

Digital Accounting - a Challenge and Opportunities for New Vision in Favor of Cutting-Edge Financial Management in State/Municipal Organizations



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ABSTRACT

The vision of this paper is on one hand to break the understanding of "boring accounting", and on other hand to outline possibilities of the digital accounting as a measure to support the implementation of new digital technologies in the public sector. The digital accounting is presented as a lever for facilitating and accelerating financial processes in the management of public administration. Known advantages are analyzed and constructively upgraded and are presented one dozen new definitions of advantages of the digital accounting. Defined are an approach and a "road-map" for introducing of digital accounting in public sector' organizations, and suggestions in this matter.

Key words: digital accounting, advantages, approach, public sector organizations.

1. INTRODUCTION

Now in the conditions of the fast changed world and very dynamic developing society, social and business relations, etc., every one organization, independently state or business, needs of good financial health and of reliably and sustainable financial management. Important role in achieving them has the accounting in the organization. Not only due needs of fast, on-time, most appropriate and precise accounting procedures and financial transactions, but as tool/lever for accelerated development and realization of the organizations functions.

The progress of the digital transformation of the EU and of national level of the member-states is a subject of analysis in annual reports of the European Commission since 2014 [1]. There are shown indicators on Europe's digital performance and tracks the development of the digitalization of EU countries, part of it is and the introduction of the digital financial management and digital accounting.

There are number of studies and different approaches and models for application and using of digital accounting systems. Some of them support separately digital accounting in each organization, other for instance recommend using of so called Accounting sharing management model [2].

Current status of the traditional accounting is characterized with well-trodden and conservative approaches to slow, routine manual execution of a limited set of traditional accounting actions. Even a sideways glance on the practice shows, that usually the accountant performs many repetitive operations, often they are the same, the work is monotonous, boring and tiring with prerequisites for human errors.

The existing legislation and regulations, for example, in Bulgaria, although they are significantly harmonized with the relevant EU documents, are, one might say, a conservative framework, allowing in practice the traditional application of accounting operations in the public sector, which is generally slow and laborious.

The inconsistency between them is becoming more and more apparent, hence the need for another approach and tool to catch up with the best practices from accounting and the need for the practice of innovative, avant-garde management, in particular of state and municipal management, to which this publication is oriented.

So, the idea here is to show how through innovative digital accounting, perhaps at a later stage and in combination with the implementation of artificial intelligence, to contribute to aligning accounting with the level of state and municipal government desired by citizens today, even overtake it at a later stage.

2. THE BASIS OF TRADITIONAL IN FAVOR OF DIGITAL ACCOUNTING

The tree main types of the traditional accounting - financial accounting, managerial accounting, and cost accounting are

different in their working principle and goals but all of them are equally important for each organization or company. They are presented briefly here in order to be adapted appropriately when transferring to digital accounting in a given organization.

Figure 1 shows a sketch of the tree main accounting types.

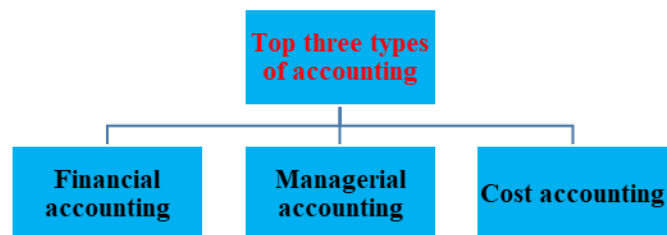


Figure 1: Tree main accounting types

Below are briefly presented the main characteristics of the three types of accounting that should be constructively and meaningfully considered, and further developed in the transfer from traditional to digital accounting.

2.1 Financial accounting

- It is the critical type of accounting that helps an organization to make informed financial decisions.
- It is the indicator to attract potential investments because investors always check a company's financial report to invest in its stocks and shares.
- It is a parameter of the business's health of the organization/company.
- Based on the financial accounting the organization develop a strategy to create income statements, balance sheets, and cash flow statements.

Should be underlined the both main financial accounting directions of action - the accrual accounting and cash accounting. While accrual accounting can be considered the basis of financial accounting, cash accounting achieves a focus on corporate transactions that involve liquid money.

