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APPLICATION OF BALANCED SCORECARD TO IMPROVE MANAGEMENT OF INTANGIBLE ASSETS

***Summary.** The critical review of the evolution of the balanced scorecard model and the expansion of its application provide a solution to a key two-dimensional problem of managers from all sectors of social development related to the relationship between strategies and intangible assets. On the one hand, the strategic scorecard shows how the mobilization of human capital and the improvement of information resources increase the ability of modern organizations to generate value, and on the other hand the rethinking of strategic scorecards based on the development of organizational capital provides an opportunity for organizational actions to comply with new strategies that meet the high requirements of their informed and demanding customers. This way, the development of high integration and maximum coherence between the key intangible assets and the overall*

organizational activity, subordinated to the stated and necessary strategies would create conditions for continuous improvement of the organizations and more stable social development.

Key words: *Balanced scorecard, Performance measurement, Strategic management, Control, Organisation.*

Nowadays, any organization can develop stable value by mobilizing its intangible assets, i.e. human capital, database and information systems, sensitive high quality processes, customer relationships and business measures, opportunities for innovation and organizational culture. In recent decades, there has been a trend of shifting the focus from an economy based on tangible assets and oriented towards the final product, to an economy based on intangible assets, knowledge and service. Even after the slowdown in the NASDAQ boom and dotcom companies, intangible assets that are not metrified by the financial systems of organizations comprise more than 75% of the value of today's leading and profitable organizations.

In the structure of assets, the average amount of tangible assets or net book value excluding liabilities forms less than 25% of the market value of organizations. At both the macroeconomic and microeconomic levels, intangible assets play a crucial role in creating long-term value.

In general, the nature of intangible assets to certain extent has no physical measurement, but benefits are expected from them. A number of definitions have been created for their characteristics, each addressing only some of the essential features of these specific "invisible" assets [1].

According to International Accounting Standards (IAS) and Bulgarian accounting, intangible assets are in themselves non-current intangible assets involved in the production process and belonging to the enterprise by right of ownership. They have no physical characteristics, but are of particular value in terms of the priorities,

rights and privileges in the production process based on them. Intangible assets are a key source of sustainable value accumulation [2]. Their condition determines the efficiency in the field of internal processes, financial condition and relationships with customers and suppliers.

Modern theory of strategically oriented organization considers intangible assets as a trinity of: Human capital – skills, talent and knowledge; Information capital – networks, databases, information systems and technological infrastructure; Organizational capital – culture, image, leadership, employee synchronization, teamwork and knowledge management.

Commonly, none of the listed intangible assets can be measured separately and independently of the others. The value of intangible assets is a result of their role and specific ability to help organizations implement their strategies.

At first glance, measuring abstract assets seems virtually impossible, but there are still some clear valuation principles. Intangible assets should not be measured in terms of the funds invested in their development, nor should their value be determined by independent parameters describing the financial equivalent or potential. The value needed for metrics depends on and is determined by the synchrony of the specific asset and the organizational strategy, or the relationship with the organizational priorities [3].

Towards the end of the century, this stimulated the active development and application of modern methodologies for analysis and measurement of satisfaction and loyalty of customers and staff, the development and evaluation of intellectual capital and others. Regarding the measurement of intangible assets, the leading good practices based on modern model constructions take advantage of the principles for measuring tangible and financial assets applied in the balance sheet. In the balance sheet the assets are reflected by categories, taking into account the hierarchical principle of ranking according to their degree of liquidity, i.e. the ability to transform

into available means of payment. Under these conditions, human, information and organizational capital as quantities, in the end, through more sales and reduced costs, become the most liquid asset.

In this line of thought, the opportunity or potential acquire the feature of certain readiness of intangible assets to maintain and implement the organizational strategy [4]. It is due to this basis that a framework for measuring intangible assets can be structured.

Human capital/resource

Although in the present phase of the development a certain content-thematic repetition is found in relation to the organizational staff, for the purposes of the development based on the financial and economic analysis, different points of view are revealed and reflected. Their place and role are presupposed and justified by the diversity of human presence and active actions in the conditionally accepted production process, which, regardless of its subject of activity, each organization implements to continue to exist.

