



ORIGINAL

Optimizing the client-consultant relationship to maximize ERP project benefits for Moroccan SMEs

Optimizar la relación cliente-consultor para maximizar los beneficios de los proyectos de ERP para las PYME marroquíes

Yassine ZOUHAIR¹  , Younous ELMRINI¹  , Mustapha BELAISSAOUI¹  , Abdelhadi IFLEH²  

¹Hassan First University, SIAD Laboratory. Settat, Morocco.

²International University. Casablanca, Morocco.

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Corresponding Author: Yassine ZOUHAIR 

ABSTRACT

The adoption of Enterprise Resource Planning (ERP) has become a common option for Small and Medium-sized Enterprises (SMEs) looking to optimize and integrate their Information Systems (IS). However, ERP Implementation (ERPI) remains a complex process and represents a major challenge for many SMEs, surpassing even that of large companies. Consultants have experience in understanding the client's special needs, enabling them to put in place the right processes to meet those requirements, while ensuring that the client fully exploits the potential benefits offered by the ERP System (ERPS). Client-consultant conflict in ERPS is a major factor in the non-realization of benefits, which makes client-consultant agency management essential to realizing the benefits of ERP after implementation. There is currently no research examining how client-consultant relationship management can impact on the benefits of ERPI within SMEs. The aim of this research is to find out how the management of the client-consultant relationship affects the benefits of ERPS in Moroccan SMEs. This article applies the action research method in two companies, as well as a quantitative research approach using the partial least squares structural equation model (PLS-SEM) to examine data collected from 93 observations. The results are interpreted using IS success model and agency theory. This article presents four paths through which contracts agreements and strategies for conflict resolution contribute to the realization of benefits in ERP Projects (ERPP). Our research has contributed to both research and practice, and the results could help Moroccan consultants and SMEs when implementing ERP.

Keywords: Client-Consultant; ERP; ERP Implementation; Moroccan SMEs; IS Success; System Benefits.

RESUMEN

Los consultores tienen experiencia en comprender las necesidades especiales del cliente, lo que les permite poner en marcha los procesos adecuados para satisfacer esas necesidades, garantizando al mismo tiempo que el cliente aproveche plenamente las ventajas potenciales que ofrece el sistema ERP. El conflicto cliente-consultor en los ERPS es un factor important en le no realización de los beneficios, lo que hace que la gestión de la agencia cliente-consultor sea esencial para obtener los beneficios del ERP tras su implantación. Actualmente no existen investigaciones que examinen cómo la gestión de la relación cliente-consultor puede influir en los beneficios de la ERPI en las PYME. El objetivo de esta investigación es averiguar cómo afecta la gestión de la relación cliente-consultor a los beneficios de la ERPI en las PYME marroquíes. Este artículo aplica el método de investigación-acción en dos empresas, así como un enfoque de investigación cuantitativa mediante el modelo de ecuaciones estructurales por mínimos cuadrados parciales para examinar los datos

recogidos a partir de 93 observaciones. Los resultados se interpretan utilizando el modelo de éxito de los SI y la teoría de la agencia. Este artículo presenta cuatro vías a través de las cuales los acuerdos contractuales y las estrategias de resolución de conflictos contribuyen a la obtención de beneficios en los proyectos de ERP. Nuestra investigación ha contribuido tanto a la investigación como a la práctica, y los resultados podrían ayudar a los consultores y a las PYME marroquíes a la hora de implantar ERP.

Palabras clave: Cliente-Consultor; ERP; Implantación de ERP; PYME Marroquíes; Éxito de la SI; Ventajas del Sistema.

INTRODUCTION

Small and Medium-sized Enterprises (SMEs) are the key economic drivers in many parts of the world. Constantly evolving to adapt to market challenges, SMEs are looking for innovative ways to improve their operational efficiency and competitiveness. The adoption of sophisticated IT systems, such as ERP solutions, is proving to be a crucial strategic shift in this quest for growth. ERP is a software designed for the management and organization of all administrative processes of an organization in different departments have a codified database that allow simplified analysis and rapid sharing in real time.⁽¹⁾ Various companies have made the decision to implement ERP as a new system to reduce the operating costs, improve productivity, and enhance services to the customer.⁽²⁾ Successful ERPI offers many advantages such as better service to customers, good quality production and reduced cost but the implementation of ERPS is always a great challenge for several organizations.^(3,4,5) Numerous studies continue to explore the successful implementation of these systems, seeking to unveil the potential benefits they offer to organizations aspiring to growth and innovation over the long term.^(2,6,7,8) One of the major conclusions drawn from this body of knowledge highlights the crucial role played by consultants in the success of ERPI projects.⁽⁹⁾ This finding highlights the central role played by consultants in the planning, design and execution of ERPP, underscoring their inescapable contribution to ensuring the effective deployment of these systems within organizations. Consultants, through their expertise and involvement, are identified as key players in achieving the objectives and benefits expected during ERPI.

However, the reality on the ground does not systematically reflect this positive assertion. According to the findings of a recent Panorama Consulting Group report on the ERP industry in 2021, only 44,8 % of companies were satisfied with suppliers of ERP software. The report indicates a trend where organizations are using consultants more frequently for the implementation phase of their ERPS (81 %), but less frequently for the post-implementation phases (19 %). Although the essential role of consultants in optimizing ERPP is widely recognized by researchers and practitioners alike, contradictory empirical evidence suggests that the use of consultants to supporting ERPP implementation does not automatically guarantee the success of the project.^(10,11) Many ERPP involving consultants have met with failure, indicating that the use of consultants in ERPP is essential but not sufficient to ensure the success of the project.⁽¹¹⁾ It is therefore imperative to explore how the contribution of consultants in ERPP influences the success of the project, in order to prevent time and money being wasted.

The frequent failure of ERPP stems largely from conflicts arising between the client organization, which aspires to deploy an ERPS, and the consultant entrusted with this task.⁽¹²⁾ Many ERPP suffer from the absence of defined strategies for conflict resolution or suitable contracts to regulate agency issues between clients and consultants. This shortcoming makes it virtually impossible for clients to realize the expected benefits.⁽¹²⁾ Client-consultant agency represents a major challenge widely recognized within the ERPS research community. In the context of this study, the term “client-consultant agency” describes the actions or decisions taken by a client or consultant that can influence the maximization of benefits that a client can derive from an ERPS. Although the subject has been extensively researched, the existing literature does not provide conclusive empirical evidence as to the mechanisms by which client-consultant agency management might influence the benefits obtained by SMEs from ERPS. There is currently no research examining how the management of the client-consultant relationship can impact on the benefits derived from the implementation of ERPS within SMEs. This gap in the literature suggests a need for a deeper understanding of how the relationship between client and consultant can influence the benefits derived from ERPS, particularly in the specific context of SMEs. Such an exploration could help to shed light on best practices and enhance the successful implementation of ERPS within this business segment. The question this research aims to answer is: How can managing the client-consultant relationship affect ERPS benefits in Moroccan SMEs?

The aim of our research is to understand how the management of relationships between clients and consultants can influence the benefits resulting from the implementation of ERPS in Moroccan SMEs. We seek to examine how decisions and actions taken by the client or consultant can affect the ability of Moroccan SMEs to get the most out of the ERPS in terms of operational efficiency, productivity and goal achievement.

To examine this issue, we will draw on the conceptual framework proposed by BAWACK *et al.*⁽¹³⁾ which is based on agency theory⁽¹⁴⁾ the critical factors influencing the success of ERPP, and IS success model.⁽¹⁵⁾ It explains the link between client-consultant agency management and the success of an ERPP.

Consultants in ERPP

In this study, the term “consultant” refers to a person or entity external to the client company, called in to provide expertise and assistance with an ERPP. These consultants are experts in the use and configuration of ERP software to meet the specific needs of an organization. Their role can include consulting on software selection, solution customization, user training, and providing strategic advice to maximize the benefits of ERP within the client organization.

