

Analyzing the Contribution of ERP Systems to Improving the Performance of Organizations

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ABSTRACT

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This study examines how Enterprise Resource Planning (ERP) systems affect the performance of organizations. First, by analyzing the impact of these systems on the five determining forces of the competitive structure and the entire value chain. Then, by an empirical study to identify their contributions within three large companies located in the northern region of Africa. A series of interviews and meetings with the managers that have a very remarkable and credible experience in the field (the directors of information systems, finance directors, sales directors, and human resources directors). The results of this research indicate that the implementation of ERP systems has positive effects on performance. In particular, cost reduction, task automation, customer satisfaction and improvement of decision making.

1. INTRODUCTION

Today, organizations have shifted from the idea of developing their own IT applications to the acquisition of innovative ERP solutions from specialist vendors. These software packages have become the heart of the information system, almost essential to the management of a company's flows.

According to the new ERP report of Panorama Consulting Group [1], ERP generated several categories of benefits, operational efficiency benefits, improving productivity and efficiency, reducing operating and/or labor costs, optimizing inventory levels, removing silos, standardizing operations. Reporting and Visibility Benefits: Gaining access to real-time data, Gaining access to real-time data. Growth and Competition Benefits: Improving the customer experience, improving interactions with suppliers, Building new operating models. Technology Benefits: Reducing IT maintenance costs.

However, despite the advantages that ERP can present, several studies have shown that a high percentage of implementations of these systems are classified as failures [2-4]. Among these companies, we find Mobile Europe, Dell computer, Dow Chemical which abandoned the project. ERP can even bankrupt the company as in the case of Fox Meyer Drug [5]. In addition, the survey by Panorama Consulting Group [1], showed that only 40% of projects stayed on budget and 54% of projects stayed on schedule.

We structure our research in this area according to two scenarios (Failure and Success): (Figure 1).

We have already covered the first "negative" scenario characterized by the failure of the ERP project in various manuscripts previously published: Zaitar et al. [6-8].

In this paper we will focus on the second "positive" scenario characterized by the success of the ERP project. At this level, it seems relevant to answer the following main questions: Are ERP systems value creators? And what is the contribution of these systems to improving the performance of organizations?

First, by analyzing the impact of these systems on the determining forces of the competitive structure and the entire value chain. Then, by an empirical study to identify their contributions within three large companies located in the northern region of Africa. A series of interviews and meetings with the managers that have a very remarkable and credible experience in the field (the directors of information systems, finance directors, sales directors, and human resources directors).

