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The Future of Accounting in e-Business systems

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***Abstract*—** Businesses face a constant shift towards digitalization and virtualization due to the rapid growth of IT. The transition from ERP-type information systems to e-Business type information systems has been influenced by emerging programming technologies. Of course, the main component of these information systems is Accounting, which is not an exception and cannot remain at the current digitization stage, but must follow the steps imposed and the possibilities created by new technologies. Even if some experts claim that accounting has a weak future in the digital world, in the future, accounting needs to be strategically integrated into management and business strategies because it is the only science that has the tools to measure the economic-social reality. In this study, which includes 27 business companies and 8 IT systems, we attempt to highlight the automation of previous accounting tasks and to present forecast accounting as a tool for corporate management and planning

Index Terms : *e-Business systems, forecast accounting, expert systems, e-accounting, digital accounting*

I. INTRODUCTION

The first department in a business to go computerized was accounting, which happened when computers were discovered along with programming software, databases, and reporting. ERP (Enterprise Resources Planning) systems were created and developed around computerized accounting, which gradually made it possible to digitize all the functions of a company. The nucleus of an ERP system is accounting, as it is the science that uses specialised instruments to measure an entity's overall activity results and publishes them to the public through the accounting balance sheet.

Until 10 years ago, ERP systems were closed systems in the sense that they did not exchange automated information with other ERP systems or with business partners, employees, shareholders, etc.

Fig. 1 Place of Accounting in ERP Systems

The communication between computer systems and third parties has increased due to the quick development of communication networks and the security of information exchange. The COVID crisis brought into discussion and successfully implemented remote working. The exchange of information between customers and suppliers created the e-commerce, which currently ensures the exchange and payment process automatically. The digital exchange of information with banks created e-payment services. This massive digitization has amplified the exchange of goods/services and information. As a result, the ERP systems that were closed systems have evolved into e-Business systems that control information exchange.

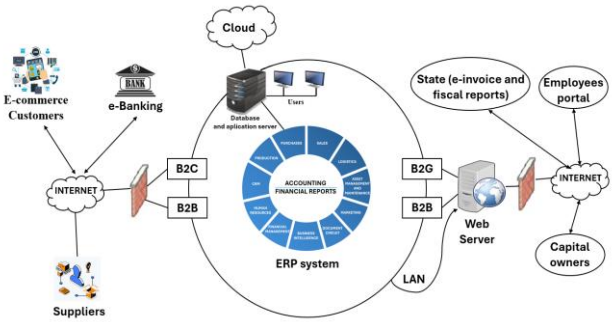

Fig. 2 e-Business System

The term "e-Business System" refers to the collection of cutting-edge tools, equipment, and technologies that businesses utilise to expand their businesses online. E-Business systems process information in real time on a global scale.

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II. LITERATURE REVIEW

The literature in the areas of digital accounting, forecast accounting and data & information management in ERP/e-Business systems is quite poor. Many studies that have been published are empirical, observing and formulating hypotheses without investigating the basic correlation between accounting science and ERP/e-Business systems.. The reason is easy to understand: researchers must have advanced knowledge in both fields: accounting and computer science.

Studies and works in the field of digital accounting and e-accounting are useful both to accounting professionals and ERP/e-Business system developers.

III. METHOLODOGY

To carry out the study, we selected 27 business companies structured in this way :

Turnover / Activity Type	**1-5 mil. euro**	**5-10 mil.euro**	**>10 mil. euro**
Manufacturing	3	2	2
Trade	3	1	1
Construction	2	2	2
Transport	3	1	-
Services	3	2	-
Total	**14**	**8**	**5**

Table 1. Business Companies subject to research

These companies use ERP systems as follows:

Type/number of ERP systems/Companies	**8**	**27**
Small Business	2	8
Middle Business	4	14
Big Business	2	5

Table 2. ERP systems used

IV. RESULTS

In the study, we approached through direct research the degree of digitization of the following aspects:

a. Gathering and validating primary accounting data
b. Local/cloud data management
c. Management of relations with business partners
d. Management of relations with employees
e. Management of relations with capital owners
f. Management of relations with financial creditors
g. Management of relations with the state
h. Data import/export with other applications
i. Managerial accounting management
j. Financial accounting management
k. Forecast accounting

