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Value Co-creation in Knowledge Intensive Business Services context: ERP consulting service

Case study: Grant Thornton

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ABSTRACT

This study aims to identify how Knowledge Intensive Business Service (KIBS) providers can co-create value with their customers in order to meet customers' needs. The phenomenon is examined in the context of the ERP implementation service, where the implication of the customer is highly promoted. ERP project have been known for so long to be a complex software to implement in enterprises, and its success depends on a high level on human factor. It is in this scope that we positioned the purpose of this study, which aims to identify how the client can co-create value with the service supplier in order to successfully implement the software and meet his expectation from adopting it. The research opted for a case study of a consultancy firm that engages in ERP implementation services in order to explore the phenomenon in the field. We adopted a qualitative approach where data collection was done through semi-directive interviews with representatives of companies that have experienced the implementation of this software. The results of the research allowed us to identify the roles, activities and resources that the service provider and the client need to carry out jointly in order to create value for the client.

Keywords: Value co-creation, Knowledge Intensive Business services, ERP, Customer experience.

RESUME

Cette étude vise à identifier comment les fournisseurs de services commerciaux à forte intensité de connaissances (KIBS) peuvent co-créer de la valeur avec leurs clients afin de répondre aux besoins de ces derniers. Le phénomène est examiné dans le contexte du service d'implémentation des ERP, où l'implication du client est fortement encouragée. Le projet ERP est connu d'être un logiciel complexe à adopter dans les entreprises, son succès dépend notamment du facteur humain. C'est dans ce contexte que s'inscrit l'objet de cette étude, qui vise à identifier comment le client peut co-créer de la valeur avec le fournisseur de services afin de réussir l'implémentation du logiciel et de répondre à ses attentes. La recherche a opté pour une étude de cas d'une société de conseil qui offre les services ERP. Afin d'explorer le phénomène sur le terrain. Nous avons adopté une approche qualitative où la collecte des données s'est faite par le biais d'entretiens semi-directifs avec des représentants d'entreprises ayant fait l'expérience de la mise en œuvre de ce logiciel. Les résultats de la recherche nous ont permis d'identifier les rôles, les activités et les ressources que le prestataire de services et le client doivent mener conjointement afin de créer de la valeur pour le client.

Mots-clés : Co-création de valeur, Services commerciaux à forte intensité de connaissances, ERP, L'expérience client.

ملخص

تهدف هذه الدراسة إلى تحديد كيف يمكن لمقدمي خدمات الأعمال كثيفة المعرفة اشراك العملاء في خلق القيمة لهم من أجل تلبية احتياجاتهم. وتُبحث هذه الظاهرة في سياق خدمة تنفيذ نظام تخطيط موارد المؤسسة. من المعروف أن مشروع تخطيط موارد المؤسسات برنامج معقد للتنفيذ في الشركات، ويعتمد نجاحه على مستوى عالٍ من العوامل البشرية. في هذا السياق، الغرض من هذه الدراسة هو تحديد كيف يمكن للعميل المشاركة في خلق قيمة مع مزود الخدمة من أجل تنفيذ البرنامج بنجاح وتلبية توقعاته. اختار البحث دراسة حالة لشركة استشارية تقدم خدمات تنفيذ تخطيط موارد المؤسسة لاستكشاف الظاهرة على أرض الواقع. لقد اعتمدنا نهجًا نوعيًا حيث تم جمع البيانات من خلال مقابلات شبه منظمة مع ممثلي الشركات الذين جربوا تنفيذ هذا البرنامج. سمحت لنا نتائج البحث بتحديد الأدوار والأنشطة والموارد التي يجب عل كل من مقدم الخدمة والعميل القيام بها بشكل مشترك من أجل خلق قيمة لهدا الأخير.

الكلمات المفتاحية: المشاركة في خلق القيمة، خدمات الأعمال كثيفة المعرفة، نظام تخطيط موارد المؤسسة، تجربة المستخدم.

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What a pleasant journey. I still remember that perhaps the most challenging step was to embark on this work, but I now realize what a wonderful feeling it was to let my inner researcher run free. Although writing the thesis was one of the longest projects, I think it was also the most rewarding. This journey has taught me patience and determination, while learning to appreciate the world of research more and more each day with my project.

First of all, I would like to thank Allah the Almighty for granting me the strength, health, will and courage to overcome all the difficulties in order to carry out this work.

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I also want to thank the case company and its representative for the opportunity to conduct this study. Hopefully, the findings help in future customer work. A special thanks for everyone who participated with his knowledge and time during the interviews to enrich the results of this work.

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Finally, I would like to thank all those who have supported me morally and encouraged me during the elaboration of my work from near or far.

Now, it is time to turn the next chapter.

Imene, MESLEM

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INTRODUCTION

In order to remain sustainable, companies must be able to differentiate themselves from their competitors by offering goods and services adapted to the expectations of their final customers, that is what theories in economic and management state. But identifying exactly what customers expect is a complex process. Therefore, new marketing strategies called participatory have emerged to supplement the traditional strategies that can take a long time to demonstrate its viability and can be costly for organization. So, to create an attractive market offering for the customers, it must capture the value in context for them (Vargo, Maglio, Caswell, & Spohrer, 2009). In result, the value is only created when the customer joins in the resources of the service provider with the additional resources in his own context (Vargo & al., 2009).

This notion of value is manifested in a new paradigm of the dominant service logic (SD) that emerged in 2004 with Stephane Vargo and Robert Lush. Unlike the dominant good logic, where companies focus on profit maximization and the efficiency of production and marketing functions, this notion considers that value is the result of interactions between the company and customers "market with". It suggests that value creation is the result of the combined effect of operating resources defined as a set of knowledge, know-how, expertise, and capabilities activated by each of the stakeholders, the company and the consumer. Value is no longer created solely by the company and then destroyed by consumers as the good dominant logic suggests.

In other words, SD-logic considers that the growth and profitability of a company can result from the active involvement of customers in the new product/service development process (Prahalad & Ramaswamy, 2000). It is within this paradigm that we position our study.

Since the appearance of the value co-creation concept in 2000 by Prahalad and Ramaswamy, immense research conducted by the scientific community was dedicated to the literature of value co-creation in several areas such as consumer behavior, services and innovation management.

However, the concept of value co-creation in the business-to-business context remains little studied (Vargo & Lusch, 2011). Most of the research on this collaborative method is carried out in the field of products (Business-to-Customer) and little in the field of business-to-business services. According to (Galvagno & Dalli, 2014), 85% of the literature on co-creation is purely theoretical. On the other hand, (Kohtamäki & Rajala, 2016) claim that the

practice perspective of value co-creation has a limited space in co-creation studies in the B2B context.

In what comes to “companies performing services with high intellectual added value for other companies” (Muller and Zenker, 2001, p. 1502), these companies are known as Knowledge Intensive Business Services (KIBS), which at the beginning of 1999, scholars used “consultancy firms” term to describe this field (Muller & Doloreux, 2009). These services, including IT Consulting, IT outsourcing and research and development (R&D) services, have nowadays evolved into an essential part of most industrialized economies (Lessard, 2014). They have been recognized as an important contributor to employment growth in many countries and help improve the performance of businesses in most other sectors (ibid). The main characteristic of KIBS is that they operate in a Business-to-Business context (Strambach, 2001) as they are based on intensive knowledge processing, which results in strong interactions with the customer in which human capital is the dominant factor (Imbert, 2014).

Many enterprises today are looking to improve their business processes and optimize their operating modes and work processes through digital technology that has changed how companies operate and deliver value to customers (Gong & Ribiere, 2021). This transformation has proven to be an essential need nowadays, especially after the health crisis that made companies discover that they could not ensure all their business processes in a remote working configuration.

This transformation can be done through the implementation of software that allows information to flow smoothly and in real time within the company to allow everyone a better autonomy and responsiveness whether internally or towards customers.

These software are known as ERP (acronym for "Enterprise Resource Planning systems"). In the 1990s, the widespread use of ERP was accompanied by the development of a new type of consultancy, more oriented towards standardized and even industrialized services (Boni-Le Goff, 2015).

Despite the advantages that ERP can offer to the company, its implementation is considered as a complex operation, expensive, spread over a long period and requires the participation of all users of the system. However, it is not unusual for some ERP projects to fail, in fact, some ERP implementations can fail very quickly and cause total chaos (Umble & Haft, 2003).

The complex nature of this software involves interaction with customers because the basic product in the software industry is not likely to meet the customer's needs. This is why collaboration with customers is widely emphasized in this sector.

CHAPTER I: PROBLIMATIC

1. Research context and Problem Discussion

In order for companies to achieve profitable and sustainable business, they need to provide value to their customers. Nowadays, customer value results from co-creation in a win-win relationship between the customer and the service provider (Hewing, 2013). Thus, service providers are no longer expected to just autonomously create their offerings to customers, but to co-create value for them (Prahalad & Ramaswamy, 2004). Customer value creation is no longer a one-sided process in which the company makes value propositions: value creation should be viewed as the customer's creation of value from use value (Grönroos & Voima 2013 ; Vargo & Lusch, 2004), where customers and suppliers are seen as co-creators of value while interacting with each other.

Value co-creation in previous studies has been widely emphasized in the last decade, (Grönroos & Voima, 2013; Möller, 2006; Vargo & Lusch, 2004; Prahalad & Ramaswamy, 2000). It has been found that in the service sector, customer value cannot be created without the participation of the customer in an interactive process that results in the creation of use-value (Grönroos, 2008; Vargo & Lusch, 2004). Yet, the majority of studies that focus on value co-creation have explored it from a theoretical perspective (Saarijärvi, Kannan & Kuusela, 2013; Vargo & Lusch, 2004; Möller, 2006) the practical understanding of customer engagement in value realization through the co-creation process is limited (Woodruff & Flint, 2006).

Value co-creation is about involving the service provider and the customer when creating value for the customer (Ng & Smith, 2015; Grönroos & Voima, 2013). Identifying the type of value created, how it is created, and by whom is paramount during this process (Grönroos & Voima, 2013). Therefore, customer value cannot occur until the customer has used and experienced the suppliers' solutions (Payne et al. ,2007). Furthermore, the goal of value co-creation is to provide use value to the customer through interactions to help customers realize customer value (Grönroos & Voima, 2013; Vargo & Lusch, 2004), which can only occur if the service provider understands their customers' needs and value creation activities (Grönroos & Voima, 2013; Johnson & Selnes, 2004).

Since many companies are not able to ensure that their customers can benefit from the offerings provided, value co-creation has become increasingly important (Hewing, 2013). In the ERP software industry, interaction with customers is widely emphasized, but value co-creation is not examined in this area. The nature of software products is complex, and for

this reason, the core product in the software industry is not likely to meet all end-user needs without active interaction with the customer (e.g., consulting, implementation, system integrations, and sales support). In particular, for the most complex software, companies need to put more effort into ensuring that their product is configured according to customer needs (Äijö, Kuivalainen, Saarenketo, Lindqvist & Hanninen, 2005; Aarikka-Stenroos & Jaakkola, 2012).

It is within this context that we try to identify the relative practices of value co-creation that generate an optimal value that meets the customer's needs.

Grant Thornton Algeria represents the appropriate field to conduct this study because not only does it operate in a business-to-business context, but also a consulting firm that relies on intensive knowledge processes that result in strong interactions with the customer. Its activity as a consulting firm depends to a large extent on the incorporation of the client in the service delivery.

The company is now expanding its activity after a partnership signed with "SAP" the world market leader in ERP software that helps companies of all sizes to improve their business processes and optimize their operating modes. Grant Thornton will act as a reseller and implementor, and also, provide assistance and consultancy for enterprises having issues with their systems.

2. Problem statement

Within our internship in the host organization, we came to realize that the ERP implementation is a very complicated mission as its success or failure is influenced by factors of organizational, social, economic and technological dimensions. As for the Algerian context, the implementation of an ERP knows even more challenges that the ERP integrator company with the company adopting this software must deal with in a collaborative process to succeed in its implementation. From the context presented above, the following question naturally emerged:

How can value co-creation practices promote the ability of a knowledge intensive business services firm to meet the customers' expectations from adopting an ERP?

2.1. Research questions

From this questioning emanates the following interrogations allowing us to guide and better frame our research:

- How can the client participate in the ERP implementation process?
- What are the key activities of the dyadic process of value co-creation that allows a successful ERP implementation?

3. Objectives of the study:

Grant Thornton Algeria was enthusiastic about our research topic which aimed to learn from the potential customer's experiences in adopting an ERP in their organizations in order to understand the Algerian enterprises' behavior towards the adoption of the ERP, Diagnose the interactions between the supplier and the client before, during, and after the implementation and see how the practices of value co-creation can improve this process to create an optimal value for the client. This will allow us to determine the main activities, crucial resources required, and the fundamental roles of each of the service supplier and the client in order to successfully implement the service, prevent failure, and meet the clients' expectations thereafter.

4. Epistemological approach

Through our exploitation of the research that has been done around value co-creation, we have found that there is a huge body of work on the theoretical part of this concept, and less research that focuses on the practical aspect. It is only recently that the literature on value co-creation has begun to include some contributions from the scientific community on the practices of value co-creation in the field. As for value co-creation in the B2B context, this continues to be under-researched. As we searched for work conducted in our context, we found a huge gap, where we found only two researches conducted in the context of value co-creation in the KIBS sector in general and no research on value co-creation during value implementation. Hence our desire to conduct this study with the aim of contributing to the enrichment of research on value co-creation through the context in which the study is conducted.

