Behavioral Aspects of Information Created within Accounting System

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***Abstract*—The accounting system is the core of informational system for financial management in entities. It consists of financial accounting, managerial accounting and cost accounting. From the practical point of view it is also reasonable to take into consideration auditing and tax problems in accounting system. In the paper, the authors have tried to recognize the crucial fields in all of the accounting system, where the behavioral aspects determine the decisions. The authors present their own classification of this phenomena. The base of analysis was the literature review in order to indicate the most important behavioral determinants of accountants, financial directors, controllers and auditors.**

I. Introduction

Accounting is a practice, a human activity constructed from human values and intentions. In spite of the measurable dimension of financial information, provided by the accounting system, the behavioral aspects of creating this information are worthy of research. The first part of the paper presents the crucial role that the accounting information system plays in financial management. In the second part of the paper the authors focused on the review of the literature to support the hypothesis that behavioral accounting originates from behavioral economics and behavioral finance. The principal purpose of the paper is an attempt of creating a behavioral area of classification in accounting. Research methods applied for this purpose are comprised from the review of prior literature.

II. The Role of Accounting Information System for Financial Management

The accounting information system is the main part of the system that registers and summarizes financial events. The aim of accounting information system is to report information to support managers in decision- making. The accounting information system can be defined as a part of the information system that endeavors to manage the whole company. The accounting information system consists of financial accounting, managerial accounting and cost accounting [17].

The task of the accounting information system is to meet the data demands of the management information system through the management reporting sub-system. So it provides information for the managers of the enterprise, certain functional areas and the body of the owners and the supervisory authorities. The information supplied by the accounting information system has an important role in decisions being made on, inside or outside of the enterprise. The accounting information system should be in close connection with the management information department, the accounting and administration department, the inner control and information technology team [27]. The accounting system consists of two main activities:

- processing information,
- supplying information.

Regarding these categories, the dual purpose of the accounting information system may be observed: on one hand, to fulfill the registrative, accounting and reporting duties; on the other hand, to provide information at the highest possible level for the manager's decision-making activity [19]. Recently, the trend of an increasing role of financial management has been observed. Chief financial officers are deeply involved in strategic development and creation of value for the enterprise. Most economical decisions intending to maximize profits and minimize costs are concluded from accounting information. Because of that, accounting measures economical information and offers it to the users. Managers need high-quality information for success of their organizations. Financial statements and accounting sources require special features for financial statements to be used by investors and other users. These features are called "qualitative features of accounting information" which includes relevance, reliability, and comparability [26] Both, the quantifiable and qualitative features of accounting information can be determined by the behavioral attributes of the people involved.

The accounting information system is considered to be a dynamic system as it is continuously changing in reaction to the economic conditions. The system should be able to react and adapt to the environment and requirements of managers. The quality of the accounting information system depends on the people operating it and their professional knowledge and experience. Furthermore, providing as much quality information as necessary depends on the behavioral features of accounting employees.

III. The Origin of Behavioral Accounting

Behavioral accounting originates from behavioral economics and behavioral finance. The key assumption of behavioral economics is to examine how the behavior of people varies from the most expected model of rational behavior. According to neoclassical economics, people are rational and selfish, they try to maximize their utilities – that is why they called "homo economicus". Behavioral economists attempted to replace the standard assumptions of economics with more realistic descriptions of human behavior. This strategy allowed economists to retain the utility maximizing principle, considering, for example, that individuals simply have a richer set of preferences than was traditionally considered. Simon stipulates the assumptions of traditional economics, which are the base of rational decisions. These are the access to huge amount of information, permanent well-defined preferences, and computational abilities, which enable the choices of the best options [20]. People, however, do not always have well-defined preferences, sometimes they lean on the reasons that make their actions intelligible and unpredictable. Simon in his famous work "A Behavioral Model Of Rational Choice" criticized traditional economics and postulated a more reasonable model of human behavior called procedural rationality [15].

The other is that people's social preferences are in some degree related to the particular institutional and social context of their actions. Although the explanation of individual behavior is interesting in its own right, it is often more important because it feeds into the explanation of social phenomena like the behavior of markets. One of them is aversion to losses, explained in many experiments as the 'status quo' bias or 'reference dependence'[18]. Hirshleifer, who was making research about investor behavior, concluded that investors can follow the masses and ignore conflicting signals of the personal information that can be called masses' effect [10].

