ASSESSMENT POSSIBILITIES OF BUSINESS PROCESSES ACCOUNTING QUALITY

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Abstract

The use of information technology in the business accounting sphere enabled dramatic growth of processed accounting information, to reduce the amount of routine tasks, to automate them, to receive reports and other useful information instantly despite of the residence, but herewith foreran the necessity to give more resources to systems maintenance and various problems solving, raised some other challenges, which wasn’t known in the traditional accounting systems earlier. Accounting quality is one of these types of challenges.

In the research there were rectified miscellaneous attitudes to information quality measurement and motivated the importance of business processes accounting quality assessment, analyzed various assessment models and approaches that can be employed by assessing business processes accounting quality. Results of theoretical research indicated, that business processes accounting quality can be assessed through the exhibition of quality attributes of accounting. Also in the article there is proposed a model of business process accounting quality attributes assessment.

Keywords: business processes, accounting quality, assessment, valuation.

Introduction

Growing phenomena of globalization, processes in knowledge society and economics influences the existence of individuals, organizations and societies. The most important accelerator is rapid growth and development of information technology. Economic efficiency of business processes is determined by objective and timely information, which must be supplied by the accounting system to the management of the organization. The significance and meaning of information to the organization success is generally accepted. Information technology has changed the performance of traditional accounting systems. Increasingly more information, which is produced in electronic form, must be processed, stored and represented in information technology based accounting systems. The use of information technology in the business accounting sphere enabled dramatic growth of processed accounting information, to reduce the amount of routine tasks, to automate them, to receive reports and other useful information instantly despite of the residence, but herewith foreran the necessity to give more resources to systems maintenance and various problems solving (defence from invasion, viruses; error retrieval and etc.), raised some other challenges, which wasn’t known in the traditional accounting systems earlier. Accounting quality is one of these types of challenges. Therefore, referred changes in the external surrounding of the organization enforce to recoil and to give special attention to accounting quality of business processes, accounting quality assessment questions.

Research object – accounting quality in the organization business processes.

The research goal – to reveal the assessment possibilities of business processes accounting quality, by discussing distinct assessment models found in the scientific literature, to propose a model of business processes accounting quality attributes assessment.

Research methods. There were invoked logical and comparative analysis, synthesis and generalization methods for theoretical aspects of business processes accounting quality assessment in the article. Empirical research is based on quantitative methodological approach. Results of the empirical researches were obtained by applying structural questionnaire, data analysis.

Quality assessment worldwide

Dynamic nature of competition conditions determined, that organizational performance measurement more often is analysed as a mean of improvement. To this topic there is arguing in finance, business strategy, human resources, manufacturing and total quality management fields. Generally performance measurement concept is related with management accounting and total quality management. Methods used in management accounting are oriented to identification, measurement, interpretation and dispersion processes, which objective is to supply management process with information and knowledge to value creation and permanent improvement. Total quality management is oriented to measurement and assessment of organization quality.
Quality is interpreted as organization possibilities to reach satisfactory results from personnel, owners and society viewpoints (Slatkevičienė, 2001). According to executed researches it can be said, that though sometimes economic aspects of activity are contrary to qualitative, however total quality management and management accounting are oriented towards most important modern business realia matching companies assessment.

Quality is one of the most critical factors in contemporary organization. After the eventual formation of total quality management philosophy, quality concept varied from range to fit standards to the range to satisfy customer. So, customer requirements satisfaction investigations became especially topical.

In order to measure the customers’ satisfaction it can be employed such models and indices: Swedish customer satisfaction barometer model, American customer satisfaction index and European customer satisfaction index (Vanagas, 2006). There are trivial differences between latent and measurable variables in mentioned models.

In such customers’ satisfaction research most often is used rating scales – Likert scales. While using this method each respondent is asked to indicate in five point scale agreement or disagreement to every proposition, which is related to searching object (Fink, 2006).

Made researches have shown, that in the scientific trend of total quality management there are many offered methods and models for quality improvement (Deming wheel, management of processes, reactive/proactive management and etc.), still for quality assessment mostly is used such models and practices:

- Benchmarking;
- ISO 9000:2000 quality management systems standards;
- Six sigma methodology;

Mentioned quality assessment models and practices are oriented to general quality level assessment in an organization and theirs resort to assessment of business process accounting quality is very limited, whereas customers’ satisfaction investigations have more common with accounting quality assessment.

