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ORIGINAL PAPER

Major aspects encountered in the RPA projects implemented within Romanian companies with management based on ERP solutions

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Abstract:
One of the fiercest disputes encountered in Romania after 1990 was to adapt the business environment in our country to the changes that took place worldwide, and not only. The business environment has undergone major changes, from privatizations to the sale or acquisition of important assets, from an economic point of view, regarding the future design of the activity that will be carried out in the respective company. One situation that many companies faced was the acquisition of an ERP (Enterprise Resource Planning) integrated system - like SAP, Oracle Application, EMSYS, etc. More and more companies in our country have been acquired by large concerns from abroad, from Europe and beyond. Thus, the adaptation of the legislation in our country to ERP type information systems, with the minuses and pluses that came with them, was a very difficult one. Many projects have failed precisely because of the ignorance of such integrated ERP systems. This article aims to provide some results collected by the author, from the implementation projects in which he was part of the implementation teams, more how the new RPA (Robotic Process Automation) technologies were received in the Romanian business environment.

Keywords: *RPA; ERP; SAP; implementation; project; business environment.*

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Introduction

The majority of the companies which activate in nowadays digital world are dependent of ERP IT intelligent systems which will provide to the customers fast and efficient services, at a competitive value and with guarantee products and quality, this is done in order to have a good visibility on the market and to have good results (Lin, C.C. & Shih, D.H., 2009). Everything related to competitiveness can be improved with state-of-the-art IT systems, the entry of ERP systems leading to a much more intelligent and efficient business management. The results are seen from the first month of go-live, and its long-term profitability is one of the advantages of such an implementation / system.

After 1990, a lot of integrated systems (SAP, Oracle Applications, SCALA, etc.) entered in Romania, those who created them coming with all kinds of abortions regarding how these can add to business processes, in the knowledge that modeling these processes, can bring a major benefit to the environment. business. The business environment has always wanted an application that would help from the point of view of data collection (a single entry point), of applying algorithms (Adams, D.J., 2016-2) that would satisfy the wishes of business administration (in accordance with the laws of our country, with the accounting methodologies applied, etc.), as well as the interpretation of the data existing in the computer system existing at the enterprise level.

What we saw during the implementations made in Romania after 1990, many companies changed their ways of working, new technologies, little by little they were adopted. Without adapting to new trends in IT and ERP, their struggle in this global market would have been lost from the beginning (Antolovic, M., 2015). In this article, the author summarized, it is true that for a large company, everything that meant risks, problems, discussions, solutions, initiatives (RPA part), developments, modifications and adaptations of SAP objects that did not fold on the business in our country. Moreover, what can be seen from here is the fact that the business environment in our country did not know from the very beginning what to expect from the point of view of new technologies, we are talking here about prices, process modeling , adapting people to new trends, learning how to work with such ERP - integrated systems.

In this case study the authors want to analyze a series of problems that have appeared throughout the project, the countless difficulties resulting in a difficult way of implementing a computer system in Romania. The author also wants to consider the fact that a high risk constituted, from the beginning, the appointment as PM project manager of a person who did not know SAP. The implementation of such a project, brings with it a series of problems and risks to which those who do such things are exposed (Banta, V.C. & Cojocaru, D., 2013), so that, with the help of this article, the authors wish to answer the following types of questions:

R1. defining the type of risk, its membership (team, SAP module, Project itself), priority of this, degree of difficulty

R2. defining the possibility of solving, escalating and redefining the solution plan within the project during the implementation and after that

R3. defining the closest way and mitigation strategy using the entire management teams

R4. defining ways to combat risks and problems using the possibility to manage them with team leaders, project manager and management of both teams: client and the team from the implementation company

The authors have used it as a methodology a qualitative data collection by conducting some interviews with key end-users, key-users, service managers, head of

departments, heads of divisions, at the level of the production, sales and distributions company (located in Romania) reading the risks, issues, difficulties of the ERP rollout installation/adaptation (Banta, V.C. & Cojocaru, D., 2014), likewise a small questioner concerning the level of risk for implementing a new technology, like SAP system. In the following section we review the relevant literature on global ERP systems' implementation in context with the Romanian market and, also, on rollout implementation process. Next, we present the case study and analyze data extracted from the results of the ERP implementation process, discussions with parties involved in the process and respondents to the questionnaire and present results (Banta, V.C., Cojocaru, D., Moisescu, M.A. & Sacala, I.S., 2014). The author ends this paper with conclusions, limitations and future perspectives about ERP implementations.

