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Professional Skills of Future Accountants using ERP Systems

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Abstract

Digitisation in recent years has led to massive changes in the way certain activities are carried out in various fields. This paper aims to analyse the field of finance and accounting, capturing how the activities of accounting professionals are changing as a result of the evolving phenomenon of digitisation. At the same time, it was also studied how the implementation of ERP (Enterprise Resource Planning) systems provides functions that allow more efficient and accurate processing of data, and reports needed by managers can be generated more easily. The research method used in this paper was based on a quantitative analysis, specifically a bibliometric analysis, with the aim of illustrating the main skills that accounting professionals should develop in the future as a result of the digitisation phenomenon in recent times. The research aims to follow the importance of developing technical skills, critical thinking skills, and adaptability to navigate the complexities of ERP systems effectively. As a result of the evolution of digitisation and the increasing implementation of ERP systems in finance and accounting companies, the results of the study indicated that accounting professionals should possess a range of skills including proficiency in data analysis, system implementation, and financial reporting within ERP systems. The paper adds value to the literature, providing accountancy professionals with a range of useful insights into how the profession will change as a result of digital transformation.

Keywords: ERP systems, accountants, professional skills, digitisation.

JEL Classification: M40, M41.

1. Introduction

The rapid evolution of digitisation has shown that the integration of ERP systems within an organisation is a necessity in modern financial management. Most organisations want efficiency, accuracy and real-time data information, and the role of the accountant is changing as they need to acquire new professional skills. This

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article aims to present the main skills that future accountants should develop, as well as the digital skills they should possess in order to effectively use ERP systems in their daily practices.

ERP systems have reformed the manner of processing, analysing, and reporting through the simplification of business processes, the alleviation of decision-making competences, and the supply of the entire picture of an organisation's financial elements.

Future accountants need to own several software skills in order to properly deal with the intricacies of ERP systems in an effective way, besides the technical capabilities that they need to develop. Moreover, the comprehension of complex financial data is based on communication skills, while the identification and the resolution of issues that can appear in relationship with ERP systems heavily relies on critical reasoning.

The goal of the article is to delve into the main professional skills and the utilisation of ERP systems in accounting, to define the most suitable components that should be owned by accounting professionals due to activity digitisation, as well as to prove how technical knowledge and interpersonal capabilities can be integrated by them.

2. Problem Statement and Literature Review

The rapid development of information technology has also been observed by Amirul et al. (2017) having a massive impact on the accounting profession. The business environment is constantly changing as a result of globalisation and the evolution of technology. Thus, it should be observed whether future accounting professionals have the necessary skills to cope with the new changes.

Various studies by Chen et al. (2011) and Damasiotis et al. (2015) have shown the need for accountants' knowledge of ERP system functionality, data structure, and reporting capabilities. In addition to technical skills, other authors, such as Schwade and Schubert (2016), identified the need to develop soft skills while using ERP systems.

Omane-Antwi (2017) mentioned that critical thinking, communication, and problem-solving opportunities play a role in improving data processing and management decision-making.

Communication is essential to translate financial data into meaningful action for shareholders, and critical analysis helps accountants analyse and interpret information processed with ERP systems. ERP systems are among the most effective tools for managing small and medium-sized enterprises (Kovalev et al., 2023). Adaptability and the desire to know what is new gives a broad view on the concept of digitisation. Future accounting professionals need to demonstrate flexibility and a proactive approach to acquire new features and functionality.