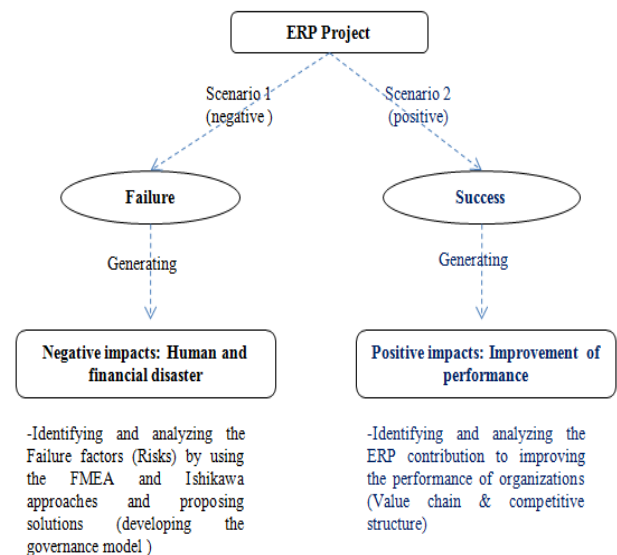


Figure 1. The research problem proposed in this work

2. RELATED WORK

2.1 Information Systems (IS)

In order to make good decisions, we need to have relevant

information. However, humans are unable to memorize and analyze an increasing amount of information within the time constraints, so they eliminate the information that is considered the least important, sometimes the best information. Hence the need for a system that manages all the data, called information system. Indeed, the purpose of an information system is to provide access to the right information at the right time to make the right decision [9]. Peaucelle [10] considers the IS as a language of communication of the organization, built to represent in a reliable and objective way, quickly and economically, certain aspects of its past or future activity. Alter [11] calls information system as a system that uses information technology to input, transmit, store, retrieve, manipulate or display information used in one or more management processes. For Reix [12], the information system is an organized group of resources: material, software, personnel, data, procedures, allowing to acquire, to treat, to store, to communicate information (in the form of data, texts, images, sounds, ect.) in organizations. Moreover, Reix et al. [13] emphasize that any IS is a multidimensional object that can be characterized by three main dimensions: An informational dimension that corresponds to the production by the IS of usable representations necessary to the different actors, such as an accounting balance sheet, A technological dimension that is assimilated to the equipment, tools, technical devices put in place in order to allow individuals to accomplish their tasks. And finally, an organizational dimension linked to the influence of the IS which acts on the work processes within and at the borders of the organization, by structuring the work process, i.e. by imposing an operating mode, by coordinating the action of the different actors, etc. It also acts on the dynamics of changes in the structure of the organization.

Generally there are various ways to define an information system, but they can be synthesized according to two main approaches: The first, known as the “systemic” or “instrumentalist” approach, considers the IS to be a reservoir of information for the actors in the company. Its objective is the collection, transmission, processing and dissemination of information [14]. De Rosnay [15] defines the systemic approach as "a methodology for assembling and organizing knowledge with a view to greater efficiency of action". A current of thought has developed around this methodology to apply it to companies and which considers the IS to be a sub-system of the company's system. This approach allows us to decompose the company into three sub-systems: the decision system, the information system and the operating system. Indeed, the IS is a coupling system between the operating system and the decision system, and allows the selection of relevant information in the operating system, processing them to provide relevant information to the decision system, which can then send directives to its operating system. The second approach, called the “interpretative” or “interactionist” work system approach, places the IS at the heart of the company's processes, so the IS is not just a resource that manipulates and processes information. It also includes a political dimension through which individuals and groups negotiate, distribute and share. The focus is on the generation and interpretation of information, the construction of meaning and the sharing of individuals' representations [14].

2.2 Enterprise Resource Planning (ERP)

The concept of integrated software has been around for a long time, from the beginnings of Computer Aided Production

Management. In the 1960s, the focal point of production systems was inventory control, most software packages have been designed to deal with this topic only. Then, during the 1970s, the focus shifted to MRP (Material Requirements Planning), planning for the purchasing and production of components used to manufacture finished products. In 1980, the concept of MRP-II (Manufacturing Resources Planning) developed; it was an extension of MRP to workshop activity and distribution management. Finally, in the 1990s, the MRP-II was extended to cover activities such as finance, human resources, and project management..., it is the full range of functions linked to the activity of the company. The term ERP was then used to designate the systems of this generation.

During this evolution, two currents of thought emerged: CIM (Computer-Integrated Manufacturing), and integrated enterprise. The concept of CIM appeared in the early 1970s [16], but was soon outdated. The term was associated with the conception of the man-free factory, and was based on the assumption that automatic and computer techniques would allow systems to be driven with almost total autonomy. Human and economic change has reduced the ambitions of CIM. At present we notice that the integrated vision is in the mind of the managers.

To define an ERP, we can start, as Davenport [5], from the problems that these systems are expected to solve, which is the fragmentation of information in large organizations. All companies collect, store, manipulate and generate a large volume of data. In most of these companies, the data is not stored in one place. Instead, the information is dispersed across several disjointed software systems that communicate through interfaces. But even with these interfaces, the information transmitted between the different departments of the company is sometimes inconsistent and always available with a delay [17]. Consequently, integration is essential to improve the speed of data transmission between these various applications while ensuring the reliability of the information communicated. Moreover, according to Bidan [18], the objective of integration is the cooperation of applications within a single system around a single logical database. Indeed, it is through the uniqueness of the database that we can avoid the risks of inconsistency and redundancy that exist during the multiple data processing operations and harmonize the different processes of the company.

From this perspective, several authors have contributed to the definition of ERP. These definitions are not quite the same, and they have evolved over time: For Rosemann and Wiese [19], ERP can be defined as customizable, standard application software which includes integrated business solutions for the core processes (e. g. production planning and control, warehouse management) and the main administrative functions (e. g. accounting, human resource management) of an enterprise. As for Reix [20], ERP is a configurable, modular and integrated IT application, which aims to federate and optimize the company's management processes by offering a single repository and relying on standard management rules. For Fernandez et al. [21], ERP is an integrated software system. It integrates various departments within and across the firm. ERP system accesses the central database to retrieve entire department's data of firm.