Existing work show the strategic importance of consultants in ERPP, due to their technical and operational expertise essential to successful implementation.^(9,17) This expertise, often lacking in-house, is essential to the successful implementation of ERPS. Companies usually turn to consultants to support them implement new ERPS or customize their current ones.⁽¹⁸⁾ The consultant’s mission is to assess information requirements, configure the ERPS, oversee the implementation of the solution as well as train customers to take advantage of the technological benefits.⁽¹⁹⁾ The lack of expertise, project management skills and company-specific knowledge among consultants represents a significant risk to ERPP success.⁽²⁰⁾ These shortcomings can hinder a thorough understanding of the company’s specific needs, compromise the effective implementation of the ERPS and potentially lead to unsuccessful results. Thus, it is imperative that consultants possess a comprehensive set of skills to address the complex and specific requirements of ERPP.

The success of ERPI projects relies crucially on the quality of consultants, considered a critical success factor (CSF).⁽⁹⁾ The expertise, competence and in-depth knowledge of consultants are crucial to the effective planning, deployment and management of ERPS. These professionals act as key players, helping to minimize risks, ensure successful integration and optimize the expected benefits of ERP for the client company. Thus, the selection of highly qualified and specialized consultants is crucial to ensure the global success of ERPP.⁽¹⁶⁾ It is imperative to favor expert consultants specialized in the ERP application modules required for successful implementation of the new ERPS.⁽²¹⁾

The presence of non-experienced consultants in ERPP should not be tolerated, as it may result in wasted time and costs for clients.⁽¹⁸⁾ Hired consultants must have solid skills in business process engineering and change management.⁽²²⁾ Their expertise and commitment to these functions contribute positively to users’ perception of the ease of use of ERPS.⁽²³⁾ However, corporate clients are advised against relying solely on consultants for business process engineering and change management. By delegating these responsibilities exclusively to consultants, they risk not being able to assess the effectiveness of the process implementation and its suitability for their needs.⁽¹⁶⁾ It is recommended that client teams collaborate directly with consultants to deploy, troubleshoot and maintain the implemented ERPS.⁽¹⁷⁾

ERPP can be prone to significant conflict, especially when the consultants are non-motivated and non-experienced, thus constituting serious cause of tension.⁽²⁴⁾ Agency problems arise when consultants cannot meet the objectives of the client’s top management.⁽¹²⁾ This failure usually stems from consultants’ rush to conclude projects in order to quickly move on to a new one, or to different working styles, organizational culture and individual schedules.⁽²⁵⁾ The resolution of these issues can be orchestrated through the application of well-detailed strategies and agreements, enabling the monitoring and control of consultant activities, communication and engagement.⁽²⁶⁾

Theoretical framework and hypothesis development

Our research draws on the conceptual framework proposed by⁽¹³⁾ which is based on agency theory⁽¹⁴⁾ the critical factors influencing ERPP success and IS success model⁽¹⁵⁾ to explain the relationship between client-consultant agency management and ERPP success. Agency theory is a robustly conceptual framework that seeks to explain the dynamics of relationships within organizations, placing particular emphasis on how to managing conflicts of interest as well as other challenges inherent in separation of ownership and control.⁽¹⁴⁾ The theoretical approach envisions companies as contractual structures where principals (clients) establish relationships with agents (consultants). This suggests that firms can be conceptualized as entities resulting from contracts between those who solicit services or goods (principals) and those who provide them (agents, such as consultants). This theory is proving to be a valuable tool for understanding and facilitating the effective management of relationships between clients and consultants. In this study, the principal is the client company looking to implement an ERPS, and the agent represents the consultant specifically engaged by the principal to provide support for the ERPP. Using the perspective of agency theory, it becomes possible to identify the mechanisms and incentives that foster successful collaboration between the parties involved in implementing an ERPS. However, the agency theory does not provide an explanatory framework for how the management of the client-consultant relationship can influence the realization of benefits or the success of a project. For

this purpose, the IS success model⁽¹⁵⁾ is used to explicate how the benefits of ERPS can be generated. This theoretical model shows that the benefits resulting from IS are conditioned by user satisfaction with these systems. User satisfaction, in turn, depends on the quality of the information and the quality of the system. However, this theory does not link the management of client-consultant relationships to the realization of profits. In order to explore this area, our research is rooted in the rich literature devoted to ERPS. The aim is to build a link between the two theories mentioned above, offering an in-depth explanation of how client-consultant relationship management plays a decisive role in achieving the expected benefits in the specific context of ERPP. Figure 1 shows the theoretical model used in this study.

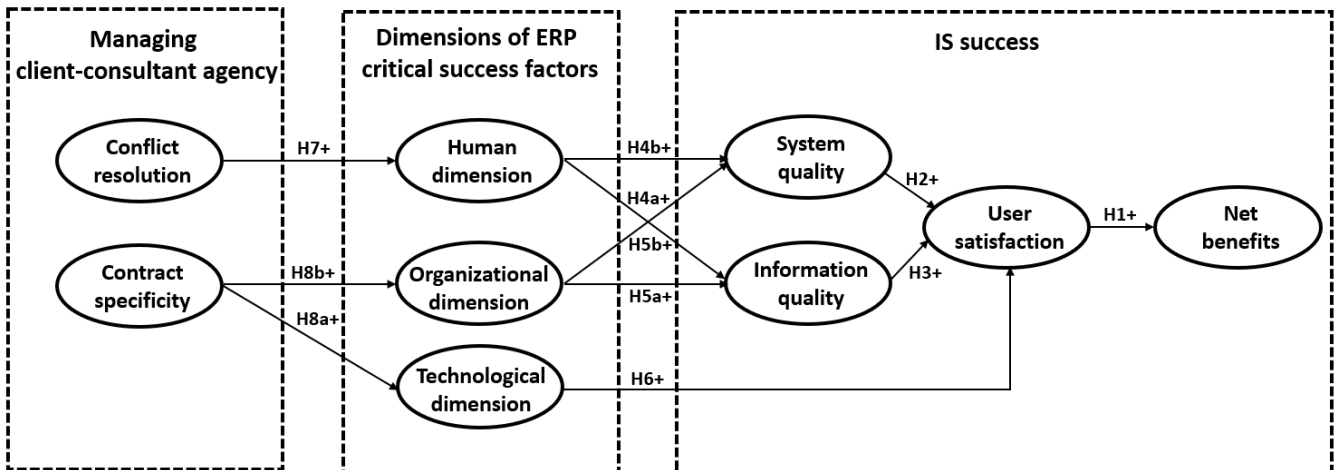


Figure 1. Theoretical model

Net Benefit (NB) represents the influence or impact of an IS on a given entity.⁽¹⁵⁾ Evaluating the impact of ERP is generally measured by analyzing users' appreciation the results of enterprise processes, the coverage of key business processes or the presence of crucial functionality.⁽²⁷⁾ For the purposes of this study, NB refers to the influence that an ERPS exerts on business users. This measure is based on the business benefits that ERP users perceive as a result of using the system. In other words, it assesses the operational or strategic gains perceived by users as a result of implementing and using the ERPS in their business environment. According to⁽¹⁵⁾ NB result from User Satisfaction (US) with the system. US expresses the degree of satisfaction a user feels with an IS.⁽¹⁵⁾ US has been recognized in ERP research as a powerful indicator of NB.⁽²⁵⁾ Thus, this study formulates the following prediction:

H1. User satisfaction has a positive influence on the net benefits generated by ERPS.

Analyzing and understanding the NB derived from ERPS inevitably requires an assessment of System Quality (SQ) and Information Quality (IQ).⁽¹⁵⁾ SI includes users' assessment of the technical aspects of ERP, such as ease of use, reliability, availability and system response times.⁽¹⁵⁾ IQ, on the other hand, refers to the appreciation users have of the information provided by ERPS.⁽¹⁵⁾ According to⁽²⁷⁾ SQ and IQ have a positive impact on ERP user satisfaction. In other words, when users are satisfied with the technical and informational aspects of an ERPS, this translates into positive global satisfaction with the system. Thus, this study formulates the following prediction:

H2. System quality has a positive impact on user satisfaction.

H3. Information quality has a positive impact on user satisfaction.

