



Assessing the Process of Relationship among Functional Scales based on Accounting

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Abstract

In the current world that unlimited tendencies of human have been placed against limited economic sources, emergence and destruction of each phenomenon is originated in actual and logical needs of human societies. Functional scales would not be also an exception. Performance appraisal system in the current competitive world cause that all processes became under control and finally accounting system can provide itself conditions of improvement through considering expectations of users of financial statements. The main objective of the present study would be assessing functional scales. The study would also apply library method in order to study relevant theories of the subject. The study would also consider previous studies in regard with the present research. In short, the main result from the present study is that, there is a significant relationship among performance appraisal scales and the most relationship is between price earnings per share EPS ratio and economic value added EVA.

Keywords: Functional scales, performance appraisal, proficiency, efficiency, value added, price to EPS ratio.

Introduction

Large companies and implementing large industrial projects in 19th century Europe, which was followed by industrial revolution, needed huge financial capitals. Providing such capital was more that financial facilities of one or more investors or even governments by that time. Other useful and great achievements of industrial revolution have been organization and cooperation. Through the two achievements, the first stock companies were formed that liability of shareholders was limited to their investment amount. The modern frame was a suitable solution for providing large capitals and distributing commercial risks. Since that time until now, in most cases, power of decision making in stock companies has been under authority of those managers, who have conflict with interests of non-organizational groups, especially shareholders. The conflict of interest, which would be resulted from separation of ownership and management, has been under attention since previous times. Many studies have been done in regard with identifying problems resulted from separation of ownership from management. In this regard, researchers have considered finding origins of managers' and shareholders' conflict of interests¹. In order to adjust conflict of interest, some criteria has been innovated and applied in order to appraise managers' performance and present a basis for determining value of motivational payments based on results of appraisals.

In the current world that unlimited tendencies of human have been placed against limited economic sources, emergence and

destruction of each phenomenon is originated in actual and logical needs of human societies. Functional scales would not be also an exception. Performance appraisal system in the current competitive world cause that all processes became under control and finally accounting system can provide itself conditions of improvement through considering expectations of users of financial statements. Some researchers such as Zarkesh and Biz believe that performance appraisal is a part of big movements of answering responsibility. Therefore, they believe that performance appraisal can be one of the most methods of performance appraisal with answering approach.

Since many years ago, especially since end of World War II, decision maker senior managers found that any decision making without using scientific methods would impose individual ideas. Hence, scientific methods should be applied in order to appraise units. Being informed about performance of under management units is the most important duty of managers in order to guide them. Complexity of information; high volume of external effects; effects of competitors; limitation of units in regard with suitable decision making; and sudden changes of policies because of reactive actions against hard problems can be considered as some factors, which can be solved and manager can't make good decisions without scientific methods.

Performance appraisal, itself needs some criteria, through which one can appraise performances. Review of ideas of scholars has indicated that performance appraisal criteria are inseparable components of performance appraisal systems. In fact, the

criteria are guidelines from what it is toward what it should be. Hence, when there is no clear scale, performance appraisal would be possible in no level. Appraisal is a necessity for programming process. The appraisal would not only help managers using strategies and financial structure, but also it would indicate that how the strategies can affect financial performance of an organization.

In order to improve performance and efficiency of organizations and institutions, first their efficiency level should be measured and then solutions for improving efficiency should be provided. There are various methods in order to appraise efficiency of organizations, which each of them include special conditions and scales with specific advantages and disadvantages. The methods would be applied based on conditions of desired organization. It should be mentioned that, performance appraisal of organizations is necessary in order to improve their efficiency and performance.

At the early years, some studies were conducted in order to achieve scales of performance appraisal, which could lead to using numbers and accounting information in this regard. Many scales and criteria of performance appraisal have been based on accounting models, especially reported earning or earning per share (EPS) model. Over the time, managers have managed earning through influencing accounting numbers in order to save bonus level and improving it.

Performance: Concept of the term “performance” is important, since through defining the term one can have a good perception of it and can manage it. There are various attitudes about definition of performance and it can be considered just as experience of obtained outputs of an action. However, some people believe that performance is same behavior and it should be different from outputs of an action¹. It seems that a classification can be considered in regard with defining performance as follows:

Performance as the consequence of action: performance can be defined as the consequence of an action, since outputs have the most significant relation with strategic goals of organization, customer satisfaction, and economic functions.

Performance as the behavior: performance can be considered as behavior and can be also be differentiated from outputs, since systematic factors would be able to deviate outputs.

Performance as the consequence and behavior: in Oxford English dictionary, performance has been defined as implementation, conducting, or committed. The definition would return to outputs or inputs. Meanwhile, the definition states that performance is about doing an action and can be considered as the behavior of organizations, groups, and individuals. Performance can refer to both behavior and outputs. Behaviors would be resulted from the person, who performs action and they can change performance from a subjective

action to a real action. In fact, behaviors are not only instruments for outputs, but also they would be considered also as outputs and one can judge about them.