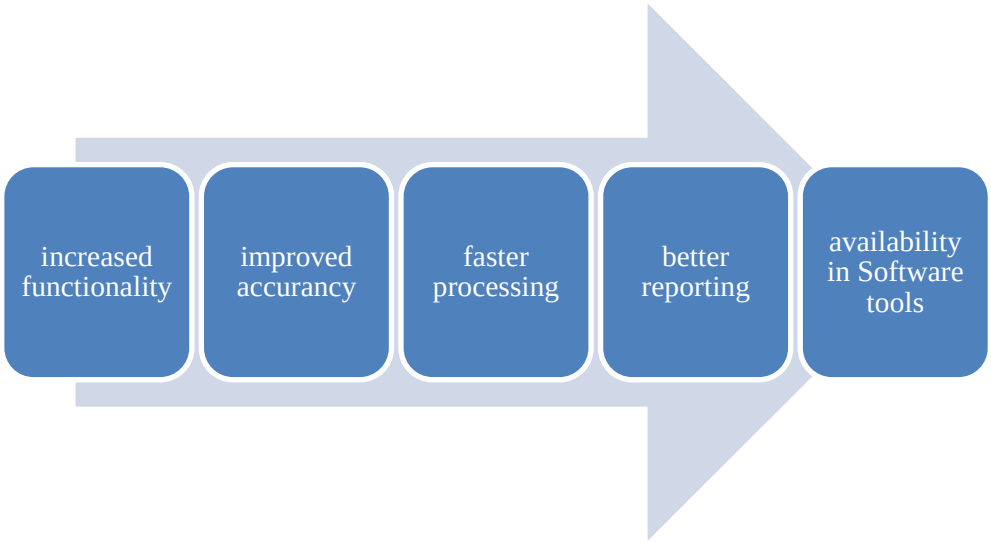
A combination of technical competencies, software skills, and adaptability so that accountants excel in using ERP systems to empower organisational success in the digital age (Ozdogan, 2017).

The reason why many organisations decide to implement ERP systems comes down to the possibility of integrating information into a single database, being accessible and controlled from any department of the organisation. Major operations are combined into a single department-specific module (El Sayed, 2006; Chen et al., 2011).

ERP systems include modules specific to accounting and finance, human resources, production, sales, and distribution (Grabski et al., 2011; Gunasekara & Wijesinghe, 2020). The implementation of ERP systems can result in a range of benefits, including increased efficiency, cost savings, and improved decision-making (Darie, 2023; Zain et al., 2023).

Damasiotis et al. (2015) identified several advantages of using these systems, such as those found in Figure 1.

Figure 1. Advantages of using ERP systems



Source: Damasiotis et al. (2015).

The article thus aims to analyse what are the main skills that future accountants should possess in the process of digitising organisations.

3. Research Questions / Aims of the Research

The research questions of the article are presented below:

RQ_1: *What skills should future accounting professionals possess?*

RQ_2: *What other skills should future accounting professionals develop in the digital age?*

4. Research Methods

The research method used in the article was based on a quantitative analysis, specifically a bibliometric analysis. The research aims to follow the importance of developing technical skills, critical thinking skills, and adaptability to navigate the complexities of ERP systems effectively.

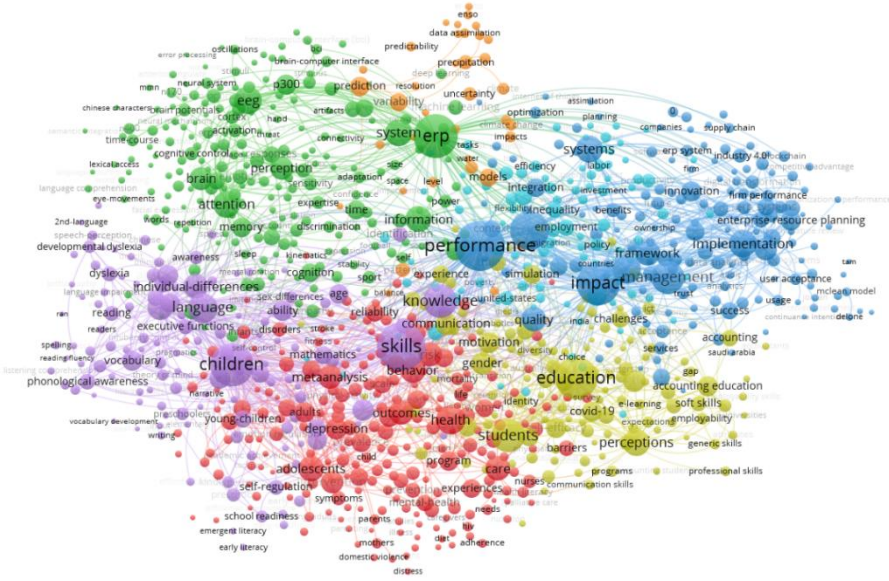
The sample of articles used for the bibliometric analysis was selected from the Web of Science platform in May 2024 based on keywords: "Skills", "ERP systems" and "Accounting", being returned 36,558 articles, which will be used in the bibliometric analysis in order to identify the main skills that future accounting professionals should possess or develop. The articles returned were between the years 1975 and 2024, but the author refined the range of articles, referring only to a sample between the years 2020 and 2024, 9,316 articles being returned.

