Success of ERP Systems in Chile: An Empirical Study

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Abstract

The success of the ERP systems is considered an important issue, however, and as a result of its newness, mainly the investigation of the phenomenon has been of type descriptive or it has been oriented to qualitative methodologies. This paper presents an explanatory model of the phenomenon and its empirical validation in a set of Chilean organizations. The results of applying a structural equation modeling technique identified significant relationships between a set of explanatory factors (information technologies skills, ERP training, learning and change readiness) and diverse dimensions of the system success (information quality, system quality, service quality or net benefits).

Keywords: *ERP systems, information systems success, Chile, structural equation modeling*

Introduction

There are different approaches to implant an information system in an organization. The most traditional approach is to construct specific software that fits with the requirements of the organization. An alternative approach is the acquisition or the rent of a software package. The Enterprise Resource Planning (ERP) systems are a type of software package.

Based on Literature (Davenport,1998; Esteves and Pastor,1999, 2000; Holland and Light,1999; Kumar and Van Hillsgersberg, 2000; Laudon and Laudon,2002 Lee and Lee,2000; Markus et al.,2000; Nah et al.,2001; O'Leary, 2000; Parr and Shanks,2000; Shang and Seddon,2000,2002; Shanks and Seddon,2000; Skok and Legge,2002; Tadjer,1998), we defined ERP as an comprehensive packaged software solutions composed of several configurable modules that integrate, strongly and in one single system, the core business activities - finance, human resources, manufacture, supply chain, customers management - through the automatization of information flows and the use of a share database. In the process of integration of the packaged are incorporated the best practices, with the purpose of facilitate the decision making, to reduce costs and to

improve the directive control, and eventually, to reach the efficient and effective use of the enterprise resources.

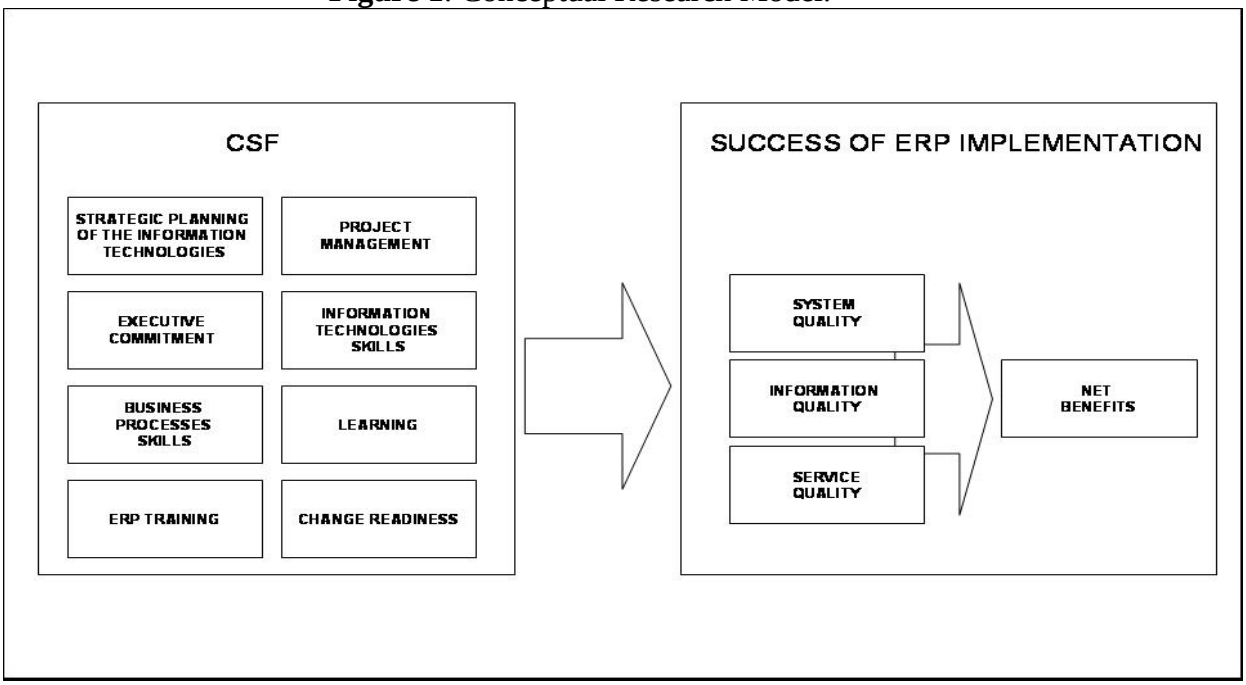
The scientific interest on the ERP is recent, the first articles was published in 1998 (Gable, 1998). However, in the last years, this interest incremented, because of the growth in the use of these systems (Esteves y Pastor, 2001).

