Performance Measurement System: Towards an Institutional Theory

Edita Gimzauskiene, Lina Kloviene

Kaunas University of Technology
K. Donelaicio st. 73, LT-44309, Kaunas, Lithuania
e-mail: edita.gimzauskiene@ktu.lt, lina.kloviene@stud.ktu.lt

In recent years, interest in no financial performance measures has grown, as evidenced by the large number of literature investigating balanced scorecard, value based management, total quality. The increased attention to no financial measurement reflects increased requirement of information for managing and decision making processes because of strong competition, constantly changing environment of organization. Those processes are based on organizations’ relations with an environment. The dimensions that lead to the deeper analysis of relations between performance measurement system and environment of organization are very important for today organizations. According to this aspect, it could be stated that performance measurement system (PMS) which covers financial and no financial measurement and fits with environment of organization should be critical for today’s organizations and need deeper and continue researches.

It is important to contribute to a better understanding of the factors that affect the features and content of PMS in organizations and the relationship between these factors, performance measurement practices and environment of organization (Alas, Sharifi & Sun, 2009; Ginevicius & Podvezko, 2009; Gudaus, 2009). The dimensions that lead to the deeper analysis of such factors and relations were disclosed in this article according to different theoretical assumptions – institutional, contingency and complexity theories. Institutional theory will answer the question – what factors form and influence internal and external environment of organizations and herewith the features and content of PMS. Contingency theory will answer the question – what external environment is surrounding the organization and influencing its internal environment. Complexity theory will answer the question – how organization reacts to its external environment.

Combining the main presumptions of institutional, complexity and contingency theories it could be maintained that the level of environmental uncertainty and organizations reactions to it could be dimensions according to which features and content of PMS in different organizations could be researched. Those two dimensions form four types of organization’s environment peculiarities of which performance measurement system should be reflected.

In order to point out the features and content of performance measurement according to the environment of the organization, quantitative research (survey) was performed. Survey was performed in Lithuanian organizations, which were chosen by a handily selection method. The purpose of the research is to analyze the internal and external environment of Lithuanian organizations, features and content of performance measurement system: transparency of the strategy, homogeneity of the goals and correctness of the processes.

Keywords: institutional theory, complexity theory, contingency theory, performance measurement system, environment of organization.

Introduction

Traditional management accounting systems/methods could not infuse all needed information for management process in an organization. New business environment which varies constantly influenced a strong interest in modern performance measurement which covers financial and no financial measurement. According to this, a performance measurement system (PMS) is used to quantify both the efficiency and effectiveness of actions, to identify competitive position, locate problem areas, assist the company in updating strategic objectives and make tactical decisions to achieve these objectives, and supply feedback after decisions are implemented. (Gimzauskiene & Valanciene, 2005; Valanciene & Gimzauskiene, 2007; Strumickas & Valanciene, 2009). It is important to contribute to a better understanding of the factors that affect the design and use of PMS in organizations and the relationship between these factors and performance measurement practices. In order to carry out this research study, an institutional theory was needed, i.e. based on the assumption that various internal and external factors form the environment of an organization and influence performance measurement in organizations. In order to analyze external environment contingency theory was chosen which postulates that the effectiveness of the organization in coping with the demands of its environment is contingent upon the elements of various subsystems. Several authors suggest that a contingency framework may provide a more holistic approach to the design of PMS. But could contingency approach disclose peculiarities of PMS as a result of its continuous improvement? According to this aspect the third theoretical approach for PMS studies is a complexity theory. The last decade complexity theory has been advocated as a way to help understand organizational reaction and innovation. PMS analyzed according to these theories will let us disclose how external environment and organizations reaction to it shapes features and content of PMS.

The research question of this article is: how do institutional factors form the performance measurement system which reflects the internal and external environment of an organization?
The object of this article is the methodological basis of performance measurement system (PMS).