ERPP CSFs can be grouped in human, organizational and technological dimensions.⁽¹²⁾ The Human Dimension (HD) refers to human characteristics, competencies, or behaviors likely to influence the results of an ERPP.⁽¹²⁾ It includes such factors as top management support and skills on both the client and consultant sides.⁽¹²⁾ This dimension is a key element influencing the success of an ERPP, playing a crucial role in the overall quality of the system and associated information.^(28,12) The majority of companies work with consultants to implement ERPS.⁽²⁹⁾ The quality of consultants is of crucial importance in ensuring SQ.⁽²⁹⁾ Consultants are recruited for their technical expertise and in-depth understanding of the business world, essential factors in the successful implementation of ERPS.⁽³⁰⁾ The higher the quality of the consultants, the higher the quality of the ERPS implemented.

In addition, collaboration between consultants, general management and ERP future users is necessary to ensure efficient implementation of business processes in the ERPS. When the client's team and top management are not actively involved in the ERPI process, consultants may find it difficult to develop complete and correct business processes. This lack of input can lead to a deterioration in the QI generated by the system.⁽³¹⁾

Ultimately, this may result in unsatisfactory ERPS performance, as the underlying processes do not adequately meet the organization's needs and objectives. In addition, employees reported a decline in the quality of their work following the ERPI, attributing this to poor IQ generated by the system.⁽³²⁾ The QI in the ERPS can be positively influenced by the actions, behavior and attitude of colleagues who demonstrate expertise or a willingness to learn the system quickly. The active involvement of these colleagues can help to reduce errors and improve the quality of data recorded in the system, thus boosting overall ERP performance. The QI in the ERPS can be positively influenced by the actions, attitudes and comportment of employees who demonstrate expertise or a willingness to learn the system quickly. The active involvement of these employees can help to reduce errors and improve the quality of data recorded in the system, thus boosting overall ERP performance.^(33,9) Emphasizes the importance of clients' ability to actively manage ERP-related knowledge. Specifically, the ability to effectively create, transfer, retain and apply this knowledge increases the probability of ERPP success. These results show that IQ in ERPS is largely influenced by human factors. Thus, this study formulates the following prediction:

H4a. The human dimension of ERPP has a positive impact on information quality.

H4b. The human dimension of ERPP has a positive impact on system quality.

The Organizational Dimension (OD) refers to those factors related to the organization that have the potential to influence the results of ERPP.⁽¹²⁾ It includes aspects such as preparation and planning of the project, consultant quality, and management of change.⁽³⁴⁾ Existing studies show that the QI in an ERPS is impacted by an organization's ability to generate, disseminate and integrate knowledge into the system.⁽⁹⁾ The organization can promote the integration and preservation of knowledge by implementing appropriate learning processes. These processes guarantee that organizational knowledge is clearly structured and stored in an easily accessible environment to all the organization's staff.⁽⁹⁾ By having access to these knowledge bases, users of the ERP would be able to familiarize themselves more effectively with the operation of the new ERPS, contributing to more appropriate use and, consequently, an overall improvement in the quality of the information handled by the ERPS. specialist knowledge of ERPS can be transferred to the client organization through the contribution of external consultants. These experts share their know-how with specific members of the organization, helping to enrich internal skills related to ERPS management.⁽²⁷⁾ These results suggest that SQ and IQ depend on organizational factors. Thus, this study formulates the following prediction:

H5a. The organizational dimension of ERPP has a positive impact on information quality.

H5b. The organizational dimension of ERPP has a positive impact on system quality.

The Technological Dimension (TD) refers to those factors related to the technology that have the potential to influence the results of ERPP.⁽¹²⁾ Previous research indicates that this dimension plays a crucial role in the success of ERPP.⁽³⁴⁾ It encompasses aspects such as ERP flexibility, complexity, modularity, integration and compatibility.⁽³⁵⁾ This dimension evaluates the ERP's ability to harmonize with users' existing technological environment, and to integrate seamlessly with other software systems within the organization.⁽³⁶⁾ When implementing ERP, companies usually consider consistency with their pre-existing IT infrastructure. The TD, by limiting itself to technical factors, should not have a direct impact on SQ (ease of use, accessibility, reliability) or IQ (completeness, precision, timeliness). This limitation can lead to situations where a system, although individually effective, may encounter incompatibilities with other software used within the company. As a result, employees could be forced to switch from one piece of software to another on each occasion they want to execute specific tasks, resulting in a loss of productivity at work.⁽³²⁾ Technological limitations would make it difficult to switch from one ERPS to another, increasing the cognitive load on users and leading to dissatisfaction with the new ERPS.⁽³⁷⁾ Similarly, problems such as lack of flexibility, errors, size of server and ERPS obsolescence represent technology factors that would result to the dissatisfaction of the user with an ERPS.⁽³⁸⁾ Nevertheless, it is anticipated that this will have no impact on the way users perceive information or system quality, given the absence of empirical evidence or logical justification to support this argument. Thus, this study formulates the following prediction:

H6. The technological dimension of ERPP has a positive impact on user satisfaction.

The agency theory showed that conflicts of interest on the part of clients and consultants represent a significant factor that can result in ERPP failure.⁽¹²⁾ Conflicts of interest generally occur between companies and consultants who are unmotivated and unexperienced.⁽²⁴⁾ The source of these conflicts is often a lack of communication, or a divergence between the expectations and perspectives of the customer and those of the consultants.⁽¹²⁾ This can happen when there are fundamental differences between working approaches, cultural values within organizations or the personal objectives of the actors involved.⁽²⁴⁾ Referring to this documentation, we find that Conflict Resolution (CR) initiatives influence the human dimension of ERPP success criteria. Thus, this study formulates the following prediction:

H7. Conflict resolution measures have a positive impact on the human dimension of ERPP.

The absence of a contractual agreement between client and consultant in ERPI projects is often a source of conflict, which can ultimately result in project failure.⁽¹²⁾ According to agency theory, it is possible to manage

conflicts between client and consultant using contracts based on incentives or results.⁽³⁹⁾ Contracts between the client and the consulting teams must specify the roles and responsibilities of each party, define the expected project results, and include incentives aligned with the project objectives.⁽¹²⁾ Contracts define contractual obligations for both clients and consultants, and are a means of controlling and managing any conflicts that may arise in project management.⁽⁴⁰⁾ It's worth noting that the contracts concentrate on organization aspects, such as overall corporate objectives and project management, as well as technology factors, including the specific modules to be deployed. Thus, this study formulates the following prediction:

H8a. Contract Specificity (CS) has a positive impact on the technological dimension of ERPP.

H8b. Contract specificity has a positive impact on the organizational dimension of ERPP.

METHOD

Study design and context

This study examines how client-consultant relationship management can impact the benefits of ERPS in Moroccan SMEs, we used the design of several case studies to describe the phenomenon.⁽⁴¹⁾ Case Study (CS) is a methodological approach that systematically aims at collecting sufficient information about a person, event or social system (group of individuals or organization) to enable the researcher to understand how it functions or behaves in real life.⁽⁴²⁾ the CS method might be used to identify, explain, or study phenomena or events in their real context.^(41,43) In addition, “case studies are particularly recommended when dealing with new and complex fields, where theoretical developments are weak and context retrieval is crucial for the development of the understanding process”.^(41,43) The use of CS method is pertinent when the study answers ‘why’, ‘what’ and ‘how’ research questions.^(41,43) This fits exactly to our work. In this work, we used the method “action research” or “participatory research” which is one type of CS that describes research where the author, generally the researcher, is implicated in the system implementation.⁽⁴⁴⁾

In this article, the CS method was used in two Moroccan SMEs that operate in private sector. The first of these two companies operate in the services sector and the second one B is in the consulting and audit sector. Our case studies are an ERPI project for the first time at both companies. I had the occasion to work in both projects as a consultant (project manager). In this role, I assumed responsibility for steering and overseeing the implementation of the respective projects. As a project manager, my role encompassed strategic planning, team coordination, and overseeing the various phases of project implementation. This experience as a leader directly involved in these initiatives gave me an in-depth perspective on the challenges and successes encountered during these complex ERPI processes.

