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Challenges of modern financial reporting in the context of corporate governance trends and information resources

Abstract. *Presently, the market position of modern economic organizations is increasingly more determined by the availability and the quality of information resources, and the adopted model of information resource management. At the same time, in the context of the need for eliminating information asymmetry as the most fundamental principal-agent dilemma in view of modern trends in corporate governance, organizations face the problem of measuring, valuating, interpreting, and presenting the information resources accumulated or generated by the organization as part of its intellectual capital. An important question raised in this context is: what are the most significant problems in reporting and disclosing information resources under the present format of financial reporting? Does the use of modern instruments, such as network analysis and information audits, offer any help in reducing uncertainty in the measurement and valuation of this particular type of company resources and important source of company market value?*

Keywords: *financial reporting, corporate governance, information resources, audit information, network analysis*

Introduction

Modern economic organizations, operating in a turbulent environment of highly competitive markets, place more and more emphasis on optimization of their business models. Their market position is increasingly more determined by

the availability and the quality of information resources (data, information and knowledge) and by the adopted model of information resource management. The diversity and quantity of information available in modern economy poses a significant challenge to dynamic development of companies, since their management – due to overabundance of information – faces problems in identifying information of potential significance for management-related tasks. In effect, as emphasized by G. Mazurek, information resources as such are no longer the key factor for organizational development – the most crucial determinants are the skills that ensure proper identification, evaluation and utilisation of the most significant bits of information available [Mazurek 2011: 187].

At the same time, in the context of the need for eliminating information asymmetry as the most fundamental principal-agent dilemma, and in view of modern trends in corporate governance, organizations face the problem of measuring, valuating, interpreting and presenting the information resources accumulated or generated by the organization as part of its intellectual capital. Company boards have already begun to appreciate the role of immaterial resources in day-to-day operation. Immaterial assets are of great significance for the survival and development of any organisation. As a result, based on careful diagnoses of immaterial factors (including the information resources), boards formulate strategies for organisational development to increase future market value for the company as a whole, including the value increase of intellectual capital [Paliszkiewicz 2008: 137].

An important question can raised in this context: what are the most significant problems in reporting and disclosing of information resources under the present format of financial reporting? The aim of the paper is to indicate management tools (social networks, audit information) to assist measurement and valuation intellectual capital (information resources) in terms of corporate governance, on the basis of the literature using reasoning by analogy.

1. Trends in corporate governance

Corporate governance represents a system of rules and practices by which companies are directed and controlled. It comprises of principles and standards related to the broadly defined area of company management. This is why the distribution of decision-making and controlling entitlements of top management is of crucial value [Samborski 2012: 102].

One of the popular concepts in this context is 'enterprise governance', integrating two fundamental areas of company supervision: the achievements (corporate governance) and the compliance (business governance). The concept places an

obligation on company boards to control the realisation of managerial tasks in the 'compliance' dimension that reflects past accomplishments and in the 'achievements' dimension that reflects future accomplishments. Board responsibilities in the first area are focused on ensuring the compliance of business operation with legislative regulations, other provisions (such as those formulated in company statutes), best practices of corporate governance, the adopted standards and policies of accounting, auditing, internal control and audit, and so on. Compliance, in this context, refers to the adjustment of financial and non-financial information systems to the pending regulations and adopted standards. Boards are obliged to ensure that the relevant information presents a clear and true image of company operating results, and this aspect serves as evidence of proper realisation of the managerial responsibilities imposed upon the board as the trustees [Gad 2012: 779].

M. Marcinkowska suggests that the most fundamental processes in the management of company accomplishments in the 'achievements' area are those that apply to: strategic planning, strategic risk management, designing of scorecards, designing of information systems, etc., under the assumption that the main purpose of these processes is to generate value and ensure a responsible use of company resources [Marcinkowska 2004: 25].

The multitude of approaches to defining corporate governance is a clear indicator of the multifaceted nature of this phenomenon and of the evolution in its interpretation. Regardless of the adopted approach, all definitions emphasise the problem of effective realisation of organisational policy based on respect for the interests of all stakeholder groups, effective information policy and communication with stakeholders. Consequently, the central postulate of corporate governance is to ensure transparency, clarity and promptness of information disclosed as part of the reporting obligation. Since information resources (and information systems) are the source of added value for any organisation, all information generated internally by economic entities should be represented in the adopted reporting model (this also involves the problem of IT governance, but this aspect is beyond the scope of this paper).