Literature review

Romania - ERP implementation – rollout vs green field implementation - RPA introduction

Many companies in Romania are implementing these days an ERP system. A lot of companies are expanding to another country, for example in our country - Romania, acquiring organizations from different fields of activity (Banta, V.C., 2019). Therefore, if these companies have subsidiaries in several countries, so they run globally, are already familiar with the issues that can arise from running a separate ERP system and they need to implement a strategy in this regard (Davenport, T.H., & Lawrence Prusak., 1998). As stated by Oracle, such a global ERP system provides a single transparent view into operations across multiple locations, meaning fewer teams are required to manage information and information flows more swiftly through the business. In this way, the decision-making process is going smoothly (Albu, C.N., Albu, N., Dumitru, M. & Dumitru, V.F., 2015).

Several articles refer to all kinds of cases studied over the years regarding the implementations and the multitude of cases and problems that have arisen in this field of ERPs (Chen, S.G.G., & Lin, Y.K/K., 2008). What the authors want to bring new to this article is that the initial discussions regarding the implementation in Romania were conducted in the direction of a rollout, but in the end, it turned out to be a green field implementation (Banta, V.C., 2019). The implementation of integrated ERP systems in Romania, after 1990, meant an enormous financial effort, the infrastructure here, not coping with the new technologies (Brandall, B., 2018). But one thing was certain, during this period, the addition of RPA solutions together with ERP systems. The robots created are meant to help humans replace repetitive things. From a social point of view, this was not necessarily a beneficial one, but people quickly reoriented themselves towards parts of the system that accepted them (Gesteland, G., & Richard R., 1996).

Project SAP implementation: rollout vs green field / RPA

The notions that came with the implementation of complex computer systems, rollout, for example, were often misunderstood. So, this would lead to the fact that a business is expanding in another geographic area, and the necessity of adopting an IT solution (to manage the business) is proving to be very severe (Banta V.C., & all., 2014). As we discussed, a company, especially a big one, global one, which is expanding their activities to other countries, follows a rollout (this may be a solution, but if it is not accepted, it goes from implementation from scratch - here the costs are much higher).

Right selection of rollout model is very important for a successful deployment of the solution (Albu, C.N. & all, 2015).

Very important thing in today's economy is the transformation of ERP-type IT solutions to the growing needs of the business environment in the country where this IT system is chosen to be implemented. It is very important that the employees of the company are comfortable with the new solution (new ERP system), so that the employees will see, in the new solution implemented, a series of advantages and benefits, so that it is good to have a very well developed strategy regarding the implementation mode: rollout vs green field (Brandall, 2018).

As we explain, the authors of this article, were part of many implementation projects, reading also in the specialized literature, they found to be viable three major axes, in terms of such international implementation: rollout vs green field (Delaney D.W, & Fahey L., 2000):

- *parallelization*: the necessity to rollout in more than one country at once rather than sequentially. This requirement is due to time restraints, similarities between countries or other specific needs.
- *localization*: the necessity to adapt a product for specific countries, which involves additional development work, resource allocation and expenditure.
- *adaptation*: the possibility of adapting the existing business model in the parent company, but also the relationship with the business environment in the respective country (the country where this rollout vs green field implementation takes place).

Thus, in order to draw any relevant conclusions, the analysis made refers to projects carried out in several countries, the similarities between them, as well as how the implementation in Romania faced such a challenge. It will be seen throughout the article that, here in Romania, implementation proved to be extremely difficult, all the factors mentioned by the authors, having a contribution to this analysis. The implementation in our country had a series of impediments, exposed from the beginning to those who decided to carry out such a project, but these were mitigated, step by step, however, they created a series of frustrations within international teams.

ERP Implementation - the case study.

Implementation of the integrated system of type ERP - SAP: the purpose, motivation, working environment, adoption RPA solution

The present case study was conducted in a company located in Bucharest, having as object of activity the production and sale of proud paints type, this being the market leader in this sector of activity. After the success registered and after being in the attention of the press a lot of imp, due to the exceptional results, it was purchased (80% of the shares) by a large company, worldwide, located in the USA. This happened in 2019, of course, the strategy of the new owners of the company, being to adapt the existing ERP type solution, to the specific required by the mother company. It could not do so, so it was decided to roll out an existing SAP solution at the mother group level (Leu, J.D., & Huang, L.T., 2009).