This research work is part of a constructivist epistemological posture which implies that "the researcher must position himself or herself as close as possible to the actors in the field and the problems they face in daily life. In order to do this, he or she must abandon the position of the neutral and detached observer and become involved as closely as possible in the life

of the organization" (Perez, 2008). Our approach induces deductive reasoning that compares the effects predicted by the theory with the effects observed in empirical material (Hervé Dumez, Methodology of qualitative research, p 201)

5. Research methodology

Three important strategic decisions must be made when planning for research, in order to find the best approach: data collection, data analysis, and data interpretation. Data collection is the process of obtaining information about the phenomenon under study. Then, the data must be analyzed and interpreted to reveal the results. (Kananen, 2011)

A qualitative approach using a case study was chosen to fulfill the objectives of our study. This approach is part of a constructivist epistemological posture. This choice is motivated by our position in relation to the object of our research, since the knowledge produced and actions carried out come essentially from the research field. As a reminder, the aim is to explore the ERP adopting process and diagnose the interactions that occur and the roles that the actors play in an inter-organizational context, in order to demonstrate what are the appropriate value co-creation practices in this complex type of service offerings that the company should adopt.

6. Research interest

The objective of this research is to demonstrate how value co-creation occur in knowledge-intensive business services context, more specifically, during the ERP implementation process. This area has not been studied before to our knowledge.

6.1. Theoretical interest:

Despite the huge emergence of research around the concept of value co-creation in recent years, studies of co-creation in B2B contexts give very limited space to the perspective of the practice of value creation. (Kohtamäki & Rajala, 2016). Existing research provides very little detail on the joint activities that constitute value co-creation (Aarikka & Jaakkola, 2012)

The contribution of this research is through the presentation of the practices of value co-creation in the context of business-to-business services.

This concept is still little exploited by the scientific community and more specifically in the context of KIBS. Furthermore, during our documentary research, we found only one doctoral thesis, dealing with the theme we are trying to address, in the Algerian context, which aimed

to analyze the process of value co-creation as a strategic development axis of the company in the sector of information and communication technologies in Algeria.

6.2.Managerial interest:

According to (Joshi & Chebbiyyam, 2011): « In Business to Business (B2B) IT outsourcing contracts service providers have to demonstrate value continuously to retain client loyalty. However, sustained value can only be co-created by both service providers and clients though a collaborative process. »

The framework suggested in this research can help Grant Thornton Algeria company on how to manage and improve the processes of collaborative interaction when implementing ERPs, by analyzing the processes and operating procedures at each stage of the implementation process, in order to identify potential development targets and optimize their roles and resource contributions, in order to meet customers' needs and gain their loyalty later on.

7. Presentation of the host organization

Grant Thornton Algeria is the Algerian member of Grant Thornton International, a company specialized in consulting and professional services. The firm assists dynamic organizations (private, listed or public companies) in order to help them grow, through forward-looking advice.

Table 1. Presentation of the company

Business name of the company	Grant Thornton Algeria
Date of first activity	2011
The head office	01 Rue Ahmed El Affer, Lot Zedek | Ben Aknoun
Contact	contact@gt.dz.com
Legal status	SPA
Company size	51-200 employee
Logo	Grant Thornton

Source: internal company document

7.1. Grant Thornton values:

CLEARR, this word refers to the first initials of the company's values which are:
Collaboration where all work well together; Leadership through challenging each other to

be the best they can; Excellence by doing work the best way possible; Agility; Respect and Responsibility.

7.2. Company’s vision and perspective:

The company were named "The best managed international firm" by the Managing Partners Forum in London. With offices in Algiers and Ouargla, they offer their clients in Algeria all the services offered globally to help them face the challenges of growth.

They support dynamic organizations to help them unlock their growth potential through sound and forward-looking advice. Its proactive teams, led by available partners, combine analysis, experience and instinct to understand the complex issues facing clients (private, listed or public companies) and help them find solutions. Everyday, Grant Thornton's 50,000 people in over 140 countries are committed to making a difference to their clients, their people and the communities in which we live and work.

7.3. Services offered by the GT Audit and Consulting Group00:

Grant Thornton SPA is one of the leading audit and consultancy firms in Algeria, focusing on 4 main areas: Audit, Advisory, Outsourcing and Legal, Tax and Social Advice.

- **The Audit department:** whose mission is to ensure a detailed analysis of the company's statements, to monitor the proper functioning of the organizations and their control, thus offering both legal and internal audit to clients, but also risk management (Business Risk Services), as well as IT audit (information system audit).
- **Outsourcing**: the department includes annual accounting work and business consulting, specialized in accounting, the GT firm manages to bring together the two types of offers between clients, the offers often first concern the accounting department and then evolve into accounting and business consulting through exchanges between the client and the department managers.
- **The Advisory department:** a department dedicated to consulting, the advisory department focuses on the strategic aspect of the firm's employees, by developing solutions specifically tailored to organizations, the department is still in development.
- **The TAX department:** deals with the majority of legal advice, including incorporation and winding up, legal representation, litigation, specialist legal advice, legal due diligence and transaction structuring.

Table 2. The services offered by the GT Audit and Consulting group

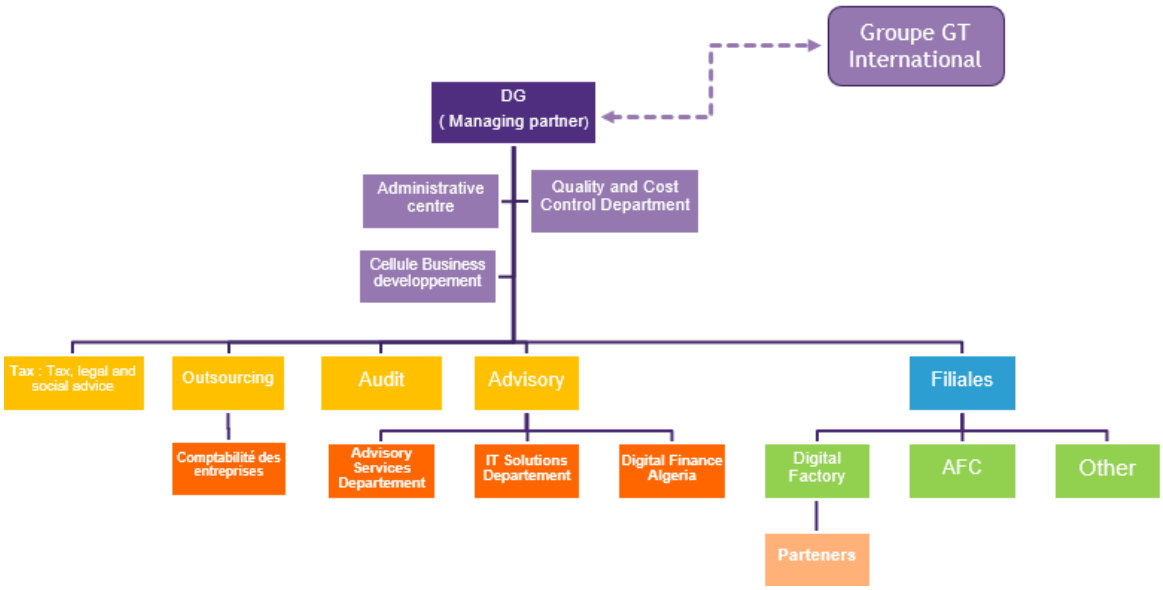
Advisory	• Risk management • IT business (strategic digitalisation) • Internal investigation
Tax and legal advice	• Assistance and advice for the installation and constitution of national and international companies in Algeria • Establishment and revision of contracts and agreements • Labour legislation
Audit	• Audits of financial statements • Compilation of financial statements • Financial, accounting and tax due diligence • Report on audits performed in service companies
Outsourcing	• Financial assistance and reporting • Outsourcing of consolidation • Preparation of annual summary documents • Cash flow reporting • Social assistance (payroll management) • Assistance to expatriates • Administrative assistance with respect to public and private administrations • Provision of resources

Source: Internal company documents

7.4. Hierarchical structure

In this section, we will present the hierarchical structure of our host institution for the realization of our graduation project, as well as the departments we touched during our internship in Grant Thornton

Figure 1. The organizational structure



Source: Internal company document

7.5. Grant Thornton partnership with SAP software company:

SAP was founded by former IBM employees in 1968. The idea of its creators was “to develop software that would integrate business processes and maintain and support its data in a real-time environment” (McGraw-Hill, 2000). The design of the software package is based on a succession of adjustments and an accumulation of experience with successive clients.

SAP's business model is exemplary within the ERP industry. SAP has also positioned itself on the market to acquire a dominant position: it has signed a compatibility agreement with Microsoft (Boni-Le Goff, 2015), it is opening up to the Internet and allowing companies to network their subsidiaries. Industry, retail, finance and the public sector are customers of SAP, which is tending to expand its market, either by diversifying its services and products or by broadening its customer base (e.g. towards SMEs).

Since 1996, SAP has implemented a strategy to distribute its licenses as quickly as possible. Initially, the publisher ensured the distribution of its software package through relays. This distribution strategy is presented as an "ecosystem" by the company itself. The notion of the SAP "ecosystem" places this ERP publisher at the centre of the chessboard. It is a way of affirming that SAP brings "added value" by producing the innovation, the software package.

In order to marginalize companies that did not have the required skills, partnership agreements between publishers and consulting companies were set up. By formalizing agreements between consultants and ERP publishers in terms of technical and functional knowledge of the products and in terms of training, SAP is weaving a network from which it benefits greatly. This network enables it to place its partners in a financial and temporal dependency (because it is linked to the life of the product, thus making customers captive), which enables it to establish its dominant position on the market. The aim is to make its own ERP a de facto standard, as Microsoft was able to do for Windows[1].

8. Structure of the study:

The structure of the study is carefully planned to make the process coherent and to help the reader understand the main points. The first chapter serves as an introductory part of the study by presenting the background and the research problem. The second chapter of the thesis presents the theoretical framework of the study, providing an overview of previous research conducted around the theory of value co-creation.

The structure of our study has been carefully planned to make it coherent and to help the reader understand the main points.

The first chapter represents the introductory part of the study, in which we have presented the context and the research's problematic.

Then, the second chapter of the thesis presents the theoretical framework of the study where we present a clarification of the concept of co-creation and give an overview of previous research conducted around the theory of value co-creation and its place in the B2B context,

[1] In the early 1980s, when microcomputers were first introduced, several operating systems were used to run these machines. Later, Microsoft's Windows became widespread because it was systematically supplied with IBM microcomputers. Finally, the constraints of use and exchanges between users of microcomputers running the Windows operating system ensured the Windows operating system ensured the durability of this system, which became a de facto standard.

more specifically in the Knowledge Intensive Businesses services (KIBS) sector. Also, we will examine the origins of value co-creation and its practices in the B-to-B context.

We will also address the challenges that characterize the implementation of ERPs as a complex offering where collaboration and interaction between the service provider and the customer play an important role in its success and the creation of value for the customer. Then, based on the literature on value co-creation in the KIBS, we will attempt to design a model that illustrates the co-creation of value process that fits the particularities of the ERP implementation.

The third chapter will address the Methodological framework, where we describe the research approach and design, the data collection, and the tools used in the data collection and analysis. This provides a basis for understanding the empirical part of the study.

Chapter five labeled "Results and discussion" will present the analysis and main findings of the research. This chapter is structured based on the execution of the data analysis. Hence, it will first represent the identified roles and activities maintained by the supplier and the client throughout the ERP adoption process. And then, we will present the main findings regarding recognized critical factors in value realization, which have been then modified as the main joint value creation activities for value co-creation in ERP adoption.

In the sixth chapter, we will present a theoretical model for our case study that illustrates the value co-creation process that occurs during the ERP adoption.

A conclusion summarizing our work will conclude our research and will include the theoretical and managerial implications and suggestions for future research.

9. Research limitations

Case study nature was good fit for this study because it made it possible to access a wide amount of data. Yet, it limited the research to the current customers of one specific company. The results might have revealed other underlying issues if the empirical data would have been collected through more than one source.

The interviews were conducted for the top management of the case company's customers but the users of the software were not included. Therefore, the data collection method was lacking information from the users' own standpoint. User interviews might have brought more knowledge about the study.

CHAPITRE II: LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

1. Literature Review

In this section we will provide an overview of the emergence of the concept of value co-creation in the literature, and then describe the process of value co-creation as described by researchers in the field. We will then discuss the practices of value co-creation in the business-to-business context in general, and in the context of knowledge intensive business services in particular.

Theories in economics and management tell us that a company must be able to differentiate itself from its competitors by offering goods and services adapted to the expectations of its final customers, in order to remain sustainable

The multiplicity of goods and services available on the market has led companies to involve their customers in the creation of their offers in order to differentiate themselves from their competitors by offering goods and services adapted to the expectations of their final customers, in order to remain sustainable

This cooperative method in which the customer becomes an actor in the organization has been called 'co-creation' by Prahalad and Ramaswamy (2000), who conceptualize value co-creation as the “co-creation of personalized experiences with the customers” and describe value co-creation as a shared initiative through which suppliers and recipients create value together. An immense literature has been devoted to value co-creation since their article in 2004.

The notion of co-creation has been further explored by Vargo & Lusch (2004) who attempted to observe how marketing was studied and practiced during the 20th century. A new concept that considers the customer as a resource capable of acting on other resources, Service Dominant Logic (SDL) is an approach that considers the customer as a collaborative partner who co-creates value with the company. The S-D logic concept provides a basis for understanding the roots of co-creation.

Grönroos et al, (2015) positioned the SDL perspective to other service perspectives dealing with value co-creation that have been argued by different authors, including Service Logic (SL) and Customer Dominant Logic (CDL), in an attempt to increase understanding of how the fundamental assumptions of a service perspective have implications for research and practice. According to the authors, The SDL movement followed by Vargo and Lusch, (2008) considers that “the customer is always a co-creator of value”, which according to Vargo and Lusch (2008), implies that value creation is interactional. While Service Logic

(SL) sees that “value is co-created when it is driven by mutual intentions”. In what comes to Customer Dominant Logic (CDL), The author argues, based (Heinonen et al., 2010; Heinonen and Strandvik, 2015) propositions, that the customer has a crucial factor in creating a successful business, “Without customers, there is no business, and without business, there is neither service nor service systems”.

