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Aligning Key Success Factors to ERP Implementation Strategy: Learning from a Case-Study

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Aligning Key Success Factors to ERP Implementation Strategy: Learning from a Case-Study

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Abstract: *These last years, we can observe that most of companies implemented an ERP system but many of them fail. Much of research that has been conducted in this field, focus on KSFs. We have noticed that confronting those KSFs to ERP implementation strategies seems quiet fecund. So provide in this article a brief overview of the literature dealing with key success factors related to an ERP implementation project to better cope with the field, then come out with a framework analyzing these KSFs depending on implementation strategies. Then we study a case of an ERP implementation project in a company operating in the automotive industry, with a quail-metric methodology, to better understand the reasons of ERP implementation projects success or failure.*

Keywords: *ERP Implementation Strategy, Key Success Factors, Case Study, Quail-metric Approach.*

1 Introduction

Since the mid-1990s, thousands of companies, all over the world, have implemented Enterprise Resource Planning (ERP) Systems. This system is a multi-module application software system that helps organizations to streamline their business processes (Yulong Li, 2011). The turning to ERP systems can be explained by the benefits associated with its implementation and utilization. This benefits are both substantial tangible, such as reduction of inventory, staff employed and information technology (IT) costs, etc.; and intangible improvements, such as improved internal processes, better customer service, strategic enhancements, etc. (Anders Haug et al., 2010). However, before fully benefit of ERP systems, its successful implementation requires an appropriate strategy that should take into account a set of significant factors.

ERP implementation strategies are greatly influenced by the organizations' propensity to change and other variables. Some companies' choice gets generally on a Gradual Implementation Strategy (GIS) while others adopt an Overall Implementation strategy (OIS). The first strategy consists in implementing, initially, a skeleton version of the ERP software and then gradually adding more functionality once the system is operating (modular implementation), or deploying it in a single function or unit, and then expanding it all over the company. The OIS is much more ambitious strategy that involves the implementation of a system with complete functionality in a single effort. However, legacy systems should not be ignored in both strategies.

More and more companies are implementing ERP systems, but a lot of them are unsuccessful in realizing the project. This fact has brought all companies to analyze preliminary the influencing factors in all stages in a whole ERP implementation process. The effects of these different factors on the success of ERP implementation have been a subject of a number of researches (Al-Mudimigh et al, 2011, Al-Fawaz et al. 2010, Kansal 2007). Also, it is to notice that the significance of each Key Success Factor is related to the adopted implementation strategy. In other words, in order to implement successfully an ERP system, companies should align the factors to their implementation strategy in order to define and, then to analyze only the most important related factors, or how these factors should be addressed. The issue to which we try to answer through this contribution is: Which specific key success factors should be taken into account depending on an ERP implementation strategy? Or how these KSFs should be addressed? To answer this question, we will review first ERP implementation project key success factors. In the second section, we will present ERP implementation strategies and analyze KSFs presented depending on these strate-

gies. Then, we present the methodology used to answer our research question. Then, results are analyzed and discussed. Finally, we will draw conclusion and present future research perspectives.

2 Key Success Factors in ERP Implementation Project

Over the last two decades, thousands of companies, all over the world, have implemented Enterprise Resource Planning (ERP) Systems, which presents mostly a challenging task (Marbert et al., 2003). Many organizations are willing to undertake the difficult process of converting from whatever they currently use to an ERP system (Abdinnour-Helm et al., 2003), but many of them are hitherto struggling. Effective ERP Implementation, yielding operational, managerial, strategic, technological and organization benefits (Shang & Seddon, 2000, Finney and Corbett. 2007), is commonly based on an appropriate implementation strategy as well as a set of objective factors that contribute greatly to the project success. The identification of these factors and their impact has attracted the interest of researchers and professionals (cf. Gargeya and Brady, 2005).