A quantitative research approach is also adopted in this work by means of a five-point Likert scale questionnaire. The design of the questionnaire was based on available measuring scales and on existing research in the field of ERPS. This approach made it possible to develop a data collection instrument incorporating the best practices identified in the specialized ERP literature. Based on these established references, the questionnaire was designed to comprehensively capture the dimensions and variables relevant to the analysis of client-consultant relationship management in the context of ERPP.

Variables, data collection and analysis

The aim of this work is to build a link between the two theories, the first one is “Managing client-consultant agency” explained with two variables namely conflict resolution and contract specificity. The second one is “IS success” that links system quality and information quality with net benefits through user satisfaction. The link between these two theories is made by “the critical factors influencing ERPP success” that contain human dimension, organizational dimension and technological dimension.

The data set was collected from users currently using ERPS, engaged in the execution of at least one specific business process, such as financial operations or sales activities. Following meticulous analysis of the responses to ensure completeness and accuracy, a set of 93 observations was selected for further analysis. These carefully validated observations were retained to provide a solid basis for further exploration of the patterns and trends emerging from this study. The 93 validated observations in this study were subjected to analysis with the PLS-SEM, as established by.⁽⁴⁵⁾

PLS-SEM is a statistical analysis methodology used in research. It is a partial structural equation modeling approach that aims to explore the relationships between variables in a complex model. This model involves two main assessments, measurement and structural model assessments. In the evaluation of the measurement model involves a confirmatory check of the convergent and discriminant validity of the constructs.⁽⁴⁶⁾ To establish the validity and reliability of each construct, we followed the guidelines of⁽⁴⁵⁾, using the following tests: Cronbach's alpha, The rho_A, Rho-C composite reliability and Average variance extracted (AVE).

RESULTS

Descriptive statistics

We collected 93 responses to our survey. Of the respondents, 56 % were men. In terms of age distribution, 80 % were in the 26 to 45 age brackets. In addition, 70 % of participants held a Master's degree, and had between 6 and 10 years' experience in the use of ERPS.

Measurement model

Construct reliability and validity

The results presented in the table 1 below indicate that the tests exceed the established thresholds, with Cronbach's alpha ($> 0,7$), rho_A ($> 0,7$), composite reliability ($> 0,7$) and average variance extracted (AVE $> 0,5$), except for contract specification, human dimension and organizational dimension, which have values below the thresholds but are acceptable. This indicates good internal consistency, suggesting that the indicators within each variable are highly correlated, effectively measuring the underlying concept. Consequently, these results also indicate a convergence of items towards their respective latent constructs.

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
CR	0,781	0,766	0,875	0,781
CS	0,628	0,726	0,800	0,509
HD	0,730	0,719	0,769	0,456
IQ	0,879	0,879	0,925	0,805
NB	0,957	0,959	0,967	0,855
OD	0,680	0,702	0,805	0,512
SQ	0,929	0,940	0,949	0,825
TD	0,791	0,792	0,905	0,827
US	0,913	0,918	0,939	0,792

Discriminant validity

Examination of the table 2 presented reveals that the square root of the AVE of each construct exceeds the highest correlation with any other construct. Consequently, the scales used in the study demonstrate discriminant validity, confirming that the constructs do indeed measure distinct concepts without exhibiting excessive overlap. This finding reinforces confidence in the use of these scales to measure variables of interest in research.

	CR	CS	HD	IQ	NB	OD	SQ	TD	US
CR	0,884								
CS	0,709	0,713							
HD	0,601	0,612	0,676						
IQ	0,732	0,601	0,661	0,897					
NB	0,548	0,495	0,470	0,671	0,925				
OD	0,679	0,682	0,618	0,702	0,706	0,716			
SQ	0,601	0,528	0,654	0,872	0,898	0,707	0,908		
TD	0,595	0,514	0,629	0,893	0,664	0,698	0,880	0,909	
US	0,736	0,654	0,637	0,870	0,768	0,711	0,880	0,883	0,890

Factor loading

The results of the factor loadings analysis in the table 3 reveal that the majority of values exceed the 0,7 threshold, indicating a strong correlation with the factors studied, which is considered positive. On the other hand, loadings below 0,7 are also noteworthy, though considered acceptable, testifying to a more moderate association with the factors analyzed.

Table 3. Factor loading

CR1	0,983	IQ1	0,891	OD4	0,654
CR2	0,772	IQ2	0,886	SQ1	0,933
CS1	0,869	IQ3	0,914	SQ2	0,913
CS2	0,858	NB1	0,937	SQ3	0,872
CS3	0,892	NB2	0,970	SQ4	0,913
CS4	0,766	NB3	0,839	TD1	0,913
CS5	0,605	NB4	0,920	TD2	0,906
HD1	0,731	NB5	0,953	US1	0,868
HD2	0,752	OD1	0,727	US2	0,891
HD3	0,651	OD2	0,806	US3	0,903
HD4	0,665	OD3	0,751	US4	0,898

Structural model

Table 4. Direct effects

	Original sample (O)	Standard deviation (STDEV)	P values
CR -> HD	0,719	0,055	0,000
CS -> OD	0,882	0,038	0,000
CS -> TD	0,514	0,095	0,000
HD -> IQ	0,677	0,115	0,000
HD -> SQ	0,199	0,199	0,318
IQ -> US	0,594	0,139	0,000
OD -> IQ	0,256	0,121	0,035
OD -> SQ	0,634	0,171	0,000
SQ -> US	0,259	0,105	0,013
TD -> US	0,154	0,108	0,153
US -> NB	0,768	0,062	0,000

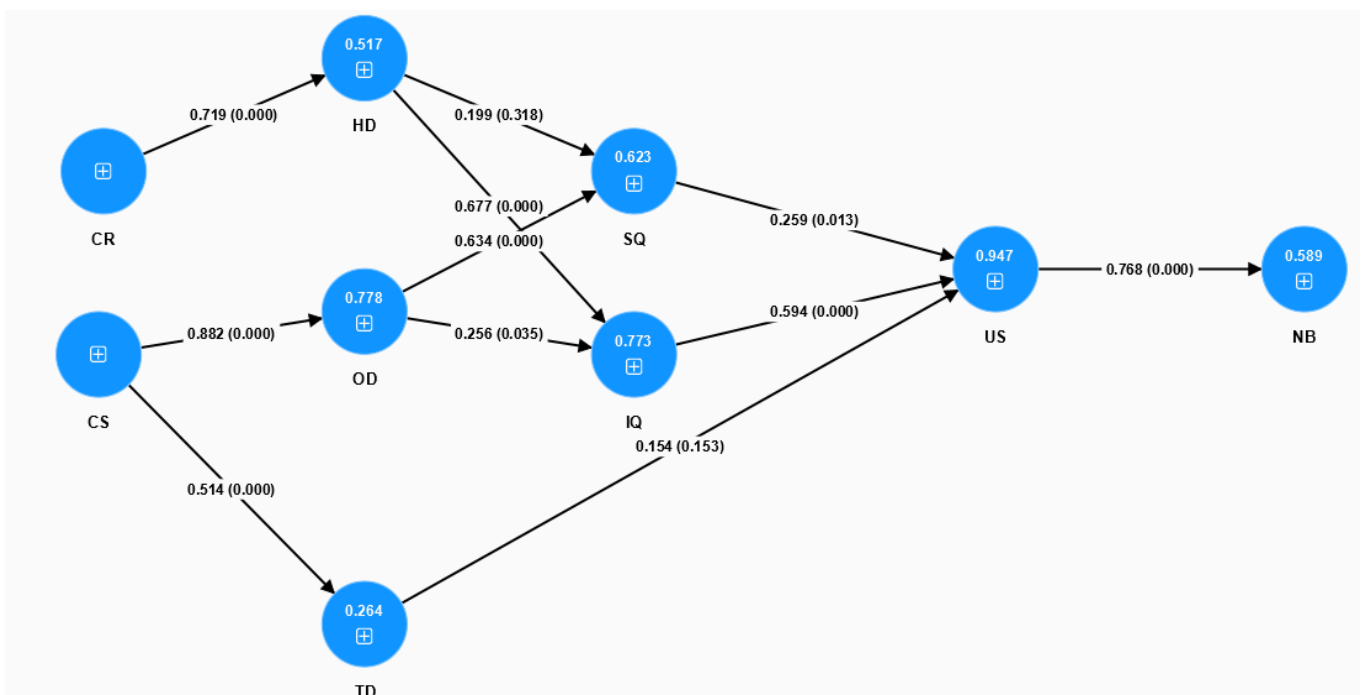


Figure 2. Path coefficients

In order to test the significance of the relationship between variables we used a bootstrapping procedure of 10 000 samples. The table 4 bellow shows that all the path relationships are significant except the impact of human dimension on system quality and technological dimension on user satisfaction.