In Lithuanian scientists works possibilities to assess information quality was searched by (Ruzevicius & Gedminaite, 2007), meanwhile quality assessment questions in other areas were analyzed by (Akranaviciute & Ruzevicius, 2007; Kasubiene & Vanagas, 2007; Piligrimiene & Buciuniene, 2008). Problems in identifying company’s core processes were explored by (Boguslauskas & Kvedaraviciene, 2009) and performance measurement system’s dimensions were studied by (Gimzauskiene & Kloviene, 2010; Valanciene & Gimzauskiene, 2009). Further in the article there would be analyzed models and researches which have tighter relation to accounting quality valuation.

**Approaches to business processes accounting quality assessment**

Various researches show, that poor, overdue or lacking information is perceived as serious quality problem (English, 1999; Kundelienė, 2009a; Lillrank, 2003).

After performance of accounting quality research analysis they were classified into two major groups:

- Orientated to the information disclosure in the compulsory financial reports;
- Analyzing accounting quality from the inner user’s attitude, when deepening to accounting information quality management problems (accounting quality assessment from the informational facet).

**Researches orientated to the information disclosure in the compulsory financial reports.** American scientists Barth et al. (2008) have made the investigation searching interrelations among accounting standards and accounting quality. In the research there were compared accounting quantitative characteristics in the organizations, that work according and not to international accounting standards. Accounting quality in the investigation was measured by earnings management, timely loss recognition and value relevance parameters (Barth, Landsman, & Lang, 2008). Summarizing results of American scientists’ it can be said, that the most attention was given to disclosure changes and calculations were made using publicly distributed accounting information, so, the research was diverted to the exterior user position.

According to the analyzed research, scientists Morais and Curto (2008) investigated connections between accounting quality and international accounting standards usage in Portuguese organizations. There were chosen earnings management and value relevance measures for accounting quality valuation (Morais & Curto, 2008).
Biddle and Hilary (2006) analyzed in what way accounting quality influences effectiveness of capital investment in the organizations (Biddle & Hilary, 2006). Authors measures accounting quality by four components, and three were suggested by Bhattacharya et al. (2003) and one by Bushman et al. (2004):

- earnings aggressiveness;
- loss avoidance;
- earning smoothing (Bhattacharya, Daouk, & Welker, 2003);
- timeliness (Bushman, Piotroski, & Smith, 2004).

In the research „Accounting Quality and Debt Contracting“ (Bharath, Sunder, & Sunder, 2008) accounting quality is measured by abnormal operating accrual metrics. Huge fluctuation shows unexpected earnings and operating cash flow variations and it is difficult for creditors reliably to evaluate future cash flows. In Brazil was accomplished investigation where accounting quality was assessed by accrual metrics and was explored if there were followed general accepted accounting principles and timely loss recognition in the organizations (Mello-E-Souza, 2007).

**Accounting quality assessment: informational perspective.** Discussed investigations in the field of accounting quality were oriented to the disclosure questions in publicly presented compulsory financial reports. Meanwhile another group of scientists analyze accounting quality from the inner users’ attitude deepening to the problems of accounting information quality management (Fan & Zhang, 2007; Xu, Nord, Nord, & Lin, 2003). In authoress’ opinion such researches should be assigned to accounting quality assessment in informational facet.


Various USA universities representing scientists Xu H., Nord J. H., Nord G. D. and Lin B. (2003) analyzed what factors influences quality of accounting information mostly. Model was formed according to comprehensive analysis of the scientific literature; there were searched four Australian organizations. There were distinguished four essential areas influencing accounting information quality: human relationship, systems, organizational and external problems.

Chaffey and Wood (2005) give several quality attributes for data and information. Authors appoint, that quality of data reflects accuracy, completeness, validity and consistency attributes, while information quality depends on quality of data and information quality itself, which is reflected by relevance, presentation, timeliness and availability attributes. Scientists propose to group information quality attributes according three dimensions: content, time and form.