Esteves and Bohórquez (2007) gave a literature review that shows this growing attention to the ERP implementation issue. However, it is to notice that some contributions, such as those of Moon (2007) have a very broad view of the field by dealing with nearly all issues related to ERP systems, including Key Success Factors while others, such as Halle et al (2005) and Finney and Corbett (2007), have provided an important overview of the existing literature covering the KSFs issue by identifying different influencing factors characterizing all stages of ERP implementation process. Indeed, Kansal (2007) provides an important exploratory study on KSFs, revealing that they have largely been considered in the literature, but they do not have been much classified (Al-Fawaz et al. 2010). As a result, Kansal (2007) proposed a list of the most important thirteen factors and classified them according to their importance in order to assess them. Ehie and Madsen (2005) state, that all of these factors are correlated and interdependent.

So we can convey that any ERP implementation project includes key success factors and risk factors. In fact, the same factors may be at risk if they are not mastered, and present success factors if they are better grasped. On a database of fifty thousands of twelve years monitored IT projects, the Standish Group (Cobb, 1996) provided a list of ten major factors that cover information systems project main issues (Hartmann, 2006; Germino et al. 2008). Even if the model was too criticized by some academics, like Eveleens and Verhoef (2010), we have adopted it for applied and factual concerns, but also because of its systemic orientation. For this, Highsmith (2009) mentioned that certainly the Standish group data are not the best indicators of poor software development performance; however they approach the systemic failure of scheduling and evaluation processes. As we said before, the Standish Group has provided ten main factors, namely users' involvement, top management support, clear definition of needs, developing clear planning, realistic expectations, division project into steps, project team competency, ownership of project by stakeholders, clear visions on project objectives, motivation and focus of the project team. These factors have been addressed lightly in our previous work (cf. Zouaghi and Laghouag, 2012), but ask for more attention.

Users' Involvement (UI) is the most critical factor in the Standish Group framework. For Kansal (2007) this factor deals with psychological state of the individual, and denotes the approximation of the personal significance of a system to a user. This involvement can be performed by identifying future users of the application in order to implicate them in the project as soon as possible, developing channels of communication in order to ensure a permanent exchange between the project team and users to better understand their needs for ERP system adaptation. Thus, organizational communication is a very important tactical factor. For Schwalbe (2000), the communication facilitates and accelerates greatly the work within an IS project by sharing information regularly among the project team members. Users' training is also very important and allows stakeholders to improve their knowledge in order to warrant an effective ERP implementation. According to Al-Mudimigh et al. (2001), the ERP is an extremely complex system that requires rigorous training. Finally, Dagher and Kuzik (2011) use a more general concept, namely "users' engagement", which comprises participation, acceptance, involvement and current utilization. This characterization stays interesting depending on a broader conceptualization of a project.

Top Management Support (TMS) is one of the two most extensively quoted KSFs (Finney and Corbet, 2007). It consists of searching key managers support that should be enough interested and convinced by the importance of such a project for the company's performance. To accomplish this, detailed information should be presented to these leaders in order enable them to support the project. Then, it is important to create communication channels between all project stakeholders and these leaders to better control the project. Indeed, several authors stipulate that this strategic factor contributes largely to successfully implement an ERP system, explicitly by the fact that it can be advantageous in setting disputes and put an end to any existing doubts (Somers and Nelson 2004). This factor ensures two advantages, the first is about power and leadership provision and the second is for getting access to the available resources (Zhang et al., 2005). We can add the fact that top management support permit to align ERP implementation project to strategic business goals (Kansal, 2007).

Clear Definition of Needs (CDN) must be carefully addressed (Al-Mashari, et al., 2003). Thus it requires to

formally elucidate the vision on the project, and to perform a cross-functional analysis as well as to make a functional assessment of risks. Also, it is very central to define metrics, measures and milestones to allow better monitoring the ERP project success. Soja and Paliwoda-Pękosz (2009) state that this allows better cooperation with the provider and vendor, in case of lack of sufficient resources for example. They add this can permit avoiding problems that are engrained in an inadequate knowledge of managers, those selecting the ERP and its provider.

Developing Clear Planning (DCP) involves the formulation of a synthetic document describing the project issues and benefits, with expectations and possible solutions. It can also include selecting the right people and assign to each one a proper role. Planning must allow changes and adjustments. Thereby, Mandal and Gunasekaran (2003), state that developing clear planning includes risk and quality management plans, use suitable planning types depending on tasks, include detailed task plans for tangible tasks, iterative plans for evolving tasks, and also prepare plans for the recruitment, selection, and training of the necessary personnel for the project team. We can mention also budget planning to define costs (Somers and Nelson, 2004). This have to include the fact that frequently unanticipated events can increase the overall implementation costs (Al-Mudimigh et al., 2001).

