



Sustainability and Corporate Reporting using ERP Systems: Challenges and Opportunities for the Accounting and Auditing Profession

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Abstract

As a result of the massive digitalization of recent years, ERP systems have started to play an important role in the life cycle of an organization, raising a number of challenges and opportunities especially for the accounting and auditing profession. The accounting and the auditing professions represent two very versatile professions as a result of the changes that have taken place from the moment of their appearance until now, they are constantly improving with the evolution of digitalization. Digitalization has led to the development of accounting and auditing organizations and of course to the focus of attention on sustainability processes and how their corporate reporting is done. The many advantages that ERP systems offer to professional accountants and auditors, as well as other categories of users, have influenced many organizations to resort to the implementation of these systems.

Thus, to highlight the main challenges and opportunities that ERP systems offer to the accounting and auditing profession from the perspective of how to ensure sustainability and corporate reporting, the authors performed a quantitative bibliometric analysis, selecting a sample of Web of Science cited articles. The results indicated that ERP systems have a major impact on the decisions adopted by organizations, more specifically they ensure a true picture of the organization's situation, having a significant influence on the way of corporate reporting and on sustainability.

Key words: digitalization; ERP systems; sustainability; corporate reporting; accounting profession; auditor;

JEL Classification: M15, M40, M41, M42

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Introduction

The upward trend of the digitalization of the accounting and auditing profession has determined that organizations look for effective IT solutions in order to improve both their activity and the financial and non-financial results obtained by them. Thus, the most optimal solution to cover a number of important functions within the organization were ERP systems, more and more organizations are starting to implement these IT systems. The reason behind the decision to implement these IT systems was the need to have quick access to the processed data, offering a high degree of transparency on the accounting data. Another reason that led to the choice of these IT systems was the possibility of easy dissemination among all departments of an organization.

Organizations using information systems have thus managed to reduce the number of manual activities (Rodriguez and Spraakman, 2012; Hietala and Päivärinta, 2021), so the role and position of accounting professionals is changing. Finally, they will focus on data analysis and consulting processes (Galani et al. 2010; Rodriguez and Spraakman, 2012; Susnea, 2019).

The article continues with a section on the literature review, where we have identified in different articles the key concepts of the present paper, a section that presents the research methodology that focused on a bibliometric analysis, a section that presents the analysis of the results obtained based on the bibliometric analysis, and the paper ends with the main conclusions of the paper, highlighting the impact of digitalization on sustainability and corporate reports made by professional accountants and auditors.

Literature review

Recent technological progress has led to an increase in the use of new technologies in the accounting and auditing profession, as a result of the organization's need to maximize its results and streamline its daily activities. Frey and Osborne (2013, cited by Akhtor and Sultana, 2018) believe that in the future these professions will disappear, most activities being replaced by the use of these technologies. Since the beginning, the accounting profession has been associated with the use of technology, and constant progress has expressly amplified the use of new technologies in the accounting and auditing profession (Bakarich, 2020).

Legislation and government require organizations to include sustainability in their business vision, mission and strategy.

Chofreh et al. (2018) believe that to effectively implement sustainability initiatives, organizations should integrate data, information and processes into a consolidated database. Using an ERP system allows the organization to centralize all activities, allowing the organization to grow sustainably in the short, medium and long term. The centralization of the organization's data allows managers to have a broader view of its financial situation. Thus, the organizations, more precisely the listed ones, have the obligation to publish the annual financial statements to report the economic and financial situation of the assets and the business results that they obtained in a certain period of time (Frias-Aceituno et al., 2012). Organizations were also required to publish a report on corporate governance to increase the credibility of the reported information.

Corporate sustainable reporting has its origins in both environmental and non-financial reporting, being influenced by a number of driving forces from outside and inside the organization (Isenmann et al., 2007).

Integrated reporting presents various advantages, among which the following can be listed (IIRC, 2011:58 cited by Frias-Aceituno et al., 2012):

- information more adapted to the needs of the investor;
- greater accuracy in the non-financial information made available to the data provider;
- higher levels of trust for key users;
- better resource allocation decisions, including reducing costs or improving risk management;
- better identification of opportunities;
- greater engagement with investors and other stakeholders, including current or future employees, thereby facilitating talent attraction and retention;
- improved public image;
- lower costs of capital and better access to it.

According to Martinez-Ferrero et al. (2013), social and environmental information is useful for financial management, so that the CSR (Corporate Social Responsibility) report, being the main communication channel of the social and environmental impact made by the organization. This report contains a wide range of information relating to the company's relationship with

As can be seen in **Figure no. 1**, four key word clusters can be identified, mostly illustrating the use of new technologies, but also how IT systems are perceived by users and how their activity is influenced.

In **Table no. 1** the four clusters were defined, together with the main keywords that characterize them.