At the acquisition moment, in the company located in Bucharest, there were two systems are active in area of sales and distribution and accounting area as well, with several areas of customers, with whom this company has business. At the time of creating the company code, for the location in Romania, version ECC 6.0 Ehp7 package was used, using the HDB database (HANA database), adding the entire area of sales and distribution module, material management, warehouse management and production

planning module, part of the business environment existing in this type of company. The decision to bring the business environment, its activities, in SAP, was taken in 2019, using core SAP system from the company "mother". The decision generated a series of sessions to understand the SAP system, how to work with it, whether an installation in Romania should have been done or if the business environment in our country can be activated in the system installed at the mother company level.

Finally, after countless calculations of studies performed it was decided to be a company code inside SAP of the company "mother". Within this huge SAP system there were others company codes (location from other countries – branches), from Spain, Bulgaria to Poland and Slovakia and others. Another decision that had to be made was how the new company code in Romania will look and what model will be implemented, knowing it that will be an SAP roll-out and they will need a template. After a research work regarding the legislation, the way of working, the specificities in Romania, and the way of adapting the software solutions found here, it was decided to use the template found in Poland (with a customization part in Slovakia).

The Romanian company, located in Bucharest, has a series of activities that are in its portfolio, from production of paints products (interior, exterior paints, adhesives & sealants), to packaging and distribution of these products throughout the country. Throughout our country, and beyond, there are a lot of collaborations with smaller distributors and large chain stores, even with warehouses. First problem that was solved with the implementation of SAP was that of establishing the connection with most clients and suppliers in the country and abroad in terms of paints products, links that are outside the system work area.

Most of the requirements coming from the business environment had to be handled by the SAP system, one of the big demands of the management in our country, being to have in one database (a single data entry point) all the information that helps the business environment, for a harmonious development (Gahm, H., Schneider, Th., Swanepoel, C. & Westenberger, E., 2016). The requirements from the SAP system were to have reports on-line, to connect all branch customers, clients, vendors and service providers to be made in the best possible time so that their activity is not disturbed.

ERP enterprise system SAP is used at maximum capabilities, from the accounting area (the one that solves all reports to the Romanian state - preparation of statements required by the state - here is also the export of data to the state institutions) to the production area and then sales and distribution of paints products. All economic departments have accountants; they work in a lot of teams with different roles well defined in the organization chart of the company (Goebels, C., Nepraunig, D., & Seidel, T., 2016). The IT department is also part of the company, with four IT consultants working here (one SAP specialist), some foreign-language speakers, others not.

The implementation of the ERP - SAP type system had a number of difficulties (Keller, E.L., 1999), among them being listed the difficulty of collaboration with the SAP provider in Romania (the headquarter of SAP is in Germany), this leading to the conclusion of the implementation contract with a company located in The Netherlands, in turn subcontracting its subsidiary in Romania. The main requirement of the Romanian client was that those who came to the project (70%) should be Romanian speakers. This was initially an impediment, the times in which they had to be provided being only one month from the conclusion of the implementation contract. Another impediment that is worth discussing was the organizational culture and the way of perceiving something new in the Bucharest branch, which is at an average level of understanding. SAP comes,

as each time, with its own methodology, which if respected, the system implementation success being maximum.

ERP SAP Rollout vs green field implementation: risks, issues, difficulties encountered during the project phases

The discussions with the Romanian company regarding the change of the IT solution - in accordance with what the company that had purchased it wanted - proved to be very difficult. It has been presented at the beginning of the discussion that this change of IT solution activity will not be easy (Jardim-Goncalves, R., Grilo, A., Agostinho, C., Lampathaki, F. & Charalabidis, Y., 2012), it will be long, the preparation of such a process of change, with different scenarios to follow, the choice of one solution being difficult to reach that date. In the process of changing the IT solution, even if it is scheduled to be achieved by 2025, the difficulties that have arisen have kept the price demanded by the implementing company as well as the number of days allocated to this change (adoption period). So, at the end, they chose to make a rollout in existing SAP system. This means that the acquired Romanian company will be a company code in the existing SAP system located in Netherland.