After the data was processed, the following outcomes were obtained:

a. More than 90% of primary data is now automatically collected thanks to the implementation of e-banking and e-invoice systems.
b. 47% of companies manage their data and use Cloud IT applications
c. Approximately 67% of these companies use automatic email, SMS, and WhatsApp as well as e-commerce software for online information exchange with partners.
d. Less than 15% of employee relations are handled online, and the majority of businesses lack the tools necessary to provide distant communication with the employees.
e. The management of relations with capital owners is carried out through dedicated portals that offer information related to the balance sheet and periodic financial reports
f. The management of relations with financial creditors is carried out only by e-mail, not having an online communication interface dedicated to the management of bank loans and creditworthiness analysis
g. For fiscal declarations and invoice reporting, all IT systems export data in the.xml format to the state. The same programmes make sure that invoices are automatically imported from the state-provided platform.
h. The ERP system's computer applications components all provide real-time data access and import/export. More than 60% of them refresh their data via connections to other portals and computer systems that offer relevant data.
i. Managerial accounting is managed in real time by over 60% of IT applications and ensures the analytical calculation of production costs. 30% of IT applications ensure the multidimensional management of information related to these costs.
j. 90% of financial accounting administration is automated, thanks to certain IT solutions that guarantee the automatic computation of reserves for unforeseen costs and risks. Unfortunately, the creation of the balance sheet and the profit and loss account is typically all that remains of the last component of financial accounting, the balance sheet. The situations related to the Statement of cash flows, the Statement of changes in equity and the Notes are missing.
k. As far as forecast accounting is concerned, only some elements of prediction can be seen, such as the situation of future cash flows. There are no predictions regarding the material flows and the other elements necessary to make a forecast accounting.

New technologies, Artificial Intelligence, cloud services, online work, BigData and expert systems have all been rapidly adopted by the IT systems that support accounting management. Approximately 95% of an accountant's job is done in a computerised environment. Accounting activities lend themselves to automation and therefore accounting work requires new adaptation and reconfiguration. In a relatively

short period, the accounting manager will be a coordinator of expert IT systems, based on artificial intelligence. Accounting intelligence will handle event management, and accounting data collection about transactions will become a fully automated process. Accountants' work will shift to forecast accounting, in which projected accounting scenarios with the accuracy of current accounting will be produced based on predictions of material and financial flows and with the use of accounting procedures.

Digital accounting as a science must be completed with the details related to the evolution of technology in order to provide the architecture of future financial-accounting IT applications. The optimized computer applications are the result of research related to the future of accounting in these information systems. The field of e-accounting, which deals with the implementation and utilisation of IT applications for financial accounting, is unable to develop new methods based on the traditional balance of accounts, on Debit and Credit, or a fixed structure for accounting reports.

A new accounting standards is required as a result of the technological leap and the switch from ERP systems to e-Business systems. This standards must integrate new technologies with existing accounting concepts, procedures, and work practices. Since accounting reports are what determine the positive and negative outcomes of corporate life, accounting information cannot exist outside of computer systems and accounting is the foundation of these systems.

V. CONCLUSIONS

Within the next ten years, all e-Business systems will be fully computerised, guaranteeing timely information from the analytical level to the level of synthetic financial reporting. Current accounting is the fundamental component of it. The financial control and audit will turn into active activities, changing the prevention with the stoppage of incorrect/erroneous transactions, and the fiscal control will be carried out on the basis of a risk analysis, without the need to travel to the field.

There will be considerable adjustments made to the account's structure, the trial balance of the accounts, and the periodic and annual accounting reports.

Current accounting will acquire its primary place in coordinating the information that will be included in the annual/periodic integrated accounting reports.

The accounting information will be presented multidimensionally, synthetically and analytically, and access to the information will be possible for all authorized users and interested capital owners. We will assist in enhancing the qualitative characteristics of accounting information: intelligibility, relevance, credibility and comparability.

International accounting/financial reporting standards and national accounting norms must be completed with digital accounting and e-accounting knowledges.

The analysis of the financial indicators of liquidity, solvency, profitability and management, as well as the risk of insolvency will become permanent indicators incorporated in accounting computer applications. The Business Intelligence application will be based 70% on on-time accounting information.

Forecast accounting will be the next step in the development of the e-Business system to ensure accurate forecasting of the future of a business.

The transition to e-Business systems made it possible to automate data collection and accounting processes, which increased the role of accounting in obtaining timely information.

In the future, accounting must and will remain the nucleus of e-Business information systems.

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