.

Balanced scorecard is a modern and effective model that evaluates company performance on four perspectives, namely, customer and the degree of company success in fulfilling customer satisfaction, organizational functions and internal processes, organizational learning and growth, and finally finance and success level of achieving financial objectives. A measuring system should concentrate on strategy and the identification of ways an organization intends to create future sustainable value. Strategy map of balanced scorecard provides a framework to organizations in order to show them how strategy may coordinate intangible assets (human, information, and organizational resources) with internal processes in order to make a proper link to value creation processes that produce customer satisfaction and financial success. The objectives of these four perspectives are related to each other because of their cause and effect relationship.

The coordination among objectives of these four perspectives is the key to value creation in a sustainable strategy. Strategy map focuses the attention of managers on activity-based management (ABM) and total quality management (TQM). The combination of improvement programs and strategy map provides an opportunity to companies to carry out their activities properly [21].

A comprehensive management system can link strategy development and planning with strategy implementation. Strategic management process has three steps: strategy development, strategy implementation, and strategy evaluation and control [18]. Strategic initiative tends to narrow the gap between actual and expected (desirable) performances of the implementation of strategic objectives [32]. Balanced scorecard is a powerful management tool because it identifies problems and offers solution.

Balanced scorecard is a system that provides managers with a comprehensive outlook of organizational operations within four important organizational perspectives. This system defines a meaningful link between organizational elements and the organization as a whole. Organizational strategies are broken into defined operational objectives and, subsequently, are implemented accordingly.

This study used balanced scorecard to evaluate NIGC performance in the four underlying perspectives. The overall conclusion of this study indicates that NIGC performance is satisfactory. This conclusion was reached based on opinions expressed by NIGC customers and employees including its managers, directors, experts, and senior specialists.

Results of regression analysis indicated that NGIC should focus more on internal process and learning and growth in order to increase its financial standing. Data collected from employees showed that internal process is equally balanced with learning and growth. Customer perspective had the highest balance and finance had the lowest balance. NIGC managers viewed internal process and learning and growth at higher balance when compared with employee views. NIGC employees in non-metropolitan cities viewed their organizational performance in learning and growth more balanced than employees in metropolitan areas.

Considering the fact that balanced scorecard views organizational divisions as balanced and in line with strategy, the relationship between its four perspectives and creating balance between all four perspectives become important issues to address. The cause and effect relationships between perspectives show that any shortcoming in one perspective shall influence the others, which in turn affects the overall performance.

Data analysis indicated that customer variable was not a good predictor of finance and therefore was eliminated from the model. But internal process was a proper predictor of finance. Learning and growth was also a good predictor of finance. These results show the importance of relationships among perspective and their balance with strategy in balanced scorecard.

Learning and growth plus internal process are intangible assets that have critical implications for NIGC finance. Income increase, higher productivity, lower expenses, and improved cash flow are key financial indicators. Continued growth, sustainable productivity and efficiency, competitive advantages, and development of financial resources to cover expenses are the main objectives of an organization. These objectives require paying attention to human resources as an strategic asset that play critical role in continued improvement and optimization of projects.

For learning and growth perspective, the focus should be on human, information, and structural resources. For internal business process, attention should be made to productivity, technical engineering, service quality, innovation, and operations. Internal business process requires human resource selection, work and responsibility division, responsibility assignments, total quality management, reengineering business processes, re-planning and production, continuing education, situational application of knowledge, paying attention to capabilities in assessment of satisfaction criteria, retention, utilization, and classification of employees, work assignment based on employee abilities, financial and non-financial incentives such as responsibility assignments and employee rewarding based on competences and in accordance with employee strategies intended for retention of specialized human assets.

For internal processes, priorities should be given to promotion of technical and specialized knowledge, innovation, creativity; increasing awareness about organizational objectives and strategies; encouraging learning skills such as strategic management, group activities and decision making, individual performance management, application of standards; together with utilization of management systems such as total quality management and project management [16].

For finance, availability of information, technical, and management databases together with data management infrastructure, information maintenance and updating, orienting supervision toward achieving objectives, obtaining feedback and correcting strategies together with proper economic evaluation of project may prevent wasting valuable resources. Asset management in line with organizational strategies plus identification and development of income producing resources may improve finance and their indicators.