Performance is one of the main issues in the organizational analysis processes. In fact, it is a problematic process and a process would be problematic, if it has no stage for performance appraisal. Hence, performance appraisal would lead to awareness of individuals in regard with desired behavior. In other words, main part of an organizational performance would be programming and decision making by management. It should be mentioned that performance appraisal would determine required feedback in order to follow progress of determined goals.

Moreover, through evaluating desired outputs of organization and also measuring staff satisfaction and customer satisfaction level, one can find that whether policies have been regulated in good manner or not. In addition, performance appraisal includes certain goals as follows: constant control of affairs in organization; concentration of efficiency management; identification of weakness and power points of organization; try to improve and enhance capabilities; reform activities; decision making for activities; future plans and goals; improve source allocation; better use of facilities and human resources in order to implement goals and improve responsibility about programs' performance; improve ability of organization in presenting quantitative and qualitative services; competitiveness in national and international levels; and the final goal of performance appraisal would be improving efficiency and performance of organization.

As it was mentioned, there are various definitions for performance; although the common definition among them is quality of performing actions and responsibilities. If so, it should be then noted that performance has a wider concept than input and output. Hence, performance refers to a series of behaviors, which can be defined and designed due to job. In other words, performance refers to complete duties that organization has imposed on workforces. Hence, in a comprehensive definition it could be mentioned that performance includes efficiency and effectiveness of duties and some personal events can directly make some problems in financial performance including delay at work; absence; and slow process of work².

Appraisal: The term “appraisal” in word refers to determine value of something. According to ideas of some scholars, appraisal is a synonym for 2 words of valuation and measurement and one can't find any difference among the 3 words in terms of concept and meaning. Some scholars have also separated the 3 words from each other and have ranked their application domain. For example, Abili believes that valuation is more comprehensive than appraisal and states that it has wider application domain than appraisal. However, Seif believes that valuation is more comprehensive than

measurement and states that measurement is a part of valuation.

In viewpoint of Kiamanesh, appraisal refers to evaluating performances of learners and valuation refers to valuation of program, educational courses, or institutional courses. In addition, he believes that valuation is a synonym for measurement and their difference is that measurement is a non-value action originally; although valuation is related to judgment. Kiani (2000) has also applied the 3 mentioned words as synonyms³.

Performance appraisal: Appraisal is a necessity for programming process. The appraisal would not only help managers selecting strategies and financial structure, but also it would indicate that how financial structure can lead to improve financial performance. In addition, appraisal would help manager to have a good perception of organization's progress in financial performance. Through this, the financial progress and failure of organization would be determined⁴.

A wrong imagination in this regard can be that performance appraisal refers to fulfilling a simple appraisal form including answering a series of predefined questions and giving scores to a series of criteria. However, can be a system including applicable forms and methods for staff appraisal; also it can be an interpersonal process, in which managers and staffs are in relationship with each other and try to affect each other.

Performance appraisal is one of the most important applications and concepts of human resource management HRM. Performance appraisal in general refers to appraise current or previous performance of individuals, which would be done through considering determined criteria and standards. Organizations should appraise some issues before any decision making including improvement; enhancement of salary and payment; displacements; employment and dismissal of staff. Then the organization should appraise performance of staff based on adequate criteria.

In general, performance appraisal refers to a series of measures, which would be conducted in order to enhance optimal using level of facilities and resources to achieve goals in an economic and efficient manner. Hence, performance appraisal in dimension of using resources would be basically in form of efficiency criteria. Hence, if efficiency is ratio of input to output, in fact appraisal system would appraise efficiency level of management decisions in regard with using resources and facilities. The main criterion of it is economic performance of activities. On the other hand, performance appraisal in organizational level usually refers to efficiency of activities. The purpose by efficiency is value of achieving goals and plans with property of proficiency of applications⁵.

Proficiency: Proficiency is the main criterion for measuring performance. Proficiency in traditional viewpoint refers to relationship between costs and earnings. Hence, proficiency

refers efficiency level of factors in processing stages. Thus, when facilities are used in good manner, proficiency would be increased. Since activities of human can't be without any goals and targets, relation of proficiency can be investigated from 2 completely separated dimensions. First, useful and effective role of achieving goals and second, output of activities³.

