

ENTERPRISE RESOURCE PLANNING A REAL SUPPORT FOR TOP MANAGEMENT

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Abstract

The purpose of the research was to present the importance of having an Enterprise Resource Planning system that can much faster and efficiently organize the management procedures in a company to meet the demands of managers. Being considered as a real solution for top management, providing integrated reports that can easily fulfill any requirement addressed based on a selection criterion. Management, i.e. the people who coordinate, control, direct and organize the activity of a company, require concrete, accurate and precise information in real time for the graduation of the wisest decisions. Therefore, the existence of such a system is a key factor (must have) in making important decisions. The second objective of the paper was to analyze the Romanian managers' view on the subject. The Romanian market was chosen and analyzed because it has a strong and competitive business environment being dominated by multinationals. Therefore, the article presents qualitative research. The instrument of analysis was the interview. Based on the responses received, the profile of the respondents was sketched and a detailed analysis of the answers was conducted.

Keywords: enterprise resource planning; top management; performance.

JEL Classification: A10, M40, M50

I. INTRODUCTION

In recent years many companies on the Romanian market have wanted to build a stable top management. Although there are many criteria, requirements and selection procedures, the management that wants to reach the top on the market needs strongly developed tools. Therefore, an easy and effective solution was considered to be the Enterprise Resource Planning (ERP) system which can manage a large volume of information on a single database, but which can also fulfill the classic management criteria and procedures

ERP systems essentially change the fundamental work processes of a business. They involve changing all design processes and developing all institutions. All ERP implementations involve business process re-engineering and management changes. An improvement may or may not involve a customized software solution (Watson & Schneider, 1999). ERP systems are used by large corporations around the world, recently replacing management, financial and administrative information systems (Pollock & Conford, 2005).

ERP is the solution that can bring significant change to an organization. The system includes a combination of business procedures that satisfy all general and individual management needs. These are grouped into departments in a single database. This database can be accessed and updated in real time by both employees and managers. The main feature of an ERP system is that it helps to integrate all business functions of the organization into a single database, providing an accurate view of the business.

ERP is seen as a business management system that is typically used to organize data from all departments of the organization. It provides an integrated view of business processes, often in real time, using common databases maintained by database management systems. The ERP system manages trade resources, raw materials, cash, production capacity, orders and sales. The system shares data between different departments (purchasing, accounting, sales, production, etc.) and provides key information for decision-making (Dawangan et al., 2017; Sabău et al., 2009). It facilitates information flow between business functions and manages connections with external stakeholders.

II. THEORETICAL AND RELEVANT ASPECTS ABOUT ERP AND TOP MANAGEMENT

In the context of globalization and interconnectivity, integrated information systems allow accounting processes to be standardized internationally. This facilitates compliance with international rules and regulations, contributing to increased transparency and consistency in financial reporting at a global level. At the same time, the topicality of the topic also includes the rapidly evolving aspect of emerging technologies such as artificial

intelligence and big data analytics. Managers are directly involved in integrating these technologies into their daily practice, looking for ways to use these tools to gain deeper insights and streamline management processes (Grosu et al., 2023).

Tarantilis et al. (2008) defines “ERP as an all-in-one solution that addresses all aspects of business management in organizations. It also envisions a system that integrates traditional aspects of accounting, production, sales, management and other management aspects”. According to Davenport (1998), ERP systems generally comprise different software modules. They enable the automation and integration of business functions by accessing and exchanging common information, data and practices across the company in real time. This system is also considered as a central database that extracts data and organizes it into a series of applications.

A defining feature of an ERP system is the integration of different organizational functions so that data can be entered once and later be available throughout the organization with real-time updates (Ali & Miller, 2017). ERP systems and spreadsheets have been in use for years. Information systems have also transformed the way managers interact with customers and other departments in the organization. Communication and collaboration are made more efficient through digital platforms and access to information is facilitated through integrated databases. This increased transparency in communication contributes to a better understanding of customer needs and requirements, strengthening professional relationships.

