

# The technological revolution and the new profile of the accounting professional with the entry of digital innovation

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## Abstract

*Accounting has its development aligned with the progress of humanity. With globalization, the accounting area had to adapt to market needs. The professionals inserted in this evolution face significant challenges, of which the search for improvement must prevail. The objective was to analyze the impacts of the Technological Revolution on the accounting performance of professionals in the exercise of their duties and the new profile required with the innovation of the digital age. The methodological aspects included the accomplishment of bibliographical research, using references in the updated temporal nexus, with publications from 2015. The results indicate the extreme importance of the permanent improvement of accounting professionals, in search of constant changes inherent to the developed activities, because the valuation of the accounting profession will only happen if professionals are aware that the new challenges are opportunities for growth and expansion of the profession. This is the pace of digital innovation.*

**Keywords:** Accounting, Digital Age, Innovation, Accounting Professional;

## 1. Introduction

In the midst of market trends regarding what is expected of a differentiated professional, there are the needs for improvement and adaptation to this scenario. The evolution of societies, when related to knowledge,

presents characteristics that require profile identification, theoretical preparation and practical understanding, and, consequently, requires professionals with more qualified profiles to work in companies. From globalization and the transformations of the world scenario, in the social, economic, technical and organizational spheres, companies had to find strategies to become more competitive and stay in the market. For this reason, these organizations need to be able to rapidly change their operational and productive concepts, primarily using cost savings, flexibility of the means of production and service, in order to survive and, if possible, grow in this environment of fierce competition. This requires high investments in innovation, in particular, focused on technologies and information systems, as they are elements that make organizations become more agile and efficient, achieving results more effectively.

By analyzing market behavior, it is possible to identify developments related to social, economic and political patterns. All this was determined by the Industrial Revolution, which was responsible for presenting the economy with a new form of production and technology, taking into account the innovative aspects of the market, resulting in major advances and industrial development, causing changes in the organizational structure. structures in both society and industry.

Given this, the research problem is based on how the accounting professionals are intellectually and professionally prepared to deal with the innovation presented by the current Technological Revolution? In this sense, this research has as its general objective: To analyze the impacts of the Technological Revolution on Accounting services and the new profile required of these professionals in this Innovative Digital Age. For the purpose of the scope of this proposal, it was pertinent to define the specific objectives, listed as follows: Present the evolution of the exercise of the accounting profession over the course of history; Identify the profile of the accounting professional in the face of this digital age; Seek alternatives aiming at the continuity of the rendering of accounting services against the scenario imposed by the Technological Revolution.

The present study is justified because, with the advent of the current Technological Revolution, which has been called the Digital Age, the role of the accounting professional was changed, becoming more prominent in the management of information related to the decision making process, as well as The procedures inherent in accounting are becoming increasingly computerized, ensuring greater flexibility and storage of data and information, allowing greater credibility of information management within companies.

The relevance of this article is related to the importance of using technological tools that help professionals to find more agile solutions and immediate positive result, making them use the technologies to their advantage. Therefore, it is essential that professionals are prepared for this scenario, being flexible to the changes that may arise. In short, to achieve what has been proposed and at the same time address the research problem, we will present the discussions about the history of accounting, accounting in the digital age and the new professional that the market wants in the next items of this article.

## **2. Historical and evolutionary aspects of accounting**

Accounting has been used since the prehistory period, even before the appearance of writing. At that time were found materials used by prehistoric civilizations that characterize an accounting system, consisting of small clay tokens that were used to measure heritage, ie, each card represented an animal, for example

(Schmidt, 2000).

From the beginning of its existence, Accounting has followed the evolutionary steps of society. Initially everything was recorded poorly, but from the emergence of writing and numbers, accounting records became more developed and complex (Iudicibus & Marion, 2008).