Table 5 presents the four paths that link client consultant agency management to the realization of benefits. All paths are significant.

	Original sample (O)	Standard deviation (STDEV)	P values
CR -> HD -> IQ -> US -> NB	0,222	0,065	0,001
CS -> OD -> IQ -> US -> NB	0,123	0,055	0,033
CS -> OD -> SQ -> US -> NB	0,119	0,058	0,047
CS -> TD -> US -> NB	0,161	0,052	0,039

The model’s suitability for the sample was assessed using R2 values in table 6. All endogenous concepts have R2 values above 0.5, with the exception of the technological dimension concept, which has an R2 value of 0.264. These values indicate that the predictive power of the proposed model is high given its complexity. The main dependent variable in this study is net profit, with an R2 value of 0.589. Thus, the proposed model explains 58,9 % of the variance in net profit.

	R-square
HD	0,517
IQ	0,773
NB	0,589
OD	0,778
SQ	0,623
TD	0,264
US	0,947

DISCUSSION

ERPS are proving to be essential to the smooth running and growth of SMEs. However, due to problems inherent in the relationship between client and consultant, often referred to as client-consultant agency problems, clients do not systematically seize the opportunities offered to them. The question this research aims to answer is: How can managing the client-consultant relationship affect ERPS benefits in Moroccan SMEs? Existing ERP literature highlights the crucial importance of strategies for conflict resolution and the specificity of contracts in the client-consultant relationship. However, it does not provide a detailed explanation of how these aspects contribute to ERP success.

Empirically, this study reveals that conflict resolution significantly explains the human dimension of the ERPP, representing 51,7 % of this dimension. Complementarily, contract specification emerges as a major explanatory factor for the organizational and technological dimensions, contributing 77,8 % and 26,4 % respectively. These results highlight the critical importance of conflict resolution and contract specification in the successful implementation of ERPP, underscoring their crucial role in human, organizational and technological aspects.

Based on the results of the study, the researchers’ practical experience of ERPI, and an in-depth review of the existing literature, three explanatory pathways were identified. These pathways detail how the management of the client-consultant relationship, through conflict resolution and contract specification, can influence the benefits resulting from the implementation of ERPS within Moroccan SMEs.

Path 1 and Path 2: Use contracts to manage organizational factors

The first and second path emphasizes the crucial role of the use of contracts to manage the organizational dimensions of ERPP. This means that the use of formal, well-developed contracts plays a crucial role in managing elements related to the structure and operation of the organization within ERPP. These contracts serve as a reference and legal instrument to govern the relationships and responsibilities between the various parties involved in the project. Establishing a contractual link between clients (Moroccan SMEs) and consultants is crucial to ensure the global success of an ERPP in terms of net benefits. This contractual connection clearly

defines mutual commitments, responsibilities and expectations, creating a formal framework for collaboration throughout the project. It is imperative that the contract formalizes implementation procedures, as well as the financial and legal aspects inherent in the ERPP. This contractual document must clearly state the specific business objectives the ERPS is designed to achieve, as well as the organizational needs it is intended to meet. The contract must also incorporate the project team structure, with precise details of each member's roles and responsibilities, whether representatives of the client or the consultant. This contractual component aims to clearly establish the contours of the collaboration by defining the specific contributions of each team member. By clarifying roles, this contractual approach promotes organizational clarity, minimizes the risk of misunderstandings, and contributes to effective coordination between the parties involved in carrying out the ERPP.

It is essential to spell out leadership responsibilities in the contract to prevent any risk of conflict in project management. By including these roles in the contractual document, a clear and formal framework is established that delineates the areas of decision-making and the specific responsibilities of each leader involved. In addition, contracts between client and consultant should detail the expected results of the ERPP, and the measurement criteria that will be applied. It is essential to establish clear timelines and deadlines for project execution. Including these elements in the contract ensures that all parties have a mutual understanding of the project's specific objectives and performance expectations. This creates a robust contractual framework, facilitating objective monitoring and evaluation of ERPP progress. It is crucial to spell out the incentives for satisfactory performance, and the sanctions for unsatisfactory results, such as penalties for shortcomings like failure to meet delivery deadlines. These incentive and deterrent mechanisms must be clearly spelled out in the contract between the parties involved. This transparency promotes mutual understanding of the consequences associated with different performance scenarios, thus encouraging diligent execution of the ERPP.

Detailed contractual provisions are essential for anticipating and resolving potential conflicts between clients and consultants, which may arise from various organizational factors such as disagreements over leadership, roles or responsibilities. These contractual specifics provide a structured framework for effectively resolving potential disputes relating to the deliverables of ERPP, including critical aspects like the choice of operational processes to be deployed. Detailed contractual directives concerning these aspects facilitate successful ERPI, creating pertinent, precise and useful information for the users of the system. When users declare their satisfaction with the system quality and information quality provided by the deployed ERPS, this would have a favorable impact on their global satisfaction with the ERPS and on their perceived benefits.

The outcome of paths 1 and 2 aligns with existing literature, highlighting that establishing a contractual link between customers and consultants is crucial for the overall success of an ERP project in terms of net benefits. The absence of a contractual agreement between the customer and consultant in ERP projects often leads to conflicts that can result in project failure.⁽¹²⁾ Furthermore, contracts between customers and consulting teams must specify the roles and responsibilities of each party, define the expected results of the project, and include incentives aligned with the project's objectives.⁽¹²⁾ These contracts should also outline the contractual obligations of customers and consultants and provide mechanisms for controlling and managing conflicts that may arise during project management.⁽⁴⁰⁾

Path 3: Use contracts to manage technological factors

The third path to achieve benefits is to detail the technological aspects in the ERPP contract. This contract must formalize the specific technical requirements that the client (Moroccan SME) expects of the ERP. By spelling out the technical specifications from the outset, the contract becomes an essential guide that ensures the ERP system's compliance with the client's technological expectations. This helps minimize the risks associated with technical gaps or discrepancies, promoting more efficient implementation and successful use of the ERPS. The contract must cover all modules that the client wishes the consultant to deploy, as well as the operational processes to be implemented. It is crucial for the client to assure that the business processes selected are in line with its corporate strategy and meet the users' needs. This ensures a clear strategic and operational focus, aligning the ERP system's functionality with the company's specific objectives. The contract should exhaustively detail ERPS configurations to ensure optimum adaptation to user requirements. By providing specific guidelines, the contract clarifies expectations in terms of consultants' technical expertise, thus preventing potential conflicts between client and consultant arising from inadequate system configurations and imprecise technical specifications. This preventive approach promotes mutual understanding of roles and responsibilities, reducing the risk of technical ambiguity and contributing to the successful implementation of the ERPP. If all planned processes are properly implemented and configured in such a way as to adequately meet users' requirements, this would have a positive impact on their overall satisfaction with the ERPS. Consequently, this satisfaction would contribute positively to the perception of the benefits derived from the system. In other words, the successful alignment of business processes with user expectations not only increases user satisfaction, but also reinforces the perceived value of the ERPS, thus promoting more effective and beneficial adoption of the solution.