NIGC should follow the path of strategy-oriented companies and commit to strategy planning and monitoring based on balanced scorecard and make updating strategy map an integral part of its strategic management process. This task requires continued evaluation of company strategies in four perspectives of finance, internal process, learning and growth, plus customer. Feedbacks received from top management, experienced specialists, and customers shall help with the removal of shortcomings and performance corrections. These considerations shall facilitate better management of intangible assets leading to better value creation processes and outstanding financial results.

The results obtained in this study suggest that NIGC should concentrate on low scored areas in order to improve the performance in the four perspectives. Notwithstanding the current overall balance in four mentioned perspective, secondary findings indicate that finance had the lowest balance. Internal process plus learning and growth perspectives were two predictors of company financial standing as opposed to customer perspective. Internal process and learning and growth have direct relationship with finance. Therefore, NIGC should pay attention to internal process and learning and growth in order to improve its finance. Finance perspective is important in organizational performance evaluation because the outcome of most activities show up in finance perspective. Finance reflects proper and satisfactory performance of other perspectives.

The following recommendations shall improve learning and growth perspective:

1. Create opportunities for research and training programs plus efficient knowledge management in line with company strategic priorities in order to increase employee capabilities. These programs should develop and maintain intellectual assets by using information management services (IMS), computer aided design (CAD) and computer aided manufacturing (CAM)
2. Install an employment system that helps selection of employees based on employee competence, abilities, expertise, and skills.
3. Form various, efficient, and creative working groups to encourage employee participation in decision making.
4. Establish an employee rewarding and promotion system based on competence and merit.
5. Devise a desirable performance evaluation system (using balanced scorecard) suitable for organizational strategies to promote creativity and innovation among employees.
6. Create motivating schemes for employees for retention of specialized and committed human resources.
7. Develop an environment that creates trust, encourages group cooperation, provides job security, produces job enrichment through delegation, promotes employee participation in decision making, uses surveys and continuous evaluation for policy and strategy improvement, elevates work quality, facilitates leadership development, provides for risk management, and demands leadership accountability.

The following recommendations shall improve internal process perspective:

1. Develop systems for total quality management, continued improvement, time based

management, resource and cost allocation, activity based management, customer relation management
2. Devise plans for productivity increase, cost reduction, asset utilization, development and innovation.
3. Plan training programs for project planning and control, re-engineering, utilization of information technology and facilities, implementation of international standards, and motivational development,
4. Offer electronic services to increase quality and quantity of services, to create proper relationship with authorities and other organizations, to eliminate unnecessary processes, to avoid work duplications, to attract and keep skillful and committed human resources.
5. Conduct market research and administer surveys to identify needs and expectations in order to implement desirable corrections and to optimize utilization of company networks.

The following recommendations shall improve customer perspective:

1. Provide accurate and reliable services as committed.
2. Encourage employees in providing guidance and solving customer problems in timely manner.
3. Provide easy access to managers and responsible persons.
4. Improve service provision without increasing cost.
5. Respond to customer complains.
6. Elevate service quality

The following recommendations shall improve customer perspective:

1. Attract new investment from outside sources or present shareholders.
2. Identify and develop income producing resources.
3. Decrease unproductive expenses.
4. Provide an effective risk management.
5. Bring expenditures in line with approved budget.
6. Stick a balance between allocated budget and expenses.
7. Improve organizational asset management
8. Develop policies to maximize utilization of financial recourses.

NIGC should undertake the task of identifying and developing precise objectives, strategies, policies, and procedures for carrying out activities based on long-term and short-term expectations. The application of balanced scorecard model can facilitate targeted allocation of financial and intellectual resources and turn environmental threats to opportunities that bring about competitive advantages.

Managers should direct company assets in line with the established strategies. They should allocate a balanced budget for development, improvement, and research projects. Research and development activities should receive sufficient funding because they can prevent wasting resources during project implementation.

An organization wide implementation of balanced scorecard can help NIGC evaluate and control realistic and strategic objectives in order to measure the performance of its operational programs during different time periods. Application of this method shall increase awareness about organizational strength and can facilitate its improvement.

NIGC shall be able to elevate motivational level among employees and direct their efforts toward implementation of organizational strategic objectives by expanding evaluation domain through extending the application of balanced scorecard to more areas.

Strategic objectives should be reviewed periodically to examine the results obtained from company activities in order to revise and update strategic plans when necessary. Periodic reviews can help NIGC to develop plans and implementation criteria for the main departments conforming to strategy map. These plans shall provide departments with a road map to direct their activities toward achieving company strategic objectives.