2.2 Managerial accounting

- It is a tool of the organization/company's operation which collect information from all fields of accounting and all departments.
- It collects the data related to the activities and delivers it to the manager to help him to take decisions regarding an organization/company's development.
- Based on the collected data this accounting type made cost analysis, forecasting, budgeting, financial analysis, etc.
- This type accounting allows assess previous business decisions and to opt for improved next decision-making.

2.3 Cost accounting

- It is an approach to manage the cost control, appropriate especially for organizations with big management' costs.
- This technique allows strategically to assess the internal operations of the organizations and determines how to manage the company's costs for better financial development.
- Cost accounting observers and collects the fixed and variable costs, thence record and analyze the production/research and/or management costs and so analyses their effects on the whole work of the organization or company.

In the practice, two more specific types of accounting have a significant role for the overall financial system.

2.4 Tax accounting

- It deals with determining the amount of taxes, including income taxes payable and contributes to legal minimization of taxes payable.
- By implementing of tax accounting, compliance by the organization with the rules and regulations of the Indian Revenue Service (IRS) is achieved, which regulates and ensures the primary responsibility for the collection and administration of direct and indirect taxes.

2.5 Forensic accounting

- It, also called court accounting expertise, is related to legal fields and helps to extract, report, identify and record the financial data of the organization/company to verify its authentication.
- In addition, forensic accounting allows for clarification of changed economic conditions resulting from non-disclosure, breach and non-compete agreements.

3. THE DIGITAL ACCOUNTING - A CHALLENGE OR THE FENS OF THE TRADITIONAL ACCOUNTING

3.1. Essence, definitions and benefits from traditional and thence from the digital accounting

Before all, let's clarify the definition of "Digital accounting ". It is commonly said - it refers to the creation, representation, and transfer of financial information into an electronic format [3].

More precisely said from our side, the digital accounting is execution of the all accounting transactions in an electronic environment with software solutions for digitization and automation, instead of their manual processing on paper by accountants.

Historically, the concept of the digital accounting appears due the necessity to establish a more efficient tax system, as a project of the federal government in 2003 to modernize the Tax and Customs Administration (PMATA), in the context of International Monetary Fund (IMF) for capacity development and the analytical activities in the revenue administration [4]. Figure 2 shows one illustration of the IMF “mechanism”.



Figure 2: Illustration of the IMF

Later in 2009, the e-invoicing and digital accounting system for taxes, social security and labor obligations were introduced.

Practically created on the basis of traditional accounting, but with the ambition to upgrade it, digital accounting retains the main features and contributes to growth of the importance and benefits of accounting, for instance for determining the financial records and reports of any organization, in our case in the public sector.

Another typical example of an accounting benefit that digital accounting seeks to enhance is budget management assistance. The budget spending planning helps the public sector organizations to save money, strategize and control expenses, including making the right decisions about emerging expenses that exceed the budgeted amount. For this purpose, the organization needs correct financial records of different nature and types. Here is the role and benefit of accounting to make and maintain proper records of financial statements, thus helping in rational budget management.

And last but not least, the role and benefit of accounting for decision-making in public sector organizations should be emphasized, the improvement of which through digital accounting can be very successful.

Periodically, decisions about the activities of each organization are made after examining the financial statements. Every organization should keep and maintain proper records for smooth management of its budget and activities. Accounting maintains, collects, summarizes and interprets the necessary financial records, thus helping to arrive at economically beneficial and rational decisions for the activities of public sector organizations.

Once the software of a digital accounting tool is customized for an organization and tailored to its needs and specific, the accounting processes become easier. This minimizes the manual verification of expenses, the preparation of financial documents, the state of the budget, etc.

3.2. Constructive analysis of the advantages of digital accounting

Here, a constructive analysis of the advantages of digital accounting, described in a number of articles [3], [5] on the one hand to further develop, expand and build on known definitions these advantages is made. On other hand this constructive analysis is intended to serve as an argument and a lever to facilitate and accelerate financial processes in the management of the public administration, or more generally in the public sector organizations.

The analysis was made on type's advantages, and by comparing the significance of the advantages of digital accounting in a separate organization or institution, with that in the so-called accounting digital centers serving a group of state or municipal organizations or their subdivisions. In the second case, in addition to the multiplying effect of digital accounting, a domino effect is also observed - the more successful and efficient the accounting in the digital center is, the more the network of service units acquires the potential to become more developed.