2. Information as an element of company information resources

Company information resources we can define as sets of potentially useful information and meta-information accumulated and stored in time, in place, and based on the use of technologies and organisation methods that ensure its utility for end users [Oleński 2000: 161]. Information resources, as any other type of

company resources, should fulfil the following conditions: be of strategic significance, constitute a rare resource, and constitute value irreplaceable by any other resource. In line with this approach, not every bit of information accumulated and stored by the organisation can be interpreted as a resource. This label can only be used with respect to information that can be processed and used for the purpose of increasing the entity's value [Materska 2005].

Professional literature offers many definitions of information as an element of company information resources.

Below are some of the attributes of information that differentiate it from material resources [Cleveland 1982: 34-39]:

– information is expandable – its value grows with use and dissemination,
– information is condensable (it may be compressed, integrated),
– information can replace other resources, also those of material character,
– information is mobile (easily transportable),
– information is diffusive, with tendency to 'seep through' organisational boundaries and control/security systems, requiring strict information policy (including protection measures),
– information is shareable – it will not deplete in transfer; when shared (either intentionally or against the owner's intentions), it will remain in the owner's possession, despite the fact that the other party may now use it for their own purpose.

Information is defined by a set of quantitative and qualitative attributes that may serve as measures of its utility and value. The most important factor deciding on information utility is its context, closely related to the proper interpretation of its significance by the recipient [Gospodarek 2008: 128].

Professional literature provides a number of classifications with respect to the qualitative attributes of information, based on a variety of criteria. However, regardless of the adopted approach to classification and the adopted terminology, most of the authors agree that the most important attribute of information is its relevance. The postulate of relevance entails its suitability and adjustment to the information needs of the user, as required for the solution of a specific decision-making problem. In other words, it should be in an operationally useful relation to the activities that yield specific results. This means that the relevance of information in decision-making processes is defined by the strength of correlation between informational needs, decisions, and the effects of those decisions.

Professional literature provides also a number of attribute sets that describe the notion of information. Some authors (cf. Buśko et al.), based on the definitions of management functions and objectives and the operating capabilities of users, postulate that information be [Buśko et al. 1980, after Gryncewicz 2007: 110]:

– credible, i.e. in objective accordance with the notion it describes at a given place and time,

– up to date – it should be provided to the user concurrent with the problem it applies to,

– detailed – its scope should be adjusted to the level of management, as appropriate for a given class of decision-making problems,

– addressable, i.e. targeted to specific recipients,

– accurate, i.e. sufficiently precise and properly structured, within the limits of the user's requirements and the acceptable processing cost,

– non-dissonant, i.e. in logical (semantic), substantial and formal accord with the field it describes,

– accessible, i.e. available at a specific time and place, using the simplest of procedures acceptable to the recipient,

– complete, i.e. covering the whole extent of the problem faced in the decision-making process,

– unambiguous, i.e. clearly identifying and describing the problem at hand, in a manner that defies any interpretation problems,

– cheap (economic), i.e. obtainable at the lowest possible cost.

The economic success of any organisation depends on the effectiveness of its information systems. In effect, information in such systems should be characterised by the following attributes: usefulness (in a subjective sense of the term), relevance to the problem at hand, promptness, accuracy, adjustment (formatted to suit the user's requirements in the context of the problem at hand), completeness (deemed sufficient by the user), and accessible (both in the context of information security and the user's perceptive potential) [Gupta 2000, za Gryncewicz 2007: 107].

E. Kolbusz introduces the notion of utility as a synthetic representation of various qualitative attributes of information in an open configuration related to the specific needs of the user. In this approach, information of utility represents any type of information that provides the expected content at the required level of significance, as judged by the user of such information [Kolbusz 1993, za Gryncewicz 2007: 107].

In an infological approach to the interpretation of information, each qualitative feature is related to certain elements of the information-bearing message, with quality of information indicated by measure of its concordance with the requirements formulated by recipients in the form of properties and property weights. The resulting indicators, such as one formulated by B. Stefanowicz [Stefanowicz 2004, za Gryncewicz 2007: 111], allow to relate the notion of quality with the notion of information on the plane defined by message, offering a basis for the formulation of conclusions on the quality of information and on the directions for its improvement, regardless of the interpretation of its individual qualitative properties.

Many interesting concepts were generated in response to the increased interest in quantifying information. These include the pioneering theory by C.E. Shannon, R. Ackoff's definition of information; the non-probabilistic approach to information (represented in the works of R. Ingarden and K. Urbanik); the concept of relating information to its content (cf. Bar-Hillel) to its quality (cf. M. Mazur) or to its usability (cf. K. Szaniawski) [Sienkiewicz 2011: 127-128]. Of all the models used for the valuation of information in professional literature, the most popular include models by J. Marschak, Altrogge (based on Bayes' theorem) and V. Schindel [Nadolna 2013: 453].