Realistic Expectations (RE) contributes greatly to the success of the project. Indeed, it's necessary, at first, to prepare a document describing a realistic project, containing essential arguments to establish its reasonableness. It's imperative also to present the real needs of the company by eliminating systematically the desires and unrealistic initiatives. Indeed, Esteves (2009) states clearly in his study that generating realistic expectations is very important. In addition, realistic expectations permit to be more likely to be satisfied with results (Sumner, 2000).

Division Project into Steps (DPSS) is a factor that consists of dividing the project into a number of steps of significant importance. Indeed, it is mainly to focus on the 20% of the ERP characteristics that satisfy 80% of users' needs (Pareto principle). This division is based on addressing general issues and, then, discussing progressively the details of each issue. Also, it is important to determine the exact deadlines for each step. Mandal and Gunasekaran (2003), state that it is to divide the project into natural phases or subsystems for modular planning and for development of cross-functional communications. They add the fact that we have generally to consider a phase-based approach for gradual implementation rather than radical approach.

Project Team Competency (PTC) is an important success factor for information system implementation (Stratman and Roth, 2002). Undoubtedly, competencies of the project team are much requested. So, it is important to determine exactly a set of required skills. Afterward, a well-structured and oriented training for project team should be developed even by internal staff or external professionals. Also, in order to improve efficiency and productivity of the project team, a motivation policy should be implemented. Likewise, the project team competences should be multidisciplinary by covering technical, managerial and social field. Kumar et al. (2003) underline the fact that project management skills present are important conditions for selecting a project team, much more than the role in the organization or experience.

Ownership of Project by Stakeholders (OPS) involves the definition of roles and responsibilities of all stakeholders of the project, determining the organizational structure that allows coordination of all members as well as linking specific rewards to project outcomes. Dezdar and Ainin (2011) state that, the establishment of project team and their responsibilities are important efforts in ERP implementation projects. Esteves and Pastor (2002) speaks about the ERP project sponsor, generally a senior executive, who is (or are) dedicated to promote the ERP project within the company, this sponsor has the ownership and responsibility to allocate project resources, and have to monitor the project by eliminate difficulties to enable the success of the ERP project.

Clear Visions on Project Objectives (CVPO) returns to formally clarify short, medium and long term vision, goals and objectives as well as to ensure the fit between predetermined objectives, strategy and overall goals of the company. Abu Nafeeseh and Al-Mudimigh (2011) state that, the outcome of defining a clear vision and objectives is the evaluation of the existing system and processes, and benchmarking with other companies in the same industries. They add that at this point, company can look for the predictable benefits concentrating on people, processes, technology, management, and infrastructure. Kensal (2007) admit that due to the absence of vision clarity project can come occasionally to slow down or stop. Finally, leaders have to clarify objectives in order to give the staff a clear vision of the future orientation after the new system have been implemented (Françoise et al., 2009).

Motivation and focus of the Project Team (MPT) is associated to the necessity for the project leader to support and preserve a good level of motivation and focus of the project team throughout the project (Trimmer et al., 2002). Ensuring the motivation and the commitment of the project team by premiums, bonuses and promotions presents such an important factor. Also, it's necessary to create a culture of ownership of the project and all members should have a clear role, and promote the collective work that creates largely a homogeneous atmosphere of work within an ERP implementation team. So, the project leader is important by his implication and persuasion, he promotes and motivates the team, and generates interest and junction on common

goals (Françoise et al., 2009). Also, we can add the fact that it is imperative that the team leader recognizes the members' efforts (Barker and Frolick, 2003).