On the other hand, the systematic integration of technology in accounting brings specific challenges. One of these is the need for continuous updating of accountants' knowledge to keep pace with technological developments. Accounting professionals need to acquire technological skills to use new tools effectively and to ensure the security of financial data. There are also risks associated with information security. As financial data becomes more accessible through networks, the implementation of robust cyber security measures becomes crucial. Protecting confidential information and preventing unauthorized access are key to maintaining the integrity of financial data. Almost every production system is planned and controlled at some level that enables the use of technology today (Oluyisola et al., 2020). ERP system is often the largest software application adopted by an organization with significant amounts allocated to their implementation (Nielsen, 2002). Moreover, ERPs are customized, software-based systems that can handle a company's most important key information requirements. It has a software architecture that facilitates the flow of information for all business functions. The system uses a single database and supports a specific development environment. It provides customization to companies according to the specifics of each to support the business processes of an organization (Watson & Schneider, 1999).

Hassab Elnaby et al. (2012) believe that ERP systems have an important role to play in achieving strategic, organizational, management, operational and IT infrastructure objectives. They found that ERP systems enable accurate and real-time coordination of information. Additionally, they claim that ERP systems have the role to reduce inventory, administration costs and provide the opportunity to increase the ability to be accountable to market requirements. This system facilitates information flow and normal functional practices throughout the organization. Of course, companies cannot access the full benefits of a complex system without management support. Managerial support must be given to reengineer business processes, on effective project management, as well as on user involvement and user education/training (Haddara & Zach, 2011). In this sense, Stanciu and Tinca (2013) found that the successful implementation of ERP systems depends on the following criteria: management commitment, project opposition, corporate culture, planning and change management, user training and launch strategy.

Management commitment is essential because it ensures future goals and directions (Stanciu & Tinca, 2013). In addition, it ensures the necessary resources, but also the monitoring of project development. IT specialists have found that these criteria are important in business and decision-making processes. An essential part of the topicality of this theme is the continuous adaptation of managers to technological requirements. Today's managers need to possess a solid knowledge in the use of specialized software, understand the advanced functionalities of integrated information systems, and adapt quickly to constantly evolving technological changes.

Another important topical dimension is the impact on decision-making. Information systems provide quick access to advanced financial analysis, facilitating informed and strategic decisions. Managers play a crucial role in interpreting data and providing relevant information to the organization's management, helping to steer in directions that optimize financial performance. In financial data management, there is a strong focus on information security. Cyber risks are a real threat and managers must be constantly vigilant in protecting sensitive information. Topical issues include developing and implementing cybersecurity measures to prevent unauthorized access and ensure the integrity of financial data.

Collaboration within organizations and interaction with customers are also influenced by the integration of information systems. Effective communication becomes essential in an environment where information is managed and shared digitally. Managers need to develop interpersonal and collaboration skills to respond to customer needs and to ensure proper understanding of financial information. Implementing an ERP system is a difficult and costly task that not only requires rigorous effort, but also requires a detailed analysis of the critical factors essential for adoption or implementation. ERP system implementation challenges can be viewed from four

different perspectives such as: technology selection; change management, knowledge management, emerging technologies. By considering these perspectives in ERP implementation projects, organizations can gain several benefits such as saving additional time or effort (Ranjan et al., 2016).

Therefore, change management process becomes “a critical issue in ERP implementation. Once the company successfully implements ERP, the focus shifts to the most effective utilization of the system. Some articles approach this process quantitatively, measuring the risks and benefits, while others focus on studying the ERP system on company performance”. Beheshti (2006) states that ERP is a transaction processing system, which is defined as a strategic business solution that integrates all business functions including manufacturing, finance and distribution. However, it is continuously redefined according to the needs of the organization. ERP system improves the business process and reduces costs. The system also facilitates communication and coordination of administrative activities. It improves the ability to implement new functionalities reducing the maintenance costs of a successfully implemented ERP system can be the backbone of smart business for an organization because it provides managers with an integrated view of business processes (Parr and Shanks, 2000). Klaus et al. (2000) describe ERP system as a complete software solution. ERP systems can combine several areas, such as such as production, order management, financial systems, human resources, suppliers and customers, into a well-integrated system with visible data in real-time data according to Figure 1.