Several authors have proposed research agendas in ERP systems. The most recent agenda, proposed by Al-Mashari (2003), has three dimensions: ERP adoption, technical aspects of ERP, and ERP in information systems curricula. We attempt to advance on the first dimension proposed by Al-Mashari (2003), in particular, about the factors that affect the implementation successful of ERP systems. In specific, the objectives of this study are, first, to propose a critical factors model for successful implementation of ERP systems, and second, to validate empirically this model in a set of Chilean organizations.

Conceptual research model

The conceptual research model proposed (figure 1) is composed of a set of eight antecedent factors of the implementation of ERP systems; these factors impacts in four dimensions, used to measure the consequences of the implementation. We denominated critical success factors to the set of antecedents and success of ERP implementation to the set of consequences. The four dimensions of success of ERP implementation are related so that the first three - information quality, system quality and service quality – impact in a fourth dimension denominated net benefits.

Figure 1: Conceptual Research Model.



Source: The authors.

Critical Success Factors

Based in Stratman and Roth (2002) and in our biographic revision, we valued and synthesized eight factors antecedent of the success:

1. Strategic planning of the information technologies. Strategic planning of the information technologies (IT) helps to assure that the IT development goals are aligned with the organization requirements (King and Teo, 1996; Segars et al., 1998). Different authors emphasize the importance of this factor, in terms of requirements determination, information systems analysis and design, control of the resources (Bowman et al., 1983; King and Zmud, 1981), and the projects success with a high IT component (Ang et al., 1995; Ginzberg, 1981; Grover et al., 1995). In the literature about ERP, the clarity of goals and objectives, associated to the IT strategic planning, is indicated as a key factor of success for the implantation of these systems (Al-Mashari et al., 2003; Akkermans and Van Helden, 2002; Buckhout et al. ,1999; Duplaga and Astani, 2003; Holland and Light, 1999; Markus et al., 2000; Nah et al. ,2001; Scout and Vessey, 2002; Somers and Nelson, 2001; Stratman and Roth, 2002; Umble et al. ,2003).

2. Executive commitment. Executive commitment, referred to the good disposition of top management with the main person in charge of the project and with the allocation of the resources required for the good aim of the implantation, is a recurring factor of success in the large-scale implementation of new processes and IT (Bingi et al., 1999; Grover et al., 1995; King and Teo, 1996; Larsen and Myers, 1999; White, 1981). In the case of ERP systems the executive commitment is indicated as a key factor for the success of its implantation by multiple authors (Al-Mashari et al. ,2003; Akkermans and Van Helden, 2002; Bingi et al. ,1999; Brown and Vessey,1999; Buckhout et al. ,1999; Duplaga and Astani,2003; Gupta, 2000; Holland and Light,1999;Nah et al. ,2001; Rao,2000; Scout and Vessey,2002; Somers and Nelson,2001; Stratman and Roth, 2002; Sumner,1999; Umble et al.,2003; Zhan et al. ,2003).

3. Project management. Project management, that involves the use of skills and knowledge to plan, to coordinate and to control the complex and diverse activities that compose a project (Stratman and Roth, 2002; Zhang et al., 2003), has been recognized as a critical factor for the main initiatives of change of processes in the organizations (Grover et al., 1995; White, 1981). In the case of the ERP systems implantation, and due to the complexity of the project, the project management is indicated as key factor of success (Al-Mashari et al.,2003; Akkermans and Van Helden,2002; Brown and Vessey,1999; Duplaga and Astani, 2003; Gupta, 2000; Markus et al., 2000; McCredie and Updegrove,1999; Nah et al., 2001; Scott and Vessey, 2002; Somers and Nelson, 2001, 2003; Stratman and Roth,2002; Umble et al. ,2003; Zhan et al.,2003).

