

SAP ROLLOUT IMPLEMENTATION INSIDE PRODUCTION AND DISTRIBUTION COMPANY. CLIENT SATISFACTION SURVEY. A CASE STUDY

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Abstract: ERP (Enterprise Resource Planning) systems are currently, the most widely used information systems, that help to define and integrate existing functionalities in a large company. ERP implementation required, over time, the development of complex projects (infrastructure, software, peripheral equipment change) that required the best organization, time, money and resources as capable as possible to cope with such change. Throughout the implementation of the implementation project, several studies have to be reported to the management, so as to make a clear account of the evolution and the degree of satisfaction of the different types of participants on the project along the its evolution. The author wishes to make an account of the answers he has gathered during the study, from those who participated in the implementation of the project, from the client. The company that has implemented SAP will be the subject of another study. The author's wish was to see, on project phases, what degree of satisfaction the client had, depending on the degree of understanding of the project, as well as its complexity, as well as the way of collaboration with the supplier.

JEL classification: C61, M15, M41, Y10

Key words: Organizational support, ERP - Enterprise Resource Planning, Technology acceptance model, Production, Rollout, SAP, Implementation, resurce-based view,

1. INTRODUCTION

One of the biggest questions about adopting an ERP system has always been whether or not this system helps (efficiently) manage the business processes more efficiently and not just within a company. In Romania, this type of system has penetrated a lot since the years before the 1989 revolution, many companies, opting for the change of the computer system, in order to cope with the challenges of the business environment. The analysis was very tough on the selection of software products that offered what companies wanted. There have been many ideas difficult to manage by such software developers, but despite these challenges, many companies in our country have decided that the implementation of such an IT system is beneficial for the activities that took place in inside the company and will make day-to-day activities more efficient. Regarding the implementation of ERP systems (Savafi et al., 2013), from studies researched by the author, and based on the vast experience in the implementation of this type of software,

these systems have been implemented in the big companies, that is why this research will focus on this direction. Usually one implementation project lasts from 1 year to 5 years (some implementations in Romania lasted up to 8 years - the case of the largest oil and gas company - depends on how many modules they wanted to be implemented) , in such cases as mentioned above. A series of specialized studies (Elragal and Haddara, 2013), as evidenced by what most researchers have highlighted, is that a number of factors have contributed to the success or failure of an ERP system implementation. The author wishes to highlight a number of factors, without which implementation would not take place: human factors, technical and economic factors (Amini and Savafi, 2013). One thing is certain and it results from the literature: the human factor has the big share in the implementation of an ERP system (Velcu, 2007). Another thing that has proven to be effective in implementing an ERP system is to involve the team members to make their own self-management and communication issues, demonstrating a way to a successful implementation. It is also to be taken into account that the involvement of all end users in the implementation and post-implementation process can make the smooth transition from project to support occur in agreed terms. The author desire in this specialty paper to highlight, during the implementation process and after this stage, the fact that the end users' input is one able to clarify many aspects related to the implemented ERP system (in our case SAP) how the activity will be carried out using this IT tool.

2. THE PREPARATION OF THE RESEARCH MODEL AND HYPOTHESES (ABBREVIATED)

For this specialized work I followed and relied on the diffusion of Innovation (DOI) model and on everything the resource-base view theory (RBV) is considering. Based on the following picture (Figure no. 1) the author explanations about the below model vs. theory:

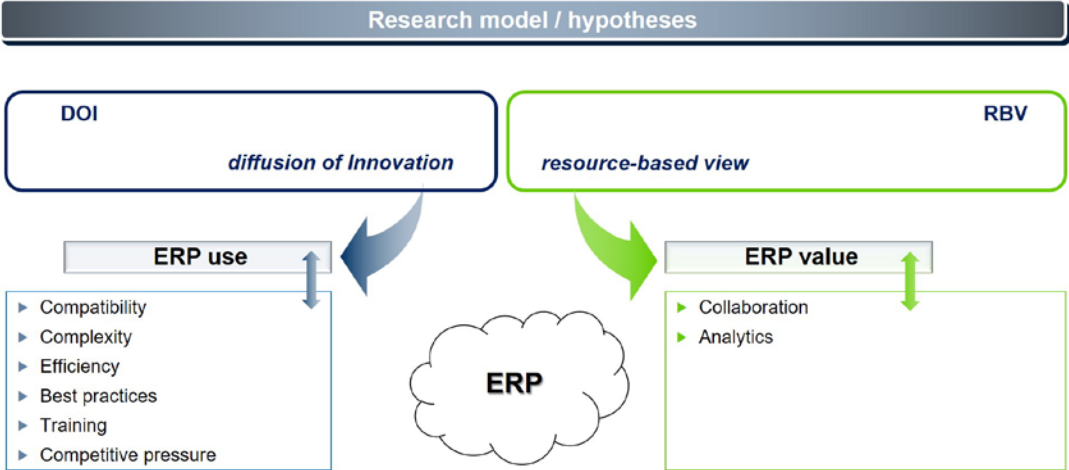


Figure no. 1 – Model vs theory reviewed by author

As strong points we have relied on in this research, we can mention here (Rogers, 1995), which states how innovation in social systems is used in everything that it means at company level. More from the literature we can also bring into discussion the research conducted by (Bradfor and Florin, 2003), in which new data are brought in regarding DOI, so that a clear discussion, on the basis of the results, of the use of a system ERP-computing

(Rogers, 1995). Based on what we have written above, we can mention that DOI has the ability to bring clarity and a series of results to confirm everything that is related to ERP use. Moreover, the present research brings several aspects regarding the application of this model in computer systems implementation in Romania.

Regarding the RBV part, it is clear that the performance of a company keeps a lot of what kind of resources you use in running daily activities in all areas. In the literature on Information Systems, this RBV theory has been used every time to highlight the added value of everything that marks IT, its capabilities as a resource, and an explanation of IT value in accordance with the company's requirements. It is clear that, especially nowadays, without a powerful IT and an ERP system capable of solving / managing most of the company's activities, the company's competitiveness will leave you desirable. A very big advantage that companies can have in terms of IT is the development of capabilities that make the junction between a highly trained team and the available hardware and software resources (Weidmann and Teuber, 2009), (Banta and Cojocaru, 2013). So, we can say that the model adopted by me, the theoretical one to highlight the value of adopting an ERP system, will have two terms: collaboration and analysis; moreover, they are taken into account besides using the system type ERP - all this is meant to explain the value of an ERP system. Throughout my experience, I have approached a series of "best practices", as well as from the specialty literature, in line with what (Velu, 2007) and (Maguire et al., 2010) adopt such practices, to be extremely effective in everything that means designing an ERP solution. (Chen and Lin, 2008) Also, regarding best practices, the authors (Wenrich and Ahmad, 2009) highlighted the fact that, for any industry where an ERP system is being adopted, the use of best practices with regard to "best practices" will teach a series of very good results, reduced implementation times, from project phase, design to customization, documentation, testing and even training. It was not possible that in such a scientific article, to not to discuss about the phase of training, a phase that the authors (Bradford and Florin, 2003) said that it was one of the most important determinants for the success of adopting, using, the ERP solution, in order to obtain all the benefits that this solution can offer. As we have shown above and in terms of "ERP use" part (Banta et al, 2013), we have defined a few hypotheses that highlight the use of an ERP for the company for which this research has been done:

- H1: How is perceived part of the deliverable, from the supplier to the customer;
- H2: The implementation of an ERP system - deliverables is in line with what has been agreed;
- H3: Agreed times are consistent with what will be delivered
- H4: Teamwork is a way to a successful project
- H5: Those who provide the vendor solution have very well understood the strategy of the company (the client)
- H6: The attitude (from the vendor) towards the customer must be positive and must take into account the requirements and specifics of the company (customer)

3. RESEARCH METHODOLOGY / DATA COLLECTED

For this study we used a series of data collected based on a survey conducted in the distribution company, in this way we validated the research model and the hypotheses made. The company for which we have done this case study has begun implementing the ERP-SAP integrated solution in 2010. This company deals with the production and

distribution of equipment for fire industry. This company from Romania is located in Brasov. The headquartered group is in Germany, in Romania the company has ~1000 employees, for this survey we use (IT: 5, Finance: 23, Management: 4, Key-users: 10, End-users: 42). Our questionnaire was distributed from top to bottom, from management, to IT, key-evenings and end-users, and it took a maximum of 20 minutes.