M. Żmigrodzki postulates to relate the value of information to the 'return on decision' and to the increase (or decrease) of the probability of making such a decision. If a bit of information is a source of a new decision variant for the user, then its value can be determined based on the forecasted increase of the chance to make the decision and the projected returns obtained as a result of making the decision. Similar determination can be made if the information reduces the chance of selecting an unprofitable variant. The problem lies in determining the coefficient representing the share of analysed information in the decision-making process.

Thus, the value of information can be appraised by determining its decision-making value, with measure of information value defined in terms of increase of benefits related to the information under examination. Following this approach, the value of information takes up a subjective quality, since it is related to the degree to which the information meets the user's expectations formulated at a specific place and time and determined by conditions of present situation [Żmigrodzki 2007: 35].

The process of determining the value of information is encumbered by several factors. The most important reasons for difficulties in this respect are related to the following properties [Mazurek 2011: 190]:

– examination of the value of information requires agreement on the concept of exchange value,

– multitude of applications – the same bit of information may be used simultaneously by many users; each of them may attach different value to it;

– asymmetry of information and its subjectivity make it difficult to determine its value a priori;

– the quality of information is also subjective and may be judged differently by different users;

– the quantity of information: the degree to which information reduces the uncertainty in the evaluation of the present state of a phenomenon under observation is directly related to the value attached to it.

The effective access to information and its application depends on the provision and the quality of information systems – autonomous, multilayered structures

for processing of input information into output results adjusted to predefined requirements, based on suitable instruments, methods and algorithms Matulewski 2007: 98].

The quality of information is also affected by distortions (the so-called noise) generated in the course of message transmission from the sender to the recipient, thus relating the quality of information to the quality of information systems.

The starting point for the evaluation of information system quality is the determination of its effectiveness and efficiency. Effectiveness, in this context, relates to the system's capacity for providing the expected result, while efficiency describes the system's potential for effective use of resources, i.e. the relation between the effect and the cost of resources consumed in the process [Martyniak 2000: 11].

Information resource management in business organisations should strive to determine a viable strategy for the realisation of the company informative function, based on efficient and effective use of intellectual capital resources (as a source of company value).

3. Modern challenges for information resource reporting

The problem of accurate representation of information resources generated internally by business organisations is related to the difficulties and ambiguities in defining the concept of intellectual capital and the associated taxonomy (in the most popular definitions of intellectual capital, the information resources are part of company's structural capital).

Professional literature offers both quantitative and qualitative methods for the evaluation of intellectual capital. The problem lies not only in the multitude of assessment and valuation methods, but also in the large variety of postulated classifications, since no universal standard of classification applies in this context.

The problem of accurate representation of information resources generated internally by economic organisation under the present model of financial reporting is determined by the fact that non-material assets create value in synergy with other resources. Therefore, the most important issue is to determine whether a particular immaterial resource can be interpreted in terms of organisational assets. There are difficulties in establishing a precise capacity for this type of resources to generate tangible economic benefits, as well as in determining the cost associated with this type of resource [Michalczuk 2008: 235]. It must be noted that reducing the criteria used for recognition of the value of non-material assets may significantly reduce the reliability of financial statements, without increasing their usefulness [Mućko 2014: 133].

Analyses of financial statements produced by business organisations shows that reporting of intellectual capital (if at all present) tends to follow one of the following two approaches: on the one hand – narrative reports supplemented by non-financial reports on various factors affecting the company financial result, on the other hand – detailed reports on non-material (intellectual) assets. Speaking of trends in the development of methods for measuring and reporting data and information on intellectual capital, it may be useful to emphasise, after P. Rumniak, that the initiatives related to measurement and reporting of data and information on non-material resources are largely internal, typically non-obligatory, and that there are no efforts at present to harmonise them on international level [Rumniak 2012: 315].

Organisations willing to face the challenges of corporate management of information and knowledge, particularly the problem of accurate quantification of their information and knowledge resources, should in the first place examine (identify and locate) both the available and the required (and obtainable) resources [Materska 2005]. The methodical process involving the determination of company requirements for information and knowledge, the recognition of information flow channels, the examination of uses, processes and transfers of information, the identification of information gaps is referred to as information audit. Its results, in the form of 'information mapping', are used as basis for effective formulation of company information strategies. In other words, analyses of company requirements for information serve as basis for information auditing of company public information resources (traditional documents stored in digital format) and for auditing of knowledge, i.e. organisational skills and experience of inherently imperceivable character (as part of the so-called invisible resources). Information audit also requires accurate measurement and valuation of information resources [Materska 2008: 234].