The sample was analysed using the VOS viewer application, which allows bibliometric analysis. The results are presented in the next section, called Findings.

5. Findings

The Findings section shows the main skills related to the use of ERP systems and there are presented in Figure 2.

Figure 2. Relationship between main skills of accountants and modules of ERP systems (option: Co-occurrence – All keywords)



Source: author's contribution.

Seven clusters were identified following the analysis of the sample among which the following keywords can be mentioned, presented below in Table 1.

Table 1. The 7 clusters of the bibliometric analysis

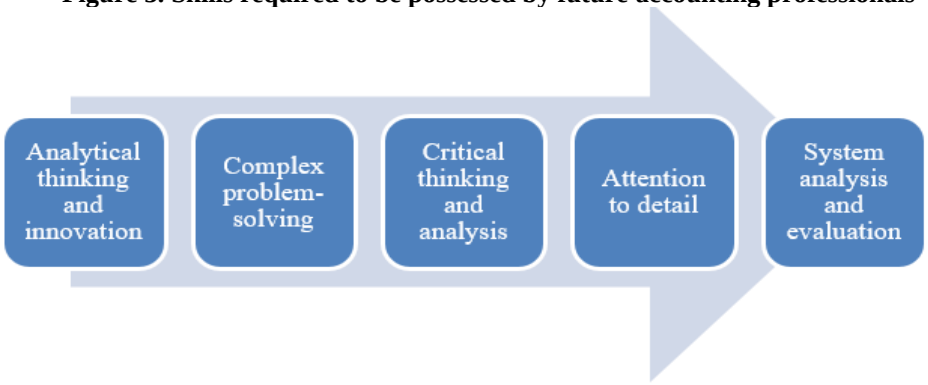
Number of cluster	Keywords
Cluster 1	Acceptability, Accounts, Adults, Association, Anxiety, Behaviour, Burnout, Cognitive function, Community, Depression, Efficacy, Emotion regulation, Experiences, Health, Involvement, Mental health, Participation, Quality of life, Reliability, Risk, Recovery, Social competence, Social skills, Social support, Strategies, Stress, Virtual reality, Well-being
Cluster 2	Account, Accuracy, Activation, Adaptation, Addictions, Anticipation, Attention, Brain activation, Brain potential, Capacity, Cognitive control, Connectivity, Decision-making, Deep learning, Development, Developmental language, Emotion, Emotion recognition, ERP components, ERP processing, Expertise, Face perception, Face recognition, Facial expression, Feedback, Judgement, Networks, Skills acquisition, Social cognition, Specialisation, System, Tasks, Visual attention
Cluster 3	Acceptance, Analytics, Artificial Intelligence, Benefits, Big Data analytics, Business intelligence, Cloud ERP, Capabilities, Complexity, Critical success factors, Data Analytics, Corporate governance, Data Analytics, Competitive advantage, Complexity, Decision-making, Digital transformation, Digitalisation, ERP systems, ERP implementation, ERP postimplementation, Financial performance, Firm performance, Industry 4.0, Information systems, Innovation, Integration, Life-cycle, Management accounting, Management control, Optimisation, Project, Quality, Satisfaction, Transformation
Cluster 4	Academic performance, Accountants, Accounting education, Active learning, Attitudes, Autonomy, Challenge, Collaboration, Communication skills, Competence, Computational thinking, Critical thinking, Digital skills, Education, Educational technology, Emotional intelligence, Employability skills, Engagement, Ethics, Experiential learning, Higher education, Motivation, Professional development, Professional skills, Self-determination, Soft skills, Thinking, University students
Cluster 5	Abilities, Academic achievement, Attentional control, Awareness, Comprehension, Executive function, Gender differences, Language development, Language impairment, Language proficiency, Language skills, Literacy skills, Mathematical skills, Process, Spatial skills, Vocabulary development, Vocabulary knowledge
Cluster 6	Accountability, Advantage, Automation, Cognitive skills, Economic growth, Employment, Flexibility, Growth, Inequality, Investment, Job satisfaction, Labour-market, Non-cognitive skills, Persistence, Personality, Productivity, Technological-change
Cluster 7	Balance, Climate change, Error, Forecasting, Improvement, Intensity, Resolution, Predictability, Variability