There were many studies carried out, which proved such effects like:

- Heuristics - which are simple and general rules of thumb that individuals employ to solve a specific category of options under conditions that involve a high degree of risk-taking behavior and uncertainty; heuristics may cause wrong decisions [15];
- Reflection effect – when people avoid risk, when they expect profits, and accept risk, when they suspect losses [15];
- Endowment effect - when people own something the price is higher than the situation, when they have to buy it [13];
- Self-control bias and framing effect -when individuals lack self-control and prefer spending money today instead of investing for the future [3];
- Mental accounting – the cognitive process in which individuals separate their financial assets and liabilities into different groupings or mental accounts [3];

If people's decision making may be wholly or partially driven by behavioral biases, it refers also to their financial decisions. For example, De Bondt noticed in his research that for most people intuition is the main criterion in the investment process of investment, and the general principles of investment theory are often ignored. Moreover, even the investment experience of the investor has no significant influence on the amount of errors [6]. Barberis and Thaler provide a literature review of the many different types of behavioral biases that financial decision makers might hold and how these biases might affect decision making and, in turn, the financial markets. Barberis and Thaler were trying to prove that behavioral finance has two building blocks, psychology and limits to arbitrage. Psychology explains why people generally behave in ways that are different from the principles of neoclassical rationality, Bayesian updating and expected utility maximization. In this regard, the researchers describe a series of psychological concepts that have been applied to finance. The list includes: overconfidence, representativeness, conservatism, anchoring, availability, ambiguity, and prospect theory. The concept "limits to arbitrage" explains why rational investors do not always fully exploit mispricing that stems from the irrational behavior of other investors. This concept explains why financial markets are not always efficient [4]

The behavioral finance attempt to find answers for such questions:

a. why does an investor trade?

b. how does an investor trade?

c. how does an investor composes portfolios?

d. and, finally, why do stock returns vary no due to the risk?

The topics of main behavioral finance research are presented in figure 1 [5].

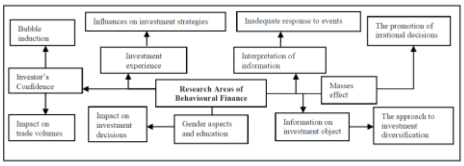

Figure 1. Main topic of behavioral science

The mentioned literature has induced the authors of the paper to issue a statement, that the level of abstraction of the behavioral finance research has reached the highest point.

IV. THE IDENTIFICTION OF CRUCIAL FIELDS OF ACCOUNTING SYSTEMS, WHERE THE BEHAVIORAL ASPECTS MATTER

Accounting is a practice, a human activity constructed from human values and intentions [25]. Taking into consideration the context arising from behavioral economics and behavioral finance what are the crucial fields in accounting system, where the behavioral aspects determine the decisions?

The earliest behavioral accounting research (BAR) relied on sociological insights, in particular human behavior within an organization. The studies were relying on the methods and insights of the positive social sciences other than economics, e.g., psychology, social psychology, sociology. It is difficult to define interchangeably the beginning of behavioral paradigm in accounting. Some authors noticed that from the 1978 when The Accounting Review and Journal of Accounting Research's first papers about behavioral accounting were published [7].

However, for the others it was at least 15 years before, according to the Australian fifty-year overview of judgment and decision-making research in accounting concentrating on auditing, financial accounting and management accounting. Judgment and decision-making research is a subfield of behavioral accounting research that began in the 1960s. Judgment and decision-making research (JDM) in accounting refers to auditing professionals, preparers of both financial statements and management accounting reports. The main problems discussed in JDM research in accounting include evaluating the quality of the judgments of auditors, preparers and users of accounting reports; describing how the judgments are made; determining which factors impact these judgments and why; developing and testing theories of the underlying cognitive processes by which judgments are made; and improving the judgments of auditors, preparers and users of accounting information [24].

There are different aspects of behavioral accounting. From one point of view, the behavioral determinants of people influencing the system of accounting are worthy of survey. Nevertheless, as a field of research, behavioral accounting is also concerned with the influence of informational system on the behavior of organizational participants, the influence of accounting information on internal and external users, and the behavior of accountants and auditors [2]. Such influence refers not only to financial accounting but also managerial accounting because the behavior and motivation of individuals within an organization, plays a vital role in improving the judgments and decisions of employees [22]. Such problems as motivating employees to control costs, performance of employees in comparison to the budget have been the fields of interest of many researchers. Moreover, employees have usually different goals than employers, their behavior is determined by the maximization of their own utility not by the maximization of the company value [21]

One of main objectives of behavioural accounting is to extend the horizon of accounting economic research by including methods used in behavioral science like experiments and empirical methods [9]. The behavioral accounting literature consists of such different fields as [8]:

- accounting information processing,
- auditing,
- managerial control,
- organizational sociology,
- ethics,
- research methods.

Behavioral issues surrounding technological change in audit, financial reporting and management accounting/control were for example investigated by Vicky [1]. The analysis of prior literature provides a conclusion that the least research refers to financial accounting. Researchers focused on different problems, for example Tan and Jamal investigated whether audit managers' assessments of the quality of the work of preparers are influenced by their prior impressions of these preparers [23]. The disagreements over accounting policies, financial statement disclosures and accounting estimates between auditors and management have been analyzed in the paper.

Considering organizational sociology, there were some surveys in order to provide basic data about the work environment in professional accounting services firms by examining the factors that influence work schedules, work time and locations, work with technology, and choices to work from home [11].