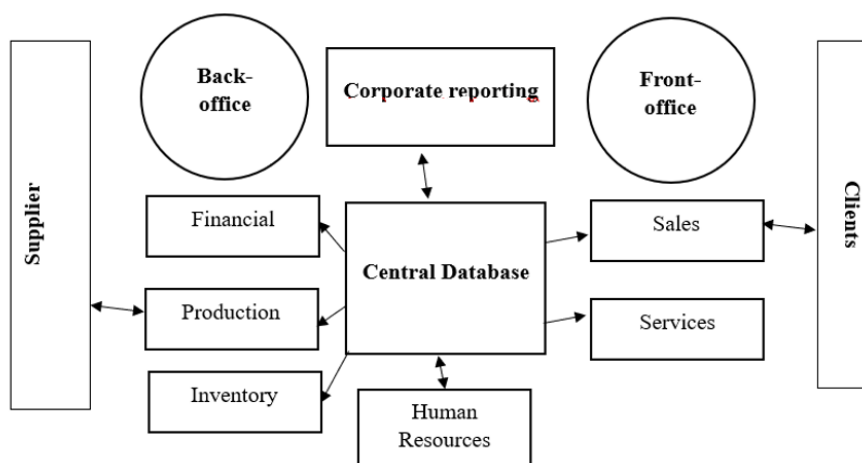


Figure 1. The concept of ERP systems

Source: Adapted after Chen, 2001

Figure 1 illustrates how ERP systems integrate a central database that collects and manages information from various departments, including the back-office (finance, production, inventory) that populates the database with information about internal operations, the front-office (sales and service) that uses data to interact with customers and manage orders, corporate reporting that centralizes data to create reports needed for top management decisions, and suppliers and customers that are connected through interactions with relevant departments for an efficient flow of information and resources.

III. METHODOLOGY

The study technique used is qualitative and was conducted in Romania, in Bucharest. It was based entirely on an interview that addressed the topic in question. In accordance with the specificity of the studies, the analysis tried to achieve all the objectives mentioned in the paper. The perspective of the respondents and how interested they are in the subject in question was also followed. The interview consisted of 10 questions that addressed each the overall angle of the respondents and the non-public angle at the situation in query. Their preference become strategic, they recognize what an ERP gadget includes and additionally how essential it's far for any company to assist and defend the environment. Also, their experience and position in the economic field was taken into account, in order that the solutions obtained immediately affect the studies. Is addressed to those managers who work and operate using an ERP system in order to see how satisfied they are with this type of system. I also wanted to track their perspective on the market and how well such a system can meet the essential business needs for sustainable performance at the company level. It was also followed whether this system satisfies the top requirements of managers. The respondents also represent people with higher education in the economic field who have a minimum of 5 years' experience in the labor market. In addition, they have been selected additionally in

phrases of the reality that they have got labored with an ERP gadget earlier than and recognize the functionalities of such software. The interview was conducted between May 2024 and July 01, 2024. It was held in Bucharest and the place of the interview was chosen by mutual agreement with each respondent. The average interview time with each respondent was about 20 minutes per respondent. They agreed to the use of the responses received in the current research. Based on the answers received, their exact perspective on the topic was presented and analyzed. The questions asked were the same for each respondent. The research also involved a look at financial information security issues. Cyber risks are increasingly and analysis of the methods and safeguards currently used in management area was essential to highlight the challenges and solutions in this sensitive area.

In terms of future research perspective, this stage has opened up new questions and directions for exploration. Following the current analysis research is now moving towards assessing the impact of emerging technologies, such as artificial intelligence, on management and identifying possible future developments of embedded information systems.

IV. RESULTS AND DISCUSSIONS

Then, in the second part of the paper, the practical part is detailed, namely a case study based on the analysis and interpretation of an interview. A case study is carried out, analyzing and interpreting the views of the respondents working on the Romanian market on the topic in question. The answers obtained were the basis for demonstrating the real benefits of such a system, particularly in terms of management, time efficiency and economy. Thus, the main findings of the research are presented and a reflection on the results is offered. Finally, the data are concluded, limitations are presented, contributions to the literature and the practical implications of this research are outlined.