Estimation of the value of information resources – for example, the value of information in the context of its decision-making utility – can also be based on network analysis (an interdisciplinary approach to processing of relational data). The fundamental concept in this approach is the notion of network, as a complex system (structure) of nodes interconnected by relational links at various levels of relationships, element groups, etc. Thus defined, the organisational network offers potential for monitoring and managing the flow of central resources – such as information or knowledge – for the purpose of streamlining its allocation. The layer of the network that corresponds to relations in the decision-making context offers insight into the level of complexity involved in individual paths of the decision-making process. It can also be used for the purpose of analysing the involvement of individual employees and – most of all – as illustration of the flows of information and decisions [Zbieg et al. 2014: 116].

Conclusions

The cognitive value of information as a fundamental resource of any business organisation can be examined in both objective and subjective approach, with "objective value of information related to its utility in a particular decision-making context." On the one hand, it is determined by the quality, the quantity and the value of the information content, on the other – by the organisation's demands and requirements for information. This means that the value of information can be expressed as a difference between results obtained with access vs. without access to information under examination. In a subjective approach, the cognitive value of information is related to individual experiences, attitudes, preferences and skills of its users [Kiziukiewicz 1984, za Gmińska, Magier-Łakomy 2014: 80]. Since the information resources generated by a business organisation do not meet the requirements of financial reporting standards, they are typically excluded from financial statements and interpreted as part of the so-called company value. This problem is related to the lack of internationally accepted standards for measurement, valuation and disclosing of intellectual capital. To solve this dilemma, a set of universal criteria should be adopted for: the valuation of non-material resources, the evaluation of their effectiveness and efficiency, and so on. Certain instruments, such as information audit and network analysis, can be employed to effectively reduce the uncertainty inherent in the measurement and valuation of information resources.

References

Buśko B., Filipek H., Śliwieński J., 1980, *Wiarygodność informacji ekonomicznej w systemach informacyjnych*, Warszawa: PWE.

Cleveland H., 1982, Information as a resource, *The Futurist*, Vol. 16, No. 6.

Eaton J.J., Bawden W., 1991, What kind of resource is information?, *International Journal of Information Management*, No 11.

Gad J., 2012, Mechanizm wewnętrzny nadzoru korporacyjnego a system rachunkowości w polskich spółkach publicznych, *Finanse, Rynki Finansowe, Ubezpieczenia*, No. 51.

Gmińska R., Magier-Łakomy E., 2014, Efekt obramowania w decyzjach ekonomicznych wspomaganych informacjami z rachunkowości, *Zeszyty Teoretyczne Rachunkowości*, Vol. 77(133).

Gospodarek T., 2008, Elastyczność zasobu informacyjnego, in: R. Krupski (ed.), *Elastyczność organizacji*, Wrocław: Wyd. UE we Wrocławiu.

Gryncewicz W., 2007, *Charakterystyki i miary jakości informacji*, Wrocław: Wyd. AE we Wrocławiu.

Gupta U., 2000, *Information Systems: Success in the 21st Century*, Prentice Hall Canada.

Kiziukiewicz T., 1984, *Problemy dostosowania rachunkowości do informacyjnych wymagań zarządzania*, Szczecin: Wyd. Politechniki Szczecińskiej.

Kolbusz E., 1993, *Analiza potrzeb informacyjnych przedsiębiorstwa. Podstawy metodologiczne*, Szczecin: Wyd. Nauk. Uniwersytetu Szczecińskiego.

Marcinkowska M., 2004, *Roczny raport z działań i wyników przedsiębiorstwa*, Kraków: Wyd. Oficyna Ekonomiczna.

Michalczuk G., 2008, Przydatność informacyjna sprawozdawczości finansowej w zakresie wewnętrznie wytworzonych wartości niematerialnych, *Zeszyty Naukowe SGGW w Warszawie*, No. 66, *Ekonomika i Organizacja Gospodarki Żywnościowej*.

Martyniak Z., 2000, Przejawy niesprawności informacyjnej i kryteria oceny jakości informacji, *Zeszyty Naukowe Akademii Ekonomicznej*, No. 534, Wyd. Akademii Ekonomicznej, Katowice.