In their article, (Thomas, Wafa, & Ingrid, 2016) aim to clarify the notion of value co-creation based on 181 papers by researchers in marketing, management or innovation over the last decade in the main academic journals. Three streams of research, where the value co-creation was studies, are identified in their article which are: consumer behaviour, services and innovation management. The authors conceptualize the value co-creation as a process through which actors exchange resources and cooperatively create value together. This exchange of resources necessitate that these actors play two roles: provider and beneficiary. The authors have identified three key components used in the literature to describe the concept of value co-creation which are: value, actors and the engagement platform. These components emerge from their content analysis as the essential components mobilized by the literature to describe the concept of value co-creation. Their work builds on Prahalad and Ramaswamy's (2004a) seminal article by clarifying the processes and sub-processes included in the concept of value co-creation. According to the authors, In the process of co-creating value, four underlying processes emerge: interactions between actors, resource integration, engagement, and the learning process. During the process of resource integration, each actor integrates the resources offered by other actors and combines them with its own value (Vargo and Lusch, 2008). The complementarity of shared resources enriches the co-creation of value (Vargo

and Lusch, 2011).

As they propose a conceptual framework that aims to provide crucial information for understanding the process of value co-creation, as well as for distinguishing this concept from others, such as value co-destruction, co-production, open innovation. With regard to co-destruction, the authors explain the concept by comparing it to value co-creation, which is often described as the opposite of value co-creation and considers practices that lead to a decrease in value for at least one of the actors. It occurs during the process of value integration and interaction between the two parties.

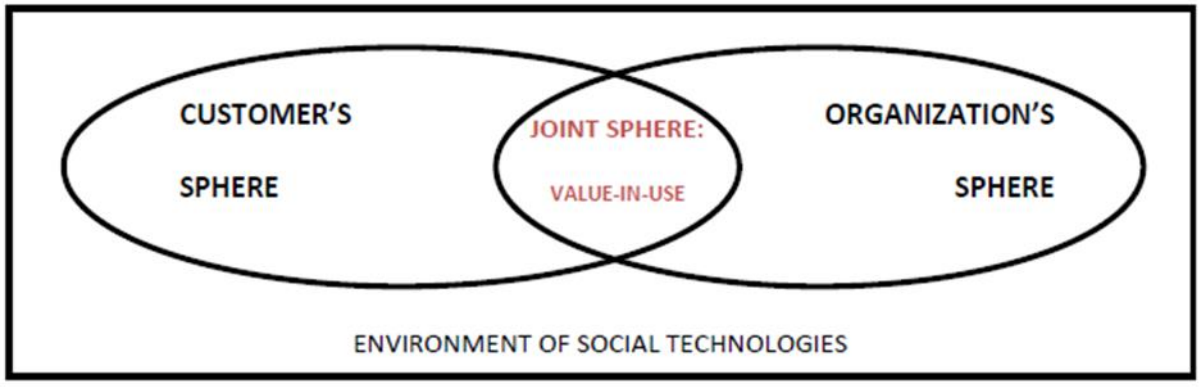
Their content analysis highlights the core components of the concept of value co-creation. These elements emerge from their content analysis as the essential components mobilised by the literature to describe the concept of value co-creation. These components are: the value co-created, the actors involved and the engagement platform which refers to all online or offline spaces where actors can interact and exchange resources with the aim of jointly creating value.

The authors tend also to explain the process of value co-creation, which according to the authors encompass four underlying processes that emerge: the interactions between actors, the integration of resources, the commitment and the learning process.

This article contributes to both marketing and management by describing the contributions of these literary trends and integrating their particularities.

Furthermore, in order to illustrate the value co-creation process, (Skaržauskaitė ,2013) propose a model where both customer and organization are equally important. During this direct interaction, each value creating process of both customer and organizational processes are merging into one integrated dialogical process. By performing various activities jointly, businesses and consumers have become no longer separate entities but, thus creating new form of value called value-in-use. This value is based on the experiences and perceptions while using the service.

Figure 2. Process of Co-Creation



Source: Skaržauskaitė, M. (2013). Measuring and managing value co-creation process: overview of existing theoretical models. Socialinės Technologijos, 3(01), 115-129.

In 2020, MOUSSAFIR and QMICHCHOU M identified the different forms of co-creation of value found in the literature that the company can adopt to jointly create value with its customers and classify them according to two coherent typologies of consumer participation

found in the literature. First, upstream co-creation which refers to the participation of the consumer through different levels in the innovation process, whether it is during the ideation, development, testing, evaluation and launch of a new product/service offer (Hamdi-Kidar, L, 2013). Second, Downstream innovation that represents the co-creation of value through the use experiences of the product/service by the customer, in order to understand the meaning and value of this experience. The information afforded by customers after the consumption experience can be useful for the organization to readjust its offer so that the customer can occur the maximum value (Merle et al., 2008).

Their study provides marketing practitioners with lessons about each form of co-creation in order to better employ them accordingly.

Describing sets of practices that organizations in commercial markets (B-to-B) adopt to co-create value, (Javier, Sattu, teaa, & Jasmin, 2016) provide a classification of value co-creation practices as found in the literature of several fields such as advanced technologies, professional services and innovation. The authors referred to a case study approach in their analysis using a variety of data collection methods to explore the co-creation practices of four organizations. The authors classified a number of value co-creation practices identified in the literature according to three main types. First, *linking* which refers to practices related to promoting connections and mobilizing networks. Ideally, these practices are ongoing and involve the exchange and sharing of knowledge and ideas, not only about products but also relationships, markets and resources. There examples of this kind of practices were given by the author which are: *Co-diagnosis*; *Co-ideation*; *Co-evaluation.*

Second, *materializing,* which involves the creation of tangible objects and artifacts that demonstrate and enable elements of a co-created value proposition. Those practices are: *Co-design*; *Co-testing* and *Co-launching*.

Institutionalizing which refers to the embedding practice. It is the third type of practices that consists in coordinating the other practices of *linking* and *institutionalizing*. The table below explains each of the practices mentioned above.

Table 3. Types of Co-Creation Practices

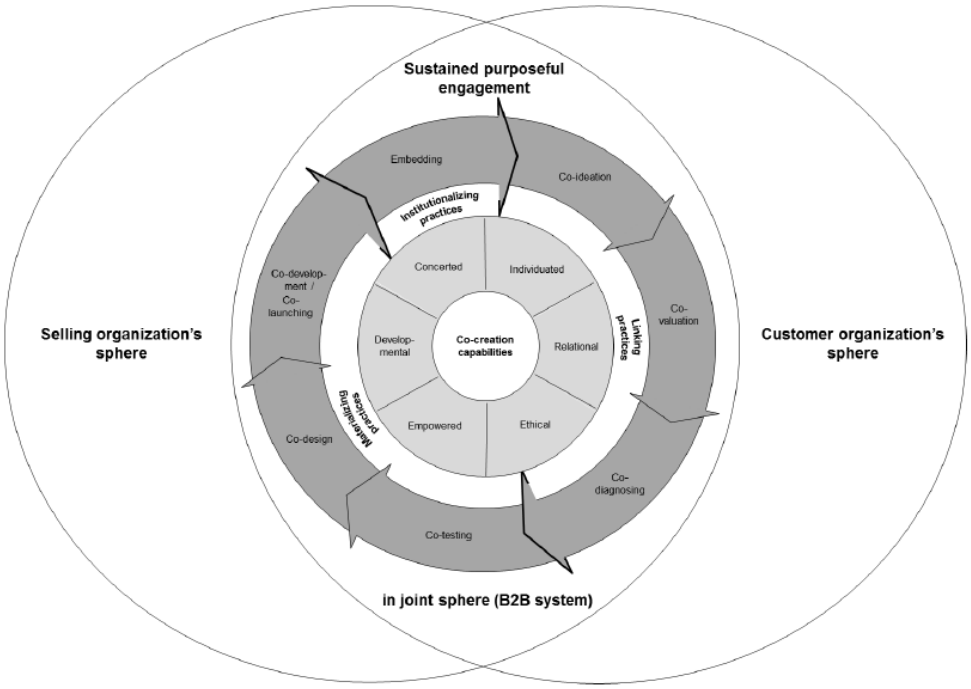
Dimension		Examples of practices	Description
Linking (Mobilizing social connections and networks)	Co-ordination	Co-diagnosis	Collecting and organizing information for collaborative use.
		Co-ideation	Generating and suggesting ideas, communicating and sharing, engaging
			Commenting and selecting ideas
		Co-evaluation	
Materializing (Operational practices related to the production of a value co-creating offering).		Co-design	Developing concepts and knowledge
		Co-testing	Prototyping and improving the offering, giving feedback
			Creating and managing information, advertising, marketing, and diffusing information
		Co-launching	
Institutionalizing (Organizational practices related to the design of institutions and structures to capture and retain value created)		Embedding	Developing rules, norms and standards

Source: Marcos-Cuevas, J., Nätti, S., Palo, T., & Baumann, J. (2016). Value co-creation practices and capabilities: Sustained purposeful engagement across B2B systems. Industrial Marketing Management, 56, 97-107.

The authors see that companies need some underlying capabilities that are almost impossible for the competitors to mimic in order to realize value in B2B systems and to gain a competitive advantage. Also, the companies' capabilities are seen as integrative mechanisms that provide the coherence and integration of practices so they result in co-creation. The article identifies six strategic interaction capabilities that enable an enterprise to co-create value which are: *individuated interaction* capability, which refers to the identification of a customer's expressed and latent needs, processes and value sought; *Relational interaction* capability, refers to the cultivation of social and emotional ties between the parties and empathic interaction with the customer. Additionally, *ethical interaction* capability, implies that the organizations have to ensure that fair and non-opportunistic processes, as well as trust, are established between the actors to be able to engage in joint value realization; Empowered interaction capability, is when the organization give the voice for its customer to engage in joint value realization; Further, when the sellers attempt to expend customer's knowledge and participate in building the competency necessary for the resource integration, this action is termed developmental interaction capabilities. Finally, involving the customer in the value creation activities that take place in the wider network of actors is called *concerted interaction* capability.

A conceptual framework proposed by the authors which illustrate the different value co-creation practices that take place in the b2b ecosystem and the capabilities needed to achieve them.

Figure 3. Co-Creation Capabilities and Practices in B2B context

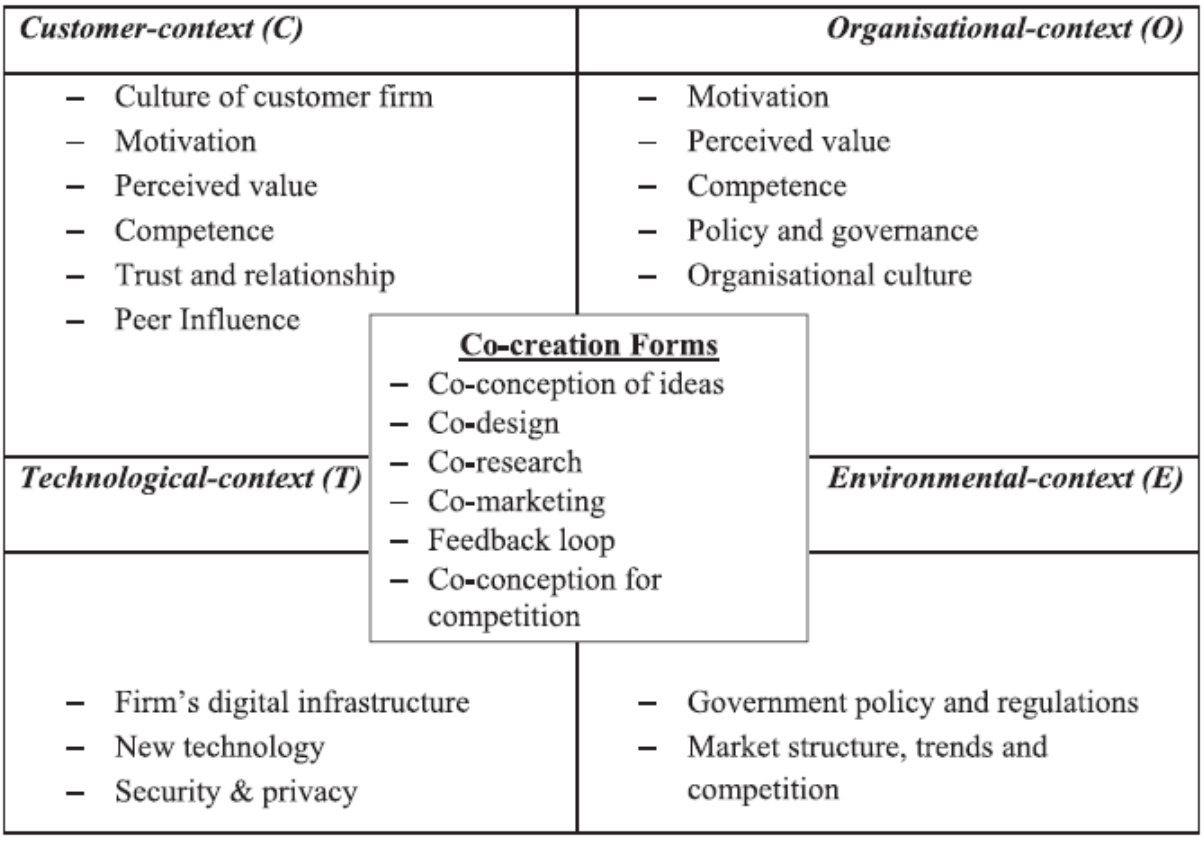


Source: Marcos-Cuevas, J., Nätti, S., Palo, T., & Baumann, J. (2016). Value co-creation practices and capabilities: Sustained purposeful engagement across B2B systems. Industrial Marketing Management, 56, 97-107.