When it comes to accounting, it is necessary to explain that it appeared with the most primitive peoples, but it was given greater importance only from the 15th century, in Italy, at the time of the Renaissance, because there are already classes of merchants, rich, merchants and bankers, providing openness for development, arts, science and technology (Pires, 2017). Therefore, accounting has its development linked to the very progress of humanity.

The double-starting system was most commonly used after the Commercial Revolution, which occurred after the twelfth century, as the Pacioli method had been used until then (Lopes & Martins, 2005). Already Schmidt (2000) reports that the main elements of this development were practically the economic expansion of the area covered by the cities of Venice, Genoa and Florence, as well as the dissemination of printed books to the major shopping centers of Europe.

The evolutionary process of accounting has led schools of accounting to excel in history, especially with traditional views, following the social and political precepts of their day. From 1929, a new historical perspective for accounting emerged with the emergence of the so-called New Accounting History or Critical History, led by a new stream of thinkers with ideas contrary to those presented by traditionalists (Schmidt & Gass, 2017). Traditional History presents a technical dimension of accounting, which prioritizes it as a system of measurement and communication of economic transactions to arrive at verifiable representations close to reality (Melo, 2017).

According to Sá (1997), the history of accounting is divided into large periods, each with its own contribution to evolution, even though most of the area of knowledge is in the field of records and statements, because of the value that it has. humanity attributed to writing as art and to the power of recorded memory that it offered as a source of evidence, control, decision-making and proof.

The bookkeeping was born even before the common writing appeared, that is, the record of wealth preceded the others, as evidenced by studies on the issue in ancient Sumer. The history of accounting, therefore, extends for millennia, participating in the various modifications on the use of wealth and resources on the means of registration (Iudicibus & Marion, 2008). After a period of stagnation that ended with the beginning of the Industrial Revolution, a second stream of accounting thinking emerged, the American school, more focused on research and practice, focused on information users.

The Brazil was greatly inspired by the United States shortly after Resolution 220 and Central Bank Circular 179, which led to the establishment of the US system in teaching centers, and USP in 1946 introduced the Accounting Sciences course. where it became the first nucleus in Brazil, having as its main objective the production of scientific research with the focus of developing accounting practice in Brazil (Peleias, 2007). Given the above, it is emphasized here that accounting has always had to follow the progress of world society. Its evolution only reinforces the indispensable character of Accounting Sciences, given the control needs related to the Heritage of individuals.

### **3. Impacts of the technological revolution for digital age accounting**

Accounting in the digital age has gained prominence over the years on the world stage, due to technological advances that have enabled accounting professionals to increasingly seek ways to improve the quality of services provided. For Andrade (2017), currently, the four Industrial Revolutions stand out. The First Revolution saw the transformation of energy into mechanical force in the form of boilers and steam engines. The Second Industrial Revolution brought the focus of the observed transformations in the world economy in electricity and chemistry, which led to the emergence of new types of engines (electric and explosive), new materials and manufacturing processes, large companies, and the wireless and telegraph. radio, responsible for instantly spreading the information. Already the Third Industrial Revolution spurred the development of electronic circuits and then integrated circuits, also known as microchips. Such elements quickly transformed the means of information and communication, with the explosion of the internet and e-commerce (Andrade, 2017).

Martins et al (2012) state that the planet at the beginning of a new Industrial Revolution, known as Industry 4.0, is considered more important and challenging than the previous three revolutions. It is possible to verify a drastic transformation of the processes and products of the current industrial economy, through technology.

With digital accounting, it has become easier for tax authorities, for example, to verify accounting information more effectively by reducing misconduct by tax evaders. In addition, there are: Electronic Invoice (NF-e), Digital Accounting Bookkeeping (ECD) and Digital Tax Bookkeeping (EFD), Real Electronic Profit Book (e-Lalur), Digital Fiscal Pension Plan and Labor Tax Obligations (e - Social). And, one of the most important: the Public Digital Bookkeeping System (SPED).