Other KSFs are discussed in the literature, but were not included in our work. It is to say that among these factors, managing the change that highlights a whole of technical and technological as well as organizational and managerial, but also social elements influenced by the ERP implementation in order to face any potential resistance from stakeholders and ensure good circumstances. The eighth factor is the role of project leader. In order to have an efficient role, the leader should be a high-level executive partner having authority to fix goals and lead change (Dawson and Owens, 2008). The support of ERP provider ensures a better understanding and a better integration as well as a guarantee of maintenance and monitoring of its ERP system. This factor is also most important in cases where business processes contain a variety of procedures and the existing legacy systems are very complex with multiple technology platforms. Also, users' involvement is very critical factor. And it's strongly useful to involve and engage users in the implementation project in order to converge to the ERP configuration with their needs by integrating the necessary processes allowing them to fulfill their missions. External consultants that have deep knowledge and long experience related to ERP system can help strongly the company face critical situations that require some level of analysis and expertise related IT system.

A final KSF is the compatibility between technology, which is ERP system, and business needs. Undoubtedly, more the ERP system is conforming to the reality of the company's business and its environment, more its implementation is easy to realize. Finally, it should be noted that all these factors are synthesized in the work of Kansal (2007) and they are relatively exhaustive. However, other factors can be highlighted, and this according to the characteristics of the company, its environment, the ERP editors market, or others. Moreover, the importance attributed to each factor varies from one company to another and from one situation to another.

3 Aligning KSFs to ERP Implementation Strategies: An Integrative Approach

Despite KSFs seen above, ERP implementation must follow a predetermined strategy for the project to be planed accordingly. These strategies were categorized in the literature by several authors (cf. Eason, 1988; Welti, 1999, Parr and Shanks, 2000), which have agreed on two main strategy categories, namely "big bang" strategy and "Rollout" strategy. Strategies that were became popular in the mid-1990s (Markus et al., 2000). We will call them, Overall Implementation Strategy (OIS), and Gradual Implementation Strategy (GIS). Thus, OIS is a strategy by which implementation is prepared in an organized manner and then launched throughout the whole organization in a single time. By cons, GIS is a localized strategy that can be modular (implementation module by module), functional (implements a group of modules at a specific function), as it may be unitary (implementation of a module group unit by unit, department by department, or division by division). The key to this strategy is that implementation is done gradually, step by step from one element to another, and evolves in a gradual manner until it reaches all company.

Formerly, it should be emphasized that these strategies depend heavily on the organizational structure of the company. Size plays an important role, in the sense that a small business can easily manage an OIS, while a large company generally tends more to move towards a GIS in order to control its implementation. Also, other factors come into consideration, namely the complexity of the business, organizational or hierarchical structure, but also the power structure within the company, as well as others (the industry, business culture, etc.). Table1 recall quickly their advantages and their disadvantages.

Table1: Advantages and disadvantages of implementation strategies

	Overall Implementation Strategy	Gradual Implementation Strategy
Major advantages	• Reduced transition time from the old system to the new one. • Cross-functional and inter-unit connections facilitated. • No need for intermediate interfaces.	• Failure can be mastered. • Does not raise the mobilization and allocation of many resources at a given time. • Retains the old system to give the opportunity to go back if something goes wrong.
Major disadvantages	• Complex implementation project. • Very high risk in case of mistake. • Users' learning is slow and makes them difficult to be operational.	• Very long implementation time. • Frequent adjustment and change during the project: unstable and difficult to master intermediate situations. • Total cost too significant.

As we have seen above, it is important to mention that KSFs have to be specified depending on ERP implementation strategy. As we can see in Table2, each factor has a precise implication and practice whether overall implementation strategy is adopted or gradual one. For example, when an OIS is adopted, users from all functions have to be involved. This strategy implies that the project should hold the CEO or the executive board support. In the same strategy, functional and cross-functional definition of needs analysis should be performed and global risks have to be assessed. Planning should be general and aggregate and expectations have to include high risks to make the project resilient. Also, the project team should include multi-functional and multi-disciplinary staff and vision have to include global performance objectives and corporate strategy alignment orientation.