The aim of this article is to disclose features and content of a performance measurement system according to institutional factors and internal/external environment of an organization.

The methodology of the paper includes two main parts. The development of a theoretical framework is presented in the first parts. Research (survey) in Lithuanian organizations is presented in the second part of this article.

Theoretical background and development of the hypothesis

Institutional theory and performance measurement system. Institutional theory deals with factors which could help to identify PMS according to the environment of an organization and reaction to it. According to institutional theory, there are internal and external institutional factors (economic constraints, competition; copying best practice from others, accounting standards/financial legislation, socioeconomic-political institutions’ pressures, professionals, top management/corporate culture, organizational strategic orientation and organizational characteristics) which help to develop an understanding about an organizational phenomenon or behavior (Hussain & Hoque, 2002). In summary, it could be stated that institutional theory is used to explain why changes may have occurred to an organization – to its processes, behavior and systems (Fowler, 2009; Greiling, 2006). PMS is one of such systems. According to this it could be stated that institutional factors help to identify the environment and reaction of organization and its reflection on performance measurement system.

Contingency theory and the environment of an organization. Contingency theory is based on the premise that there is no universally appropriate accounting system which could be applied equally to all organization in all circumstances (Gimzauskiene & Klovienė, 2008 (a,b)). It states that each organization has to choose the most suitable system by taking into account some contingency variables (Garengo & Bititci, 2007), such as corporate governance structure, management information system (MIS), business models, organizational culture, and environment. (Biazzo & Bernardi, 2003; Hudson, Smart & Bourne, 2001). Efficiency and effectiveness of PMS depends on what level it ensures strategy measurement (Dumludag, 2009; Tvaronaviciene, Grybaite & Tvaronaviciene, 2009), evaluation and dissemination through functions and processes of an organization and translation of it into operational terms in different management levels. This leads to the conclusion that environment is the most important variable which affects the choice of PMS as it affects strategy and it helps to analyze in what way PMS fits to organization’s environment (Gimzauskiene & Klovienė, 2008 (a,b)). On the other hand, environment could be described according to the level of uncertainty. The greater environment uncertainty the more difficult it is to configure the system for effective performance evaluation. Environmental uncertainties could not be explained using contingency theory alone as they influence PMS indirectly through internal organizational factors.

Complexity theory and reaction of an organization. The study of complexity reveals that organizations are in dynamic reaction with environment and are very much part of the process that creates that environment (Brodbbeck, 2002; Styhre, 2002). Complexity theory suggests that there is a quasi equilibrium state, just short of the point where a system would collapse into chaos, at which the system maximizes its complexity and adaptability (Houchin & MacLean, 2005; Miguel & Joao, 2006). This point is referred to in the literature as the edge of chaos (Letiche, 2000; Macbeth, 2002; Bechtold, 1997; Jenner, 1998; Tetenbaum, 1998; Smith, 2005; Burns, 2005).

Complexity theory applied to organizations has been more seriously informed by understanding of the reaction to an environment (Rooney & Hearn, 1999; Valanciene, Gimzauskiene, 2008). This enhanced the attractions of complexity theory as an integrative framework for understanding organizations’ reaction. Talking about organizations’ reaction to environment it means that all systems in an organization will also react less or more. This lets state that a performance measurement system is one of such systems in an organization the design of which depends on organization reaction. Summarizing it could be maintained, that complexity theory lets us study the process of changes and answer the questions - in what way does the organization deal with chaos and uncertainties at a particular moment and to what extent does it seek for stability and order?

Hypothesis of the research. Combining the main presumptions of complexity and contingency theories, it could be maintained that the level of external environmental uncertainty and organizations reactions to it could be dimensions which form four types of an organization. Also according to external environment and organizations reaction to it the features and content of PMS – transparency of the strategy, homogeneity of the goals and correctness of the processes - in different type organizations could be researched:

- Transparency of the strategy rotates according to external environment and organizations reaction to it. The most clear strategy could be reflected first, in PMS of organizations, which external environment is static and its try to simplify it, because environment defines rare changes, low informational demand and second, in PMS of organizations, which external environment is dynamic and its try to absorb it, because all environment is changing very often and in order to survive organizations need a clear strategy.