In a study under the title of "fuzzy application as a multi-criteria method of decision making for financial appraisal of Turkey's production industries", appraisal of functional scales in Turkey's industries has been considered. According to the mentioned study in a competitive area, financial performance appraisal would be important. Hence, proper performance appraisal is an important issue for production units. Financial performance scale would reflect competitions of production units. Hence, the criteria should be identified exactly in appraisal process. In general, in traditional method of financial performance (AFP), accounting actions would be used for performance appraisal. However, the actions are not sufficient for appraising performance of modern industries. Hence, in order to present company's value, financial performance of (VFP) has been recently introduced. In the present study, a novel hierarchical approach of financial performance appraisal has been presented based on main criteria of AFP and VFP and their sub-criteria. Fuzzy analysis hierarchical process (FAHP) has been also applied in order to determine value of desired criteria. Companies were compared according to their production departments using TOPSIS and VICOR software. Obtained results indicate that according to departments of each company, obtained scores of the companies using the mentioned method have been almost equal.

In another study under title of "assessing performance scales using financial and non-financial criteria: evidences from Iran", financial performance of economic units have been appraised. Success of each organization would be based on its performance, which is itself depended on strategies of the organization. In Cut-throat competition, in addition to applying adequate strategy frameworks, good management would be required. Effect of adequate strategies has been reflected automatically in outputs. The study included analyzing comprehensive Balanced Score Card (BSC). BSC is based on appraising traditional criteria, which are financial and non-financial criteria of organizations. The criteria include mainly conducting and controlling processes. Hence, the main question of the study is that, how much of criteria are financial and how much are non-financial, which can be applied in order to appraise efficiency? Whether efficiency, similar to BSC, considers mainly non-financial criteria or not? Obtained results from the t-test, independence sample, variance analysis multiple test, and Tukey test have been as follows: first, efficiency appraisal is mostly tended for using financial criteria instead of non-financial ones; second, using non-financial criteria, there has been a significant difference between the mentioned appraisal and BSC method.

Methodology

Based on the topic of the present study "Assessing the process of relationship among functional scales based on accounting", library method has been applied. For this purpose, different books, papers, and other scientific resources have been applied in order to investigate the subject and also answer research questions.

Functional scale appraisal models: Users of accounting financial statements would appraise performance of company using different criteria. There are various methods for performance appraisal, which can be generally divided to 2 categories of accounting models and economic models.

Accounting models of functional scales appraisal: Financial statements would be resulted from accounting information system, in which reported interest would be so significant for users. Investors would appraise company performance based on accounting interest and would also conduct their predictions based on it. Managers would also use interest in order to conduct future plans of the company. In accounting model of performance appraisal, corporate value would be obtained through multiplying 2 numbers, which the first one is interest of company and the second one is coefficient of changing interest to value. It should be mentioned that, in accounting models of performance appraisal, value of company would be a function of some different criteria such as interest, interest per share, stock growth rate, return of shareholders' profits, return on investment, free cash flow, and earnings per share (G. B. Stewart, 1991). Accounting interest is the most traditional scale for performance appraisal, which is significantly considered by investors, shareholders, managers, creditors, and analysts of exchange.

Accounting interest, which would be calculated through commitment assumption, is one of the most important scales for performance appraisal in viewpoint of many researchers such as "Lahen and Mahija"; "Chen and Dad"; and "Versington and Vest". According to advantage of availability of required information in these models and facility of relevant calculations, these criteria of performance appraisal have would be widely used by users of financial information. Previous researches have also indicated that accounting interest and resulted information from it would provide useful information for users, which can be so effective in their decision making processes. At a study by Jennings et al, information content of different forms of accounting interest have been evaluated and results show that interest per share would be useful for users in all forms of calculation. Meanwhile, it should be noted that accounting models (traditional) of performance appraisal include some shortcomings as follows:

Following changes of prices, measured interest through traditional currency would be changed. Possibility of manipulating interest through selecting different methods,

Accepted general procedures of accounting would allow lack of uniformity in measuring interest in different companies.

Criteria of performance appraisal are main components of management control systems and suitable programming and controlled decisions need quality of units' performance.

High level management should motivate managers and staff in order to achieve organizational goals. Performance and rewards appraisal are the key factors in order to motivate managers. Performance appraisal of organizational units is a prerequisite in order to allocate resources. In addition, comparison of predicted and actual values could be a guideline for future allocations. Performance appraisal would help senior managers in their decision making on salary or rewards, future appraisals, and development criteria. The criteria can be classified in two groups of traditional and modern criteria.

Traditional financial scales: Return on investment: An accounting criterion is based on investment and includes all elements of profitability such as income, cost, and investment. Return on investment shows that manager can achieve predicted profit through decreasing investment in current and fixed assets, so that the assets could be sold without delay.

Residual profit: The aim by residual interest is that, operating profit would be deducted from expected return. Expected return would be obtained through multiplying investment in expected return rate. Obtained result from the multiplication of expected return and investment T would be called as attributed costs of investment.