Analyzing the existing definitions of the advantages of digital accounting on the one hand and on the other hand as a result of the analysis, the upgraded definitions according to the understanding of the author are presented below, as follows:

1) Time and money saving

In a lot of cases the time saving is pointed out as the biggest and most important benefit of digital accounting. Our understanding is immediately to add to the time saving and the money.

Should be admits - of course the digital accounting tool cost money, but taking into account yearly direct and hidden costs that each organization spends on an outdated accounting systems, could be save a lot of money in the long run. Could be listed also reduced rental costs for premises, opportunity for reducing employee working hours, etc.

It is truth, big amount of time it saves, which is valuable for all of us. The effect due the faster and easier accounting processes, and the reduced the manual checking of expenses' documents is undeniable. At the same time, digital accounting allows the same operations to be performed by a reduced number of accountants in the same or less time. And the "money saving" effect, even just from salaries, is all the more significant the larger the organization or institution. The monetary aspect of the domino effect manifests itself even more strongly with accounting digital centers serving a group of state or municipal organizations or their subdivisions.

2) Convenience and improved pace of productivity and reduced risk for extremely loading

The digital accounting allows automating many of the accounting functions, easily accessible and arable data and provides comfort of running different automated financial tests. So, the time for compiling and presenting reports from the professionals reduced and they accelerate the online transactions.

Otherwise, if traditional accounting is applied by the same number of professionals and the same transactions have to be carried out in the same time, the risk of their extreme workload greatly increases.

Obviously the digital accounting increases efficiency and productivity, and the staff may be engaged in other essential functions, i.e. potentially that could be generated more revenue with the same amount of resources.

3) Flexibility and remote access

The digital accounting system is cloud-based platform that let log into the system at any time and from anywhere. Practically that allow remote access to the organization's financial data, permanently flexible and effective financial management, depend of the needs.

With cloud-based digital accounting software packages are possible analyze of the cash flows remotely fast and most rational solutions for payments, investments, etc.in benefit of the organization, institution or company.

4) Better overview able, comprehensively and organized accounting

The well order and overview that digital accounting provides are significant advantages. Digital accounting tools allow arrangement and sorting of expenses and relevant reporting documents by folders and packages, easy and quick inquiries, excerpts for lateral processing, etc. Thus, accounting work is made easier, faster and much more efficient compared to doing the same work, but after transferring piles of folders to the storage.

5) Security, safe and enjoyable work

The insecure, in danger of fading, even of falling apart outdated, paper-based accounting records are replaced by cloud-based equivalents in the digital accounting.

Working conditions with such outdated paper media are not safe, they pose a risk to the health of the accounting staff. Allergies and occupational diseases of the respiratory system

are identified. Discomfort often accompanies paper-based accounting work.

On the one hand, the storage of financial documents and information is very secure with digital accounting, on the other hand, a harmless and safe working environment is provided for the accounting staff, his work becomes more pleasant and more productive.

For even greater security in digital accounting the Secure Sockets Layer (SSL) cryptography technologies [6] for data encryption can implemented, such as those for protecting financial information in banks. Thus, even in case of great confusion, the digital accounting solution allows the data to be retrieved or archived.

6) Reliability and scalability

In the traditional accounting practices are commit errors, even if humans are very careful and diligent and produce accurate data.

Accurate results in digital accounting, thanks to automated software, make it undeniably much better. The most valuable feature of software and machines, that they do not allow errors, ensure high reliability of the digital accounting.

Rapid collection, processing and analysis of data is necessary and important for management decisions in any organization. But compiling even accurate data takes much more human time than a machine. Therefore, the rational solution is the introduction of digital accounting.

Not only because of accuracy, are the digital accounting systems increasingly popular and widely applicable and due to their scalability. This feature allows versatile multiple improvements, scale-up of operations and complex solutions in accounting system of the organization, institution or company.

7) Easy invoicing and payment tracking, prevention of delays and duplication

Timely and synchronized with counterparties invoicing and payment tracking is very important for the smooth cash flow and image of any organization. The most rational solution is the digital accounting system that automates the process of sending invoices and payment requests.