In what concerns factors affecting the value co-creation between a service provider and its customers in the business-to-business (B2B) context, (Buddhi, Mona, & Yin, 2021) brought a renewed focus on this area of research from the firm's perspective. Through an investigation maintained in seventeen knowledge intensive business service organization, adopting a qualitative research approach by a semi-structured interview with the executives of these firms, the study captured a total of sixteen factors affecting value co-creation. Also, the study presents an enhanced model of the (TOE) framework designed in 1990 by Tornatzky et al. (1990). The TOE framework illustrates how the technological, organizational and environmental context of the firm influence the adoption of the value co-creation practices. The study explains that by including the customer as a value co-creator, he becomes more than an environmental factor, especially in the knowledge intensive business service organization where the human resource capabilities are used to solve customer problems. Besides the factors extracted from the case studies based on the extended customer-organization-technology-environment (C-T-O-E) framework proposed by the authors, several forms of value co-creation have been perceived which are: co-conception of ideas; Co-design; Co-research; co-marketing; Feedback loop; and co-conception for

competition. The authors highlighted that those components within C-O-T-E could serve as a foundation that co-creation practitioners may adapt and extend.

Figure 4. Framework of factors affecting value co-creation in B2B context



Source: Pathak, B., Ashok, M., & Leng Tan, Y. (2022). Value co-creation in the B2B context: a conceptual framework and its implications. The Service Industries Journal, 42(3-4), 178-205.

Despite all the immense literature dedicated to value co-creation field, the research on value co-creation so far seems missing concentration on the practical approach of this concept, especially in what comes to value co-creation in IT consulting services, more specifically in the ERP implementation. we could discover through our exploring of value co-creation literature that there are a significant lack of research in this field. Nevertheless, the nature of this service is characterized by high interaction between the client and the supplier who works to give a professional assistance to companies looking for growth.

2. Conceptual framework

In this section we will discuss the conceptual framework of our topic. First, we will review the ERP and its' characteristics. Secondly, we will examine the fields of professional marketing: knowledge intensive business services and IT consulting in particular. Finally, we will discuss the concept of value co-creation from different approaches.

2.1.Enterprise Resource Planning (ERP)

An ERP (Enterprise Resource Planning) is literally a tool for planning company resources. We will now try to characterize what this type of tool covers in a little more detail through a few definitions. Pérotin (2002) defines ERP as integrated management software that brings together a set of parameterizable and modular computer applications, which aim to federate and optimize the company's management processes by proposing a single, coherent reference system based on standard management rules. It is an application that is "configurable, modular and integrated, which aims to integrate and optimize the company's management processes by offering a single repository and using standard management rules". (Reix et al., 2005).

By adopting ERP, companies seek to optimize the various flows necessary for their activity (information, physical and financial flows) and seek to avoid various pitfalls such as multiple data entries, redundancies and frequent information inconsistencies, as well as the lack of data for business management. Indeed, the architecture of the ERP is composed of several interlocking modules (finance, production, purchasing, sales, human resources, etc.), it is therefore an information system made up of standard functional modules, linked directly to a single database and covering all the company's processes.

It is worth noting that organizations adopting ERP outsource this operation to companies whose main focus is to provide knowledge-intensive professional support with technological expertise.

2.1.1. ERP implementation project

In 2000, Parr & Shanks published an article in which they presented the Project Phase Model (PPM, see Figure 1), which is a synthesized model of previous implementation process models. The purpose of this common model defining the stages through which an implementation passes is to be able to discuss and compare timed events in different cases. Their study is carried out by means of a qualitative cross-case study of two large companies operating in the oil sector. The article focuses on examining the critical success factors

(CSFs) in terms of their importance in relation to their timing during ERP implementation (Parr & Shanks, 2000). The PPM site divides the implementation of an ERP into three main phases:

- **Planning**

The purpose of this phase is to clarify the objective, select the ERP, the scope of the project, the implementation approach and the budgeting of resources (Parr & Shanks, 2000).

- **The project**

Five sub-phases are included in the project phase:

a) Set up

Consists of bringing together the project teams, establishing the integration and reporting processes and agreeing the guiding principles (Parr & Shanks, 2000).

b) Re-engineering

involves analyzing business processes to define business process re-engineering (BPR) requirements and training project members (Parr & Shanks, 2000).

c) Design

Begins with a high-level design and is followed by a detailed design that is subject to end-user acceptance (Parr & Shanks, 2000).

d) Configuration and testing

This sub-phase consists of configuring the system, which involves activities such as setting up a test environment with real data, testing user interfaces, writing and reporting tests, and testing the system and users (Parr & Shanks, 2000).

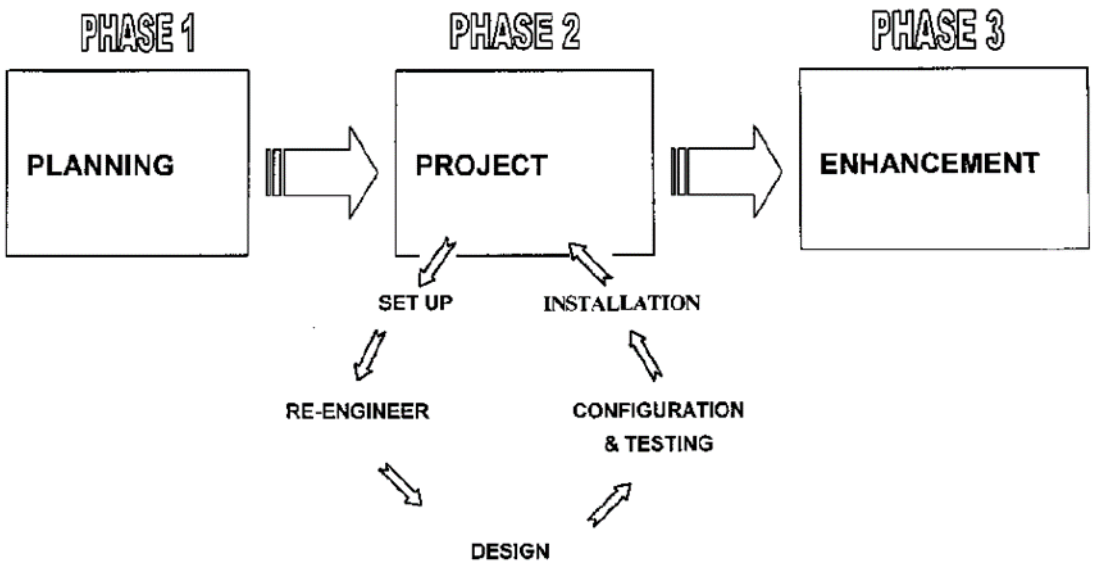
e) Installation

This installation sub-phase consists of installing the necessary software and hardware, training users and providing support (Parr & Shanks, 2000).

- **Enhancement**

consists of ongoing development and maintenance while the system is live in the organization. This can be done through activities such as user support, system repair, system transformation and system extension (Parr & Shanks, 2000).

Figure 5. ERP implementation phases



Source: Parr, A. N., & Shanks, G. (2000, January). A taxonomy of ERP implementation approaches. In Proceedings of the 33rd Annual Hawaii International Conference on System Sciences (pp. 10-pp). IEEE.

2.1.2. Challenges related to ERP adoption:

The objective of ERP projects is to implement an IT management solution to support the company's management functions. The activities that make up an ERP project are grouped into phases. Each phase of the project mobilizes a certain number of internal or external resources.

Regardless of the size of the company, ERP projects are difficult to implement. Sometimes ERP projects fail because they do not meet the deadlines, the cost or the company's satisfaction with the solution implemented (Maaloul and Mezghani, 2003). According to the (Panorama Consulting Group, 2012) survey carried out in 2011, 56% of projects exceeded their budget, 54% exceeded their deadlines and 44% achieved less than 50% of their expected benefits. Many studies identify risk factors that can threaten the success of ERP projects.

Despite the benefits of ERP, its implementation is time consuming, costly and requires professional services, and the results produced are not always measurable (Motwani et al, 2005). The lack of understanding of how to address critical challenges during

implementations can lead to cancellations, significant cost overruns and project failures (Momoh et al., 2010; Stanciu & Tinca, 2013).

Menon, S. (2019). summarizes the critical factors affecting ERP implementation into three dimensions: human, technological, and organizational dimensions. The factors are detailed in the table below:

Table 4. Critical Challenges in ERP implementation as found in the literature

Human factors	Technological factors	Organizational factors
Lack of change management	Excessive customization	Dilemma of internal integration
Lack of senior management support	Poor Data Quality	Poor understanding of business
Insufficient training and reskilling	Avoid technological	implications and requirements
Lack of ability to recruit and retain qualified	bottlenecks	Misalignment of IT with the business
ERP system developers	Feasibility/evaluation of	Hidden costs
Insufficient training of end-users	ERP project	Failure to redesign business
Inability to obtain full-time commitment of	IT infrastructure	processes to fit the
'customers' to project activities and management		software
Insufficient internal expertise		Lack of integration
Lack of a champion		Lack of a proper management
Lack of business analysts		structure
Failure to mix internal and external personnel		ERP vendor selection
Failure to emphasize reporting, including custom		Project management principles
report development		Process re-engineering
Insufficient discipline and standardization		Conflicts with business strategy
Ineffective communications		
Internal implementation team		
Project opposition		
user training		
Human resource development		
Consulting services /Client consultation		
Employees resistance to change		
Conflicts with Consultants		
Internal Conflicts		
Conflicts with Vendors		

Source: Menon, S. (2019). Critical challenges in enterprise resource planning (ERP) implementation. International Journal of Business and Management, 14(7).

From the results of this study, it can be seen that most of the critical factors influencing ERP implementation are human. Which shows that the success of the ERP implementation depends to a large extent on the actors of both parties (the software developer and the organization integrating this software).

2.2.Professional service marketing

Professional services marketing is an area of growing interest in the academic and professional press (Bloom, 1984; Lapierre, 1997; Thakor and Kumar, 2000; Hausman, 2003). However, the literature surrounding this area is still underdeveloped compared to other areas of marketing.

Thakor and Kumar (2000) suggest that there is still little agreement on which services can be considered professional.

According to Reid, M. (2008), professions are often distinguished by having a systematic theory and professional authority, being sanctioned by the community, being governed by a code of ethics and demonstrating a professional attitude. code of ethics and a professional culture.

Gummesson (1978) distinguishes professional service from industrial service in that it must be provided by qualified persons, it must be consultative, it must focus on problem solving, the service must be one from the buyer to the seller, and the professional must be independent of suppliers of other goods and services. In general, services such as engineering, surveying, accounting, law, and medical services are commonly cited as the traditional professions.

In the past, marketing was not seen by many professionals as an activity of particular concern to them, and "selling" was below the professions.

Lapierre (1997) cites that in the past, professionals did not perceive themselves as market-oriented, but that increasing competition has meant that professionals must compete violently for business. Its is essentiale for todays' professional service firms to improve relationship management in order to succeed. (Hausman, 2003).

(Pels, 1999) highlight that the growing complexity of the professional services marketing environment means that any business model based on a narrow classification of relationships, either in terms of format or progression, risks generating a form of marketing myopia. This means that relationship-based trade for professional services firms should be

seen as rich, complex and diverse, rather than adhering to a common format. As different exchange mechanisms, transactional or relational, may co-exist in a given market environment (Coviello et al., 2002) and clients and professionals may have very different expectations and relationship experiences, shaped by their particular organizational and industrial context (Pels et al., 2000). In short, addressing the issues of increased market orientation and how to build client relationships has become crucial for professional services firms.

2.2.1. Knowledge Intensive Business Service (KIBS)

KIBS are defined as "companies that perform high value-added services for other companies (Muller and Zenker, 2001). it represents companies whose core value-adding activities are aimed at the accumulation, creation or dissemination of knowledge for the purpose of developing a customized service or product solution to satisfy customer needs (Larsen, 2001). Actors in this category, including consultancies, " act as facilitators, supports and sources of innovation, and through their almost symbiotic relationship with client companies, some KIBS act as co-producers of innovation" (Den Hertog, 2000). Knowledge is the 'product' sold by KIBS to their customers (Windrum and Tomlinson, 1999).

They operate in a Business-to-Business context (Strambach, 2001), as they rely on intensive knowledge processing, which results in strong interactions with the customer (Den Hertog, 2000; Muller and Zenker, 2001; Bettencourt, Ostrom, Brown and Roundtree, 2002) in which human capital is the dominant factor (Alvesson, 1995). These services are the fastest growing in most economies of the world (Miles et al., 1995; Wood, 2002), innovating on their own behalf but also on behalf of their customers (Denner, 2002). for their own benefit but also for that of their customers (Den Hertog, 2000).

(Cohen and Levinthal, 1990) points out that organizations' exposure to external knowledge flows is insufficient to benefit from KIBS knowledge. They need to develop 'absorptive capacity' (ibid., p. 128), defined as "the ability to recognize the value of new information, assimilate it and apply it for business purposes".

Imbert, G. (2014), argue that The success of the service relationship and customer satisfaction then depend on the customer's ability to absorb external knowledge. This satisfaction presents challenges both for the customer and for KIBS. On the one hand, the customer ultimately seeks to derive economic value from his relationship with KIBS. On the

other hand, it is in the interest of KIBS that its customer absorbs knowledge since the customer's satisfaction depends directly on it.

2.2.2. Consulting and ERP implementation

KUBR Milan defines management consultancy as: "An independent professional advisory service that helps managers achieve their goals and objectives by solving management problems, identifying and exploiting new opportunities by helping organizations to learn and implement management". It represents a consultancy activity for companies and organizations, and consists of an intellectual service with one or more specialties.

Labat, Y., & Schoettl, J. M. (2013), cite that the rise of the consulting activity dates back to the 1930s in the United States. However, it would seem that the consulting profession as we know it today has its origins in the industrial revolution, and took off with the emergence of the tertiary economy in the early 1970s. Called to the rescue by companies anxious to increase their productivity and reorganize their processes in a context of profound change, consultants quickly became one of the symbols of this pivotal era. They bring benefits in terms of flexibility and the optimal search for specialized skills.

Using the services of an external service provider is a delicate decision. Indeed, company managers may face several problems as a result of this decision. These problems relate mainly to resistance from members of the organization and internal conflicts as a result of the changes that are to be made. the demand for advice fluctuates according to the characteristics of the environment and the specificities of the company. It is constantly growing and concerns all sectors of activity, thus expressing various needs.