The result of path 3 is not cited in the literature, as the latter does not stipulate that technological aspects should be detailed in the contract. The literature simply states that the contractual obligations of customers and consultants must be defined, and that a means of controlling and managing conflicts that may arise in the course of project management must be established.⁽⁴⁰⁾ It is also found that contracts between the customer and consulting teams should specify the roles and responsibilities of each party, define the expected results of the project, and include incentives aligned with project objectives.⁽¹²⁾ In addition, he mentions that it is possible to manage conflicts between client and consultant by using contracts based on incentives or results.⁽³⁹⁾

Path 4: Use strategies for conflict resolution to manage human factors

The fourth path of accessing benefits is to take measures to resolve potential conflicts that might occur in the context of the ERPP and that cannot explicitly be managed by a contract. Recognizing the dynamic nature of ERPP, this path involves putting in place flexible, reactive mechanisms to deal with emerging conflicts that may not have been anticipated in the initial contract. Conflicts in ERPP can take many forms, from communication gaps to personal tensions within the project team. To ensure the success of an ERPP, clear guidelines must be put in place to resolve potential conflicts between client and consultants. These provisions are crucial to the management of the CSFs linked to human aspects, which have a direct impact on the overall outcome of the ERPP. By anticipating and effectively addressing conflicts, a smoother collaboration is fostered, reducing the risk of disruption to the ERPS implementation and maximizing the project's chances of success. By way of example, the application of conflict resolution strategies could prove invaluable in managing dissension within customer teams, particularly with regard to the process of selecting qualified consultants. These strategies could be of great help in easing tensions that may arise between client and consultant teams over the changes introduced by ERPS. Such as, this approach can facilitate the mutual adjustment of working styles and cultures within both teams, thus promoting harmonious and effective collaboration. These approaches might also be helpful top management to reassure users of the need for the ERP project, as well as the ability of consultants to make decisions and introduce changes about their working practices. Such as, this could facilitate greater user acceptance of the ERPS, offer support to consultants throughout the implementation process, and promote more effective assimilation of ERP training. Adopting conflict resolution strategies to deal with CSFs linked to human aspects would have a positive impact on users' perception of the quality of the information that the ERPS provides. By proactively managing human-related conflicts, users are likely to be more open to the changes introduced by the ERPS. This positive attitude to change is likely to increase users' general appreciation of the ERPS, creating an environment conducive to greater acceptance and use of the system. When users' express satisfaction with the quality of information that the ERPS provides, this translates into global satisfaction with the system. In the long term, this overall satisfaction has a positive impact on the perception of the benefits derived from the system. A positive user experience in terms of information quality thus promotes a favorable perception of the overall benefits of the ERPS.

Path 4 aligns with existing literature, highlighting that conflicts between customers and consultants represent a major factor that can lead to ERPP failure.⁽¹²⁾ Our result suggests that, to guarantee the success of an ERP project, it is essential to establish clear guidelines for resolving potential conflicts between customer and consultants. These guidelines should include conflict management mechanisms, clear definitions of roles and responsibilities, and incentives aligned with project objectives. Providing a structured framework for conflict resolution can reduce the risk of failure and improve the chances of ERP project success.

Research contribution and limitations

The present work offers several contributions to both theory and practice. On the theoretical level, previous research has clearly highlighted the fundamental role of consultants in the context of ERPP. This article adds to this knowledge base by making three major contributions.

Firstly, the article of conflicting empirical evidence that challenges the preconceived notion that the use of consultants to support ERPI projects is systematically linked to project success.⁽¹¹⁾ Despite the abundance of literature on ERP, this specific issue remains relatively unexplored. Indeed, the use of consultants in ERPP is not an automatic guarantee of success. Despite this, there remains a lack of detailed empirical evidence that would enable us to understand the specific mechanisms by which the involvement of consultants leads to the success of an ERPP. This article adds to the literature on ERPS by shedding light on how consultants involved in ERPP contribute to the realization of benefits, particularly for Moroccan SMEs. It explores the different ways in which the use of consultants promotes the success of ERPP. In addition, this article makes a novel theoretical contribution by shedding light on previously ambiguous findings on why some ERPP fail, even in the presence of qualified consultants.⁽¹⁶⁾

Secondly, this article contributes to existing studies on client-consultant conflicts within the ERPP, a major source of failure in such projects.⁽¹²⁾ It thus offers an in-depth analysis of conflict dynamics between clients and consultants in the specific context of ERPP, highlighting their potential impact on overall results. This

article represents a significant advance in linking the client-consultant relationship, CSFs and the literature on ERPP success in Moroccan SMEs. It offers a novel theoretical explanation of the underlying causes why many ERPP, despite the involvement of skilled consultants, fail to deliver user benefits.⁽¹¹⁾ This article presents three strategic avenues for achieving tangible benefits from ERPP in Moroccan SMEs. These routes are carefully designed to ensure effective management of issues between client and consultant, thereby guaranteeing that the anticipated benefits are realized at project conclusion. By focusing on these pathways, the article offers a clear and structured perspective for overcoming the potential challenges associated with client-consultant collaboration in the context of ERPP, thereby enhancing the chances of success and achieving the expected benefits. The paths identified underline their importance in effectively managing the relationship between client and consultant, through the use of contracts and the implementation of conflict resolution strategies. The ultimate aim of this approach is to ensure that the expected benefits are realized. This study also extends the field of research on ERP success, assessed through benefits realization, a crucial measure for evaluating the success of an ERPP.⁽⁴⁷⁾

Thirdly, this study represents a major contribution to research into the difficulties encountered by client and consultant teams when implementing ERPP in SMEs. The use of non-qualified consultants and the asymmetry of information between client and consultant teams persist as major challenges within Moroccan SMEs. These issues remain of particular concern, especially when SMEs are adopting ERPS to address operational and management inefficiencies. The need to understand and effectively manage the client-consultant relationship in this specific context thus becomes crucial to ensure the success of ERPP within Moroccan SMEs.

On a practical level, this article offers a significant contribution to practice through four key points. Firstly, it presents evidence supporting the idea that the use of formalized agreements such as contracts, together with the application of conflict resolution strategies, are key elements in achieving benefits in ERPP within Moroccan SMEs. This contribution offers managers practical advice on how to effectively integrate contracts and strategies for conflict resolution to ensure the success of ERPP. More specifically, the article highlights the key elements to be integrated into contracts and conflict resolution strategies. These elements aim to prevent potential conflicts linked to the human, organizational and technological aspects of ERPP, thus providing professionals with practical tools to anticipate and manage these potential sources of disagreement.

Secondly, this study is a valuable resource for ERP managers and consultants in Morocco, providing guidance on how to improve user satisfaction with ERPS. This guidance is of particular importance in light of the recent decline in user satisfaction with ERP, as reported by Panorama Consulting Group in 2021. It details the essential contribution of consultants in ensuring information and system quality within ERPP. This proactive involvement of consultants plays a central role in achieving global user satisfaction and increased benefits perceived. The article advocates focusing Moroccan SMEs (ERP client companies) on assuring the information quality of their ERPS. It highlights the crucial importance of this information being accurate, relevant and valuable to users. This focus underlines the need for increased vigilance on the part of Moroccan SMEs (enterprise customers) to ensure that the data generated by the ERP system meets high quality standards, thereby enhancing its usefulness and value to end-users. Thus, Moroccan SMEs (ERP clients) need to be sure that consultants accurately implemented the defined business processes, and that users were properly training in the effective use of ERPS. This ensures that key business processes are implemented correctly, helping to maximize the efficiency and performance of the ERPS within the organizational context. At the same time, appropriate user training promotes optimal use of the system, reinforcing its successful adoption within the company. Consultants profit from the ERP contracts and strategies for conflict resolution established with clients, enabling them to effectively optimize the management of their time and resources. These formalized agreements clearly define expectations, responsibilities and deadlines, providing a structured framework for collaboration between clients and customers. In addition, conflict resolution strategies anticipate and address potential differences, helping to maintain harmonious relationships and maximize productivity throughout the ERPP. The emergence of client-consultant agency can result from consultants rushing to take on another ERP customer. This can lead to conflicts of interest and tensions, as consultants may not devote sufficient time and effort to each customer, compromising the quality of the services provided. The careful drafting of a contract would play a vital role by helping consultants to allocate appropriately the time and human resources required for a specific project. This would minimize the risk of extending the project due to insufficient specifications. A clear and comprehensive contract offers a framework that clarifies expectations, responsibilities and deadlines, providing a solid foundation for effective ERPP management.