German scientists Heidmann, Schaffer and Strahringer (2008) analyzed meaning of management accounting system in the strategic management and quality dimensions were separated into two groups: accounting information and accounting system. Quality attributes of accounting information was scope, timeliness, format and accuracy, while the quality attributes of accounting system were distinguished integration, flexibility, accessibility, formalization and media richness characteristics (Heidmann, Schaffer, & Strahringer, 2008).

Information Systems Audit and Control Association (ISACA) prepared worldwide known standard COBIT (Control Objectives for Information and Related Technology), where there is portrayed best practice in the field of information systems management. In this Standard there are introduced parameters, described as „requirements for business information“. These parameters are grouped into three areas: „requirements to quality“, „requirements to reliability“ and „requirements to security“. In the requirement to quality there is talking about negative aspects of data quality such as incomplete and inaccurate data involving presentation form of data; in the requirements to reliability there is revealed importance of compatibility with legislation and other regulative aspects; requirements to security emphasize the importance of confidentiality, integrity and accessibility. Such distribution of information requirements is wider than usual assessment of quality, which inclines to reject security and reliability aspects.

COBIT requirements to business information quality are divided into seven categories: effectiveness, efficiency, confidentiality, integrity, availability, compliance and reliability.

However Chaffey and Wood (2005) discuss, that COBIT proposed quality structure is less useful as it involves general conceptions as effectiveness and integrity, whereas ordinary expression used to characterize
information is suitability, timeliness and compatibility. Another characteristics as efficiency can be related to costs of process and technology but not to information itself. Following differences between traditional and COBIT models emerge from the origin of COBIT model itself.

Vaassen (2002) talking about quality of decision making, information and information systems distinguishes distinct attributes for information and information systems. Scientist proposes that when assessing the quality of information, the focus should be on the degree to which information can be utilized in decision making. Information is said to be reliable if it has desired level of accuracy, is provided on time, and is understandable for the user. Reliability and relevance contribute to the effectiveness of information and besides effectiveness, economy is important feature. Meanwhile in assessing the quality of information systems the focus should be on the degree to which information systems meet the requirements of the data processing (Vaassen, 2002). Common quality features of information systems according to Vaassen are controllability, flexibility and maintainability.

According to Lucey (2005) good information is that which is used and which creates value, while list of quality features are: relevant for its purpose; sufficiently accurate; complete enough for the problem; from a source in which the user has confidence; communicated to the right person; communicated in time; contains the right level of detail; communicated by an appropriate channel of communication and which is understandable by the user (Lucey, 2005).

Marchand et al. (2002) predicate that information quality is influenced by human factor, i.e. it is essential to develop appropriate informational behaviour in the organization, that would be expressed by proactiveness, transparency, integrity, sharing, control and formality attributes (Marchand, Kettinger, & Rollins, 2002).

As the accomplished analysis of scientific literature shows after more than a decade from the FASB introduced quality characteristics of accounting information there is return to its significance again. Changed business and competition conditions, rapid growth and progress of information technology, globalization processes and other factors stipulate the necessity to review quality attributes of accounting information that is needed to the user today.

Assessment prerequisites of accounting quality as research object

In the organization financial-informational resources are managed by accounting, i.e. accounting performs two important roles by processing business transactions. First of all accounting accumulates and registers financial results of organization’s transactions, second, accounting function provides miscellaneous information to personnel that is needed for the execution and coordination of their primary job tasks. Functional role of accounting in the organization and final product is valuable to users information, that is provided in table, report or graph form. Usually value of information to user is defined by its reliability as unreliable information is not valuable. Information purpose is to hitch user to perform desirable action or to assist in decision making situation. In such positions there is needed quality accounting information. As previous sections of the article revealed, various scientists and organizations proposes distinct attributes for information quality assessment, so analysing accounting quality it is important to define which attributes enables properly to assess it.

Summarizing there are formulated two basic assumptions, that be employed formulating the assessment model of business processes accounting quality attributes:

1. Business processes accounting quality can be evaluated through the exhibition of quality attributes of accounting.
2. The expression of accounting systems quality attributes depends on the pending and assessing business process in an organization.

There will be proposed the assessment model of business processes accounting quality attributes and discussed integral parts of the model in the next section.