For GIS, we can face one of the three sub-strategies, namely modular, functional and unitary implementation strategy. For this strategy, and with respect to the same

KSFs, we have to adopt them depending on the specific orientation. For example, when dealing with modular GIS (M-GIS), module users have to be involved first. So, involvement is performed by contagion, in terms of learning and expansion. Generally, in such factor, users work together on the same parameters and with the same methods, and have generally the same hierarchical level. So, involvement has to be too close and frequent to meet the project objectives. For the functional GIS (F-GIS), we have the same situation as M-GIS; the main difference is that we do have different hierarchy levels and sometimes different work areas. Also, in a Unitary GIS (U-GIS), which concerns generally a unit or department levels, involvement, include generally a broader spectrum of user such as in the OIS case. Well, in this case it depends on the unit orientation and tasks.

Table2: KSFs depending on implementation strategies

Key success factors	OIS	GIS		
		Modular	**Functional**	**Unitary**
Users' involvement	All users	By task	By function	By unit
Top management support	CEO1	Operational manager	Functional manager	Unit manager
Clear definition of needs	Functional and cross-functional needs analysis and risk assessment	Operational needs analysis	Functional needs analysis	Departmental or inter-operational needs analysis
Adequate planning	General and aggregate planning	Sequential and operational planning	Parallel and tactical planning	Local and tactical planning
Realistic expectations	Expect high risks	Expect incompatibility	Expect incoherence	Expect incoherence
Division into steps	Parallel steps	Operational steps	Sequential steps	Area steps
Project team competency	Preventive and centralizing capabilities	Reactive and correctional capabilities	Responsive and decentralizing capabilities	Preventive and decentralizing capabilities
Ownership of the project	Multi-functional and multi-disciplinary team	Operational team	Functional team	Multi-disciplinary team
Clear visions and objectives	Global performance objectives and corporate strategy alignment	Operational measures and metrics	Functional and corporate performance objectives	Unit performance objectives
Motivation and focus of the project team	Promotion and premiums	Bonuses and premiums	Promotion, premiums and bonuses	Promotion, premiums and bonuses

[1] Chief Executive Officer

Now, we are going to review our methodology adopted in our previous work (Zouaghi and Laghouag, 2012), and analyze results through our new framework. After, we will compare analysis before, and after integrating this distinction between using KSF without alignment with implementation strategy, and by integrating these strategies. We will also review weights given by the Standish Group and those emerging from our study.

4 Methodology Adopted: A Quali-Metric Approach

The methodology used is a case study based on a quail-metric approach (Savall and Zardet, 2004), an approach including both qualitative and quantitative methods. First, open but oriented exploratory interviews were conducted in the main departments (those concerned by the implementation project) of "Alpha Company"[2], a company operating in trucks and buses assembling and distribution. The main goal of these interviews was the understanding of the functioning of existing system and procedures of Alpha Company, but also the eventual perception of the nature and the extent of difficulties that will probably been encountered during the ERP implementation process. Afterwards, thirty (50) questionnaires were distributed in fourteen departments and divisions, namely, Head Office, Production Department, Purchasing and Supply Department, Financial Department, IT Office, Scheduling Department, Methods Department, Accounting Department, Maintenance Department, as well as other departments and services.

The questions were adopted from Standish Group model, and subsequently customized according to Alpha Company specification. The rate of answers was 60%, with 30 answers from managers. Questions were categorized in ten groups characterizing ten major variables (key success factors), namely users' involvement (UI), Top Management Support (TMS), Clear Definition of Needs (CDN), Development of Correct Plan (DCP), Realistic Expectations (RE), Division of Project into Small Steps (DPSS), a Competent Project Team (CPT), Ownership of project by the stakeholders (OPS), Clear vision on project objectives (CVPO) and Productivity and Motivation of the project team (PMPT), with five items for each variable. Afterward, a Likert scale has been applied in order to qualify and have more precise answers.

5 Results and Discussions

In order to understand the impact of taking into account implementation strategies in the assessment of KSFs, it should be started by evaluating these factors out of the project strategy impact context. Then, we will analyze the impact of the implementation strategy adopted by Alpha Company on the significance of each factor and will review the KSFs assessment. For this, the research results will be presented in two main steps. First, we will study the relevance of variables and items in order to confirm whether the items reflect greatly the latent variables, but also whether the items are not highly correlated in order to provide a kind of internal validity. The second step consists in analyzing the studied phenomenon from stakeholders' answers in order to determine the risk variables that could disturb the project success.