Iyer, G., Ravindran, S., & Reckers, P. M. (2006). claim that in recent times, consultants have moved away from the traditional role of mere advisor to become actively involved in the implementation of ideas and technologies. The growing importance of information technology and the hopes and frustrations of its implementation have fueled the growth of the management consulting industry.

Boni-Le Goff, I. (2015), clarify that in the 1990s, the wide diffusion of ERP (Enterprise Resource Planning) was accompanied by the development of a new type of consultancy, more oriented towards standardized or even industrialized services. This was the result of a combination of two main factors. Firstly, the major transformations that have taken place

within companies over the last forty years, which have progressively modified their demands in terms of change management and control. Secondly, the economic crisis of the early 1990s, which led firms to seek and seize new ways of adapting and redeploying their service offering.

Moreover, Integrated management software packages such as ERP are revolutionizing consulting sector: they force consultants to adopt new strategies with regard to their clients' strategies for their clients; they introduce new major players, the ERP editors.

Most large software companies delegate implementation projects and system delivery to a network of partner companies called implementation partners, and choose to focus on the development of their software product without participating in customer implementation projects. These partners can play different roles, such as resellers, consultants, integration providers, or any combination of these roles. SAP is an example of this type of arrangement. The company develops and maintains its software suite, and SAP's partners manage many aspects of onboarding new customers and tailoring the software to each customer's needs. In this way, SAP can focus primarily on developing the core product, while implementation partners can concentrate on selling and managing customer projects without having to invest in product development.

2.3.Value co-creation in service "logics":

Marketing theory is built on value and customer value. Moreover, there are several theories, conceptual frameworks in the marketing literature where the phenomenon of value is described by different approaches. According to Grönroos, et al.,2015, this has been a source of frustration for researchers by leading to confusion and lack of agreement among them on how value should be perceived. The authors suggest that the perceived confusion is not confusion at all but rather the result of researchers applying different sets of assumptions, often without explaining them.

In the authors' view, value co-creation as a concept, and the way it has been used so far, represents a significant challenge for the development of business theory and practice. For it is used in a variety of ways without explicit definitions, based on three different service 'logics' currently being discussed: service logic, service dominant logic and customer dominant.

2.3.1. Value co-creation in Service Dominant Logic (SDL):

According to Vargo and Lush and SDL followers of SDL movement, value is always co-created, the concept of value co-creation is seen as following:

> *"Value creation happens in service systems. Axiomatically value is always co-created with customers through the activation of sets of resources. New service developments (innovation) stem from new improved ways to use existing resources to co-create value. Denoting the customer as the key resource integrator represents a new and radically changed status for customers. Customers are an important source in the NSD process. To understand and enhance these processes the service, the service system and the customer's ability to acquire, integrate and use the available resources in a specific context need to be understood. Customer involvement in the NSD process becomes important as companies only can provide value propositions but it is the customer who integrates the resources. A high degree of customer involvement means a change from NSD for the customer, to NSD with the customer or even by the customer."* (Edvardsson et al., 2014)

2.3.2. Value co-creation in service logic (SL):

Grönroos, et al.,2015 note that Service Logic approach considers that value is "created only in collaborative, interactive, and dialogical processes", emphasizing the roles of the actors in process where value is created. The authors explain that in logic of services, value is always co-created by suppliers and beneficiaries and other actors involved in the network. This logic wonders about the nature of the roles of the actors in the process of value creation, their activities in this process and the purpose of their actions. Also, about the nature of the value produced if it is the same for all actors, and if it exists in different moments and differs according to the moment in which the value is generated.

According to (Grönroos and Gummerus, 2014) In the Service Logic, the process of value creation and formation is divided into three spheres: a provider sphere, a customer sphere and a joint sphere. The real value does not lie in the supplier's sphere, the supplier only contributes to the value by compiling resources for the customer's use, he facilitates the creation of value in the later stages of the value creation process. Thus, the actual value appears later in this process. In the customer's sphere, the customer independently uses the resources acquired from the service provider, possibly together with other resources

available in the joint sphere. The authors argue that it is in this sphere that true co-creation takes place. In the joint sphere, a co-creation platform is established where the processes of the service provider and the customer can merge into one process, where the actors can influence each other's processes and thus also influence the value creation process.

2.3.3. Value co-creation in customer logic (CL):

CDL focuses on the customer in order to create a successful business. It is not mainly concerned with service only, it is a way of thinking about marketing and business (Heinonen and Strandvik, 2015).

According to (Heinonen et al,2010; Heinonen and Strandvik, 2015), CDL is based on the following statement: With no customers, there is no business, and without business, there is also no service or service systems. To get customers, the service provider must create an offer that customers will buy and pay for. There are many reasons why someone becomes a customer or not, and for managers it is crucial to understand the reasons for being accepted or rejected by potential customers.

The authors put forward a new questioning that radically changes the status of the provider; and proposes that service providers should consider that the question is not how they can involve customers, but rather how customers involve them and what providers can do to involve themselves in a way that is profitable. It is no longer about being focused on oneself, one's current resources, business models and offerings, but rather about becoming focused on the foundation of one's business, one's existence: the customers. Additionally, when providers acquire customers, they need to be aware of the existence of the customer ecosystem. Customers are part of their ecosystem which includes: other providers, other customers, and other actors, such as communities, as well as physical and virtual installed structures related to the service.

Value is created in two distinct but connected processes, for customers and for suppliers. Both processes are linked, but this does not mean necessarily a co-creation of value based on reciprocal intentions and mutual consciousness. The matter of value (co-)creation is related to the opposition between the logics of suppliers and customers (Heinonen, Strandvik and Voima, 2013; Heinonen and Strandvik, 2015). An important challenge for suppliers is to acknowledge that their logic in terms of value creation may be different from that of customers. Customers are all in essence dissimilar and unique, and they are led by their own logic (Heinonen and Strandvik, 2015). Value experiences arise based on the customer's logic

and contextual drivers. Value is therefore not seen as created, but rather as a combination of elements that are deliberate and emergent in the process (Heinonen and Strandvik, 2015).

2.4.Value Co-creation in Knowledge Intensive Business Services

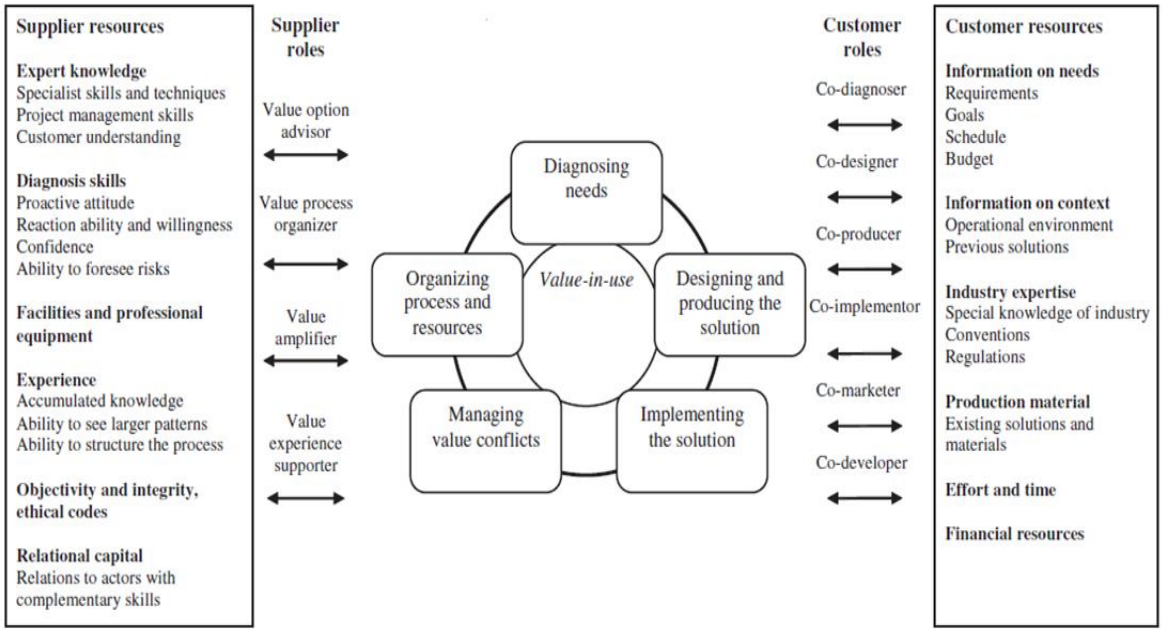
The main value creation activities of KIBS firms include the accumulation, creation or dissemination of knowledge in order to provide a customised service or solution that meets the customer's needs (Bettencourt et al., 2002). KIBS clients appropriate knowledge in a process of knowledge transfer and reengineering developed by KIBS with their clients (Ancori, Bureth and Cohendet, 2000; Muller and Zenker, 2001).

Aarikka-Stenroos & Jaakkola, (2012)., when the customer has a limited understanding of its own, this makes it dependent on the supplier to diagnose a problem. However, it can be hard for the supplier to communicate the value proposition in advance and to manage the service process to obtain the best possible result; the customer may have difficulty understanding and assessing the value potential. This presents a challenge for both parties in the value co-creation process. Therefore, the authors sought to build on and expand the existing conceptual understanding of the collaborative, dyadic value co-creation process in the KIBS context.

A conceptual framework is proposed, which illustrate the roles played and resources contributed by suppliers and customers in the joint value creation process in complex supply contexts. The author suggests that the value co-creation process in the context of KIBS consists of five key activities which are as follows: diagnosis of needs, design and production of the solution, organization of the process and resources, management of value conflicts, implementation of the solution. These activities do not necessarily follow each other in a linear sequence, but may be parallel and iterative, as some activities may restart activities already carried out, and the whole collaborative process may stop in case of disagreement.

As for the roles played by the service provider and the customer in the value co-creation process: Providers can facilitate value creation by playing the roles of value option advisor, value process organizer, value amplifier and value experience advocate. Customers can influence the value proposition by adopting the roles of co-diagnoser, co-designer, co-producer and co-implementer. Both sides play an active role in the value co-creation process: service providers bring resources such as accumulated specialization and professional integrity, while clients bring information about their needs and their business.

Figure 6. Joint problem solving as value co-creation in knowledge intensive services.



Source: Aarikka-Stenroos, L., & Jaakkola, E. (2012). Value co-creation in knowledge intensive business services: A dyadic perspective on the joint problem solving process. Industrial marketing management, 41(1), 15-26.

2.4.1. Value co-creation in ERP implementation:

Managing an ERP implementation is very knowledge intensive, making it a very complex process. Sultana, K et al., focused on the life cycle of ERP implementation from the viewpoint of value co-creation. The authors present the partnership practices of a case organization where consultants and client companies co-create value through specific behavioral factors. those value co-creation behaviors have the potential to create a match between the technical tools and devices and the social subsystems (knowledge, skills, behaviors and values) of organizations that decide to adopt a complex technological innovation like ERP systems. The mentioned value co-creation behaviors are key to consolidate the outsourcing partnership and defining the level of success in ERP implementation and value delivery of these projects. The authors suggest that effective experimentation with the value-creating behaviors of the participants in the ERP implementation outsourcing has the potential to transform the value chain of the technology adoption process into high or low business value co-created by the partnership between the customer and the supplier.

Since the emergence of value co-creation, many researchers have attempted to illustrate the notion through conceptual frameworks that address aspects of value co-creation. However,

only a few researches have conducted their work in the context of knowledge-intensive business services, but none of the researches we found treated ERP implementation as a value co-creation context.

CHAPTER III: METHODOLOGY

1. Methodological approach

A qualitative approach using a case study was chosen to fulfill the objectives of our study. This approach is part of a constructivist epistemological posture. This choice is motivated by our position in relation to the object of our research, since the knowledge produced and actions carried out come essentially from the research field. As a reminder, the aim is to explore the ERP adopting process and diagnose the interactions that occur and the roles that the actors play in an inter-organizational context, in order to demonstrate what are the appropriate value co-creation practices in this complex type of service offerings that the company should adopt.

2. Method of data collection

We began our data collection by gathering different documents (books, theses, scientific or press articles, etc.) and conducted brainstorming sessions at the host organization, which provided us with various documents and information.

Then, in order to understand the ERP implementation process, we judged necessary to conduct an interview with the IT operation manager to apprehend it from a supplier's perspective. After that, we carried our study through a qualitative approach aimed apprehend the process from the client perspective. For that, we opted for a series of 6 interviews of an average duration of 40 minutes.

The interviews were semi-directive to allow the interviewees to express their ideas freely.

Table 5. Qualitative approaches followed

Data Collection	Data Analysis	Purpose
Observations and field notes along 3 months of being part of Grant Thornton Algeria	Based on observation as interner	- Identify and understand the problem - Additional sources of information beside the interviews
Company Internal Documentation and SAP Documentation	Analysis of existing internal documentation and SAP documentation available to SAP Partners	- Interview preparation - Support the interviews information and analysis
feedback session interview with the operational Manager (thesis supervisor)	Gathering and analysing the feedback of the meeting	Understand the ERP adoption process
Semi-structured interviews (eight interviews with different actors of the implementation process)	Done through five phases: transcription, categorization, codification, quantification and synthase.	Collect relevant information about implementation projects, main challenges and interactions with clients

Source: made by ourselves

3. Interviewee's criteria

The selection of our interviewees was made through a database provided by the host company which includes companies that have implemented an ERP within their organization. This selection was based on two main criteria:

- That the interviewee had participated in at least one ERP adoption project, since the interview focused on the implementation experience, from the decision to adopt an ERP to its operation.
- That the position held by the interviewee at the time of adoption is that of an executive or manager of the company, since we want to know how the adoption is decided and to find out how it affects the different parts of the organization that implements an ERP.