When relying on analog accounting in an organization, the numbers are usually reviewed only on a monthly basis, and for large accounts only on a quarterly or even a six-monthly basis.

From other side, when long-term changes are detected late, it is difficult or impossible to stop orders, contracts and others that may endanger the organization, institution or company. With the use of digitally aware accounting tools, for instance as these of Circula [7], the duplicate expenses presented more than once, that may be missed by a traditional accountant, are immediately identified.

Last but not least, data validation and their automatic digital processing, as well as automatic account assignment, allow only what is necessary to be controlled to avoid errors. Of course, this facilitates and improves the efficiency of accounting work.

8) Rational integration interfaces, including for access to important external financial information

The modern digital accounting programs are not closed. The presence in the used one of an interfaces for connection with external accounting systems is a great advantage.

In this way, access to important external financial information is opened and "out-in" information can be transported, a customer database can be maintained and incoming payments can be directly noted. Thus, in the long term, the accounting and the overall work process in the organization or company are simplified. For example, the already standard interface of many organizations and institutions with external systems for human resources and personnel selection, is undoubtedly convenient and useful, not only on a national scale, between neighboring countries, but also throughout the European Union.

9) Better integration and interaction, better opportunity for team working and syncing..

The ability to achieve very good compatibility of digital accounting with various other activities in a given organization is an essential argument for an accelerated transition to digital accounting.

In addition to overcoming the poor compatibility of manual accounting systems with other tools used in the organization's work, digital accounting easily and quickly achieves effective interaction and integration of the best digital accounting solutions with a number of other tools - payroll system, depreciation of long-lasting material assets, material and technical supply, warehouse management and others in the organization.

The cost of these integrations is negligible, and the corresponding applications include hundreds of useful tools. For example, integration services like IFTTT [8] can expand

the number of programs with which an accounting program can optionally connect, so:

✓ The Applets to have multiple actions (If this, then that, that, and that);

or

✓ The Applets to have filters and run when a given condition is met (If this and this, then that).

Thanks to the better integration and interaction in digital accounting, better functional capabilities, digital and working environments for teamwork are achieved, and thanks to the high level of technical capabilities, synchronization is seamless, harmonious and efficient.

10) Easier bank reconciliation

With numerous daily transactions, matching figures in manual accounting records with those in bank statements is laborious and error detection is not always successful in traditional accounting. Fraud and theft in banking transactions is even more difficult to detect. Processing financial documents, simplifying the tracking of transaction errors, and detecting theft and fraud require specialized reconciliation tools that only well-developed digital accounting programs have.

11) Real-time advice and using of specialized functions

Inherent in a digital accounting system, the functions of archiving and permanently updating data allow the financial expert engaged for advice to see the current picture and make quick inquiries, checks, etc. This allows him to analyze the numbers and the accounting operations performed, and using real-time data, to offer real-time advice on the most effective way to avoid errors and irrational operations, and to improve the overall accounting work.

The variety of digital accounting solutions in practice is dictated by activities of different nature, time frames and complexity in different organizations and companies. Regardless of the desire for unification in order to facilitate communication and interaction between partners, higher levels and executive bodies for example in the state administration, districts and town halls in the municipal network or companies in the structure of corporations, it is necessary to search and introduce specialized accounting functions and solutions. In this regard, digital accounting platforms are indispensable. They allow a quick review and selection of the most suitable specialized applications and solutions for each case in the practice.

12) Facilitating unification and standardization

A unified approach to the use of digitized data and processes in the financial system of an organization or institution is extremely useful and necessary. Including if part or almost all of the workforce works from home and does not have access to the folders located in the office. Thanks to specialized software, variety of applications and high-performance computer devices and systems in digital accounting platforms, it becomes possible and effective to unify accounting functions and solutions for fast, rational and reconciled between levels and units accounts, transactions, financial operations, etc. Even when using the latest technologies and intelligent user interfaces and applications, through digital accounting with great power and flexibility, the best one reconciled, harmonized and/or unified accounting solutions can be achieved.