4. Information technologies skills. IT skills are necessary in order to configure and to maintain information systems that support the organization; its lack is a barrier for

the integration of modern technologies of information (Ang and Teo, 2000; Cooper et al., 2000). The importance of these skills for the implantation of a ERP is outstanding in literature (Davenport, 2000; Harris, 2000; Stratman and Roth, 2002; Sumner, 1999; Swanson, 2000; Holland and Light, 1999;), and in specific, this is clear in relation to the requirements of systems integration, adaptation of ERP software, tests and correction of errors of software, data migration, standardization and tuning between software and hardware.

5. Business processes skills. Businesses processes skills, that represents an understanding of how the business operates and the ability to predict the impact of a particular decision or action on the rest of the organizations (Roth et al., 1995), are fundamental tools for the implantation of an ERP system (Stratman and Roth, 2002). The abilities to understand the processes of business of the organization, as much of the equipment of implantation as of the employees, are critics for the ERP system success (Cohen and Levinthal, 1990; Legare, 2002; Pan et al., 2001; Somers and Nelson, 2001; Sumner, 1999, 2000).

6. ERP training. ERP training, understood as the process of teaching to the diverse user groups in order to use efficiently an ERP system in their daily activities (Stratman and Roth, 2002; Zhang et al., 2003), is recognized as a key factor in the successful ERP system implantation (Al-Mashari et al., 2003; Mabert et al., 2003; McCredie and Updegrove, 1999; Rajagopal and Tyler, 2000; Somers and Nelson, 2001). In reverse, lack of training is cause of problems in the ERP system implementation (Duplaga and Astani, 2003; Umble et al., 2003).

7. Learning. Organizational learning of systems that use IT is a source of sustainable competitive advantage (Wang, 2002), and the knowledge acquired through it mediates the effects of such technologies in the firm performance (Tippins and Sohi, 2003). In specific, learning competitions, referring to the designed activities in order to identify techniques for ERP continuous improvement from internal and external sources, are antecedents for the firm performance improvement after the ERP system implementation (Markus et al., 2000, 2001; Stratman and Roth, 2002; Kalling, 2003).

8. Change readiness. The ERP system implementation implies large-scale changes that can be resisted by the organization employees (Laudon and Laudon, 2002; Somers and Nelson, 2001; Umble et al., 2003). The resistance to the change is a huge impediment for the implantation project; also disables to reach the expected benefits when the system is in operation (Markus et al., 2000; Nah et al., 2001). Consequently, to develop strategies to overcome the resistance to the changes in the operation of the organization is a key factor for ERP systems successful implementation (McCredie and Updegrove, 1999; Somers and Nelson, 2001; Stratman and Roth, 2002; Umble et al., 2003).

Success of ERP Implementation

In the literature, the model to measure the success of DeLone and McLean (1992) is extensively accepted. In the case of ERP, and using DeLone and McLean's model, Gable et al. (2003) validated a model to measure the success in four dimensions: individual impact, organizational impact, information quality and system quality. However, DeLone and McLean (2003) propose changes to their original model in two points, first, they join individual impact and organizational impact in one dimension called net benefits, and second, they add the dimension service quality. In our model we propose to measure the ERP success in four dimensions:

1. System Quality. This dimension is focalized in the characteristics of information system processing. These characteristics are associated with productivity, portability, reliability and ease of use.

2. Information Quality. This dimension is focalized in the characteristics of the information produced by the system, primarily in reports. The evaluation of the information quality is associated to the following attributes: usable, concise, comprehensible, pertinent, available, and in a correct format.

3. Service Quality. This dimension captures the service quality that the information systems function provides to the organization (DeLone and McLean, 2003). The factors tangibilidad, reliability, responsiveness, assurance and empathy are considered determinants for the service quality (Pitt et al., 1995).

4. Net Benefits. This dimension measures the positive effects of the information system (DeLone and McLean, 2002). DeLone and McLean (2003) indicate that the subject of each study must define the context in which these benefits will occur (that or who are the beneficiaries). In our case, this context is the organization, and in particular, to reach business goals and to improve the operational capacities after the implantation of an ERP system.

Based in the conceptual research model were developed a set of hypotheses that are showed in table 3.