The following questions were addressed:

Table 1. ERP use - questions

No.	Questions addressed	Description	Category
Q1	Quality of deliverables	Deliverables and services are delivered consistently to Client quality requirements, as defined in the key performance indicators and service level agreement.	Compatibility
Q2	Solution effectiveness	Deliverables and services fulfil Client needs as described in the agreement and key Client engagements forums, providing an optimised and effective solution, appropriate to the business requirements expressed in the service agreement.	Complexity
Q3	On Time delivery	Deliverables and services are delivered on time, according to the agreed schedule.	Efficiency
Q4	Cross Team cooperation	The vendor teams consistently demonstrate team spirit, solidarity, close cooperation and a high quality of relationship with Client team members	Best Practices
Q5	Linkage to your strategic stakes	The vendor understands and takes into account Client strategic drivers. It contributes to fulfilment of strategic goals within its sphere of influence with good training.	Training
Q6	Customer focused attitude	The vendor understands and takes into account Client expectations, Client needs and Client constraints and priorities, showing a service attitude, aiming for high user satisfaction.	Competitive pressure
Q7	Collaboration vendor / client during the implementation and support	The vendor collaboration with client: SAP consultants versus client users	Collaboration
Q8	ERP use for day-to-day activities	Client satisfaction about the benefits from the system implementation	Analytics

Based on the above-mentioned questions, found in the questionnaire sent to those with whom we collaborated and not only, answered in the affirmative a number of 63 participants. Not all questionnaire were completed checked. In the following table, we can see the number of collected number of participants per streams, from IT to end-users, we need to mention that all answers were collected in one week.

Table 2. ERP use – answers/streams

Participants / Questions	IT	Finance	Management	Key-users	End-user
Q1	5	16	3	8	23
Q2	5	19	3	9	25
Q3	5	12	3	10	20
Q4	5	15	3	10	26
Q5	5	12	3	10	26
Q6	5	19	3	10	26
Q7	5	19	3	10	26
Q8	5	19	3	10	26