Thirdly, this study recommends that Moroccan SMEs actively consider the use of consultants for the post-implementation phase of their ERPS, as well as for realizing the expected benefits. This recommendation highlights an uncommon practice in many ERPP, as highlighted by the Panorama Consulting Group in 2021. The engagement of post-implementation consultants is intended to provide specialist expertise, offering strategic support to resolve any challenges and maximize the positive benefits of the new ERP environment. In this way, it is essential to include the post-implementation phase and the realization of benefits as integral components

of the ERPP, clearly specifying them in the contract drawn up between the client and the consultant. This approach is designed to prevent potential conflicts by ensuring that the crucial post-implementation stages, as well as the expected results, are properly defined and agreed in advance. By stipulating these elements in the client-consultant contract, the parties involved establish an explicit framework, fostering a mutual understanding of responsibilities and expectations, which helps to minimize the risk of misunderstandings and ensure harmonious collaboration throughout the ERPP. This research recommends an approach that emphasizes comprehensive training, exhaustive documentation and active participation of client team members throughout the ERPP. The aim is to ensure the delivery of quality post-implementation services and the realization of the expected benefits. By promoting appropriate training, providing detailed documentation and encouraging the ongoing involvement of client team members, this approach aims to strengthen their understanding of the ERPS and equip them with the skills they need to maximize benefits independently after implementation. This helps ensure a smooth transition to the post-implementation phase and supports the ongoing success of the ERPP.

Fourthly, this document is a valuable resource for Moroccan SME managers to avoid the implementation of ERPs that inadequately meet their needs, both operationally and strategically. It offers clear guidelines for recruiting qualified consultants, as well as identifying essential elements to be incorporated into contracts between clients and ERP consultants. Selecting a good consultant and managing the relationship in line with these recommendations should deliver tangible benefits and help minimize overall project costs, by reducing potential agency issues. This proactive approach aims to ensure an optimum match between the ERPS deployed and the specific needs of Moroccan SMEs, thus promoting the overall success of the project. In addition, it is recommended to recruit consultants with extensive experience in implementing ERPS specifically designed for SMEs. These consultants would play a crucial role in guiding Moroccan SMEs in choosing the most appropriate ERP for their structure, and ensuring its implementation in a way that meets information and system quality requirements. They would also be responsible for the efficient transfer knowledge transfer to client teams, enabling them to evolve the ERPS to respond to their increasing needs.

Even if we have succeeded in answering our central question, many questions are still open and new research perspectives are possible. These questions may concern the theoretical and practical limits of our research. From a theoretical point of view, we have not taken into account all the factors that explain net profit, and we have managed to explain only 58,9 % of the variance explained. In order to deepen our understanding of the determining factors in the realization of benefits within projects, it is essential to continue research to identify the other factors that positively influence benefits within the ERPP, thus providing a solid foundation for wiser management and maximized returns on investment. In practical terms, our study focused exclusively on SMEs in Morocco. For future research, we suggest extending this analysis to companies of various sizes, and exploring different national contexts.

CONCLUSIONS

The complex relationship between client and consultant, often referred to as client-consultant agency, represents a major challenge documented in the ERPS research literature and is recognized as one of the leading causes of project failure of this type. This research starts from the fundamental hypothesis that the effective management of human, organizational and technological CSFs within ERPP, through the judicious use of contracts and strategies for conflict resolution, would prevent problems associated with the client-consultant agency and would lead to successful ERPP.

Our study suggests four ways in which contractual agreements and conflict resolution strategies contribute to the realization of benefits in ERPP within Moroccan SMEs. The first and second path emphasizes the crucial role of the use of contracts to manage the organizational dimensions of ERPP. This means that the use of formal, well-developed contracts plays a crucial role in managing elements related to the structure and operation of the organization within ERPP. These contracts serve as a reference and legal instrument to govern the relationships and responsibilities between the various parties involved in the project. The third path to achieve benefits is to detail the technological aspects in the ERPP contract. This contract must formalize the specific technical requirements that the client (Moroccan SME) expects of the ERP. The fourth path of accessing benefits is to take measures to resolve potential conflicts that might occur in the context of the ERPP and that cannot explicitly be managed by a contract.

By analyzing these paths, it offers perspectives on how effective management of the relationship between the client and the consultant can promote the achievement of the expected benefits in the specific context of ERPP within Moroccan SMEs. Thus, this research establishes an additional foundation for further investigations regarding the success and impact of ERPP. By laying this foundation, it provides an opportunity to deepen the understanding of the crucial factors that influence the success of ERPP, thereby paving the way for future research aimed at improving practices and outcomes in this area.

BIBLIOGRAPHIC REFERENCES

1. AL-MASHARI, Majed et ZAIRI, Mohamed. Supply-chain re-engineering using enterprise resource planning (ERP) systems: an analysis of a SAP R/3 implementation case. *International Journal of Physical Distribution & Logistics Management*, 2000, vol. 30, no 3/4, p. 296-313.
2. EL MRINI, Younous, BELAISSAOUI, Mustapha, et TAQAFI, Issam. Difficultés liées à la mise en œuvre des ERPs au Maroc: Focus sur Gouvernance.
3. MALHOTRA, Rajiv et TEMPONI, Cecilia. Critical decisions for ERP integration: Small business issues. *International Journal of Information Management*, 2010, vol. 30, no 1, p. 28-37.
4. UPADHYAY, Parijat, JAHANYAN, Saeed, et DAN, Pranab K. Factors influencing ERP implementation in Indian manufacturing organisations: A study of micro, small and medium-scale enterprises. *Journal of Enterprise Information Management*, 2011, vol. 24, no 2, p. 130-145.
5. OLSON, David L. et STALEY, Jesse. Case study of open-source enterprise resource planning implementation in a small business. *Enterprise Information Systems*, 2012, vol. 6, no 1, p. 79-94.
6. ZOUHAIR, Yassine, BELAISSAOUI, Mustapha, et EL MRINI, Younous. Difficulties Affecting the Success of the ERP Implementation in the Context of Moroccan SMEs. In : *Proceedings of the Future Technologies Conference*. Cham : Springer International Publishing, 2022. p. 679-688.
7. ALI, Mahmood et MILLER, Lloyd. ERP system implementation in large enterprises-a systematic literature review. *Journal of enterprise information management*, 2017, vol. 30, no 4, p. 666-692.
8. VAN BEIJSTERVELD, Joost AA et VAN GROENENDAAL, Willem JH. Solving misfits in ERP implementations by SMEs. *Information Systems Journal*, 2016, vol. 26, no 4, p. 369-393.
9. MIGDADI, Mahmoud Mohammad et ABU ZAID, Mohammed Khair Saleem. An empirical investigation of knowledge management competence for enterprise resource planning systems success: insights from Jordan. *International Journal of Production Research*, 2016, vol. 54, no 18, p. 5480-5498.
10. AWA, Hart O. et OJIABO, Ojiabo Ukoha. A model of adoption determinants of ERP within TOE framework. *Information Technology & People*, 2016, vol. 29, no 4, p. 901-930.
11. BRADLEY, Joseph. Management based critical success factors in the implementation of Enterprise Resource Planning systems. *International Journal of Accounting Information Systems*, 2008, vol. 9, no 3, p. 175-200.
12. KAMDJOU, Jean Robert Kala, BAWACK, Ransome Epie, et TAYOU, Aurel Edith Tuessu. An ERP success model based on agency theory and IS success model: The case of a banking institution in Africa. *Business Process Management Journal*, 2020, vol. 26, no 6, p. 1577-1597.
13. BAWACK, Ransome Epie et KALA KAMDJOU, Jean Robert. Managing client-consultant relationships to derive benefits from ERP projects. *Information Technology & People*, 2023, vol. 36, no 4, p. 1669-1702.
14. PANDA, Brahmadev et LEEPSA, Nabaghan Madhabika. Agency theory: Review of theory and evidence on problems and perspectives. *Indian journal of corporate governance*, 2017, vol. 10, no 1, p. 74-95.
15. DELONE, William H. et MCLEAN, Ephraim R. The DeLone and McLean model of information systems success: a ten-year update. *Journal of management information systems*, 2003, vol. 19, no 4, p. 9-30.
16. BARTH, Christian et KOCH, Stefan. Critical success factors in ERP upgrade projects. *Industrial Management & Data Systems*, 2019, vol. 119, no 3, p. 656-675.
17. SHAUL, Levi et TAUBER, Doron. CSFs along ERP life-cycle in SMEs: a field study. *Industrial Management & Data Systems*, 2012, vol. 112, no 3, p. 360-384.
18. ROTHENBERGER, Marcus A. et SRITE, Mark. An investigation of customization in ERP system implementations. *IEEE Transactions on Engineering Management*, 2009, vol. 56, no 4, p. 663-676.