SPED - Public Digital Bookkeeping System, was instituted as part of a set of measures contained in the Growth Acceleration Program (prepared by the Federal Government in January 2007), subdivided into: Accounting, Fiscal and Electronic Invoice, with the objective of integrate information for taxpayers. This system is proof that the trend of the digital revolution within accounting is real and indispensable, especially in the agility of converting it into efficient management reports.

Digital Bookkeeping (SPED Contábil) has been mandatory since 2008 for cigarette distributors, alcohol mills, oil refineries, carriers and retail resellers, with delivery of digital files by June 2009. In January 2009, all others Taxpayers who calculate the tax based on Real profit are required to Digital Bookkeeping, scheduled to be delivered by June of the following year (Martins et al, 2012). SPED will be very helpful in the event of an IRS audit and will help detect cases of money laundering and evasion. It is considered a booster for business development and accounting, to meet legal requirements. In general, it consists of modernizing the current system of compliance with ancillary obligations, transmitted by taxpayers to tax administrations and supervisory bodies, through digital certification, for the purpose of signing electronic documents, ensuring their legal validity only in its digital form (Receita Federal, 2011).

Mentioning the importance of the Electronic Invoice, which stores all the common invoice information, brings the need for electronic records (integrated federal, state and municipal tax administrations) and the taxpayer's digital signature requirement, which allows tax authorities to approve all company operations in real time.

Given this, it is clear that technology is no longer just an operational process system and is now considered a strategic resource in the business. That's why the challenges for accounting are so great: They range from the need to incorporate new technologies to understanding their effects on equity. A strategic alliance between accounting and new information technologies will provide organizations with safer decision-making conditions (Tomelin, Novaes & Bucker, 2011).

In this context, accounting that has been used by mankind since the dawn of civilization over time has become a key factor for business management and is now directly linked to technology to strengthen the use of business-critical tools to the new professional profile.

#### **4. Current professional activities and the alternatives for the new digital accounting professional**

With the advent of globalization and the consequent exponential increase in the speed of information sharing, accounting, along with its professionals, has had to adapt to the contextualized demands in this current market, made up of increasingly demanding clients.

According to Melo (2017, p. 30) "Accounting is a science that stands out for its importance worldwide". Its evolution is directly linked to world economic growth and development, highlighting that its objectives increasingly converge towards a worldwide harmonization of accounting procedures, which will contribute to the strengthening of the accounting profession.

Accounting professional training is directly related to the complexity of accounting, because the more complex it is, the greater the need for qualified professional training. Therefore, there will be greater prestige for accounting professionals (Lopes & Martins, 2005). Therefore, it should be noted that the professional must always be motivated to improve his career and have a keener vision for making decisions that tend to be faster and faster.

Just observing, either a task or the context of the profession, is of utmost importance to accounting. This can be evidenced by the way accounting came about and the way professionals learned their activities and began to evolve with humanity (Melo, 2017). Continuing the thinking, there is a tendency to imagine that the accounting professional is being devalued by the execution of his activities. Therefore, [...] In Brazil, by the large number of accounting technicians, and the lack of status of the profession, which still many professionals are remembered by its former name: keep books or income tax return and bankruptcies of large companies (Melo, 2017, p. 34).

In this sense, Iudicibus & Marion (2008), emphasize that the accounting professional still has a traditional experience of practical-mechanical knowledge of activities. There is also some resistance to the new, since when something appears in the accounting area, they are often incomprehensible, a priori, by accountants, precisely because of the lack of accounting reasoning. Therefore, the authors add that this difficulty may be related to the lack of theoretical basis of professionals to interpret such dispositions.

Corroborating the same line of reasoning, Lopes & Martins (2005), mention that some measures would be necessary to boost the development of accounting in Brazil, in order to improve the status of accounting professionals, namely: increase the level of qualification of accounting professionals . professionals, to obtain an accounting structure more focused on essence than form, and to relate accounting to social causes.