The big problem for the Romanian company regarding the change of the IT solution was the budget allocated for this activity, it had to be reduced (the initial requirement being to work with external consultants), the way this was accomplished by allocating internal resources within the SAP Competence Center from Netherlands, France, Poland, Hungary and Poland. In the contract that was signed between the parties it was mentioned that the ECC Ehp7 SAP solution needs a powerful IT Infrastructure, the servers to be the powerful ones. There have been mentioned a series of actions that the Adopter (RO company) must solve in a very short time. The existing infrastructure does not meet the new challenges of the software solution provider. Another issue was the ability of employees to use new technologies and their ability to adapt to new requirements as quickly as possible - knowing that SAP is not a lightweight software solution (Peter, M., & Pohl, T., 2009).

In addition to the above details, an employee who knows the company's processes well will help the provider in the customization and testing of new solutions that come with the change from SCALA to SAP. Another point (issues) to be considered is setting targets for implementing new solutions, so if the adopter does not know exactly what to ask from the vendor, he cannot help in such a change. Another issue was the solution offered by SAP, this is totally different from the previous solution - SCALA, so adapting the employees to this one was very difficult for the consultants which were on the rollout project (Weidmann, C. & Teuber, L., 2009). Employees had to learn the new system, besides the fact that they had to do their daily tasks as well. The author wants to mention some other difficulties / risks / issues encountered throughout the project (there are a lot of information collected 197 positions (Table 2 / Figure 1), in this article, we will show only 12 - we will try to highlight the impact that such an implementation had on the team in the company where the case study was done – as is described in the Table 1):

Table 1. The results of risks, issues collected (December 2019)

Id	Stream raising the concern	SAP team	Issue / Risk / concern description	Issue / Risk	Priority	RPA impact (1 -YES, 0 -NO)	Mitigation strategy
1	IT	FI	Coaching session to be planned for new IT system based on modules and procedures	A	2	0	Identify and have a local SAP FI/CO consultant and replace the French consultant
2	IT	MM	Different version of environment in RO locations (it's about MM module, materials settings)	A	2	1	Find a proper time to add these missing configurations in the systems (DEV, QAS, PRD)
3	IT	FI	Adapting settings for FI module, accounts, groups for them – according with Romanian low)	A	3	1	Improve the collaboration with SAP FI consultant in order to have these setting quickly in the system
4	IT	MM	SAP objects (reports) belonging to MM modules, must be verified - do not correspond to the business in RO	A	3	1	Discussions with the developer in order to check / modify the correct layout for Romania
5	IT	MM	Being a rollout, untranslated SAP objects were copied, they must be adapted to RO	B	3	0	Small correction to be done by SAP MM consultant of these objects
6	HR	HR	Finding a strategy to keep people in the company after the SAP IT solution is implemented - knowing that if people know SAP, they can easily find another job	C	2	1	Discussions with the company's management (PM will be involved here) to find ways to keep very good employees: bonuses, salary increases, job promotions.
7	Procurement	MM	The implementation of an ERP system will bring the part of limited responsibility: segregation of duties	A	1	1	Highlighting in a matrix, clearly, the responsibilities, the RACI matrix