Source: author's contribution.

Most keywords refer to the critical thinking, analytical and digital skills, cognitive and noncognitive skills, and communication skills that accounting professionals should develop.

For the first research question *"What skills should future accounting professionals possess?"*, the author has identified in literature review the following skills that future accounting professionals should possess, which are presented in Figure 3.

Figure 3. Skills required to be possessed by future accounting professionals



Source: Goncalves et al. (2022).

These skills identified in the article of Goncalves et al. (2022) were confirmed by the bibliometric analysis performed by the author. Skills such as critical thinking, attention to details, communication and the language used, flexibility, the complexity of problems that can be solved with the help of ERP systems, as well as the influence of ERP systems on the decision-making process were identified in the bibliometric analysis carried out by the author.

For the second research question *"What other skills should future accounting professionals develop in the digital age?"*, the author has identified in literature review the following skills they should develop presented in Table 2.

Table 2. Skills that accounting professionals should develop

Technical Skills / Hard Skills		**Social Skills**	
Understanding the capabilities of the software	Basics of coding	Strong communication	Emotional intelligence ethical
Analysis skills	Fintech software knowledge	Conflict solving	Adaptability, tolerant of uncertainty
Data visualisation	Data security, forensic tools	Leadership skills	Sales knowledge
Knowledge of International Standard	Data warehouse management	Risk management	Innovative/Creative
Knowledge of industry-specific regulations	Enterprise resource planning (ERP) experience	Strategic decision making	Customer service orientation

Source: Goncalves et al. (2022).

6. Conclusions

The implementation of ERP systems within organisations has revolutionised accounting activities, leading accountants to develop a complex set of professional skills in order to adapt to the digital age. In line with literature review, the future of the accounting profession in the digital era is shaped by various factors, such as software skills, technical skills, and adaptability. Technical skills hold the mission of assuring the meaningfulness of comprehending software functionality, data structures, and financial reporting competences. Software skills involve critical thinking, communication, and problem-solving abilities, and permit the analysis and interpretation of information processed with ERP systems in an easier manner by accountants. Adaptability refers to the need for accounting professionals to be open towards change and to have a forward-looking attitude in acquiring novel features and functionalities of ERP systems.

The study carried out in the article demonstrated that future accounting professionals must focus a lot on increasing digital, communication, and language, social skills, developing attention to details, and improving performance.

Thus, ERP systems are intended to help accountants to ensure the improvement of professional quality, the efficiency of the activity, as well as the growth and success of the organisation.

Limitations: The limitation of the article was the small number of research questions that could be formulated based on the theme of the article.

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