In the economic literature there are two concepts – human resources and human capital. Although these are etymologically and substantively different concepts, their unity and continuity are based on the general creative process that accompanies the production process, namely the creation of human capital through improvement of human resources, perceived as staff and involved in organizational activities for implementation of a specific strategy [5], reflected in the concept of „learning organization“.

In modern management, that bases its decisions mainly on financial and economic analysis, two approaches are distinguished, providing an opportunity to reveal the nature and potential of this specific intangible asset – traditional and modern. Generally, the traditional approach considers such factors as number of workers, working hours, productivity and others. Whereas the modern approach takes

into account factors contributing to the implementation of the strategy such as professional qualities, competence, readiness and opportunities for improvement.

Each developing organization develops its own indicators of the state and readiness of human capital. These indicators consider skills, talent and know-how of the employees for the implementation of those internal processes and operations that are crucial for the implementation of the mission and strategy.

The process of measuring staff readiness begins with defining the competencies needed for each employee involved in the implementation of the vital processes and operations of the organization. There are four stages in the structure of the process:

First stage: Defining strategic groups of professions.

Second stage: Developing a competency profile.

Third stage: Measuring the readiness of human capital.

Fourth stage: Creating a programme for human capital development.

Some organizations introduce an indicator [6], which is created on the basis of the rating of each individual employee by segments, or:

Readiness level = \sum [personal rating (for each employee and each segment)]

Suitability standards are based on strategic organizational needs and cover five main categories: Untrained employee; Employee with upcoming training; Employee in the process of training; Employee qualified within the segment; Training employee (qualified in all segments).

In the fourth stage, programmes for development and acquisition of specific insufficient competencies are actually developed in order to eliminate the mentioned gap or if the whole process is considered in its nature and content it accepts the features of an active management process dominated by the control function. Proof of the allegation is the presence of clear feedback and the implementation of the process where corrective actions are registered.

Information capital

Information capital is a raw material for creating value in the new economy. It consists of systems, database, libraries and networks. It enables the data and information to be useful and accessible for the organizations and has the specificity to generate value only when it consolidates with the peculiarities of the chosen strategy.

An organization that sets out a strategy based on low overall costs receives a higher level of return than information systems focused on optimizing processes and workforce productivity. A strategy focused on the perception of customer decisions mainly benefits from information systems that provide information about customer preferences, improve customer relationships and form a customer base. A strategy focused on product leadership requires information capital to improve product development processes using systems such as 3D modeling, virtual prototyping, and CAD / CAM systems.

The systematized structure of the information capital contains four levels – transformation (Table 1), analytical and transactional applications and technological infrastructure.

In general, the structure is formed by two components – technological structure and applications of information capital.

The technological infrastructure includes technologies such as centralized computer systems and communication networks, as well as management experience in the field of standards, emergency planning and security.

Information capital applications – sets of information, knowledge and technology are built on the technological infrastructure to support key internal processes of the organization such as innovation, customer management, operations management and social and regulatory processes [7].

Table 1

Structure of information capital

Description of information capital structure	
Information capital category	Description
Transformation applications	Systems and networks that change the business model of the organization
Analytical applications	Systems and networks that provide analysis, interpretation and exchange
Technological infrastructure	Technology and experience for implementation and application of inf. capital
Transactional applications	Systems automating basic, repetitive transactions

The information capital applications themselves have the following essential characteristics:

- Transactional applications such as ERP systems automate major repetitive transactions in the organization;
- Analytical applications provide analysis, interpretation and exchange of information and knowledge;
- Transformation applications change the prevailing business of the organization. These applications may have features of the previous two types of applications, but the most important thing is that they have significant potential to influence strategic goals and provoke organizational changes.

Taken together, the technology infrastructure and applications create the information capital portfolio. The structure of this unique set, existing in the form of a portfolio, justifies the strategy itself and its implementation.

In practice, certain portfolio structures have been established, ensuring the purposeful application of information capital and the implementation of specific strategies.

A portfolio supporting innovation processes may include transactions (operations) – CAD/CAM programmes and new product development systems at the first level, knowledge management systems (KMS) for the exchange of best practices at the second (analytical) level and interactive systems, in which customers also participate in product development at the third (transformation) level.