Table 6. Interviewee and customer organization's background

Interviewee	Company	Interviewee function	Interview details
I1	Algerian company manufacturing products derived from cotton and more particularly those used in personal hygiene such as tissues and paper towels, nappies and baby wipes.	Director General	Made on: 05/08/2022 Duration: 35 minutes
I2	one of the major companies in the distribution of automotive spare parts in Algeria	Financial Officer	Made on: 05/12/2022 Duration: 43 minutes
I3	a company operating in the field of pharmaceutical distribution based in Algiers	Financial Director	Made on: 05/17/2022 Duration: 48 minutes
I4	Manufacturer of table oils and derived products	Information Systems Manager	Made on: 05/19/2022 Duration: 50 minutes
I5	One of the dealers of a French car manufacturer in Algeria	Financial Control Officer	Made on: 05/22/2022 Duration: 36 minutes
I6	exclusive bottler in Algeria of an American beverage brand	Finance Consultant	Made on: 05/24/2022 Duration: 46 minutes

Source: Made by ourselves

4. Interview guide structure

Our interview guides are structured as follows:

a) Interview guide of client companies' representatives

- Introduction: Presentation of the interviewer and the general context of the study and the purpose of the interview.
- Conditions of the interview: Declaration of the confidentiality of the interview and approval of the conditions, including the recording.
- Background information on the interviewee

- Identifying the customer organization and the ERP that uses.

Theme 1: ERP type and challenges related to buying such a solution

Contains four open-ended questions that address the characteristics of the ERP adopted and the problems it was intended to solve. Also the challenges and risks associated with this type of ERP as perceived by the customer.

Theme 2: Collaboration and interaction during the ERP adoption

This section includes five open-ended questions that address the implementation process and communication between the ERP adopter and the ERP integrator.

Theme 3: Participation, roles and resources contributed by both parties

includes three open-ended questions that aim to identify the roles, activities and resources that the company has invested in during adoption

Theme 4: Perceived value-in-use and expected results

This section aims to identify what users expect from ERP adoption, and what value they perceive in this solution, through three open-ended questions

Theme 5: Realization of customer value / Verification of value

Comprising six open-ended questions, this section aims to verify the achievement of the objectives targeted through the adoption of the ERP, to determine the benefits achieved and those that were missed, to measure the satisfaction of the customers and their evaluation of the integrator.

Closure: Finally, the interview is closed with thanks and a last open-ended question in order to elicit further remarks from the interviewee.

b) Interview guide of the IT operation manager:

- Introduction: Presentation of the interviewer and the general context of the study and the purpose of the interview.
- Conditions of the interview: Declaration of the confidentiality of the interview and approval of the conditions, including the recording.
- Background information on the interviewee

Theme 1: ERP implementation process

Contains two open-ended questions about the interviewee's experience in implementing the ERP, about the process and its phases,

Theme 2: Co-operation between the ERP implementor and the client

Contains two questions about the roles of the two parties during the implementation process.

Theme 3: ERP related challenges

Contains two questions about the challenges and the riks related to the ERP adoption

Theme 4: Services and value proposition

Contains three questions about the services that are offered to the ERP client

5. Analysis method

At the end of our seven interviews and after collecting the information we needed, the phase of analyzing this information naturally emerged to process our material (Vernette, 2017, p.42).

The process of our analysis is composed of five phases (Vernette, 2017, p.42,43):

a) **Transcription of the interviews:** This first step is what allows us to have raw data from our survey. It consists of copying on paper the entirety of the recorded interviews.
b) **Categorization:** Starting with a first reading by floating attention, which consists of reading all the material without taking notes or noting any particular element, and brings out themes or salient points (Hervé Dumez, Méthodologie de la recherche qualitative, p 87), this second phase enables us to detect the most repeated themes, sub-themes and key words. These elements form the categories and sub-categories of our survey.
c) **Coding:** The categories emerging from the previous phase constitute the analysis grid which is used to group together related or synonymous themes in the same category.
d) **Quantification:** In this phase, the frequencies of occurrence of each theme are calculated. Two types of analysis are possible (Vernette, 2017, p.43). :
    - Horizontal analysis where the number of times a theme is mentioned among all the interviews conducted is quantified.
    - Vertical analysis, which pursues the same objective but at the level of a single interview. In this way, we establish the hierarchy of themes addressed for a single individual.

e) **Synthesis**: To conclude the content analysis, this stage allows, as its name indicates, to synthesize all the results obtained from interviews conducted with ERP clients and the IT consultant.

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CHAPTER IV: RESULTS AND DISCUSSION

This chapter will focus on the practical part of this thesis, where we will present the qualitative analyses of our study and discuss the results of these in order to answer the research question.

1. Results of the qualitative study

This part will be divided into two sections, where in the first section we will present the results of the interview conducted with the company's operational manager. The second section will show the results of our interviews with the ERP clients according to our thematic analysis grid (Appendix B) by presenting the verbatims and comments made by our interviewees on the themes discussed during our interviews. It should be noted that the themes structuring our interview guide served as a basis for the categorization of the subjects discussed.

The new themes that emerged during the data analysis are presented in the discussion part.

1.1. Interviewed SAP consultant

The interviewee is an SAP consultant at the host company. He's working there for three years now, and he has participated in several ERP implementation projects.

when we asked the interviewee about the phases of the ERP implementation, he expressed that ERP implementation usually goes through five phases which are: Prepare, Building, Testing, Go live and Stabilization.

According to the interviewee, the first stage of the implementation "prepare" consists in understanding the needs of the company and defining the plan of execution. An exchange with the company's personnel must take place to collect all the necessary information on the processes and operations of the company. Usually the supplier offers its services in the first meeting, there is a presentation about the system, its benefits and what it can do for the business

The two parties agree on the specifications which is called in SAP the "Blueprint", and agree on the whole configuration of the system, the blueprint has all the details about the project, and its needs. Depending on the modules added, the cost of the system increases

The second phase, "Building", there are workshops to collect data from the relevant departments of the company. The project team of both parties discusses the details of the work, then these data are collected in so-called "work books" (word documents, excel sheets...) consists of designing the solution, integrating and parameterizing the solution.

After confirming the requirements, the configuration part begins or "Testing phase", There are three environments in implementation: development, quality, production

Development: this is where the configuration is done, the supplier team do the system configuration

Then, the supplier team does "transport", they will transport this configuration to "quality", this environment will be delivered to the customer. Once the customer finishes the configuration, he contacts the supplier to inform him that it is available on the quality and ready for transport,

Then, there is the UAT "users acceptance test", in the example of the purchase process, we agreed on such a number of steps, we then make test scenarios (domestic purchase, abroad, depending on the case, then the company team starts the testing, once the scenario is validated it is sent to the "production" environment, the real environment, we don't do any more configuration there. the interviewee continued to explain that in SAP, there is the habit of planning the project in sprints, each sprints or work package has a precise number of modules, as we do the test necessarily there will be anomalies, problems, once the two parties agree, the supplier transport the configuration to the real environment.

Once the tests are finished, the "go live" phase begins, which is the deployment phase where the company is ready to execute its tasks on the software and the real use of the system.

Finally, comes the support period (it takes three months or more, depending on each module implemented). Then the key users conduct training to other users

"Stabilization" is the last phase which consists in offering support services to the company after the deployment for a period of 3 to 6 months, a stage which often recognizes the appearance of additional problems in the system.

Regarding the cooperation between the integrator and the client, the interviewee expressed that every user of the system must participate in the implementation process

by providing the necessary information about the company's operations in order to be able to customize the software to the company's needs.

He pointed out that the involvement of the customer from the beginning of the project is very necessary for its success. It is considered important especially in the first three phases of the implementation process, a negotiation with the company's managers is done with the aim of formalizing the needs and understanding the business of the company in order to deliver the product that fits the nature of activity of this company.

in the "prepare" phase, an exchange of information is necessary with all the personnel who must communicate them clearly.

then, in the building phase, it happens that the customer wants to reduce some features of the solution in order to reduce the costs, sometimes the leadership underestimate some functionalities belonging to the software that they justify not necessary, but after the deployment they discover the importance of this one and ask to include them, which generates the overtaking of the deadline foreseen for the implementation and in this case the customers tend to attribute the responsibility to us

for the "testing" phase, the customer has to execute the tasks related to his job in order to be able to detect the problem of the system and repair them.

As for the challenges related to the implementation of the ERP, the resistance to change is the major challenge. To manage to involve the staff of the company in order to change their way of working is very difficult, in that it is necessary to find ways to make the user of the system feel the value that this software can bring him, the fact that this value cannot be perceived at the beginning of the implementation makes the user hesitant towards the switch from a system that he knows well and uses it for years, to a new complex system of which he knows nothing. In this case, we use reference cases where other companies have opted for this solution and have attested to very positive results in terms of work fluidity and effort saving.

1.2.Interviewed company's representatives

- **Interviewee and customer organization's background and the ERP that uses:**

We had the opportunity to interview a diverse group of business representatives from different sectors: manufacturing, automotive and pharmaceuticals firms.

Table 7. Customer organization's background and the ERP that uses

Interviewee	Company	Interviewee function	Company's experience with ERP project
I1	A company active in the distribution of equipment intended for the realization of various hydraulic works, drinking water supply network, sewerage, gas and fire-fighting valves, endowed with a very active and dynamic distribution network deployed on the four corners of Algeria	CEO	"Odoo" ERP in 2014
I2	Distributor of pharmaceutical products	General manager	SAP Business One HANA in 2015
I3	Algerian company manufacturing products derived from cotton and more particularly those used in personal hygiene such as tissues and paper towels, nappies and baby wipes.	Business Development director	SAP Business One, SQL since 2012.
I4	One of the major companies in the distribution of automotive spare parts in Algeria	Purchasing Manager	SAP Business One SQL since 2012, and in January 2018 the company switched to the HANA platform
I5	Manufacturer of table oils and derived products	Sales Manager	SAP Business One HANA associated with Process Force since 2017
I6	Exclusive bottler in Algeria of an American beverage brand	Acting Chief Financial Officer	SAP Business One HANA since 2015

Source: Elaborated by ourselves

The interviewed companies' representatives occupied different position in large enterprises except for I4 who represented a SME. All companies use SAP ERP except for I1 who uses a different solution "Odoo"

- **Characteristics of the ERP and challenges related to buying such a solution**

The first question in this section addressed the problems that companies have sought to solve through the adoption of ERP. At our request, interviewees told us about a quit similar problem they had encountered. All representatives agreed that their companies were limited to their old systems, most tasks were done manually, which made a complete overhaul of its operations necessary. Inventory management, manual invoicing and approval cycles seemed to be slowing down the company's growth. While I4 and I6 stated that the manual procedures and legacy applications from day-to-day work was a major problem that affected the productivity of the enterprise. I1 added that their business continued to grow and some tasks seemed to slow down their business. I3 mentioned that the deletion of multiple records eliminates a significant cause of errors and guarantees better reliability of the information. I5 added that the ERP solved the communication issue between the employees by centralizing the information in one place.

In what concerns the challenges, all interviewees agreed that the long period that the ERP implantation takes is a major challenge, especially when this exceeds the planned timeframe, which leads to additional costs. I1 and I4 mentioned that the adoption of an ERP brings about a radical change in the company's culture as they have to abandon a pattern in which the company has been operating for years. I5 evoked the trust issue towards the implementor when it comes to the companies' data and system, if the implementer was not competent enough, this can lead to the loss of data and the collapse of the system. I6 added that the selection of the ERP implementor was the most challenging.

- **Collaboration and interaction during the ERP process**

When we asked the interviewees how the ERP integrator helped them to use the software, they all mentioned that they helped them during change management. Which was described as a critical phase where the top management company have to face employee resistance. I1 stated that they followed training conducted by the service supplier as well as they have been offered a document illustrating the functionalities of the ERP.

I5 mentioned that the integrator helped them understand how this type of ERP can help the company grow its business. While I6 mentioned that the integrator had to do some configuration to the software to adapt it to the company needs.

In the other hand, I4 mentioned that he hoped for a business consultancy rather than technical instructions about the software operations. While I2 stated that he hoped that the duration of the support after the deployment was a little bit longer.

When we asked the interviewees about the communication process, they stated that communication is crucial during all the process in order to follow up with the ERP implementation and, after the implementation is accomplished, most of the times new problems appear and they feel the need for an additional assistance.

- **Participation, roles and resources contributed by both parties**

I3 explained that as a customer, they should be involved in all phases of the implementation. from the analysis of the business needs to the implementation of the solution. I2 added that meetings were essential during the implementation phase in order to explain the goal that the company wants to achieve as a result of adopting the ERP. I7 and I6 talked about a negotiation that needs to be done about the modules that are needed for the software to work efficiently. I4 mentioned that staff using the software should participate in software testing sessions throughout the implementation period and after, since they supply regular software update with new features.

- **Perceived value-in-use and expected results**

Most client organizations said they chose to use an implementation partner due to the complexity of the SaaS products being taken to use, they need for support services. Thus, I5 stated that the personal of the company build their own technical competences to manage easier tasks by themselves, while opting to use partner services for more demanding tasks.

In what comes to the benefits, similar benefits were stated by the interviewees. Besides the ROI that witnessed a rise after implementing the ERP, reducing costs, automation and organization of data which saved a lot of time and effort. I4 that all the reports became system generated which increased transparency about the employee's work. the ERP environment in their business. I5 stated that he gained a deep partnership with the implementor that helped him grow his business, while I1 stated that using an ERP increased collaboration between

the company's employees that they have access to one system without having to use different database for each department.

- **Realization of customer value / Verification of value**

When we asked the interview if their objectives of using an ERP have been met, different opinions were expressed. I1 explained that he had to be in contact with the integrator on an almost daily basis due to the large number of bugs that occurred, missing functionalities, or not up to date (no valuation of stock at a given date with the storage prices of the date) because the ERP did not correspond to his needs. I2 stated that the implementation has exceeded the duration set in the implementation plan.