- Homogeneity of the goals rotates according to external environment and organizations reaction to it. The most explicit goals could be reflected in PMS of organizations, which have the clearest strategy – which external environment is static and its try to simplify it and which external environment is dynamic and its try to absorb it, because clear strategy influence requirement to have an explicit goals.

- Correctness of the processes rotates according to external environment and organizations reaction to it. The most right processes for strategy implementation could be reflected in PMS of organizations, which try to simplify external - static or dynamic - environment, because its seek order in internal environment.
Research method and results

Research method. In order to point out performance measurement features and content according to environment of an organization, a quantitative research (survey) was performed. The survey was performed in Lithuanian organizations, which were chosen by handy selection method. In this research we analyzed internal and external environment of Lithuanian organizations, features and content of performance measurement system: transparency of the strategy, homogeneity of the goals and correctness of the processes.

External environment of an organization was analyzed according to the frequency of changes of external institutional factors, which means an environment is static or dynamic and in this case respondents need to mark frequency of listed changes using Likert scale (changes in client needs, in product/service priority characteristics, in pricing policy, in competitor’s pricing policy, in product/service characteristics, in competitor’s product/service characteristics, in technology of production, in life cycle of products, in competition, in strategy, in competitor’s strategy, in market members, in new products market development).

Reaction to environment was analyzed according to internal institutional factors complexity – an organization tries to absorb or simplify external environment. Complexity was analyzed in four ways using Likert scale – strategy complexity, goal complexity, structural complexity and interaction complexity. Strategic complexity was measured using two (cost leadership and differentiation) strategies by asking to indicate the importance 12 items. Goal complexity was assessed by asking to indicate the importance of 10 goals. Structural complexity was measured according to the level of formalization which was measured using 6 items that addressed the degree to which rules were observed in the organization. Interaction complexity was assessed by asking to indicate a number of different groups highly involved in resolving 7 strategic issues.

Performance measurement system was analyzed according to transparency of the strategy, homogeneity of the goals and correctness of the processes for strategy implementation in an organization. The strategy, using Likert scale, was measured according to two (cost leadership and differentiation) strategies by asking to indicate the importance 6 items. In goals case, respondents ought to mark reachable goals from 2 goal groups: long-term and short-term. The processes, using Likert scale, were measured according to value chain by asking to indicate the importance of 6 activities.

According to the research information and using cluster analysis, a matrix was prepared in which organizations were divided into four groups – static environment of an organization, and it tries to absorb ongoing changes; static environment of an organization, and it tries to simplify ongoing changes; dynamic environment of an organization, and it tries to absorb ongoing changes; dynamic environment of an organization, and it tries to simplify ongoing changes. Conclusions and interpretation (Boguslauskas & Kvedaraviciene, 2009; Ciegis, Ramanauskiene & Startiene, 2009; Girdzijauskas, Streimikiene & Dubnikovas, 2009; Gudonavicius, Bartoseviciene & Saparnis, 2009; Sniška & Bruneckiene, 2009) were made analyzing the content of PMS in four different groups.

Results and interpretation. Postal questionnaire was undertaken to collect data in this survey. The research population is confined to Lithuanian organizations. The survey covers a total sample of over 145 organizations.

Resuming research results, it could be stated that frequency of changes of external institutional factors show dynamic and static environment of the organization. Research results show that 37 percent of all organizations have dynamic environment and 63 percent – static environment of the organization.

According to the research results, it could be stated that internal institutional factors complexity show organization’s reaction to environment. The research results show that 68 percent of all organizations try to absorb ongoing changes in organizations environment. Those four types of organizations will be used for the future analysis.