Unification implies the introduction of standards regulating criteria and requirements for accounting decisions in practice. For example, one of the routine activities in accounting is recording data. It is labor-intensive, error-prone, and is a significant challenge due to the many and varied data standards currently in place. The advantage of digital accounting, that software applications are standardized to a given accounting system, allows easy recording of data, quick checks, corrections and their correct use. It is of course assumed that the user knows very well and works correctly with the accounting equipment on which the most appropriate software is installed.

4. AN APPROACH AND A ROADMAP INTRODUCING DIGITAL ACCOUNTING IN THE PUBLIC SECTOR ORGANIZATIONS

The above constructive analysis aimed to serve as an argument and a lever to facilitate and accelerate financial processes in the management of the public administration, or more generally in the public sector organizations. The same analysis should be consider as a background for qualitatively, and further for quantification of the impact of the digital accounting under the form of domino effect for refinement of the financial management in the public sector organizations.

For the aim below are defined and recommended an approach and a roadmap for introduction of the digital accounting in the public sector organizations and wide application on different levels and types organizations.

The approach could be briefly sketched as follows:

Based on the existing financial system in a given organization and analysis of the characteristics and capabilities of existing and accessible digital accounting programs or platforms, the most suitable one for this organization is selected and

introduced. After a demonstration stage of working with the trial-introduced digital accounting program, an informed decision is made to implement and use the same, if it meets the needs and requirements of the organization in the long term. A plan is being developed for periodically checking the operation of the digital accounting system, upgrading and expanding it with new applications and subsequent development. The approach is conceived in this article as applicable in any state institution, municipal or organization in the public sector, and is recommended for implementation in their practice.

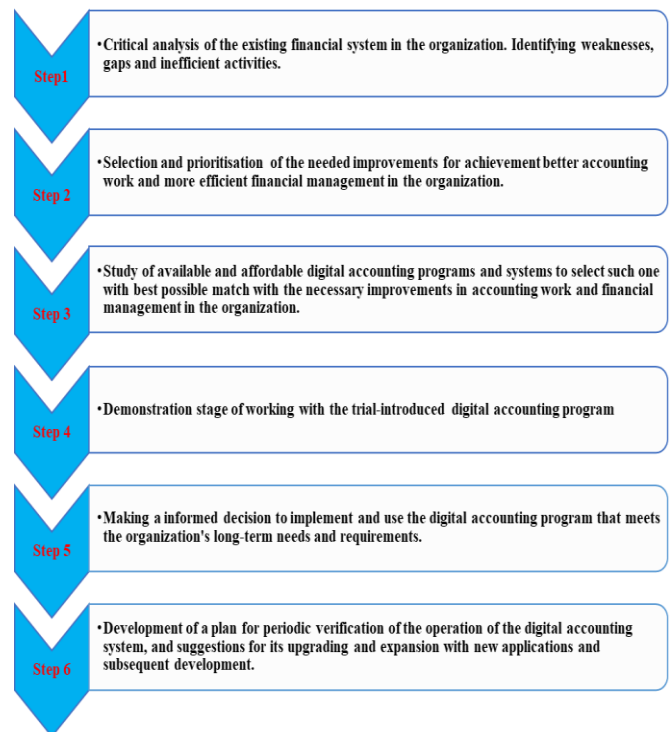


Figure 3: Roadmap introducing digital accounting in the public sector organizations

The roadmap is briefly and figuratively presented with a sequence of steps with the sketch shown in the above Figure 3. Of course the descriptions of the steps, even the number of the steps could be tailored to the specifics of a given organization, but in general this roadmap can be confidently recommended.

5. EDITORIAL POLICY

The submitting author is responsible for obtaining agreement from sponsors if any before submitting a paper, and for cite relevant prior work if any.

6. CONCLUSION

It can be summarized that the importance of the present article is dictated first by the demonstration of the deviation of the possibilities of traditional accounting from the modern needs for fast and efficient accounting operations that can only be

achieved with digital accounting, thence and contribution in favor of financial management of any organization. Second, from the constructive analysis of the advantages of digital accounting and the upgraded definitions of a dozen advantages, representing the author's understanding of their essence and their fulcrums. Thirdly, but not least in importance, from the shown great potential of the digital accounting system to act as a lever for improving the overall financial management of any organization, institution or company.

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