Return on selling: Return on selling is one of the components of return on investment in Dupont analytical method of profitability.

Earnings per share: Earnings per share shows that per each share, how much profit would gained and shows also that the more the result of ratio is, the more desirable the company's performance would be. The ratio would be also applied for share valuation, which would be also determined according to market price of stock in future.

Price to earnings per share ratio: Performance appraisal criteria of company is in capital market and shows that each share per an earning has been sold to in how much in capital market. The more the ratio is, the more desirable performance of company would be in capital market. The ratio would be also applied in order to calculate share value in the future⁶.

Modern financial scales: Economic value added: Economic value added is an applicable scale for total observation in creation of corporation value. Economic value is not a strategy, but also it is a method for measuring⁷. Scales of value added would be mainly applied in order to measure management performance, which is based on ability of managers in adding

value of company. In addition, the mentioned scales would also be applied by analysts of stock exchange. In regard with economic value added, annual performance of management would be appraised through comparing net operating profit minus adjusted tax with total cost of capital. If operating profit minus adjusted tax is more than unit of capital cost during a year, the company would include positive economic value added for a year and would also provide value added for its shareholders. Instead, when the value added is negative, company has not been able to gain sufficient profit during a year and can't therefore cover its capital cost; hence, value of company would be decreased. In order to determine adaptability of value added and added capital and also in order to compare different companies with different sizes, ratio of return on value added to capital should be obtained. Then, it should be determined that which company includes the greatest economic profit per unit of investment. It is believed that analysts have had no progress in changing accounting into a form that they can conduct all required adjustments in economic value added achievement⁸.

In short, applications of economic value can be summarized in a table as follows:

Table-1
Applications of economic value added

Internal applications	External applications
Management tools of performance appraisal	Means of investments
Comprehensive criteria of efficiency appraisal	Means of value added measurement
Means of determining relationship between ownership and company management	Framework for financial management
Means of adjusting costs with earnings	An effective framework in organizational culture and improvement of staff working quality

Market value added (MVA): Contrary to economic value added, which is totally an appraisal of internal performance of company, market value added is for appraising its external performance. Market value added is equal to residuum of average value of debt and average of stock market value. In order to adequate analyzing of the performance, positive changes over the time should be considered for example, annual changes value. Comparing the changes in annual value added with situation of stock markets and stock exchanges would be significant, since the market values are under effects of interest rates and total conditions of market⁹.

Cash value added (CVA): Cash value added refers to surplus cash, which would be gained after deduction of cash capitals cost from cash operating profit. The surplus cash would be also called as surplus cash profit sometimes.

Deduction of cash capitals cost from cash operating profit after tax deduction would be equal to cash value added. Cash profit after cash profit after tax is equal to resulted cash from operating activities after tax. Sum of non-cash costs and operating profit would be equal to operating cash profit. The main objective of functional scales of cash value added would be appraising management performance against earnings of shareholders.

Results and Discussion

Accounting-based functional scales are in close relationship with each other and each of them would be itself effective in performance of production unit. There is a mutual relationship between decision making of managers and functional scales of production units. Appraisal of functional scales of production units is significant in financial decision making of managers and on the other hand, financial decisions of managers would affect mutually appraisal of functional scales in production units¹⁰.

The present study has investigated relationship among the mentioned functional scales. In addition, the study has assessed different kinds of the scales and has also compared them with each other to find their relationships¹¹. Efficient management of economic units is a dynamic and constant process. Effective implementation of the process needs using required tools and adequate implementation of management duties and responsibilities¹². Functional scales and their measurement are the most important factors in this regard, which executive managers can achieve all final targets of company through adequate application of them. Organizational performance appraisal is an essential issue in order to ensure about allocation of limited resources¹³. In this regard, using performance appraisal scales as management control systems, can lead to some good results such as optimized allocation of resources¹⁴. The mentioned scales should be applied with a combination of traditional, modern, and other scales without considering common classifications¹⁵. Through this, they would be able to provide the best results in current conditions. Recognition of functional scales and criteria, in addition to functional scale appraisal in organizations, as well as using the scales would help managers in order to make good decisions¹⁶.

Among studied functional scales, economic value added has had the most effect on performance of production unit and decision making of managers¹⁷. The scale would be considered as a method, through which financial performance of organization could be appraised. On the other hand, the mentioned scale could be effective in future decisions of managers of production units¹⁸.

Conclusion

The present study aimed to assess the relationship among functional scale. In other words, after determining functional scales, each of them studied and then their relationship with other ones investigated. Finally, the most effective scale would

be identified¹⁹. The main question of the present study is that, what is the relationship among functional scales? Which scale would be the most effective one on performance of economic units? According to mentioned issues, the main hypothesis of the study is that, there is a significant and positive relationship among functional scales²⁰.

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