19. BRADSHAW, Adrian, CRAGG, Paul, et PULAKANAM, Venkat. Do IS consultants enhance IS competences in SMEs?. *Electronic Journal of Information Systems Evaluation*, 2013, vol. 16, no 1, p. pp14 25-pp14 25.

20. ZARE RAVASAN, Ahad et MANSOURI, Taha. A dynamic ERP critical failure factors modelling with FCM throughout project lifecycle phases. *Production Planning & Control*, 2016, vol. 27, no 2, p. 65-82.

21. ALTUWAIJRI, Majid M. et KHORSHEED, Mohammad S. InnoDiff: A project-based model for successful IT innovation diffusion. *International Journal of Project Management*, 2012, vol. 30, no 1, p. 37-47.

22. DEZDAR, Shahin et AININ, Sulaiman. Examining ERP implementation success from a project environment perspective. *Business Process Management Journal*, 2011, vol. 17, no 6, p. 919-939.

23. KWAK, Young Hoon, PARK, Jane, CHUNG, Boo Young, et al. Understanding end-users' acceptance of enterprise resource planning (ERP) system in project-based sectors. *IEEE Transactions on Engineering Management*, 2011, vol. 59, no 2, p. 266-277.

24. SKOK, Walter et LEGGE, Michael. Evaluating enterprise resource planning (ERP) systems using an interpretive approach. In : *Proceedings of the 2001 ACM SIGCPR conference on Computer personnel research*. 2001. p. 189-197.

25. ALHIRZ, Hisham et SAJEEV, A. S. M. Do cultural dimensions differentiate ERP acceptance? A study in the context of Saudi Arabia. *Information Technology & People*, 2015, vol. 28, no 1, p. 163-194.

26. DEZDAR, Shahin. Strategic and tactical factors for successful ERP projects: insights from an Asian country. *Management Research Review*, 2012, vol. 35, no 11, p. 1070-1087.

27. HSU, Pei-Fang, YEN, HsiuJu Rebecca, et CHUNG, Jung-Ching. Assessing ERP post-implementation success at the individual level: Revisiting the role of service quality. *Information & Management*, 2015, vol. 52, no 8, p. 925-942.

28. ALI, Omar, SHRESTHA, Anup, OSMANAJ, Valmira, et al. Cloud computing technology adoption: an evaluation of key factors in local governments. *Information Technology & People*, 2021, vol. 34, no 2, p. 666-703.

29. TSAI, Wen-Hsien, LEE, Pei-Ling, SHEN, Yu-Shan, et al. A comprehensive study of the relationship between enterprise resource planning selection criteria and enterprise resource planning system success. *Information & management*, 2012, vol. 49, no 1, p. 36-46.

30. CHIEN, Shih-Wen et TSAUR, Shu-Ming. Investigating the success of ERP systems: Case studies in three Taiwanese high-tech industries. *Computers in industry*, 2007, vol. 58, no 8-9, p. 783-793.

31. REINKING, Jeff, ARNOLD, Vicky, et SUTTON, Steve G. Synthesizing enterprise data to strategically align performance: The intentionality of strategy surrogation. *International Journal of Accounting Information Systems*, 2020, vol. 36, p. 100444.

32. HADDARA, Moutaz et HETLEVIK, Thommas. Investigating the effectiveness of traditional support structures & self-organizing entities within the ERP shakedown phase. *Procedia Computer Science*, 2016, vol. 100, p. 507-516.

33. SASIDHARAN, Sharath. Reconceptualizing knowledge networks for enterprise systems implementation: incorporating domain expertise of knowledge sources and knowledge flow intensity. *Information & Management*, 2019, vol. 56, no 3, p. 364-376.

34. GUPTA, Shivam, MISRA, Subhas C., KOCK, Ned, et al. Organizational, technological and extrinsic factors in the implementation of cloud ERP in SMEs. *Journal of Organizational Change Management*, 2018, vol. 31, no 1, p. 83-102.

35. AWA, Hart O., UKO, John P., et UKOHA, Ojiabo. An empirical study of some critical adoption factors of ERP software. *International Journal of Human-Computer Interaction*, 2017, vol. 33, no 8, p. 609-622.

36. TURNER, Douglas et CHUNG, Sock H. Technological factors relevant to continuity on ERP for e-business platform: Integration, modularity, and flexibility. *Journal of Internet Commerce*, 2005, vol. 4, no 4, p. 119-132.
37. CHANG, Yu-Wei. What drives organizations to switch to cloud ERP systems? The impacts of enablers and inhibitors. *Journal of Enterprise Information Management*, 2020, vol. 33, no 3, p. 600-626.
38. CLAYBAUGH, Craig C., RAMAMURTHY, Keshavamurthy, et HASEMAN, William D. Assimilation of enterprise technology upgrades: a factor-based study. *Enterprise Information Systems*, 2017, vol. 11, no 2, p. 250-283.
39. EISENHARDT, Kathleen M. Agency theory: An assessment and review. *Academy of management review*, 1989, vol. 14, no 1, p. 57-74.
40. CHANG, Jamie YT, WANG, Eric TG, JIANG, James J., et al. Controlling ERP consultants: Client and provider practices. *Journal of Systems and Software*, 2013, vol. 86, no 5, p. 1453-1461.
41. YIN, Robert K., et al. Design and methods. *Case study research*, 2003, vol. 3, no 9.2, p. 84.
42. LUNE, Howard et BERG, Bruce L. *Qualitative research methods for the social sciences*. 2017.
43. YIN, Robert K. *Case study research: Design and methods*. sage, 2009.
44. BENBASAT, Izak, GOLDSTEIN, David K., et MEAD, Melissa. The case research strategy in studies of information systems. *MIS quarterly*, 1987, p 369-386.
45. HAIR, Joseph F., RINGLE, Christian M., et SARSTEDT, Marko. The use of partial least squares (PLS) to address marketing management topics. *Journal of Marketing Theory and Practice*, 2011, vol. 19, no 2, p. 135-138.
46. CAMPBELL, Donald T. et FISKE, Donald W. Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological bulletin*, 1959, vol. 56, no 2, p. 81.

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AUTHORSHIP CONTRIBUTION

Conceptualization: Yassine ZOUHAIR, Younous ELMRINI.

Data curation: Yassine ZOUHAIR, Younous ELMRINI, Mustapha BELAISSAOUI, Abdelhadi IFLEH.

Formal analysis: Yassine ZOUHAIR, Younous ELMRINI, Mustapha BELAISSAOUI, Abdelhadi IFLEH.

Research: Yassine ZOUHAIR, Younous ELMRINI.

Methodology: Yassine ZOUHAIR, Younous ELMRINI, Mustapha BELAISSAOUI, Abdelhadi IFLEH.

Drafting - original draft: Yassine ZOUHAIR, Younous ELMRINI.

Writing - proofreading and editing: Yassine ZOUHAIR, Younous ELMRINI.