A portfolio that supports customer management processes typically begins with a first level based on transactions and systems (CRM) [8].

The second (analytical) level provides data on the segmentation of the consumer market, as well as a system for measuring customer profitability.

Third level, i.e. transformation applications are of the protocol type to support sales in customer service departments.

For portfolios focused on production optimization, specialized peripherals such as supply chain management (SCM) and material requirements planning (MRP) are provided for transaction systems, i.e. operations management systems. These applications integrate a set of systems for inventory control, order processing, control over the application of capacity – all systems that can work independently. The analytical level of this portfolio usually includes systems for analysis of products, quality and costs.

Although the structuring of different types of portfolios is essential for the application of information capital, their efficiency is at a high level only if they are supported by an adequate technological infrastructure, which is usually used by many programmes [9]. Based on research in economics, a classification of the technological infrastructure of information capital is approved, including two groups and a total of ten main types.

First group. Physical infrastructure: Application infrastructure – applications for mass use; Communications management – broadband networks, incl. Internet; Database management – centralized data warehouses; Safety and risk – security

policy, accident prevention and protection zones; Management of communication channels – websites, service centers, etc.; Management of computer equipment – servers, local networks, etc. Second group. Management infrastructure: IT management – planning of information services, contracts and suppliers; Architecture and standards - for databases, for communications, for technologies, etc; IT education – trainings, lectures, etc.; Development of new IT technologies.

The technology for analysis of the information capital as part of the intangible assets by analogy is carried out the same way as with the other parts of these assets. In this process, a significant place is given to the synchronization of information capital and strategy. In connection to this, during the analysis of the information capital structure it was shared that the so-called portfolio is a really adequate information format, serving the strategic priorities.

The analyzed specific process is undoubtedly creative in nature, but upon closer examination we can find another layer, which can be explained as the allocation of resources for strategic investments in information capital.

The following factors must be taken into account when defining the basic principles in the development of a strategy for investment in information capital:

- Level of investments in new information capital projects;
- Optimal ratio of investments in terms of the strategic processes;
- Optimal ratio of investments in terms of the categories of information capital.

Taking into account the mentioned factors, investments in information technologies and the accumulation of information capital have been growing steadily in recent years. However, there is one problem that should be monitored and taken into account in the analysis, namely that about 90% of IT budgets are used to support existing applications. Only 10% of the funds are invested in discretionary investments, which actually create the strategic compliance. Discretionary costs

support the new information capital proposals and projects needed to implement the chosen strategy.

In general, the costs of new applications of information capital reflect two main trends: the replacement of obsolete systems with state-of-the-art technologies (ERP systems) and the implementation of completely new technologies in new applications [10].

Experience has shown, firstly, that at this stage investment in new information capital should be between 5% and 15% of the cost of information capital and secondly, that there should be a balance between investment in technology infrastructure and new applications.

The focus in the analytical process related to information capital is put on the strategic readiness of its applications and infrastructure. As with other intangible assets, the readiness indicator measures the extent to which it is able to maintain its organizational strategy.

In practice, there is a wide range of approaches to measuring the information capital portfolio.

The most commonly used method is a simple numeric indicator that determines the status of each application. A scheme with six levels of assessment is applied:

First level (grades 1-2) standard and operational applications;

Second level (score 3-4) new applications already funded and prepared for implementation;

Third level (grade 5-6) problem areas. Includes strategy support applications that are not funded and structured.

Another applied system is linked to subjective assessments created after measuring the results reflected in the information capital portfolio status report. The analytical possibilities of this method are wider, because the report is an excellent

tool for monitoring the areas requiring increased attention and the dynamics of the ratios in terms of software.

On the other hand, there is a creation of quantitative, objective assessments of the portfolio, which also take into account the users opinions about their level of satisfaction. Financial analysis of operating costs, as well as technical audit of the specific characteristics of the applications are also included. In this way, taking into account the overall results, the organization can develop a strategy for managing the portfolio of available assets of information capital as it manages tangible assets.