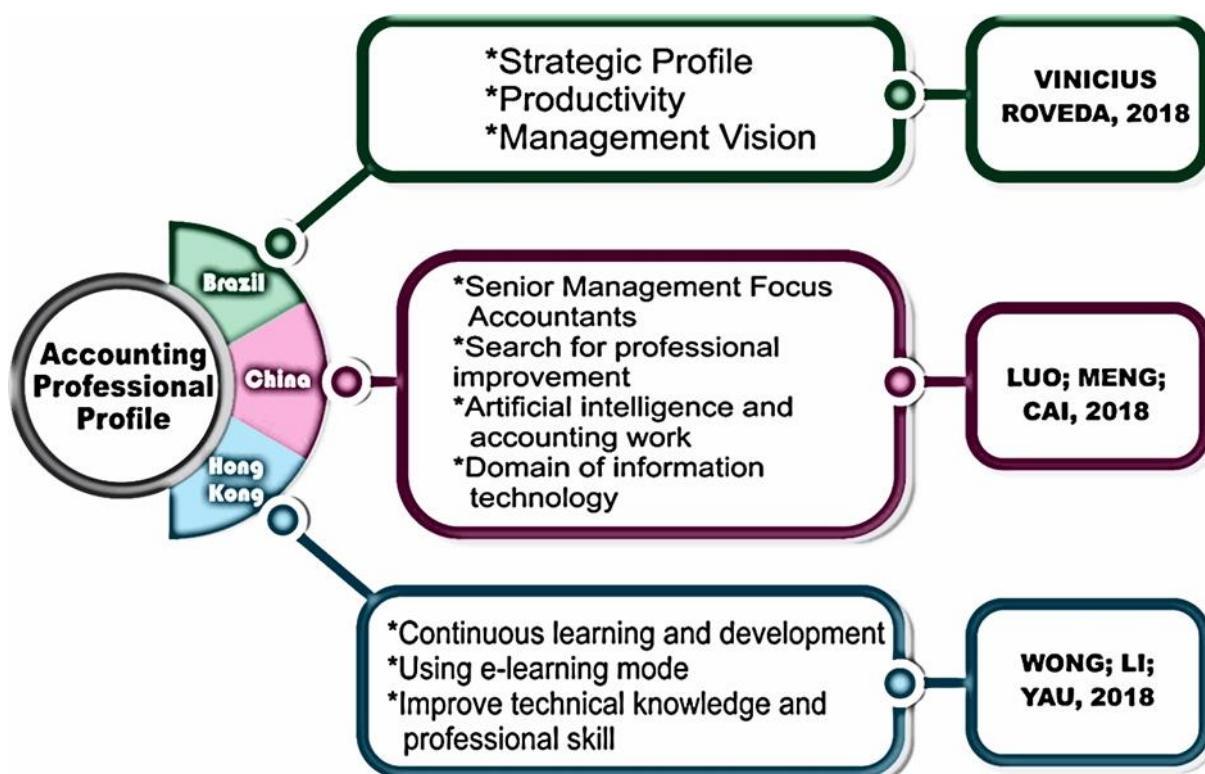
Thus, accounting professionals must be alert to meet this business demand that is characterized primarily by organizations that value reliable information for decision making. In this context, the professional must develop skills to meet the imposed demands (Melo, 2017).

With the advent of the Internet, old operating routines give way to systematic modernization within organizations, books, records, binders, continuous forms give way to pen drives, large files are stored in clouds and become spreadsheets open to multiple users (Peleias, 2007).

Nowadays, technological equipment and software are increasingly being inserted in the flow of operations and services of companies, through the distribution of data processing in the various programs - the ERP's available to the user. Of course, accounting could not but be influenced by this development. With the progressive evolution of technology, systems have become increasingly essential in the business world and, consequently, the accounting field has been impacted by these aspects (Souza, 2018).