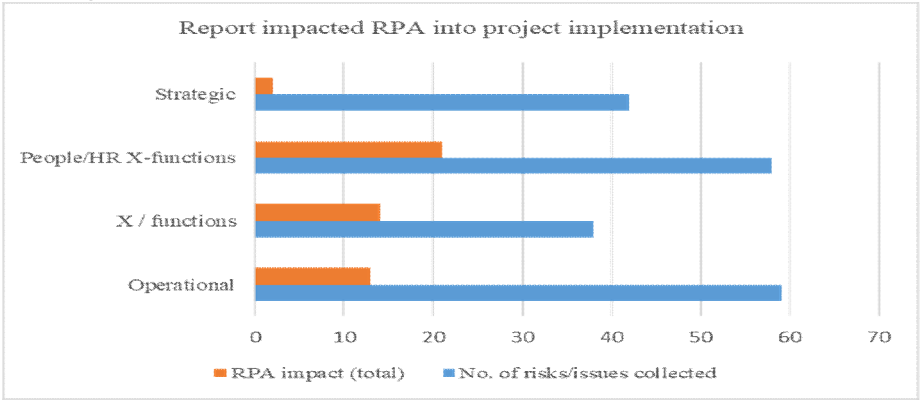
8	Procurement	MM	IT + Business Processes redone, adapted to the responsibilities, come with the integrated SAP system	C	1	1	Teams of people will be formed, who will do intensive training + training plan
9	HR	HR	New processes, new IT SAP system, what resources will be reallocated and what resources will be engaged from outside	C	1	0	A proposal on streams and teams + employment plan will be presented to the management
10	Finance	HR	Certain costs were not included in the proposed budget (certain activities were underestimated), the allocated budget will be exceeded	A	1	1	Information will be provided to the Steering Committee, on processes, activities (+/-), concrete plan to cover the activities that do not exist in the initial project plan
11	IT	MM	From a legal point of view, an extremely necessary report must be developed:" *White spirit report* – Z report (RO+India)	D	1	1	Extremely specific report, FC (MM / WMS /SD /PP SAP consultants involved + developers from India
12	IT	MM	Custom: "*Packaging report*" – legal report must be developed	D	1	0	Functional Specification done in – Romania + India developers

Notes: A - *Operational*; B - *X / functions*; C- *People/HR X-functions*; D-*Strategic*

Table 2. The results of risks, issues collected (December 2019 – total 197)

ID	STREAM	NO. OF RISKS/ISSUES COLLECTED	RPA IMPACT (TOTAL)
1	Operational	59	13
2	X / functions	38	14
3	People/HR X-functions	58	21
4	Strategic	42	2
	Total	197	50

Figure 1. The results of risks, issues collected (December 2019 – total 197)



Bringing an information system of ERP - SAP type, involved a series of measures that companies had to take, we mention here some of the things that happened during and after the implementation of the project: retention measures for the key people and talents; hand-over and takeover measures; involvement of these employees in championing activities for the company, giving them responsibility to promote, explain and take leadership of the acquisition transition; assessment of real engagement levels and intention to stay with the organization of the talented people (to avoid apparent commitment to the organization, followed by resignation once a better offer appears, with major implications for key role coverage). Another social problem encountered by those who led the implementation project, together with the existing management in the company, was that of bringing and promoting people in the new structure offered by these ERP system, so that : they had to choose, with the guidance of the top management, on the philosophy of the human resources transition: are we offering the first chance to the internal candidates (positive discrimination in favor of the current employees) or we would rather get the best person for the job (and what is the impact for the staffing team workload – or would we rather contract a recruitment company?).

Of course, all this data presented by the author above was collected by him, he being part of the implementation team and then the support (another article based on the support phase - a series of problems appearing there as well) from the point of view having a major impact on the lives of people who subsequently had to deal with the maintenance and operation of this type of ERP), so that questionnaires were created, minutes of meetings from which were extracted a series of data that had an impact from a social point of view. Thus, the technical consultants as well as the functional ones, the project manager, the service manager, the company's employees participated in these data collections.

Conclusions and future research

This research aims to highlight the disadvantages and advantages that were encountered in the implementation of integrated ERP solutions in Romania after 1990. Many implementations started from a very small budget and in the end very large amounts were paid. Why? It was never considered that the adaptation of Romanian companies, after 1990, to everything that meant foreign management, was very difficult to achieve. The fact that implementation teams from Romania were used every time, plus from other countries, led to communication problems, comprehension problems,

highlighting the fact that we come from different cultures. The very way of understanding the issues in Romania, regarding the law, was not understood as it should be. The author participated in many implementation projects, the main problems arising in the area of communication, understanding, employees who were past an age, now it is very difficult to readjust them, all existing software in companies were made in-house, the transition to a new integrated product, being a very difficult and lasting one. The Romanian translations of the integrated ERP system products were very difficult to do - knowing that those who will work with the system are citizens who did not know a foreign language. Communication with them was very difficult, in some places, impossible in others. The companies had to hire young people who knew a foreign language, but unfortunately without experience. The adaptation of the RPA type solutions was chosen so that certain economic processes can be automated, most of the times, the repetitive ones. In future research, the author wants to see how several our compatriots have adapted to new technologies and how much the dropout rate has been, after such implementations / adaptations of the business in our country.

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