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Appendix

Learning and Growth Prospective Determinants	Human Assets	Employee reward and promotion is fairly based on employee competence, creativity, innovation, and desirable performance in line with organizational strategy.	8
		Corporate jobs provide opportunities for employee growth based on individual's potential capacities and capabilities.	10
		Company provides enough incentives for retention of its specialized human resources.	11
		Company uses employee surveys, evaluations, and feedback for improving corporate performance, policies, and strategy	15
	Information Assets	Company values accurate and timely information for decision making.	4
		Company recognizes the development and maintenance of employee capabilities and competence to meet organizational needs.	6
		Company offers suitable training programs to increase employee capabilities.	7
		Company introduces corporate strategic priorities to departmental employees.	9
		Company provides employees with research opportunities according to corporate needs.	14
	Organizational Structure	Company encourages and supports group cooperation and employee participation in critical and strategic decision making.	1
		Employees are satisfied with job security, salaries, and incentives.	2
		Company organizes employee efforts in the direction of the long term organizational objectives and/or outlook.	3
		Company has implemented a customer oriented culture.	5
		Corporate employees trust company managers and their supervisors.	12
		Employees trust coworkers in other corporate departments.	13

Internal Process Perspective Determinants	Production	Company has managed to optimize, rectify, and improve its network.	5
		Company has developed, implemented, and maintains total quality management and continued improvement systems	6
	Engineering and Development	Company has reduced work related errors, mistakes, and duplications (e.g. erroneous invoicing, mistaken calculation, and the like)	3
		Company shows concern over reducing environmental pollution and increasing environmental safety.	4
		Inspectors have desirable control over safety and security of work environment.	12
		Operational guidelines and directives are followed for project supervision and quality control of material and equipment.	13
		Company employs appropriate project planning and control techniques to manage optimum time table and resource allocation in development projects.	14
	Service Quality	Company works toward the elimination of unnecessary processes in order to reduce paperwork and corporate bureaucracy.	10
		Company pays attention to communication needs of customers.	11
		Company resorts to market research, evaluation, surveys, and feedback to identify current and future customer needs and expectations.	15
	Innovation	Company attracts and hires specialized, knowledgeable, and trained employees.	1
		Company utilizes information technology and hardware facilities to simplify work procedures.	2
		Company seeks creativity and innovation in providing electronic services to reduce costs and time required to complete tasks and increase the quality and quantity of services to customers.	8
	O p	Company maintains good relationship with authorities and organizations who issue approvals, certificates and permits.	7

		Work execution conforms to administrative hierarchy	9

Customer Perspective Determinates	Satisfaction	Employees have positive attitude toward customers	6
		Employees are interested in guiding customers and solving their problems.	14
	Ser vice	Employees provide services with the required competence and efficiency.	5
		Company provides committed services to customers with accuracy and reliability.	8
	Performa nce	Company provides sufficient information to customers to guide them where they should report for their required services.	2
		Company managers and employees demonstrate enough understanding and care when providing services to customers.	11
		Company has a system in place to survey customers for their views, suggestions, and criticisms.	15
	Time Redu	Company provides timely customer services (including service provision, displacement, and the like)	7
		Company managers and employees provide timely services to customers.	13
	Accessibility	Corporate discipline and internal order support optimum utilization of space and time for carrying our work and providing services.	1
		Company departments are suitably situated to provide customer services.	3
		Company managers are easily accessible for resolving potential customer problems.	12
	Servic e	Customers, applicants, and managers are satisfied about offered services.	4
		Company has defined and suitable procedures to detect favoritism, recommendations, and discrimination in service provision.	9
	Cost Reduction	Company has defined and suitable procedures to respond to customer complaints (e.g. reduced costs or service improvements)	10

Finance Perspective Determinants	Revenue	Company maximizes productivity of corporate financial resources and assets.	3
		Company attracts new investment through company shareholders and outside investors.	6
	Asset Management	Company has signed new contracts and provided assurance about having the ability to carry out its responsibilities vis-à-vis other parties.	2
		Company has implemented an effective risk management.	4
		Company has identified and developed income producing resources to supplement its financial resources.	7
		Company spends its internal financial resources according to the approved budget to ensure a balanced budget.	8
		Company signed new contracts and provided assurance to the other parties about its ability to carry out assigned responsibilities.	9
		Company has employed commonly accepted accounting procedures for financial recording, auditing and reporting (e.g. balance sheet, income/loss statement, and the like)	10
	Reduction	Company has reduced unproductive expenses.	1
		Company reduced reserves for doubtful and overdue accounts receivables.	5

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