On our side, we can define ERP as a configurable information system, structured in interconnected modules around a unique database, for the management of the informational flows of the whole value chain of an organization.

This relationship between the ERP and the business value chain is better explained in 2.4 section.

2.3 Benefits of ERP systems

A judicious choice of an ERP solution leads to quantifiable results, guaranteeing the return on investment.

Several authors have contributed to identifying the benefits of ERP systems. According to Madapusia and D'Souza [22], Five measures to evaluate performance: information availability, information quality, standardization, inventory management, and on-time delivery. In the view of Su and Yang [23], the benefits of using ERP can be categorized into three levels: Operational: cycle time reduction, process error reduction, operating cost reduction, standardization, flexibility. Business process and management: customization and resource management, more efficient decision making, quality management, networking, better market forecasting. Strategic planning: growth of the market, business alliance, better strategic planning, better business innovation capacity. For Ifinedo and Nahar [24], Six dimensions to assess the impact of an ERP: Systems Quality (Accuracy of data, easy to learn, integration of data, efficiency), Information Quality (Timely information, important information, relevant information, usable information, available information, Vendor Quality (Adequate technical support, credibility, good relations, experience, good communication), Individual Impact (Improving individual productivity, Benefits for individuals' tasks, high quality of decision making, Time saving, Workgroup impact (Improving employee participation, improving organizational communication, creating a sense of responsibility, improving sub-unit efficiency, solution efficiency), Organizational impact (Competitive advantage, customer satisfaction, facilitating business process change, supporting decision making, better use of organizational data resources). For Chaabouni [25], Three dimensions of the benefits of an ERP: economic dimension (financial performance), organizational dimension (information quality, communication), human dimension (user satisfaction). As for Frang and Lin [26], ERP allows four perspectives of benefits: Financial perspective: Reduce corporate operating cost, Increase revenue growth. Customer perspective: Reduce transaction time, Customer satisfaction. Internal perspective: Integrating working flows subunits, Avoidance of operational bottlenecks. Innovation & Learning Perspective: Enhancing employee productivity, Reliability of software vendor. According to Shang and Seddon [27], ERP can generate five categories of benefits: operational (cost and time reduction, improving productivity), managerial (human resource management, decision making), strategic (decision support and business growth), technological (business and technological flexibility, technological costs reduction), and organizational (supporting and facilitating organizational changes, creating a common vision). For Markus et al. [28], ERP offer two types of benefits: on the one hand, technical such as elimination of data redundancy, reduction of errors, reduction of costs, integration..., and on the other hand, business such as process improvement, reduction of administrative expenses, reduction of response time to customers, standardization of procedures, improvement of decision support. Other studies show that ERP implementation results can vary depending on the type of ERP implemented and the size of the company. Indeed, Huang et al. [29] found that internationally recognized ERPs have better results than

locally developed ERP systems.

The benefits of ERP are multiple. Some authors talk about the financial benefits, others discuss the organizational and/or human benefits..., the research should be oriented in the sense of designing a framework that encompasses all dimensions of ERP contributions.

2.4 Analysis of ERP impact on the value chain

To better identify the potential impacts of ERP, we present the model of Porter and de Lavergne [30], reproduced in the Figure 2 which proposes to divide the company into two types of activities (value chain concept):

-The main activities, which constitute the reason for the existence of the company: They correspond to the acquisition of basic resources, to manufacture, to distribution, to after-sales service.

-Support activities, which correspond to the infrastructure of the company, procurement and purchasing, human resource management, technological development ensuring the conduct of the main activities.

Each activity has a physical component and an information processing component:

-The physical component, includes all the direct tasks to carry out the activity (manufacture, negotiate, etc.).

-The information processing component includes all the tasks of acquisition, transformation, dissemination of information necessary to perform the activity.

The value chain of a company is seen as a system of interdependent activities, connected by links. Each activity uses and produces information that can be used by other activities, also affects the cost and effectiveness of other activities. The existence of these bonds requires strong coordination. According to (Strategor) [31] "the overall performance of the value chain can be improved both by strengthening each activity and by strengthening links between activities".