What is observed is that the digital age is present in all areas of business and also in accounting. Today, accounting is governed by software, from the simplest postings (debit and credit) to the generation of complex reports to assist in management decision making. Thus, it is valid to present the view of three countries (Figure 1), demonstrating the need in relation to the accounting professional and their real concern with innovation.

Figure 1 - Accounting Professionals Profile Infographic



Source: Adapted by the author, 2019.

Complementing the infographic, Vinicius Roveda (2018) points out that in Brazil, the profile required for accounting professionals is focused on being strategic to reach the advancement levels of technology. Time saved can be reversed in productivity, allowing management analysis. This, in turn, makes it possible to support the customer's business and even think strategically about the company itself.

Regarding China, Luo et. al (2018) mentions that the country continues to seek to improve its accounting

professionals, aiming at improving the quality of their talents, implementing from university improvement programs so that graduates leave with a level of knowledge considered senior after qualification. Thus, it is necessary to combine artificial intelligence with accounting, so that professionals have mastery of information technology in their favor, using the most up-to-date data management software, thus adapting more quickly to changes in their field.

Finally, they are highlighted by Wong et. al, (2018) in relation to Hong Kong's position alongside the accounting profession, which deserves to be highlighted, as professionals in the area are always looking for continuous learning and in most cities using an E-learning learning mode. , being considered as a trend of the future, as it involves several ways of informing yourself about what's new in the market. These programs provide professionals with a self-controlled way of learning, self-assessment and interaction among online participants. The main results are focused on the search of professionals to keep up with innovation and technology in relation to the information of the profession.

## **6. Final considerations**

The accounting professional should be responsible for the relevant information in the decision making processes of companies. And for this, this professional must receive relevant information, which translates into results for companies. The accounting professional who wishes to act in the current scenario, meeting the demands of the market, must always be flexible to the constant changes, prioritizing a permanent update and improvement in relation to their professional education.

The professional profile required today is highly complex, so being flexible becomes essential to taking on this new role. Simple, operational Tasks are being replaced by systems that turn data into vital information that enables evolution or, if not explored, corporate failures.

Thus, it can be concluded that, as the evolution of accounting serves to understand the adaptation of professionals in the current scenario, it is extremely important to follow this trajectory, since the history of accounting development, especially in other countries, such as the USA, shows whereas the active participation of professionals in decisions and in the formation of new concepts has deserved proper appreciation of the profession, contrary to what happens in Brazil, where professionals are subject to government demands and cannot formulate a better way to meet these needs services.

In this sense, professionals tend to always be subject to react to new situations that are imposed, which happens in other countries, the opposite: professionals seek to add new means to qualify their work, not being imposed changes, but performed by professionals , to better meet society's demand. It may also be envisaged that in the future, given the many responsibilities the accounting professional is taking on, he or she may segregate his or her duties and specialize in certain areas, acting more specifically in the professional field.

Accounting has evolved significantly and, within this context, like all other areas, has the influence of technology. The introduction of systems and applications has enabled, among other things, greater flexibility in maintaining and storing data, extending the information set for decision making, eliminating the slow processing and reporting presented in previous decades. However, the advent of accounting technology proposes that accountants, like any professional, participate in a process of updating their

knowledge, constantly seeking to understand technological innovations in order to produce quality services for society.

Thus, the current context has been characterized by the rapid evolution of technologies and the variety of technological innovations available. Thus, understanding how technological advances impact accounting activity and knowing how to evaluate the contribution that these innovations can make to achieve the expected results becomes a necessary requirement in the performance of accounting professionals.

It is also noteworthy that Hong Kong stands out in relation to the pursuit of continuous learning by professionals, so its focus is to maintain the relationship of innovation with the technological monitoring of the professionals who work. In China, the focus is on improving your academic professional so that he can have a higher degree in the field, always linked to artificial intelligence with information technology.

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