Collected questionnaire answers

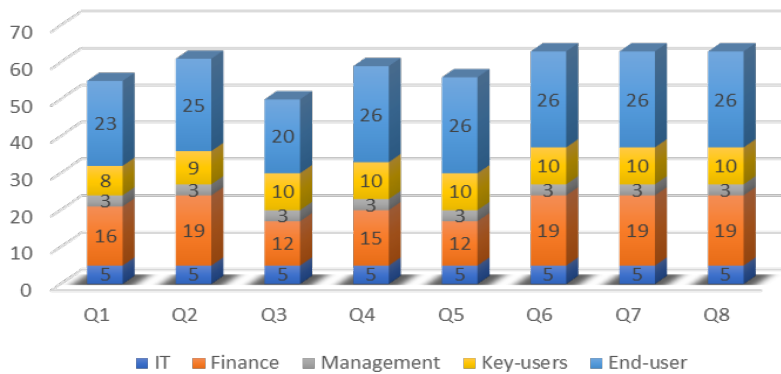


Table 3. ERP – answers/streams / questions

Participants / Questions	IT	Finance	Management	Key-users	End-user
Q1	5 (1,1,3)	16 (1,9,6)	3 (1,1,1)	8 (1,8,0)	23 (5,16,2)
Q2	5 (1,3,1)	19 (4,10,5)	3 (0,2,1)	9 (0,9,0)	25 (2,22,1)
Q3	5 (1,3,1)	12 (1,10,1)	3 (0,2,1)	10 (2,7,1)	20 (1,18,1)
Q4	5 (2,2,1)	15 (4,10,1)	3 (0,2,1)	10 (1,8,1)	26 (2,20,4)
Q5	5 (1,1,3)	12 (3,8,1)	3 (0,3,0)	10 (1,8,1)	26 (3,19,4)
Q6	5 (2,1,2)	19 (2,16,1)	3 (0,3,0)	10 (1,9,0)	26 (5,18,3)
Q7	5 (1,3,1)	19 (2,16,1)	3 (0,2,1)	10 (1,8,1)	26 (2,20,4)
Q8	5 (1,3,1)	19 (2,16,1)	3 (0,2,1)	10 (0,8,2)	26 (2,20,4)

Type answers – quality: 1 - Poor; 2 - Good; 3 - Excelent

4. CONCLUSIONS

This case study highlighted a number of things that were later improved by the service provider. The system was successfully deployed but a series of corrections had to be implemented after. This was a very difficult project, the implementation of the SAP solution requiring a great deal of effort. The business we faced with was a difficult one. As a result of the survey, the answers were sometimes unexpected. It was very clear that the

supplier-client relationship was an average one, the management contribution being a strong one and helping the project a lot. End-user satisfaction was a huge one, highlighting the fact that the training provided by the IT solution provider was a very good one. As a general conclusion, I can say that with a very well-designed project plan, as well as high-level IT users (over 90% of respondents have higher education), the success of implementation is guaranteed.

REFERENCES

1. Bradford M. and Florin J. "Examining the role of innovation diffusion factors on the implementation success of enterprise resource planning systems". *International Journal of Accounting Information System*, 2003, 4(3): pp: 205-225
2. Savafi, N et. all "An Effective Model for Evaluating Organizational Risk and Cost in ERP Implementation by SME". *Journal of Business and Management* 10(6), pp. 61-66, 2013
3. Elragal, A., Haddara, M., "The Impact of ERP Partnership Formation Regulations on the Failure of ERP Implementations", *Procedia Technology*, pp 527-535, 2013
4. Amini M., Savafi, N "Review Paper: Critical Success Factors for ERP Implementation", *International Journal of Information Technology & Information Systems*, 5(15), pp. 1-23, 2013
5. Velcu O. "Exploring the effects of ERP systems on organizational performance: evidence from Finnish companies". *Industrial Management & DataSystems*, 2007. 107(9): pp: 1316-1334.
6. Chen S.G.G., Lin Y.K/K, "Performance analysis for Enterprise Resource Planning systems", *Industrial Engineering and Engineering Management*, IEEM2008, IEE International Conference, on pp. 63-67, 2008
7. Rogers E.M. „Diffusion of innovations”, 4th ed. 1995, New York: The Free Press
8. Wenrich K. and Ahmad N. „Leassons learned during a decade of ERP experience: A case study”. *International Journal of Enterprise Informations Systems*, 2009. 5(1): pp: 55-73
9. Weidmann C., Teuber L. "Conception and Installation of System Monitoring Using the SAP Solution Manager", Galileo Press, 2009
10. Banta V.C., Cojocar D., Tanasie R.T. "A Software Application for the Gas Transport and Distribution Management", *Annals of the University of Craiova, Series: Automation, Computers, Electronics and Mechatronics*, Vol. 10 (37), No. 2, 2012, ISSN 1841-0626, pages 1-6, Editura Universitaria, Craiova, (CNCSIS code 11 category B+, internationally indexed, starting with 2010, BDI Copernicus, Inspec), 2013
11. Banta V.C., Cojocar D. "Development Center Tool a Software Application for Change Request Management", 17th International Conference on System Theory, Control and Computing Joint Conference SINTES 17, SACCS 13, SIMSIS 17, ISBN 978-1-4799-2228-4, ISBN 978-1-4799-2227-7, IEEE Catalog Number CFP1336P - CDR, p42-47, 11 - 13 October, Sinaia, Romania, 2013
12. Maguire S., Ojiako U. and Said A. "ERP Implementation in Omantel: a case study", *Industrial Management & Data Systems*, 2010, 110 (1): pp: 78-92