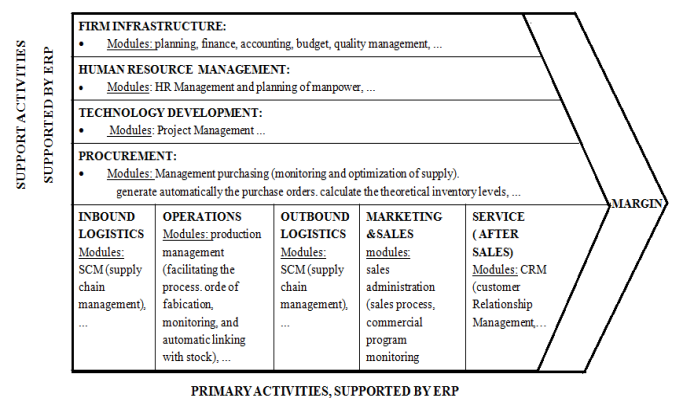


Figure 2. The value chain supported by ERP software, model inspired from (Porter M) [30]

In this sense, we understand that the involvement of ERP in the entire value chain (Figure 2) helps to make the organization more integrated and to have perfect control of information. In particular, through the workflow which allows when data is entered into the system to propagate it to all the ERP modules that need it. Consequently, it influences each activity, it modifies the cost conditions, creates new synergies, and allows better coordination with customers and suppliers.

2.5 Analysis of ERP impact on the competitive structure

In an industry, the conditions for success and the constraints of competition are determined by competitive forces. The model proposed by Porter and de Lavergne [30] (reproduced in the figure below), identifies five determining forces of the competitive structure:

-The intensity of competition between companies (inter-firm rivalry): The rivalry between the competitors in a sector of activity exerts a force on all the actors, in terms of prices, communication, etc. For this, companies struggle within the industry to increase or simply maintain their position

-The threat of new entrants: Any company has an interest in creating entry barriers around itself to limit the arrival of new competitors. This threat is greater when the initial investments (R&D, Communication, etc.) required to enter the market are low and quickly pay off.

-The threat of substitute products or services: This threat is related to the fact that a consumer need can be satisfied by several solutions (Products or services that exist in a market, and which meet the same needs in different ways). These products are considered dangerous if they Improve the quality / price ratio and if they come from a sector where profits are high (strong means of communication, marketing and sales to penetrate the market).

-Power of suppliers: Powerful suppliers can impose their conditions in terms of price, quality and quantity which can increase procurement costs. Conversely, if there are a lot of suppliers, their influence is weaker. It is necessary to analyze the number of orders carried out, the cost of changing suppliers, the presence of substitute raw materials, etc.

-Power of customers: If the negotiating power of customers is high, they influence the profitability of the market with their exigencies on prices, services or conditions and delivery times, etc. Choosing the right customers is essential to avoid being dependent on them. The level of concentration of the customers gives them more or less power.

-Legal constraints imposed by the state: Laws, regulations and norms: Although the state does not appear in the model proposed by Porter and de Lavergne [30], its influence is taken into account and can affect each of the five forces. Policy and legislation determine how each of these forces operates in the market. For example, market entry may be subject to authorization or, conversely, to subsidies.

In order to face the action of all the above-mentioned forces, the firm can adopt generic strategies:

-Cost domination (producing at sustainably lower costs than its competitors).

-Differentiation: offering products or services that are different from those of its competitors, a difference perceived as positive by customers. Differentiation can be based on the product itself, on the distribution system, on the marketing approach and on a whole series of other factors.

-Focalization: concentration of its activity on a segment. The firm that concentrates its activity, selects a segment or a group of segments (narrow target).

We see that ERPs can have a major impact on the competitive structure (Figure 3), as they allow to adapt and reinforce the generic strategies mentioned before, they can significantly contribute to the optimization of partner relations in order to increase the level of service and minimize costs by exploiting these different modules. Notably: CRM (Customer Relationship Management) and SCM (Supply Chain Management). Due to its organized structure, ERP allows to

offer reliable information in real time, which leads to a better application of laws such as the one of sarbens oxley which imposes to the organizations new rules on the accounting and the financial transparency, follows the various financial scandals revealed at the beginning of the years 2000 (Enron and Worldcom), ERP also allows a better acceleration of the payment of the taxes to avoid the late surcharges.