2. Discussion of the results

The following sections present the results organized according to the phases of the SAP implementation, illustrating the activities that were identified for each phase of the implementation and the resources and roles of each of the customer and the software integrator:

Prepare phase:

Our data indicate that co-creation begins with "business identification" as the first activity in the implementation process through identification of client's needs. It was noted that the integrator is expected to use his or her specialist knowledge and experience to identify the real needs of the client. Sometimes clients do not have sufficient knowledge to determine their needs in depth, which is why it is important for the provider to help the client formulate the problem. At this stage of the process, the parties may not have a mutual understanding of the objective being pursued, as well as the various benefits and sacrifices associated with the different software options. Dialogue is therefore necessary structure the project and choose the path that prefigures the optimal value, i.e. the best possible balance between the use value to be achieved and the sacrifices needed to achieve it.

In this phase, the service providers try to understand the peculiarities of the company's business and the operations it performs in its sector of activity in order to design the ERP that meets its needs. The role of the provider in this phase consists in proposing options related to the ERP that are aimed at meeting the customer's expectations through acting as "value consultant". On the other hand, the role of the customer is to communicate its needs

clearly so that it participates in the needs diagnosis operation by acting as "co-diagnoser". Then, both parties agree on the “project structuring” and its planning.

Building phase:

In the next phase of the ERP implementation “Building” the goal is to collect the maximum amount of information from all the sources available in the company, this activity can be characterized as “data collection and solution designing”, where usually the heads of the company's departments who have a deep knowledge of the operations performed in their fields of work. Thus, the supplier collects the information by acting as “co-documenter". These information will then serve as a reference to conceptualize the solution according to the needs and information provided by several actors in the company. Those actors participate in this activity by helping the supplier to configure the system through their feedback on the progress of the conceptualization of the solution. Thus, acting as “configurator”.

Testing phase:

Then comes the phase of “Testing”, during which both parties work together in writing the scenarios of the operations that the company performs in different departments (purchase, sale, supply ... etc.). The role of the client is to write the scenarios of the activities that he executes acting as “scenario co-redactor”, then communicate them to the service provider. The latter in its turn makes the programming of the solution. Thus, acting as "scenarios programmer" and encourages the client to test the operation on the system. Then, comes the role of the customer in this case to validate the operation “scenarios validator”. If not, in case he finds problems in the execution of the operation he reports it to the provider to rework the programming. The supplier during this phase ensures the organization of the test sessions acting as “test session organizer”.

Go live phase:

In this final phase of the process, we attend the “solution launch”. The customer in this phase is ready to use the system, and it remains only to verify the good progress of the operations and to confirm the success of the implementation or the opposite, acting by that as “co-auditor of system”, in the case of attesting to problems in the system, the role of the supplier is to solve the problems that can happen as a “Problem adjuster”.

Support phase:

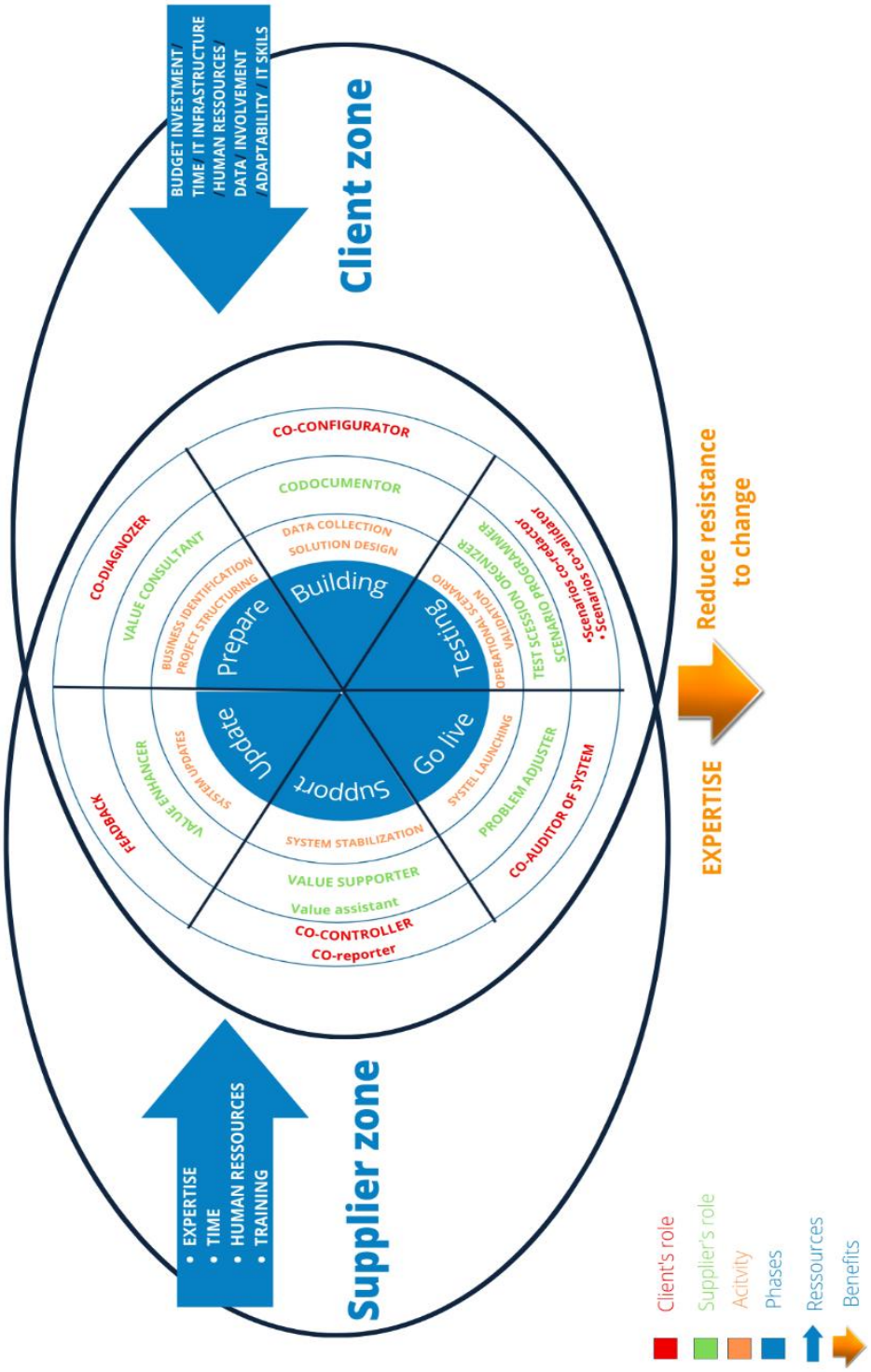
The "support phase", consists in the "stabilization of the system", where the customer takes control of the system, and discusses the operations in an anonymous way but following the rules and the good practices related to the use of the system. In case the customer encounters problems, his role is to report his problems to the implementer. The latter takes the role of “value supporter”, or “value assistant” by providing help to the customer during this phase.

Update phase: Since ERP is a long-term investment, new needs may arise during the years of use of this system, depending on the changing market and economic developments that the world is experiencing. Therefore, ERP providers tend to offer their customers updates that meet the needs that may arise over the years. Which will help them to better run their businesses by acting as “value enhancer” These updates contribute to consolidate the relationship between the supplier and its customers, that through it, the supplier can have feedback on the evolution of its business.

2.1 Framework of value co-creation in ERP implementation process

The following framework conceptualizes the results found in our case study.

Figure 6. Framework of value co-creation in ERP implementation process



Source: Made by ourselves.

CONCLUSION

Conclusion

The objective of our study is to examine the phenomenon of value co-creation in the context of KIBS by taking the case of a consultancy firm that engages in ERP software implementation, and to determine the importance of client involvement in order to realize use value.

The few studies that have addressed value co-creation in knowledge-intensive business services have explored this topic from a general perspective and have not addressed ERP implementation and consulting services. This thesis will fill this gap in the literature by attempting for the first time to explain how the value co-creation process occurs in this specific context. A qualitative approach is adopted in order to answer the research question and to demonstrate how the client can co-create value with the supplier.

The analysis of the data collected through semi-structured interviews with representatives of six companies from different sectors. As well as the feedback from the ERP consultant about their experiences during the ERP implementation revealed new roles of both supplier and client in the process of co-creation of value in our context. six different value co-creation activities that occur throughout the phases of the software implementation: Business identification, project structuring, data collection and solution designing, operational scenario validation system launching and system stabilization. seven different roles have been defined for the supplier in our study context: Value consultant, co-documenter, test session organizer, scenario programmer, problem adjuster, value supporter and value assistant. The customer, according to our results, will collaborate with the supplier in seven different roles: Co-diagnoser, co-configurator, scenario co-redactor, scenario co-validator, co-auditor of system, co-controller and co-reporter.

Finally, we have been able to propose a model that illustrates the value co-creation mechanisms that occur during the adoption of an ERP according to our case study. It can be used by the company to have a global vision on the value co-creation practices that take place during the implementation process and that will allow to deliver value to the customer

The limitations of our research include the difficulty of integrating all the actors involved in the ERP implementation, including the employees of the company that has adopted ERP. Their contribution will be of great value to our study as it will allow us to dig deeper into the study to offer a more profound and encompassing analysis of this process.

Given the limitations of our research mentioned earlier, we encourage future research to focus on the different actors that take part in ERP implementation. As we suggest to direct the research towards the value co-creation practices that take place between the software vendor and the implementer that enable value creation to the customer.

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ANNEXES

ANNEX A - CLIENT'S INTERVIEW GUIDE

- **Interview guide for clients**

Introduction

Hello Mr. X, my name is Imene, I am a student in M2 Marketing Management at ENSM, currently a marketing intern at Grant Thornton Algeria.

First of all, I would like to thank you for agreeing to take part in this interview, and for the time you have given us.

This interview is part of a study we are conducting on the process of ERP implementation.

Conditions of the interview

Before starting the interview, I would like to clarify a few points: I would like to ensure the confidentiality of our exchange. I would like to remind you that this interview is essentially for academic and pedagogical purposes, in a perfectly anonymous way and nothing will link your answers to your identity or to your company.

I am going to ask you some questions to which there are no right or wrong answers. I am interested in anything that comes to mind. So I value the spontaneity of your answers.

I would like to know if I can record our conversation to facilitate my information gathering.

Is that OK? Do you have any questions before we start?

1. **Background information on the interviewee**
    - title of the interviewee
    - interviewee's role in the organization
    - name of the organization
    - size of the organization
2. **Describe the customer organization and the ERP that uses.**
    - In which industry does the firm operate?
    - What kind of ERP did the organization purchased? For what reason?
    - Do you use ERP in your core business or supporting functions?

3. Characteristics of the ERP and challenges related to buying such a solution

- What kinds of problems does it solve for you?
- What kinds of challenges are involved in purchasing the ERP?
- What kinds of risks are related to purchasing this ERP?

4. Collaboration and interaction during the ERP process

- How do they help you use the ERP? how could they help you better?
- How is the communication between the ERP provider and your company? (Before use, during use, after use, whether need to improve?)
- In what situations do you communicate with the staff of the ERP provider?

5. Participation, roles and resources contributed by both parties

- What kind of processes, activities and actions relate to the ERP implementation process?
- How do you participate in this process?
- What kinds of resource do you invest in the ERP implementation?

6. Perceived value-in-use and expected results

- What value do you see in seeking an ERP implementor service
- What benefits do you got from the ERP solution? ? (Economic, social, process, better sales/marketing, etc.)
- What kind of value do you as a customer perceive in the ERP?

7. Realization of customer value / Verification of value

- Have the objectives of using the ERP been met?
- What benefits have you received from the ERP implementation
- Are there any benefits to be gained remained unrealized?
  If yes (Can you say why / due to what?)
- What benefits would you like more? At what level?
- How do you as a customer evaluate the ERP and its supplier?

- What are the things about the ERP that you have been satisfied with? (What have you not? Why? Why not?)

Closure

I would like to thank you for your time, patience and cooperation Mr. X. Do you have anything to add about our topic?

- **<u>Interview guide for ERP consultant:</u>**

Introduction

Hello Mr. X, my name is Imene, I am a student in M2 Marketing Management at ENSM, currently a marketing intern at Grant Thornton Algeria.

First of all, I would like to thank you for agreeing to take part in this interview, and for the time you have given us.

This interview is part of a study we are conducting on the process of ERP implementation.

Conditions of the interview

Before starting the interview, I would like to clarify a few points: I would like to ensure the confidentiality of our exchange. I would like to remind you that this interview is essentially for academic and pedagogical purposes, in a perfectly anonymous way and nothing will link your answers to your identity or to your company.

I am going to ask you some questions to which there are no right or wrong answers. I am interested in anything that comes to mind. So I value the spontaneity of your answers.

I would like to know if I can record our conversation to facilitate my information gathering.

Is that OK? Do you have any questions before we start?

Theme 1: ERP implementation process

- How many implementation projects have you participated in?
- Can you describe the ERP implementation process?

Theme 2: Co-operation between the ERP implementor and the client

- Does the client participate in the process? How?
- How can you describe the supplier role?

Theme 3: ERP related challenges

- What kind of challenges and difficulties have you faced in implementing the ERP solution?
- What are the risks perceived in this operation?

Theme 4: Services and value proposition

What services do the consulting firm offer to their clients?

How can the consulting firm help clients implement ERP?