Analyzing the research results in features and content of performance measurement system case, it could be stated that:

- The most definite strategy could be reflected in organizations (Figure 1), which external environment is static and its try to simplify it (average is the most distant to positive side 0.54), because environment defines rare changes, low informational demand and also in organizations, which external environment is dynamic and its try to absorb it (average is the most distant to negative side -1.62), because all environment is changing very often and in order to survive organizations need a clear strategy. Other organizations operate in dynamic environment and simplify it (average is near 0 - 0.18) or operate in static environment and try to absorb it (average is near 0 – (-0.43)) mostly could have indefinitely expressed strategy.

- The most explicit goals could be reflected in organizations (Figure 2), which external environment is static and its try to simplify it (average is one of the highest 0.23) and which external environment is dynamic and its try to absorb it (average is the highest 0.26). On the other hand, could be stated that definite strategy influence requirement to set an explicit goals because these two types of organizations have the most definite strategy. Other organizations operate in dynamic environment and simplify it (average is near 0 - 0.06) or operate in static environment and try to absorb it (average is near 0 - 0.15) mostly with complex goals.

- The most correct processes for strategy implementation could be reflected in organizations (Figure 3), which try to simplify external - static or dynamic – environment (averages are the smallest 1.55 and 1.63), because this type organizations seek order in internal environment.

Analyzing research results significant correlations were found between strategy and external environment (0.225**) and reaction to it (0.257**). Also significant correlations were found between goals and external environment (0.237**) and between processes and external environment (0.278**). Significant and not very strong correlations are found in similar researches of other authors (Ong & Teh, 2009; Hallgren & Olhager, 2009; Nicovich etal, 2007).
According to the research analysis, it could be stated that the content of PMS depends upon external environment and organization’s reaction to it as those factors determine informational demand and behaviour according to it. The most definite strategy and the most explicit goals could be reflected in the organization, which operates in the most extreme internal and external environments (static environment/simplification of it and dynamic environment/absorption of it). The most correct processes for strategy implementation could be reflected in organizations which seek order in internal environment (static environment/simplification of it and dynamic environment/simplification of it).

**Conclusions**

According to theoretical prepositions, it could be stated that institutional theory could help to identify the factors of internal and external environment which form the features and content of PMS.

PMS depends on internal and external environment of an organization. According to external environment uncertainty and organizations reaction to it, as internal environment, the content and features of PMS could be analyzed. On the other hand, it is very important to identify these two dimensions of environment. According to institutional factors, the state of external and internal environment and the content of PMS could be disclosed.

According to the research results, it could be stated that the content and features of performance measurement system (strategy, goals and processes) depend on external environment and organization’s reaction to it.

The most definite strategy and the most explicit goals could be reflected in the organization, which operates in the most extreme internal and external environments (static environment/simplification of it and dynamic environment/absorption of it).

The most correct processes for strategy implementation could be reflected in organizations which seek order in its internal environment (static environment/simplification of it and dynamic environment/simplification of it).

**References**


Edita Gimžauskiénė, Lina Klovienė

**Veiklos vertinimo sistema: institucinių teorijų perspektyvos**

**Santrauka**


**Strapniaus tikslas** - atskleisti veiklos vertinimo sistemos turinį ir savijaves, remiantis instituciniai veiksniai bei vidinė ir išorinė organizacijos aplinkomis.

Remiantis institucinės, kompleksiškumo ir atsitiktinumo teorijomis, galima teigti, kad išorinės aplinkos neapibrėžtumas ir organizacijos reakcija į ją galėtų būti dimensijos, aptažintos per institucinius veiksnius. Remiantis teorija, kompleksiškumo teorija ir padeda atsakyti į klausimą kaip organizacija galėtų prisitaikyti organizacijose, kurių veiklos vertinimo sistema yra statinė, atsiradus kryptingumui veiklos vertinimo sistemos tūriui.