Table no. 1. Keywords identified by authors in selected Web of Science articles	
Cluster	Keywords
Cluster 1	accounting, big data, business intelligence, business value, corporate social responsibility, decision making, digital transformation, electronic commerce, ERP adoption, failure factors, implementation, innovation, internet of things, knowledge, performance, risk management, simulation, strategy, sustainability, technology, user acceptance, user participation, user resistance, value creation
Cluster 2	age, alzheimer's disease, attention, brain, brain activation, brain oscillation, capacity, cognition, development, emotional faces, experience, expertise, face perception, facial expression, information processing, neural activity, perception, reaction time, recognition
Cluster 3	accuracy, cognitive control, cognitive flexibility, decision-making, emotions, impulsivity, tasks, validity
Cluster 4	brain computer interface, interface, machine learning, maintenance, people, monitoring, movement, speed, task analysis, visualization

Source: author's own creation, 2023

The concept of corporate social responsibility has gained momentum as a result of the ethical problems that have appeared recently in more and more organizations. Thus, the connection with how users perceive ERP systems and how they can improve the activity so as to reduce as much as possible the occurrence of these errors and the ethical problems that could arise within the organization also appeared.

The authors found in the selected articles that the use of ERP systems in the corporate reporting

process has a beneficial role on economic performance, subsequently leading to the sustainable development of the organization. Thus, accounting has the role of reflecting the economic, social and environmental impact.

The countries where the most articles were written were: United States of America, China, Germany, England and Canada, the number of articles written in each country can be viewed in **Table no. 2**.

Table no. 2. Countries where articles were written		
Countries	Number of articles	Number of citations
United States of America	2015	103178
China	1530	17665
Germany	1101	35198
England	633	25737
Canada	441	19406
Italy	382	10068
Netherlands	362	21813
Australia	349	8058
Taiwan	313	6503
France	293	9025
Spain	286	6710
Japan	260	4905

Countries	Number of articles	Number of citations
India	242	2383
Polonia	237	2455
South Korea	202	4508
Finland	178	6516
Sweden	178	6125
Switzerland	162	7382
Malaysia	152	1438
Romania	150	343
Turkey	144	3223
Denmark	141	2616
Russia	135	671
Brazil	134	930
Portugal	131	1114
Czech Republic	125	1406
Greece	119	1975
Indonesia	116	325
Belgium	112	4728
Norway	112	1907
Austria	111	3732
Saudi Arabia	105	1784
Scotland	99	3738
Hungary	91	1985
Iran	91	1226
South Africa	89	829
Israel	78	3683
Singapore	69	1441
New Zealand	62	911
Croatia	60	134
Pakistan	52	828
Ireland	47	1285
Slovenia	45	437
Jordan	44	278
Serbia	44	202
United Arab Emirates	43	133
Thailand	41	498
Morocco	39	107
Egypt	36	154
Mexico	34	373
Chile	32	628
Wales	28	1639
Bulgaria	28	504
Ukraine	28	63

Countries	Number of articles	Number of citations
Slovakia	27	141
Latvia	26	56
Argentine	24	379
Lithuania	23	54
Columbia	21	248
Kazakhstan	21	220
Vietnam	20	104
Nigeria	17	219
Bangladesh	16	211
Ecuador	16	82
Ghana	16	56
Sri Lanka	16	93
Tunisia	14	108
Peru	14	82
Cuba	12	219
Qatar	12	87
Northern Ireland	11	470
Lebanon	11	73
Estonia	9	318
Iraq	9	29
Oman	8	28
Algeria	8	8
Cyprus	7	236
Bahrain	7	15
Bosnia and Herzegovina	7	6
Luxembourg	6	106
Libya	6	12
Mauritius	6	23
Liechtenstein	5	57
Uruguay	5	31
Kuwait	5	127

Source: author's own creation, 2023

Considering the data presented in **Table no. 2**, the authors can state that the first five countries where the most articles were written are also the most technologically developed and for this reason such a high number of articles are recorded in those countries.

Analyzing the specialized literature, the authors found that ERP systems help organizations to improve their position in the market, but also to eliminate problems such as fraud or the security of sensitive data. The financial reporting

process, but also the activity of professional accountants and auditors are improved as a result of the processing of accounting information with the help of these integrated IT systems.

The impact of ERP systems is a positive one, offering the opportunity to track accounting transactions much better, but also to increase the competitiveness of organizations on the global market (Mostyn, 2012). Thus, the challenges brought to the accounting and auditing profession are

represented by the skills they must develop, among which the following can be listed: analysis, consulting and communication.

Conclusion

ERP systems have the role of streamlining the entire activity of the organization as a result of the modules implemented for each department of the organization. The authors identified that ERP systems combined with new technologies such as Big Data, Artificial Intelligence and Machine Learning help to improve the vision of the organization's situation.

The evolution of technology leads more and more towards the digitalization of the accounting and auditing

profession, so they will have to develop new skills, including those of communication, analysis or consulting, replacing redundant or routine activities performed daily. At the same time, the digitalization of these professions leads to the elimination of human errors and to the efficiency of the entire activity of the organization, offering a much clearer vision of the organization's situation.

The main conclusions of this study indicate that ERP systems have a significant impact on the decisions adopted by organizations, ensuring a true and complete picture of the organization's situation, having a significant influence on the way of corporate reporting and on sustainability.

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