In the following figure, we illustrate the role of ERP on the balance of competitive forces.

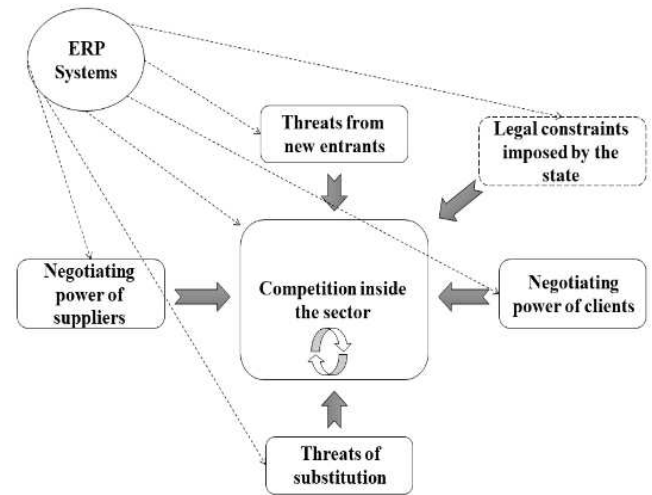


Figure 3. Impacts of ERP on the forces that drive competition

3. RESEARCH METHODOLOGY

The theoretical analysis has partially answered the main research question. However, an exploratory empirical study is essential to confirm the positive impacts of ERP on performance.

Methodologically, we used a case study because “it is an approach which examines a phenomenon in its natural setting, employing multiple methods of data collection together information from one or a few entities (people, groups, or organizations)” [32]. Also, according to Avison and Malaurent [33]. It is one of the most popular qualitative approaches in the studies of information systems.

There are two approaches, the single case study and the multiple case study. In this article, we have opted for the study of multiple cases, because according to Yin [34], “... when you have the choice (and the resources), multi-case research designs are preferable to single-case research designs.”

To investigate the impact of ERP systems on performance, we have targeted three large organizations located in the northern region of Africa, exist on the market for more than 30 years, selected from private & public sectors, and from industry & services activities. We focused on large structures because they are financially strong enough to be able to implement an ERP and these various modules. In addition, it is in this type of company that the various processes can be found [35-37].

In order to make a complete and effective diagnosis, we conducted a series of interviews and meetings with the directors of information systems, finance directors, sales directors, and human resources directors. These managers have a very remarkable and credible experience in the field (Table 1).

Table 1. Respondents' profile

Category		Percent
Gender	Male	58.33
	Female	41.67
Age (years)	35-45	50
	46-55	33.33
	56 or above	16.67
Job	Director of information systems	25
	Finance director	25
	Sales director	25
	Human resources director	25
Working Experience in the studied organizations (Years)	5-10	41.67
	11-15	33.33
	Above 15	25
ERP Experience (Years)	10-15	75
	Above 15	25

After the finalization of our survey, we sent the conclusions to these people who approved the accuracy and homogeneity of these results. Also, we note a strong similarity of the results with the research works in the same thematic.

We briefly present below the studied organizations: (for confidentiality reasons, we define them as A, B, C) (Table 2).

Table 2. The studied organizations

A	B	C
Leader of steel long products for the construction and industry (concrete reinforcing bars & rods). Created in 1974, more than 900 employees.	Establishment of airports management (24 airports), Created in 1989, more than 2700 employees.	Reference operator in the electricity sector: Public establishment of industrial and commercial character. Created in 1963, about 9600 employees and more than 6.5 million customers in 2020.

4. RESULT AND DISCUSSION

The three organizations are using ERP systems for more than 15 years. 2/3 from this companies implemented SAP and the other one implemented Oracle Applications. The ERP implementation has brought many benefits according to the testimonies and declarations of the interviewees of each organization. We briefly present below the results:

4.1 Impacts of ERP on "A" company

Following the merger between two large groups, the A Company changed its JD Edwards software by SAP R / 3 ERP in 2007, The implementation of the package lasted eight months by an experienced integrator for the modules: Financial Management (FI), Inventory & purchase (MM), sales Management (SD), the decision Support (BI), Customer Relationship management, Maintenance management (PM), Controlling (CO).