Organizational capital

A definition that would fully and comprehensively describe the concept of "organizational capital" at this stage in the scientific literature can not be specified. One thing is for sure, its manifestations and possibility of interpretation are the most accurate and reliable, provided that it is considered in organizations oriented to a specific strategy.

In organizations with high organizational capital, employees know and share vision, mission and strategy, and in terms of corporate culture it is strategically adequate, and knowledge is used at all levels, so the joint efforts of all employees are focused on the same goal. Conversely, an enterprise with poor organizational capital fails to even inform its employees of its priorities and to impose a new culture. Taking into account the above-mentioned statements, we can define concept as the ability of the organization to mobilize and maintain the processes of change necessary for the implementation of the chosen strategy [11]. Organizational capital provides an opportunity not only to synchronize intangible and tangible assets with the adopted strategy, but also to consolidate and work together to achieve strategic goals.

As a rule, organizational capital has four fundamental elements:

- Organizational culture – awareness and individual mission statement, vision and values justifying the strategy;
- Leadership – preparation of qualified managers;
- Synchronization – consolidation of individual and common goals;
- Teamwork – exchange of knowledge at all levels.

The process of change, which actually encourages the development and improvement of organizational capital is logically organized and planned. The change is related to specific, structural changes, suggesting new patterns of behaviour and reconsidered in terms of content values needed in the use of labour.

The process of accumulation of the organizational capital is long and planned. Based on its realization we can say that it is a peculiar process. It is based on the realization of organizational changes.

The analysis of the process structure registers manifestations of a certain two-dimensionality, related to two fixed categories of goals:

First. Changes in the pattern of behaviour needed to create value sought by consumers and shareholders.

Second. Changes in the pattern of behaviour necessary for the implementation of the stated strategy.

The changes to the first category include three aspects: Customer orientation; Creative beginning and innovation; Result orientation.

The development of the second category is influenced by four trends: Awareness of mission and strategy; Formation and personification of responsibility; Effective communications; Teamwork and knowledge exchange.

The functional nature of organizational capital requires formal structuring to take into account the leading place of the content.

Conclusion. Statements used to describe the balanced scorecard and its role in improving intangible assets gives grounds to draw the following conclusions [12-14]:

First. Under the new increasingly dynamic, socio-economic conditions, modern organizations manage their activities with increasing importance of new factors of organizational success. Regardless of their main activity, the new socio-economic entities are influenced by the so-called intangible assets. Despite their difficult to visualize and define nature, these "invisible" assets, that mainly manifest themselves as human capital, information capital and organizational capital, are becoming increasingly important in creating value in the work of modern organizations and are becoming an increasing challenge for measurement and control.

Second. In the structure of organizational assets and in particular among the intangibles the main role belongs to the assets summarized in the category "Human capital". Despite the existence of different approaches to its study, analysis and improvement, based on modern concepts, human resources in their activities, acquiring knowledge, skills and experience are transformed into a specific organizational asset, which plays a key role in implementing organizational strategy. By accumulation of new professional qualities and acquisition of new levels of competence human capital becomes major driving force of organizational change. Due to the conscious purposefulness, it is human capital that mobilizes the other organizational assets, especially the intangible ones, and imposes new opportunities for value acquisition on the organizational activity.

Third. The development of information capital based on systems, networks, databases and libraries creates opportunities for each organization's strategies to become efficient and highly effective. The provision of data on the development of the markets and the market product realization enable the making of timely decisions for more flexible and effective management and reveal opportunities for the organizational changes to be as adequate as possible to the needs of the economic situation. The synchronization of the information capital with the other organizational assets and mainly with the intangible ones gives organizations that hidden advantage,

which turns them into strategically oriented structures, which minimize the possibility of losing positions and value.

Fourth. Given that the only alternative for a modern organization is change, in this sense the main factor for success is the availability and presence of organizational capital. In fact, its leading position among the intangible factors for organizational success can be explained by the fact that it is through the opportunities it provides that the organization mobilizes, maintains and improves its processes, adapting them to the necessary change and thus maintaining the closest connection between organizational activity and the stated strategy. This is the reason why the strategically oriented organizations strive to find balance on the one hand between efforts and expectations, between ideas and implementation, between plans and results, and on the other hand between all the so-called intangible organizational assets.

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