ANNEX B - ANALYSIS GRID

Themes	I1 Verbatims	I2 verbatims	I3 Verbatims	I4 verbatims	I5 verbatims	I6 Verbatims
Theme 1: Background information on the interviewee	CEO Large entreprise	General manager /large enterprise SPA	Business Development director Large Enterprise	Purchasing Manager SME	Sales Manager Large enterprise	Acting Chief Financial Officer/ Large enterprise
Theme 2: The customer organization and the ERP that uses	"The company is active in the distribution of equipment intended for the realization of various hydraulic works, drinking water supply network, sewerage, gas and fire-fighting valves, endowed with a very active and dynamic distribution network deployed on the four corners of Algeria, represented by several CPH sales points" "The company opted for "odoo" as an open source ERP" "It is an open management solution software,	"Distributor of pharmaceutical products organized in the form of a grouping of pharmacies, thus constituting one of the most important groupings in the field" "SAP Business One HANA in 2015"	The company is specialized in manufacturing products derived from cotton and more particularly those used in personal hygiene such as tissues and paper towels, nappies and baby wipes. " SAP Business One, SQL since 2012."	" the company is one of the major companies in the distribution of automotive spare parts in Algeria" "SAP Business One SQL since 2012, and in January 2018 the company switched to the HANA platform"	"the company is active in oil production and refining of vegetable oils" "SAP Business One HANA associated with Process Force since 2017" "it is used for core business and support functions "	' It belongs to the sector of the soft drinks market in Algeria." " the company switched to SAP Business One HANA since 2015"

	which offers a wide freedom of customization and parameterizatio n". “We use the software for the core business and the support business. at the beginning of the implementation , we focused on the core business, so we installed the modules that affect this activity, then we continued the implementation of other modules that concern the support activity.” “The company has adopted this software because its business has grown and the existing system has become obsolete and no longer meets the company's new requirements”					

Theme 3: 3. Characteristics of the ERP and challenges related to it	“We noticed a gap in the company because as the company grows and the tasks increase, the old system became slow and inefficient in executing all the tasks and business, in this case we should look for a new system like ERP” One of the risks is related to the Algerian context, because of network problems, the workflow can be affected in case there was a bad internet flow” " One of the problems it solves is that when an employee retires, the person replacing him or her has to start from scratch because nothing has been recorded. "	"As the company started to expand, the old system was no longer compatible with the company's requirements and workflow" “We felt the need to invest in one of the systems that meet our customers' expectations and the need to give the team the tools to succeed, otherwise we risk losing them to one of the competing companies.” "The challenge is in choosing the right implementor and the right ERP for the business" " the big challenge is to be in SPA, generally the companies which will	“The fact that staff members start to create reports manually and complain about their inability to get detailed and accurate reports from the current system because the list of reports is limited and they need special programs every time they want to make a simple adjustment. The reports have become complex and incomprehensible. This problem has been completely solved in the accounting program “The main advantage of an ERP system is to have one tool to manage everything, it allows you to manage your entire business from A to Z” " The goal of the	“As the business grows, you're likely to want to add new businesses, production lines, shops and so on, and you need a system that takes into account all the new details, calculates everything accurately and gives you detailed reports that help you make the right decisions.” ----"using multiple management solutions for its production, finance, logistics, and even customer relations. In this case, it may seem difficult to get synchronized, up-to-date and error-free The	“The old software limited our market expansion and our ability to develop globally, it was time to make this ERP system better.” “the lack of technical skills from the employees can be a barrier that slow the implementation process” " Resistance to change can be found in any new activity, for example when starting to play sports. So, there may be resistance to oneself, so focus on what the company will gain from the system, show the usefulness of the system,"	“On our work we rely on dashboards, ERP dashboards make it possible to visualize measurable data that is essential for the smooth running of the company.” “Any company or institution that aspires to grow and develop its business must use the ERP system.” "The company's strategy is based on the BSC "balance score board", the prospective board. It offers a much more global dimension to management by defining a rigorous framework for developing strategy and a strict methodology for implementing it at operational

		implement the ERP are SPA, there are shareholders, it is necessary to convince the shareholders of this project. “Also, in relation to the financing base, it is true that there is not a problem of financing but there are other obligations: installation of factories, penetrating other markets, so the big challenge is to succeed in this project." "The cost of maintenance is also a considerable cost, which affects the working capital requirement"	companies is the creation of value, so we will need the customer, so to win the customer it is necessary that the processes work in a good way, i.e. a good invoicing, fast process, precision in the order, if the customer does not find that we risk to lose him, so to avoid that ERP is the best tool” ‘’ resistance to change is the major problem that any enterprise adopting an ERP may face, as you may know, that the users are the key success of this project” " The major risk is the resistance of the users, it is a consequence of user’s ignorance of the system’s usefulness	data” “ one of the challenges is to convince the employee to leave his comfort zone, and by that I mean abandon a work method that he is used to it since years,” " The employee sees it as if someone is imposing a new way of working on him, training him for a specific period of time, and this period which will determine the rest of his way of working is not really easy, this is among the reasons of resistance to change "	"To meet these new challenges and remain competitive, the company should passe to the digital mode, no digital transformati on without ERP". " "the challenge for the steering committee is the selection of profiles, it is a project that requires a strong knowledge of the field, where there is a remarkable lack of this type."	level” “ There is a fear that we will not be able to know if we are choosing the right ERP for our business” "The budget is not viewed as a risk, but it does define whether or not to opt for this type of software, it defines whether to start the project or not, because for companies that opt for an ERP that costs more than 30 billion it does not have a financing problem "

Theme 4: Collaboration and interaction during the ERP process	’there is a program of trainings that the stuff follow to know how to use the system’’ " “a communication plan is defined before the project is launched, “In our case, this communication plan was not really effective, which led to misunderstandings between the two parties in some points about the implementation ” ‘’ When something during the project does not go well, or as it was planned for, reunions are usually made to share feedback and solve any kind of conflicts between the members of the team” " The relationship is the most important in this operation because we are talking about	" the consulting firm have many consultants that each of them is specialized in some area of our work departments, so each consultant help some specific departments with his expertise in the field" "communication takes place between our company's project team and the implementer's team, which consists of several actors including the project managers and the consultant teams “ “We recorded every working session with the integrator, asking questions and marking the	“ There is something that it calls “ ERP best practices” it’s about steps and instructions that the users of the system should follow to avoid the problems “ " it's about the expertise of the vendor company with dealing with enterprises that is active in the same field" communication happened either remotely or in place, and it takes place when never its necessary during the implementation process, it's related with the changes that happen during the process" ---" "Relational side is the most important, in our case when we did the implementation it was remotely, since we are a	“there are training programs that we follow to be able to manage the system” " we communicate the business needs in the beginning , then during the implementation and after" “sometimes in the implementation there are changes in the business process, or new employees that are being recruited and we should communicate about them to the implementor, so he can do the necessary configuration ” " At the level of the steering committee, there are meetings called the COPIL, which are discussed at	"The firm that we worked with, helped in the technical side of the project, by participating in workshops and programs explaining how to use the ERP" “the communication doesn't stop since the beginning of the implementation until we get hands on the system all by ourselves, there is a support period after the implementation is done, that goes on for month and half till two months, we communicate regularly when there is something that needs	‘’ they afford some guides and document that have instructions about how to use the system” "Communication takes place continuously during the implementation." “at the testing phase, we work together in order to resolve the technical problem that most of the time happen either by an information that is miscommunicated or the implementor forget to add some features” “There has to be solid project management, so one of the things we agreed on was the project management tools: for example in our case we used the "Jera" platform for

	billions of investment in this software, and we are dealing with a very sensitive project where there will always be problems, especially at the operational level"	presence of the members and the integrator, and everything that was said during the integration, because in a project that is spread out over a period of one year, it happens that things are forgotten.	pharmaceutical group with different subsidiaries in Algeria. Moreover, the team that did the implementation, a part is in France, and another in Tunisia"--" To have a good relationship, you have to set the conditions from the beginning, you have to clarify all the points from the beginning, to avoid any kind of conflict. This is why workbooks and blueprints are used, they are technical aspects but are designed purely for relational purposes. The blueprint is viewed as a reference because the project is spread over several months, it can happen that some details	the beginning of the project, before the launch, and continue regularly, for example every month " ""The people who will be in this type of meeting (COPIL) only concern the strategic team: the project sponsors, the managing director, the project managers, the senior consultant"	configuration "	project management."

			are forgotten, so the blueprint serves as a reference."			
Theme 5: Participation, roles and resources contributed by both parties	“First, it has to be an agreement about all aspects of the project: project objectives, schedules, time of the implementation, solution feature ...etc.) then there is an information exchange during all the project process, we communicate our needs to the implementor and he works according to the enterprise needs’’ "we are looking to monitor KPI's, graphs, staff productivity so we have to resort to users as they are the source of the information, so when the information provided is wrong, the	"In the beginning we start with structuring the project, which may take time, the negotiation can take time to reach agreement on all points "----- “Then the work on the project start between both companies project teams, a presentation made by the implementation partner to present the solution that has been customized for the type of activity of the company” “In the testing phase as a customer you have to communicate what is not working, and the integrator	‘’ there are reunions that are made all along the ERP process, according to the implementation stages, where we discuss the project progress, solve problems that occurred in the system or between the project members, “training is essential so we can be familiarized with the system"	“We define the project’s scope before starting, and agree on the project details, then the two team project members work together in every implementation stage according to the process requirements, training is important so we can get to use the system efficiently” “Sap is built on the experience of very large companies, so it comes with the best practices that go with the whole world, only a slight customization remains. "	" We agree on the structuring of the project, which takes time, the negotiation can take time to reach agreement on all points “ “Besides the budgetary investments, there are the human resources, so we have to build the team that will work on the project, and also the IT infrastructure, it should be compatible for the system requirements ” " all users had training at to understand what the	‘’ the activities concerned the system configuration, usually the ERP afforded by this company have customized solution to each field, so we didn’t have to do a lot of customization, on the other hand we had some training to follow in order to be able to use the solution” " it is the end user who has information about the real needs and problems, so we start to detect the problems bottom up

	decisions will be wrong too, "	will fix it afterwards"			project is about, and how to use it"	
Theme 6: Perceived value-in-use and expected results	"Take advantage of its expertise and technical know-how." "“offer resources, including industry insights, and industry success guides.”"" ERP facilitates the flow of data by gathering them in one place where each employee can access them"--" “ it allows more people to be added to the system without dropping or slowing down, users can access systems from home, work, travel or the client's office through any device and this feature improves access to data, saving time”	" “Because of their full understanding of the system, they will point out the pros and cons of the software, specific to the company’s processes and goals” " “The value you drive from the tool is driven by how you use it. And how you use the software is dependent on how it’s implemented and supported in the organization. ”	‘’An ERP Consultant holds both expertise in business management consulting and ERP software implementation, and the digital transformation requires special attention on both of these ends” " enormous time saving, less error, "When the company wants to grow but does not have the expertise, it buys this expertise through the purchase of the ERP"	“Compared to doing the implementation internally, working with an ERP consulting group is easier and avoid making errors that will add more cost on the implementation, on the other had it will lead to higher ROIs since he own the sufficient knowledge about the system”	" “These consultants hold training, certifications, and experience in specific ERP software”" " “the ERP provides a business analysis of the enterprise, to realize not only all internal processes, but also the pain points, inefficiencies, bottlenecks, and goals for the future.” "The economy of information, the management of information, sometimes it's true you have the information but how it is illustrated, the strategy	“An ERP implementer is supposed offer your company as much, guidance and assistance during the implementation process as it needs” " the perceived value of the ERP is that the mentality changes completely, more transparency, more responsibility,"

					will be communicated even more, more responsibility in the company, and more commitment "	
Theme 7: Realization of customer value / Verification of value	‘’ the objectives were not fully met, and that is for multiple reasons from both sides, because the project was so big since it is in a large enterprise, it took four years to finish it, and that because we worked with an implementor that only had experience with small and medium enterprises” " “On the other hand, among the benefits we have reaped from this ERP, we could see that after using the ERP within the organization that the work was going an a	"it facilitates the flow of data by gathering them in one place where each employee can access them” “ it allowed more people to be added to the system without dropping or slowing down, users can access systems from home, work, travel or the client's office through any device and this feature improves access to data, saving time” "McGregor’s XY theory, is really applied, if you work you get paid. if	“we've seen consistency and homogeneity of information, e.g. a single item file, a single customer file, etc.” “The company that has equipped itself with an ERP adapted to its context (market, competition, business, internal culture, type of products, ecosystem, etc.) has often and very often obtained significant returns on investment over time.” "a problem that can be seen as a big problem, as a customer you are looking for	“Where other management tools such as Excel files can quickly become time-consuming and lead to errors, ERP centralizes information in a single database and automate tasks or operations according to each department in the company.” “the company's staff has become more productive, e.g. tasks that take days to complete manually can be done in hours only”"	"We have seen an improvement in data management, we have been able to use the information effectively to make the right decisions." "When a customer sees that transactions with the company are understood in a professional and serial way, it improves the image of the company and this can only be done by using technological means that allow your allocation as ERP”	."One problem that often occurs in project management, but for which SAP is becoming very sensitive, is that the integrator does not reliably determine the period of time that the project will take, which leads to higher costs " “"it allowed us to manage all the business and tasks from a single and main control panel through which we communicate the data and information of each section or information we need" "it facilitates the flow of data by gathering them

	fluid way, we sow the improvement within the company and its employees, more team work, everyone is working in a one place" "there was better communication and fewer organizational errors that impact on finances, profitability and competitivenes s." -- "the consultants that the integrator recruited for this project lacked competence "	not, you don't get paid" " Using SAP in the company gives a certain image to people, but it should not only be a prestige, it should be applied properly within the company. "	the whole software to be implemented, and for the supplier to finish the project on time Suppliers are looking to earn more and give less, and the client is looking for more profit and less sacrifice, sometimes you ask for something and the supplier says it's not in the costing, or it's just not part of their job" "			in one place where each employee can access them"-- " " it allows more people to be added to the system without dropping or slowing down, users can access systems from home, work, travel or the client's office through any device and this feature improves access to data, saving time"

ANNEX C - CODES AND THEMES INDENTIFIES IN THE THEMATIC ANALYSIS

Theme	Codes
Needs	Growth Promote company's image Data registration
Sacrifices	High-cost investment Leaving comfort zone, Time
Risks	Choice of ERP implementor Losing data Time overrun
Benefits	Data management and decision making Trainings Supplier's expertise Professional advice Programs and workshops Supplier's expertise and know how Easy access and treatment of data Time saving Less errors Higher ROI Business analysis Guidance and assistance Transparency and responsibility Fluidity of work. Better communication Fewer organizational errors Teamwork improvement Data flow Information economy Productivity Data management Promote company image
Barriers	Lack of technical skills Resistance to change
Activities	Managing communication Negotiation Information exchange Communicate needs Project structuring Resources management
Resources	Budget investment Human resources IT infrastructure Information Supplier expertise Documentation Project management Relationship management