This company has realized a range of benefits from the implementation of ERP: (according to respondents):

-Reduction of IT costs (pre-existing situation that obliges the developers from the head office of this company to travel each time to the production sites in case of need for maintenance or development of new functionalities). Also, the

maintenance module of SAP allows them to maintain the production equipment and therefore increase productivity and decrease in production costs;

-Reduction of administrative costs (a remarkable reduction in the use of administrative paperwork);

-Acceleration of tax payments to avoid late surcharges through automatic calculation and quick access to information;

-Registration of an improvement in the rate of customer satisfaction according to surveys carried out by the quality department;

-Uniformity and standardization of processes between production plants, and also centralization of information at the administrative headquarters;

-Facilitation of communication between the production centers located throughout the country and the administrative headquarters;

-Improvement of visibility, speed, and quality of decision making for managers through the availability of real-time indicators in the dashboards and statistical reports prepared by the ERP system; Managers announce that they can't hold any meeting without coming back to see reliable and updated information from the ERP system.

-Logistics coordination between various sites, (real-time inventory status update of all company branches to avoid stock-outs);

-Improvement of connectivity with other enterprise systems (some applications from suppliers and customers);

-Improvement of security and reliability of information. The information systems direction approves that SAP has a strong permission/authorization system. To maximize this security, the database server of this company is relocated to another country;

-Improvement of the human resources management, this company has noted a small reduction in the number of human resources, but a significant improvement in the monitoring of the functioning and productivity of each employee (who does what when and how) and the management of these administrative files and motivations (by using the functionalities and dashboards of the HR module of SAP);

-Observation of employees' knowledge and skills improvement through technical and business training sessions that have been scheduled for each specialty.

-Facilitation of work and avoidance of human errors by the automatic verifications made by the system. Indeed, it allows to generate for example an invoice from the order without re-entering the data (quantity ordered, article code, price, etc.);

-Respondents stated that SAP is the leader in the ERP market, which gives them a high brand image and prestige in the view of their customers and suppliers, who are more willing to work with organizations that master their processes through the implementation of these new technologies.

Finally, the respondents stated that this project is very structuring and the management considered that the implementation was fully successful and the system is continuously updated.

4.2 Impacts of ERP on "B" company

It was in 1998 that the "B" organization decided to move towards the implementation of ORACLE APPLICATIONS, the choice of ERP and the integrator is followed assistance to the project owner for the integration of the modules: Financial Management (FI), Controlling (CO), Inventory & purchase Management (MM), suppliers management, Fixed Asset

Management (AM).

-Company "B" has benefited from the implementation of ERP in a variety of ways: (according to the respondents):

-Increase in productivity, this company takes advantage of the integrity of the system to detect where the delay in the production of information is manifested and thus put in place the necessary means to find and resolve the centers generating these delays;

-The reports provided by the Oracle ERP highlight the centers that generate more load and those that produce less revenue, and therefore serves as elements of decision for cost control and for recovery actions to be taken;

-Standardization of documents in this company: For example, the purchase order is the same in all subsidiaries; this system imposes a common structure for processing documents;

-The integrated workflow of oracle system ensured for this company the expected flow of information, as well as communication during approvals;

-Due to the mechanisms of multi-organization, each site can now follow its supply chain from the expression of needs to the payment;

-Following a change in this organization, an employee can be easily assigned to a position and placed in the appropriate approval hierarchy, which allows for greater organizational flexibility;

- The company took advantage of the possibility offered by this system to provide in detail the volume of activity of the users, which allowed stimulating the competition between them and thus an improvement of their rentability;

-Each version upgrade of this ERP implies a knowledge update of the users in this company and thus a continuous training;

-Having an oracle ERP with the reputation of its database in terms of security and reliability is already a positive point for the improvement of the brand image of this company towards customers and suppliers.

The Director of IS showed that this project is very structured because it helps to improve the process and to give visibility on indicators, but it must be adapted to the company, it recommended ERP for large organizations. The ERP project was considered highly successful by this organization.