In the first step, the Table below shows the total inertia for all variables is relatively high, ranging from 65.08% for the variable (CDN) to 85.62% for the variable (DCP). However, the Kaiser-Meyer-Olkin criteria (KMO) reveals some weaknesses related to the Standish Group model, especially those related to the variables RE, DPSS and CPT (KMO ‹ 0.6). Bartlett test shows that all variables are factorable because it is always less than 0.05, except the variable DPSS which is near. Finally, some variables have an extraction rate less than 0.5, namely CDN5, OPS5 and CVPO1. These factors could be deleted during the purification of the model.

Table3: Recapitulative of results

Variables	***Total inertia%***	***K-M-O***	***Bartlett Test***	***Variable with extraction rate less than 0,5***
UI	66,65	0,736	0.000	-
TMS	78,32	0,617	0.000	-
CDN	65,08	0,817	0.000	CDN5
DCP	85,62	0,683	0.000	-
RE	70,30	0,553	0.000	-
DPSS	70,17	0,595	0.040	-
CPT	80,56	0,540	0.000	-
OPS	74,73	0,667	0.000	OPS5
CVPO	72,36	0,776	0.000	CVPO1
PMPT	82,05	0,721	0.000	-

According to the second step, the use of information system in the Alpha Company is relatively moderate. Some services use largely IT tools in their work, while others don't. In other words, the technological culture is omnipresent in the Alpha Company.

In terms of information systems, the Alpha Company has several information systems. Some of them have been implemented by an external editor, while others have been developed directly in-house. The most important system is the MM/3000 (Materials Management/3000) provided by HP. This latest has a number of modules related to the materials management, such as planning of needs, scheduling the production, etc. However, all the legacy systems within the Alpha Company are not interconnected, which justify, thus, the need of an ERP that integrates all of its functions and divisions. This reality has been affirmed by the words of one manager of the scheduling methods department, who said "actually, the implementation of an ERP system is not a

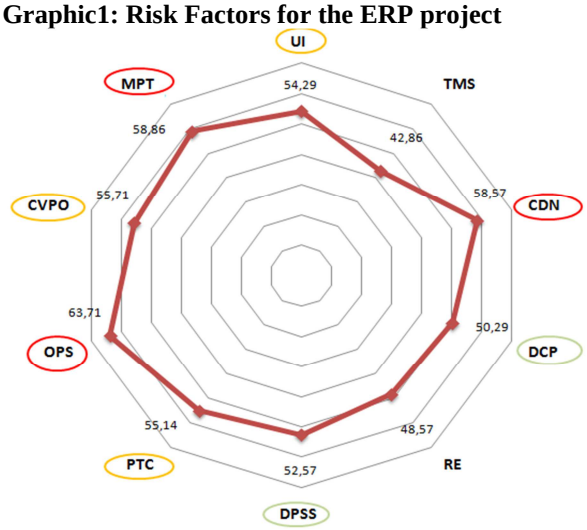
[2] This is not the real name of the company. For confidentiality concerns, we give it the name of Alpha Company.

choice but a necessity." From this, the Alpha Company's goal is to implement an ERP system that integrates the different entities, or, at least, the most important of them. As the ERP project has started in recent years, Alpha Company is now in the step of effective ERP system implementation.

Globally, the Standish Group method shows that the risk rate is 52.75%, with a standard deviation of 15.56% which is significant in terms of dispersion. For some, the risk related to the project can reach 80%, while for others it can border 25%. However, it's quite clear that most respondents found the project risky while only two (2) respondents don't.

By going into details, results analysis (see graphic 1) show that three variables, which are the Ownership of the Project by Stakeholders (OPS), Motivation of the Project Team (MPT) and Clear Definition of Needs (CDN), present mainly a high risk. And that explains the fact that roles are not clearly defined, and that incentives and rewards do not greatly contribute to achieve defined targets. Also, three other factors present an elementary risk, these ones are User's Involvement (UI), Clear vision on Project Objectives (CVPO) and Project Team Competency (PTC). Finally, Division of Project into Small Steps (DPSS) as well as Definition of Clear Plan (DCP) present fairly large risk.