The respondents who participated in this research were: Iacob Ionut - *general manager*, Patru Corina – *accounting manager*, Radu Alina – *senior manager*, Costache Oana- *audit manager* and Andrei Florina - *financial manager*. On the basis of the answers received, their exact perspective on the subject was presented and analyzed. The questions asked were the same for each respondent (see Table 1).

Table 1. Structure of the survey

No.	Question					
	Do you work in an ERP system that fulfills/visualizes general management procedures?					
Respondents/ Answers received						
1.	Iacob I.	Patru C.	Radu A.	Costache O.	Andrei F.	
	Personally, I do not work in such a system, but our company has an ERP software that generates daily useful information according to the existing requirements	Yes. I check/approve situations according to daily/weekly requirements	Personally, I do not work in such a system, but our company has an ERP software that generates daily useful information according to the existing requirements	We do have such a system, but it is often only used to check the employees and what is actually entered. It checks off certain management procedures but the actual use is generally aimed at controlling and managing employee activity	Yes. Depending on the need I generate/ approve/ select/ deselect what I need in decision making.	
2.	Does this system give you support/make your tasks easier?					
	Iacob I.	Patru C.	Radu A.	Costache O.	Andrei F.	
	As I mentioned before, if I don't actually work directly in such a system, I can't accurately assess how much it eases the tasks or not. But considering that there are no complaints from the operative staff, I can consider it a useful warranty	Yes. To some extent it is useful. But monthly also involves certain costs	I still can't say exactly that it eases the tasks until the final configuration from the software, I wouldn't be able to have an exact point of view. But since they guarantee that all the operation and generation modules will be available, I hope	Relatively eases the tasks of employees who use it daily. They still offer me a controlled access that also meets security standards	Yes. I consider it quite effective help. I no longer have to process the data afterwards to have intelligent reports	

			they will represent a real support and easily centralize the data		
3.	The implementation of such a system to tick management procedures, was it expensive, did you invest a lot?				
	Iacob I.	Patru C.	Radu A.	Costache O.	Andrei F.
	Clearly it was quite expensive. But at the moment, quality-price is balanced in my case	Yes. Relatively expensive and involves monthly administrative costs. The value of such software is quite high	Yes. Definitely. Much more than I expected	Considering the field, we use it in, I think its price was somewhat at market level. And if I would have chosen a different management software, the price would certainly have been the same	Yes. But it was worth the investment in our case. The working time is much shorter
4.	In terms of actual working time, is this website useful and can it be considered as a top aid? In terms of actual working time, is this website useful and can it be considered as a top aid?				
	Iacob I.	Patru C.	Radu A.	Costache O.	Andrei F.
	At the moment I can say yes, the working times on certain procedures have been reduced	I couldn't really say top aid, considering the costs. But to some extent the working times on the administrative side have been reduced	Not from my point of view. I am waiting for the final implementation but I think the answer will remain the same	Top is too much to say, but it has helped the staff in terms of certain tasks that before were worked separately	Yes. I personally relate to the achievements of this system
5.	Does it directly help you to generate company-wide performance?				
	Iacob I.	Patru C.	Radu A.	Costache O.	Andrei F.
	Yes. But anyway, our company has well defined performance standards	It is not necessarily the system that brings performance, but the people who operate it. And at management level performance is always monitored	As people, yes, we add value to the company and create performance. I am a bit reserved about this system	We all strive for performance at the highest level. If we didn't want to check this aspect, we probably wouldn't have purchased such a system. But it also helps to some extent the overall performance of the company	Definitely. The figures are increasing from year to year, and I consider the level of performance to be high, even top in our case
6.	In terms of data security, do you feel more secure when using this system in terms of control?				
	Iacob I.	Patru C.	Radu A.	Costache O.	Andrei F.
	I think any system or company that provides an ERP/management system has the obligation to ensure data security. In this regard, although there are many cyber-attacks, our system is well secured	Yes. Data security is checked and mandatory	At the moment there have been no leaks or cyber-attacks, but I can expect anything. At the moment I am not so convinced of the usefulness of this system	Security is the most important. Data is confidential, and the fact that the system ensures this aspect offers a secure solution	Yes. No question. And anyway, the IT team is always ensured that there are no such incidents of data theft.
7.	Can you easily utilize control of employees, or operational staff working within an ERP system?				
	Iacob I.	Patru C.	Radu A.	Costache O.	Andrei F.
	The HR department is directly in charge of checking employees. I receive the final	Yes. You can clearly see who and how much is operating in the system and you can also	I control it personally. I don't rely on this system, although at the moment I see relatively	Yes. In our case each employee has both subordinates and subordinates, so everyone knows his place and what he has	Yes. Our interest is not directly aimed at controlling employees, but we focus more on market objectives. Objectives and target points that we also