4.3 Impacts of ERP on "C" company

In 1998, the C Company recognizes that its system does not allow meeting the increased flows of information and does not allow effective coordination. So it decided to implement SAP R / 3 system after painstaking care taken in selecting the package that would meet 80% of the needs of the organization through the modules: Financial Management (FI), HR Management (HR), Procurement & stocks (MM), business management, Customer Relationship management, technical Management, Controlling (CO), the decision making (BI).

- Company C has derived a number of advantages from the implementation of the ERP: (according to respondents)

-Saving resources by centralizing legacy applications and decentralized databases in each sales office;

-This system allows them to measure the turnover in real time and to improve the power of analysis, for example on the control of the consumptions and their invoicing, impossible option before the implementation of this ERP;

-Improvement of the brand image of this organization, the system allows them to have a high quality of service: Information quickly available to customers and extension of

the service such as payment on all agencies in the country;

-Improvement approved by this company in cooperation and coordination between departments by integrating and streamlining processes, through workflow and notification;

-SAP ensures them the integration of the commercial process (new subscription) with the technical processes (meter installation) and the stock management processes (meter stock exit);

-Facilitation of control tasks by automation, logging and traceability in SAP system;

-Improvement of staff knowledge and skills through training and daily practice of the IT tool. (Training cycle supported for the implementation of this system which also allowed familiarization with computer and the business);

-SAP allows them to simplify work tasks through automation, for example, potential reading errors are reported automatically (consistency checks);

-The IS director mentions that the impact of ERP on profitability is difficult to measure due to qualitative aspects, but he notes significant improvements in productivity, quality of service, and security

5. CONCLUSION

The study confirmed the positive impact of ERP systems by the following a methodology based on three main dimensions: firstly, the studied context (North Africa, specifically Morocco). Secondly, the nature of the respondents who are experts that have a very remarkable and credible experience in the field (the directors of information systems, finance directors, sales directors, and human resources directors). And thirdly, the Processing Model, which is based on two notable approaches: on the one hand, the value chain: The involvement of ERP in the entire value chain helps to make the organization more integrated and to have perfect control of information. In particular, through the workflow which allows when data is entered into the system to propagate it to all the ERP modules that need it. Consequently, it influences each activity, it modifies the cost conditions, creates new synergies. On the other hand, competitive forces: The ERP can have a major impact on the competitive structure, as they allow to adapt and reinforce the generic strategies, they can significantly contribute to the optimization of partner relations in order to increase the level of service and minimize costs by exploiting these different modules. Notably: CRM (Customer Relationship Management) and SCM (Supply Chain Management). Due to its organized structure, ERP allows to offer reliable information in real time, which leads to a better application of laws, ERP also allows a better acceleration of the payment of the taxes to avoid the late surcharges.

Indeed, the decision-makers of the studied organizations confirmed the positive impact of ERP on the performance of their companies, in terms of quality, deadlines, and costs.

We can summarize (Table 3) the positive effects of the implementation of ERP systems on the performance of organizations.

There are several difficulties in assessing performance. This is due to various reasons: firstly, the relatively high cost & long duration of collecting the information (given to the nature of large companies and the positions of the interviewed persons). Secondly, the unavailability of economic information and the difficulty of isolating the impact of IT investment. In future publication, we aim to design an

evaluation model to measure and quantify the contribution of ERP on the performance.

Table 3. The positive effects of ERP systems

Effect	Title
E 1	Facilitation of data analysis and decision making
E 2	Improvement of cooperation, coordination and communication between departments
E 3	Standardization of processes between the company's subsidiaries
E 4	Facilitation of control tasks and better traceability of operations
E 5	Production of available and updated information in real time
E 6	Improvement of work satisfaction (employee satisfaction)
E 7	Improvement of interactions and communication with customers and suppliers
E 8	Reduction of delivery time
E 9	Enhancement of the company's brand image with customers and suppliers and maximizing their confidence
E 10	Improvement of reputation of IT department
E 11	Reduction of administrative costs (printing, etc.)
E 12	Reduction of production costs
E 13	Reduction of management and maintenance costs of information systems
E 14	Reduction of manpower costs
E 15	Improvement of results and profitability
E 16	Improvement of staff knowledge and skills
E 17	Creation of a sense of responsibility
E 18	Improvement of employee participation, efficiency and productivity
E 19	Improvement of the company's growth
E 20	Improvement of the firm's capacity to deploy new functionalities of the information system and adaptation to technological changes

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