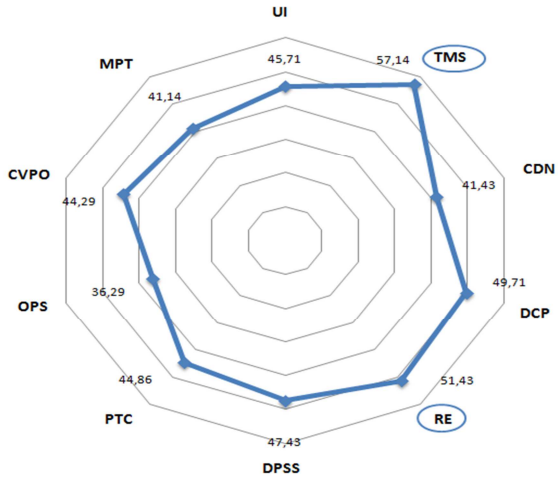
Graphic1: Risk Factors for the ERP project



Results analysis put in plain words that some entities have not been involved in the ERP project. This means that some future users didn't participate in the process of the definition of their needs. Consequently, they are not in accordance with ERP specifications, and this adaptation could extend over time and budget. Also, ERP project objectives in terms of definition of expected features and measures tools to assess the evolution of ERP project are not clearly defined. This can expose the company to the fact that it can't define problems that can likely encounter during ERP project implementation. Moreover, several training seminars were programmed for some managers, but were not scheduled in convenience with all stakeholders. That reflects the difficulties of future users to understand the ERP software. Two other variables present a moderate risk, namely DPSS and DCP.

Finally, two variables don't present a significant risk according to respondents (see graphic 2), and present relatively opportunities for the ERP implementation project, these factors are TMS and RE.

Graphic2: Success Factors for the ERP project



When deepening our analysis, some key leaders are relatively mobilized in the implementation project. For them, a successful ERP implementation is an important. However, failure is not acceptable at all. This may be due to the fact that there is no detailed project plan that can reduce the information asymmetry between managers and project team. Also, incentives proposed by leaders to motivate the project team are not very interesting. According to realistic expectations, Alpha Company has relatively realistic expectations about the project evolution. However, the specifications for these expectations are not sufficiently clear and quite formal as well as the priority of needs is not clear. Finally, no simulation has been performed so far, either because it is too early to make one, or because it is not planned.

According to the implementation strategy adopted, the exploratory interviews conducted beside a number of key managers as well as project leaders show that the Alpha Company decision gets on a progressive ERP implementation strategy. This choice is argued by the fact that the Alpha company organization is relatively complex as well as it has a portfolio of activities, which makes a big-bang strategy very risky. Thus, a roll-out of the ERP system by divisions in a separate way, such as the Division of Industrial Vehicles (DIV) could be achieved in a shorter timeframe. Also, thought the top managers are extremely willing to support the project, a potential risk that the software implementation fails makes them relatively reticent vis-à-vis a radical change of the IS for all divisions.

Having known the chosen implementation strategy, it is not in vain to understand its implications and its dimen-

sions in the assessment of the KSFs significance. The results analysis above states that three factors, namely the Clear Definition of Needs (CDN), the Ownership of the Project by Stakeholders (OPS) and Motivation of the Project Team (MPT) are highly risky. Thus, the significance rate given by the Standish group to these factors was respectively factors have been given 15%, 6% and 3% (these weights present the average for both strategies, OIS & GIS). By taking into consideration the characteristics of all of these factors in the context of the Gradual Implementation Strategy (GIS), we notice that the definition of needs is a very risky factor going by the fact that intra-functional and inter-functional needs should be exactly defined in order to avoid the operation iteration or the lack of some operation by both systems. The consistency of both systems in terms of information needs satisfaction is very important in this situation. As a result, the weight that should be given to this factor in this strategy is more important than the one given by Standish group. Second, the OPS factor that implies the definition of roles and responsibilities of the division personnel as well as the coordination between them is easily accomplished in the context of GIS. So, the related weight is less important than the Standish group one. The MPT factor seems to be more important by the fact the rewards accorded to the project team, and more particularly in the case where this latest is consists of internal personal, could cause conflicts among personnel if the rewards are interesting. Or, the project team could be unmotivated and affected by the other personnel when the rewards are not as well as interesting. This situation has been clearly noticed in the Alpha Company which makes it relatively more important.