	information and based on that I decide whether certain employees deserve monthly bonuses or not	identify the person in question much more easily, if certain records are wrong	concise situations regarding control	to do quite well. At the end of the month everyone is obliged to finalize their task reporting	teach employees. Their simulation makes work go according to plan
8.	When you ask for reports from your employees, do you also take into account how much they are involved, if they reach certain top targets, do you offer them training?				
	Iacob I.	Patru C.	Radu A.	Costache O.	Andrei F.
	Yes. A well-trained employee is always an important factor for the company, even an added value	Yes, training is provided by the most advanced people in the field and at least monthly they are offered a professional course	As a manager, you have to inspire your employees and convince them that you have the same goals. If you are a role model for them, they will surely appreciate it and will strive to work even better	In our case, everyone knows his position and his duties pretty well. Of course, those who are more involved and dedicated get bonuses	Yes. But it is also normal to do so. Objectives are quite well set and in the job description, and if they fulfill them and work extra, they are definitely rewarded
9.	Would you recommend the system you use to other managers working in the market?				
	Iacob I.	Patru C.	Radu A.	Costache O.	Andrei F.
	Yes, why not.	Relatively yes. It is useful, although now I don't know exactly what software others use but ours is quite good.	No. Expensive, and the effects of using it are not yet visible	Yes.	As I said, we are very satisfied with it so we definitely recommend this type of system
10.	Do you consider yourself the person who leads directly to top management?				
	Do you consider yourself the person who leads directly to top management?				
	Iacob I.	Patru C.	Radu A.	Costache O.	Andrei F.
	Of course. It is out of the question	Everyone has his individual contribution. We all try to achieve the best performance	Yes. If it wasn't me, I wouldn't want to think what would happen	I am not the only one leading this top but together with the whole team we are working towards the top goals	Yes, I also contribute to this top management, but I am not the only person who does this.

Source: Elaborated by author based on interview

According to what has been highlighted, it can be observed that out of the 5 respondents, 4 have highlighted an at least satisfactory behavior in relation to the system. Also, the vision was relatively positive, they identified the pluses and minuses of such a system, as well as the real usefulness it can have. After this interview, I was able to realize that the approach to the topic had a significant impact on the respondents. After each interview, I thanked the respondents for their active participation and their time. The reaction was relatively positive and, somehow, they appreciated the fact that I brought up this topic. Each answer received was presented chronologically in the interview. Most of them were very attentive to the questions asked and somehow the answer was quite well nuanced, punctuated. In general, they recognize the importance of data security and that each brings added value to the activities they carry out.

Then, because everyone knew what an ERP system entails in terms of management, opinions varied. For the most part, they appreciated this type of system for the functionalities it has and the benefits it can provide to an organization. However, one respondent did not have such an opinion positive about the ERP system, considering it quite expensive, but also due to the fact that it has not yet been implemented correctly.

However, the overall approach to the topic was considered positive and everyone had a relatively positive opinion in the close connection with the topic addressed.