Materska K., 2005, Rozwój koncepcji informacji i wiedzy jako zasobu organizacji, in: B. Sosińska-Kalata, M. Przastek-Samokowa, co-operation A. Skrzypczak (eds.), *Od informacji naukowej do technologii społeczeństwa informacyjnego. Miscellanea Informatologica Varsoviensia*, Warszawa: Wyd. SBP.

Materska K., 2008, Audyt informacyjny w obszarze nauki i szkolnictwa wyższego, in: D. Pietruch-Reizes (ed.), *Zarządzanie informacją w nauce*, Katowice: Wyd. Uniwersytetu Śląskiego.

Matulewski M., 2007, Informacja, komunikacja a zarządzanie wiedzą, *Język, Komunikacja, Informacja*, Vol. 2.

Mazurek G., 2011, Informacja w wirtualnym środowisku a rozwój społeczeństwa informacyjnego, *Zeszyty Naukowe Uniwersytetu Szczecińskiego. Ekonomiczne Problemy Usług*, No. 67.

Mućko M., 2014, Problemy uznawania wartości niematerialnych w rachunkowości, *Zeszyty Naukowe Uniwersytetu Szczecińskiego. Finanse, Rynki Finansowe, Ubezpieczenia*, No. 71: 133, www.wneiz.pl/frfu [1.05.2015].

Nadolna B., 2013, Jakość informacji na potrzeby analizy decyzyjnej z wykorzystaniem kosztów relewantnych, *Zeszyty Naukowe Uniwersytetu Szczecińskiego. Finanse, Rynki Finansowe, Ubezpieczenia*, No. 61.

Oleński, J., 2000, Elementy ekonomiki informacji. Podstawy ekonomiczne informatyki gospodarczej, Warszawa: Katedra Informatyki Gospodarczej i Analiz Ekonomicznych UW.

Paliszkiewicz J.O., 2008, Nowe wyzwania dla rad nadzorczych w kreowaniu wartości przedsiębiorstwa opartego na wiedzy, in: S. Rudolf (ed.), *Rola nadzoru korporacyjnego w kreowaniu wartości przedsiębiorstwa*, Łódź: Wyd. Uniwersytetu Łódzkiego.

Rumniak P., 2012, Kierunki w rozwoju raportowania wewnętrznego przedsiębiorstwa, *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, No. 265.

Samborski A., 2012, Zarządzanie ryzykiem w przedsiębiorstwie – uwarunkowania w kontekście zasad nadzoru korporacyjnego, *Zeszyty Naukowe Szkoły Głównej Gospodarstwa Wiejskiego w Warszawie. Ekonomika i Organizacja Gospodarki Żywnościowej*, No. 96.

Sienkiewicz P., 2011, Ewaluacja informacji w społeczeństwie informacyjnym, *Zeszyty Naukowe Uniwersytetu Szczecińskiego. Ekonomiczne Problemy Usług*, No. 67.

Stefanowicz B., 2004, *Informacja*, Warszawa: SGH.

Zbieg A., Żak B., Zaręba P., 2014, Analiza sieci w badaniach struktury organizacji, *Nauki o Zarządzaniu*, No. 2.

Żmigrodzki M., 2007, Przepływ informacji i decyzji w przedsiębiorstwie, *E-mentor*, No. 3(20).

Wyzwania współczesnej sprawozdawczości finansowej w kontekście wzrastającej roli zasobów informacyjnych organizacji gospodarczych

__Streszczenie.__ Współcześnie efektywne konkurowanie na rynku jest w coraz większym zakresie zdeterminowane posiadanymi zasobami informacyjnymi i przyjętą koncepcją zarządzania nimi. Równocześnie wobec problemu eliminacji asymetrii informacji jako podstawowego problemu teorii agencji oraz tendencji w ładzie korporacyjnym istotny staje się problem pomiaru, wyceny, ujęcia i prezentacji w systemach rachunkowości zasobów informacyjnych wytworzonych wewnętrznie przez organizację gospodarczą, które stanowią element tzw. kapitału intelektualnego. Na tym tle powstaje pytanie: jakie są najistotniejsze problemy z ujęciem w modelu sprawozdawczym zasobów informacyjnych? Czy wykorzystanie narzędzi takich jak analiza sieci i audyt informacyjny może być pomocne w zmniejszeniu niepewności pomiaru i wyceny tych zasobów, które są źródłem wartości każdej organizacji gospodarczej?

__Słowa kluczowe:__ sprawozdawczość finansowa, ład korporacyjny, zasoby informacyjne, audyt informacyjny, analiza sieci