The managerial control research have been focused on such goals as [8]:

- to examine the role of the teams in capital budgeting projects,
- to consider the impact of perceived fairness and goal commitment on the performance of managers in the budgeting process, to examine work arrangements and their relationships with job stressors, burnout and job outcome,
- to examine the influence of comprehensive management-reporting systems on how managers allocate their time between multiple areas of responsibility,
- to examine performance evaluations using Disaggregated Balanced Scorecard,
- to examine the influence of comprehensive management-reporting systems on how managers allocate their time between multiple areas of responsibility,
- to investigate if work style similarities of managers and subordinates influence the way how managers use accounting data in performance evaluation,
- to examine how various psychological dimensions of empowerment are affected by specific types of performance feedback and reward systems.

The problems concerning characteristic of accountant profession were also investigated in following research [16]:

a) research on personality types,
b) research on underlying reasons for the choice of accounting profession,
c) research on gender issues.

V. Proposal of Behavioral Area Classification

The authors of this paper assumed the human factor as a starting point for the classification of behavioral accounting system. It is particularly important during the processes of harmonization and standardization of the balance sheet law. From this point of view, these areas may be divided as follows:

- concerning the behavior of employees,
- concerning the behavior of managers at various levels of management,
- concerning the behavior of owners,
- concerning local communities, governments (domestic, international) constituting the environment of a business entity.

Each of the identified groups can affect all of previously mentioned subsystems of accounting: financial accounting, management accounting and cost accounting. By far the most problems can be attributed to the behavior of employees, both in management and financial accounting. With respect to employees of particular importance are – in addition to professional qualifications – their motivations, aspirations and character aptitude. These factors may positively and negatively impact on the state of accounting in the entity, virtually in every single financial and accounting unit. It is even possible to point out the stereotype of an accountant, which was maintained in Polish public opinion for a very long time, as an extremely conscientious, thorough, disciplined and very creative employee. Along with the period of economic transition the perception of the accounting profession has also changed, often unfairly and unjustly associated with the phenomenon of the so-called creative accounting, understood in a negative sense.

A properly motivated employee can positively influence the quality and efficiency of the accounting system. The lack of such motivation may be the cause of slowing down certain processes necessary in the framework of harmonization and standardization of financial accounting both in Poland and other countries. Other elements were pointed out by P. Kabalski [12] in his work.

Also, the behavior of managers can have a huge influence on the type, scope and quality of information generated by the accounting system. A manager with appropriate skills recognizes the need for the implementation of, inter alia, different approaches to costing (modern cost accounting systems), budgeting, which translates into the quality of cost information and reduction of operational risk. The same manager may be interested in showing the entity's highest profit in order to, e.g. extend their management contract, and this in turn may lead to their impact on the information presented in the financial statements. A particular manifestation of the managers' (positive or negative) influence are earnings management techniques (strategies). Personal interests and advantages of managers can lead to transactions, acquisitions, mergers, divisions in the entity with adverse effects for owners. Current effects of such actions can be manipulated, falsified data presented in the financial statements and other reports. If the interests of managers are consistent with the interests of the owners of capital, these actions will have a positive character, provided that they do not affect the reliability of data and the principle of faithful image of the entity's financial position.

Also, local, domestic and international communities may force managers and owners into attitudes directly and indirectly affecting the accounting system, an example of which may be the development in recent years of reporting on corporate social responsibility. Therefore, the areas of human behavior distinguished by the authors of this paper can be considered in the following aspects:

- professional qualifications,
- behavioral traits (predisposition),
- personal interests and advantages connected with the motivation system,
- level of understanding of the ethical attitude,
- legislative processes,
- internal and external audit.

The indicated aspects may relate, in principle, to every part of the management and financial accounting system. In the authors' opinion, behavioral factors increasingly determine the level of confidence in the data generated by the accounting system.

From the point of view of authors the typical important aspects of behavioral accounting are as follows:

- gender,
- age,
- qualification,
- experience,
- the behavior of managers, board of directors,
- culture,
- stability of work,
- financial satisfaction,
- decentralisation - ability to take decision,
- the type of organisation: public or private,
- the size of organisation.

There are still lot of questiones about determinants of behavior and decisions of accountants. It is meaningful to survey if they are any relations between behavioral determinants and quality of accountant proffesion.

CONCLUSION

Behavioral aspects of accounting are becoming increasingly important and progressively determine the quality of the information generated by this system. According to the authors of this paper, their importance in Poland has increased dramatically with the initiated process of harmonization and standardization of accounting. These behavioral factors often affect the scope, intensity and time of changes. The assumption underlying the classification proposed by the authors (ordering areas of behavioral accounting) presupposes that their breakdown by accounting functional structure loses its raison d'être. The authors adopted the distribution of participants in the process of generating information in the accounting system as the main criterion. In each of the separate groups one can point out impact on the both areas of financial and management accounting. The effects of behavioral factors on accounting are so noticeable and significant that this trend in accounting is said to be one of the most important in determining accounting paradigms in the future [14].

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