Moreover, the results analysis reveals that three other factors, namely User's Involvement (UI), Clear vision on Project Objectives (CVPO) and Project Team Competency (PTC), present an elementary risk. The UI factor does not present a risk at all given the fewer future users who will be identified and involved in the project, Also, information exchange between the project team and future users could be easily done. This factor has been relatively taken into account by the company. More intention has to be addressed to the CVPO factor by the fact that identifying project objectives under the GIS (division by division) could expose latterly the consistency among the equipped division and other divisions' objectives to danger. The PTC Factor has relatively the same importance, in the sense that skills in terms of identifying future users' needs, analyzing the business process and customizing the software are required for both the GIS and the OIS, with a bit more multidisciplinary skills need for the OIS. Moreover, the three last risk factors, namely Division of Project into Small Steps (DPSS) as well as Definition of Clear Plan (DCP) should not have more importance comparing with weights given by the Standish group.

Finally, two factors which present an opportunity for the Alpha Company, Top Management Support and Realistic Expectations. The TMS should be the same either in the GIS context or for the OIS one (chriki, here the same in terms of motivation and willing). It is to say that top managers in a whole company (including divisions) should be greatly willing in order that the ERP project will be well accomplished. The RE factor becomes more important when the ERP project concerns an overall change of the information system while, in the case of gradual change, it does not present a very important factor.

Table4: Standish Group weight and expected weight

Key Success Factor	Weights given by Standish group	weights depending on GIS
Users' Involvement (UI)	19%	% inferior
Top Management Support (TMS)	16%	% equal
Clear Definition of Needs (CDN)	15%	% Superior
Developing Clear Planning (DCP)	11%	% inferior
Realistic Expectations (RE)	10%	% inferior
Division Project into Steps (DPSS)	9%	% inferior
Project Team Competency (PTC)	8%	% inferior
Ownership of Project by Stakeholders (OPS)	6%	% inferior
Clear visions on Project objectives (CVPO)	3%	% Superior
Motivation and focus of the Project Team (MPT)	3%	% Superior

6 Conclusion

Generally speaking a literature review reveals that the omnipresent nature of ERP system usually leads companies to come across complex organizational and technical difficulties that bring, in the most cases, the ERP project to fail. In order to get rid of them, researchers and practitioners came up with a considerable number of key success factors, such as those of Kensal (2007), that help greatly companies successfully implement an ERP system; these factors principally vary according to the nature and environment of the company. The Standish group provides a list of the most important KSFs. By assessing them within Alpha Company, We find that some factors present strengths because they are correctly perceived and assimilated by stakeholders while others present vice versa.

One of the main strengths is the willingness of a number of managers to succeed such a project, but also the competence of some actors who contribute to its implementation. However, this is not enough because it would require a broad involvement of future users, especially in the case of an ERP software which is a system involving a large number of staff. Also, the top management support should be perceived by those who are in charge of the implementation, but also by other members who likely contribute in one way or another to the success of the project. Also, it's very important to define clearly users' needs, to develop a correct plan,

also, to have realistic expectations as well as a clear vision on project objectives. A competent project team formally could ensure greatly the appropriation of project. Finally, right incentives motivate largely the project team and improve its effectiveness and efficiency.

The hereby article reveals a considerable potential of further research that could focus, for example, on the examination of the applicability of the Standish group model to other companies in different industries, that brings us to second issue which aims to eventually generalize our case results. A third perspective research can revolve around an exploratory study about the status of the utilization ERP software in this kind of industry in order to improve their global performance. Longitudinal studies can also be conducted on firms in order to properly understand the dynamics of an information system project, namely an ERP implementation project. Comparative studies between companies may also be the subject of research by including contextual variables. Finally, the study of the measurement and valorization of the return on investment (ROI) of information system projects in general, and especially those of the ERP presents an important and strategic research field.

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