V. CONCLUSION

To sum up, I can state that upper management may truly benefit from the ERP system. However, although this system meets the criteria regarding the security of managerial data, each individual has the obligation to contribute to the organizational performance. According to the study conducted, the respondents confirm the

theoretical part and, indeed, the ERP system represents a multitude of benefits for both the organization and its managers. This type of system brings long-term organizational benefits, but it also requires a financial investment. Their conclusion and answers validate the topic addressed by highlighting key aspects, such as data security, company-level performance, effective working time, ease of work tasks. All these aspects contributing to achieving a top management with the help of an integrated ERP system.

Of course, the research has some limitations. The interview being approached only by 5 personalities. Many more personalities should be approached in the near future regarding the development of this topic related to advanced leadership. Future research can be done, with many more respondents to validate the topic in the economic field.

REFERENCES

1. Ali, M., & Miller, L. (2017). ERP system implementation in large enterprises – a systematic literature review. *Journal of Enterprise Information Management*, 30(4), 666–692.
2. Beheshti, H. (2006). What managers should know about ERP/ERP II. *Management Research News*, 29(4), 184-193.
3. Chen, I. J. (2001). Planning for ERP systems: analysis and future trend. *Business Process Management Journal*, 7(5), 374–386.
4. Davenport, T. H. (1998). Putting the Enterprise into the Enterprise System, *Harvard Business Review*, 76(4), 121-131.
5. Dawangan, N. K., Raj, S., Kishore, K., Sahu, N., & Sahu, T. (2017). School ERP system. *International Journal of Engineering Technology Research & Management*.
6. Grosu, V., Cosmulese, C. G., Socoliuc, M., Ciubotariu, M. S., & Mihaila, S. (2023). Testing accountants' perceptions of the digitization of the profession and profiling the future professional. *Technological Forecasting and Social Change*, 193, 122630.
7. Haddara, M., & Zach, O., (2011), ERP Systems in SMEs: A Literature Review. *Proceedings of the 44th Hawaii International Conference on System Sciences* (pp. 1-10): IEEE.
8. HassabElnaby, H. R., Hwang, W., & Vonderembse, M. A. (2012). The impact of ERP implementation on organizational capabilities and firm performance. *Benchmarking: An International Journal*, 19(4/5), 618-633.
9. Klaus, H., Rosemann, M., & Gable, G.G. (2000) What is ERP? *Information Systems Frontiers*, 2(2), 141–162.
10. Nielsen, J. (2002). Critical success factors for implementing an ERP system in a university environment: A case study from the Australian HES. Brisbane, Griffith University. Bachelor: Faculty of Engineering and Information Technology, 189.
11. Oluyisola, O. E., Sgarbossa, F., & Strandhagen, J. O. (2020). Smart Production Planning and Control: Concept, Use-Cases and Sustainability Implications. *Sustainability*, 12(9), 3791.
12. Parr, A. & Shanks, G. (2000). A model of ERP project implementation, *Journal of Information Technology*, 15(4), 289–303.
13. Pollock, N. & Cornford, J. (2005) Implications of Enterprise Resource Planning Systems for Universities: An Analysis of Benefits and Risks, Report of the observatory on borderless of higher education. Retrieved May 8, 2024 from: <https://era.ed.ac.uk/bitstream/handle/1842/3249/Observatory%20Report.pdf?sequence=1&isAllowed=y>
14. Ranjan, S., Jha, V. K., & Pal, P. (2016). Literature review on ERP implementation challenges. *International Journal of Business Information Systems*, 21(3), 388-402.
15. Sabău, G., Muntean, M., Bologa, L. A. R., & Bologa, L. R. (2009). Analysis of integrated software solutions market for Romanian higher education. *Economic Computation and Economic Cybernetics Studies and Research*, (1).
16. Stanciu, V., & Tinca, A. (2013). ERP solutions between success and failure. *Accounting and Management Information Systems*, 12(4), 626-649.
17. Tarantilis, C. D., Kiranoudis, C. T., Theodorakopoulos, N. D. (2008). A Web-based ERP system for business services and supply chain management: Application to real-world process scheduling. *European Journal of Operational Research*, 187(3), 1310–1326.
18. Watson, E. E., & Schneider, H. (1999). Using ERP systems in education. *Communications of the Association for Information Systems*, 1(1), 9. <https://doi.org/10.17705/ICAIS.00109>