Model of business processes accounting quality attributes assessment

There is proposed conceptual scheme of the model of business processes accounting quality attributes assessment in this section of the article. Model consists of three integral parts (see figure No. 1): formation of business process dimension; formation of accounting quality attributes dimension and formation of assessment matrix (Kundelienė, 2009b).
**Formation of business process dimension.** Model begins with the formation of business process dimension. There is performed classification of business processes by accounting dimension reshuffling of them by integrating value chain attitude and American productivity and quality center’s proposed business processes classification framework. Business processes by accounting dimension are classified by structural decomposition to four hierarchical levels: category, process group, process and activity. Literal notations in the model’s business process dimension are: 

- **k** – business process category (e.g. products and services development and management);
- **g** – business process group (e.g. procurement; management of cash flow operations);
- **p** – business process (e.g. preparation of financial reports; preparation of sales budget);
- **v** – activity (e.g. record receipt of goods, process and oversee electronic fund transfers).

**Figure 1.** Conceptual scheme of assessment model of business processes accounting quality attributes

After exclusion of business processes components there is made selection of object for assessment. Object of assessment can be separate business process group or business process depending to the excluded business process category or couple of them. In the model the result of business process dimension formation stage is \( d_{kgpv} \) – abstracted component for assessment.

**Formation of accounting quality attributes dimension.** In this stage there is performed discernment of essential business process accounting quality attributes with the assistance of experts – Lithuanian academics from the accounting field. Firstly according to the scientific literature analysis in the accounting and information systems quality field there was composed continuous list of accounting quality attributes (176 attributes), later the list was reduced to 72 positions (reduction was made by invoking logic and aggregating repetitive attributes). This list was transformed into the questionnaire grouping attributes to separate quality groups and executed research on significance of accounting quality attributes. Accomplished research results were processed by specific software. The conditions for accounting quality attributes rejection were stated and finite list of essential quality attributes was formed.
Literal notation in the model’s stage “Formation of accounting quality attributes dimension”: $z_i$ – number of accounting quality attributes; $y_i$ – number of attributes left after the initial sampling; $g_i$ – number of groups; $s_{ij}$ – attributes for sampling; $e_i$ – essential quality attributes.

This list would be used to the final stage of assessment model formation. Results of attributes sampling visually are shown in the next figure No. 2.

**Figure 2. Generalised results of business process accounting quality attributes significance research**

**Formation of assessment matrix.** After selecting essential business process accounting quality attributes in the next final stage there is finished to form the assessment model. There is introduced business processes’ accounting quality attributes assessment matrix (literal notation in the model: $x_{ds}$ – measurement value of business process and attribute element). On the matrix axes are postponed excluded business processes and the accounting quality reflecting attributes. In the intersection of business processes and attributes are elements, which must be measured assessing separate attributes of business process accounting quality. For example, assessing business process group’s “Procurement” expression of attribute “sortable” there should be evaluated what are possible criteria for sorting orders, purchases (e.g. period/time; subdivision; supplier; state and etc.).

**Conclusions**

Accounting quality assessment is based on changes in business and competitive conditions, the rapid progress of information technology and development, globalization and other factors caused the need to review what accounting information now is required by the users.

Foreign scientists for accounting quality measurement often involve changes based measurement system (or accrual based metrics). These researches focus on accounting information disclosing issues. Meanwhile, in other scientific works accounting quality analysis is made from position of the inside users and those researches are attributable to the accounting quality assessment in informational aspect, expressed in set of the essential quality characteristics.

Suggested model for business processes accounting quality attributes assessment is based on conducted researches in organization's accounting business processes that determine the quality attributes (correctness, security, topicality, comparability, convenience to analyze, etc.) and their degree of expression in organizations. There was prepared performance assessment matrix for different business processes accounting quality attributes evaluation, which expresses a particular business process and quality characteristics on the junction and the elements should be measured.

There were identified important quality attributes for business processes accounting quality assessment and they were grouped into different clusters. Accounting quality determining attributes have been grouped into inner, accessibility, contextual, processing, and representative groups, from which with the expert assessment method were selected for from 2 to 7 characteristics. Expert performance evaluation results revealed the most significant features of the inner group. Most of all – seven attributes (correctness, reliability, clarity, understandability, accuracy, objectivity, completeness) were selected to the inner group, the least - two - features (unbiased, convenience to analyze) subjected to the representative characteristics.
group. The formed set of the business processes of accounting quality characteristics continuously was used in formulating accounting quality assessment matrix.

References