Empirical validation

Measures

The items used for the measurement of the research model were based on Likert-type scale of seven points, from “totally in disagreement” to “totally in agreement”. In order to measure the critical success factors we used the measure scale proposed by Stratman and Roth (2002). On the other hand, we adapted from previous works the measure scales associated to the dimensions of success of ERP implementation:

- System Quality. Based on Gable et al. (2003) and on the revision of the empirical studies of Doll and Torkzadeh (1988), Li (1997), McGill et al. (2003), Nelson and Rai et al. (2002), Roldán and Millán (2000), Somers (2001) and Somers et al. (2003) we have adapted a scale of 9 items for this variable.
- Information Quality. Based on Gable et al. (2003) and on the revision of the empirical studies of Doll and Torkzadeh (1988), Li (1997), McGill et al. (2003), Nelson and Rai et al. (2002), Roldán and Millán (2000), Somers (2001) and Somers et al. (2003) we have adapted a scale of 6 items for this variable.
- Service Quality. Based on Pitt et al. (1995) and on the suggestions of Cronin and Taylor (1992) and Whitten (2003) we have adapted the scale SERVPERF. This scale measures the five dimensions (tangibilidad, reliability, responsiveness, assurance and empathy) of the variable in 22 items.
- Net Benefits. We have chosen the scale of Stratman and Roth (2002) due to its accordance with the theoretical studies about the impacts of ERP systems in the organization (Al-Mashari et al., 2003; Shang and Seddon, 2002) and the high reliability on the original scale.

Data Collection

The empirical study was developed during the first semester of 2004 in Chile; table 1 shows the technical specifications.

Table 1: Technical specifications.

Characteristic	Survey
Universe	Large companies that use ERP
Population size	195 Organizations[1]
Setting	Chile
Sampling procedure	of convenience
Answer Rate (Sample size)	36,92% (72 opinion polls)
Method for collecting the information	Personal opinion poll – electronic mail

Data Analysis

The results of the first descriptive analysis indicated that the industry sector had an important presence in the sample (50%); however, the use of the technique ANOVA confirmed that the sector does not condition the answers to the instrument; therefore, it was possible to make a global analysis.

About the descriptive analysis of items and scales we underline that six factors proposed as antecedents of success have average value over 5 points. Project Management and Executive Commitment are the highest average values of the antecedent factors for the success of ERP in the organizations of the sample. In the same way, the variables related in the research model with the success of ERP implantation (information quality, system

[1] According to our database.

quality, service quality and net benefits) were evaluated with average values over 5 points. Specifically, are remarkable due to its high averages: in System Quality, the characteristics of precision and degree of integration; in Information Quality, the useful format and the adequacy to help the users to make their tasks; in Service Quality, the dimensions Empathy and Assurance; and in Net Benefits, the improvement in the control of the business operative expenses. In relation to this last variable, the results of our analysis are very similar to those of Mabert et al. (2003), Mabert et al. (2000) and Olhager and Selldin (2003).

Afterwards, we made a set of empirical analyses with the purpose of valuing the research model with the data gathered in the work of field. The first empirical analysis confirmed the reliability of the scales. The values Cronbach's alfas was as minimum 0.83 and mainly superior to 0.9, this result indicated that the scales allow to obtain similar measures in different applications. The original measure scales of the latent variables of our model include a total of 118 items. Due to the reduced size of the sample (n = 72) and to the restrictions of the statistical techniques used to value the model, we were forced to apply factorial analysis to reduce the original number of items. The result of this reduction to 80 items was fundamental for the model analysis. After the reduction of the number of observed variables the reliabilities of the scales were evaluated positively again, the Cronbach's alfas are superiors to 0.8 (recommended for a basic research).

In order to test the hypotheses of investigation we used structural equation modeling. In particular, due to the purpose and restrictions of our investigation we selected the technique PLS (Partial Least Square).

Table 2: Structural paths and hypothesis.

		DEPENDENT VARIABLES			
Hypothesis	INDEPENDENT VARIABLES	SYSTEM QUALITY (0.74)	INFORMATION QUALITY (0.82)	SERVICE QUALITY (0.84)	NET BENEFITS (0.87)
H1	STRATEGIC PLANNING OF THE INFORMATION TECHNOLOGIES				
H2	EXECUTIVE COMMITMENT	0.340**			
H3	PROJECT MANAGEMENT				
H4	INFORMATION TECHNOLOGIES SKILLS		0.454*	0.419*	
H5	BUSINESS PROCESSES SKILLS			0.280 **	
H6	ERP TRAINING	0.529*	0.334*	0.269*	
H7	LEARNING	0.364*			
H8	CHANGE READINESS		0.649*		
H9	SYSTEM QUALITY				
H10	INFORMATION QUALITY				
H11	SERVICE QUALITY				0.530*

* Hypothesis confirmed, reliability more than 95%
**Partial support, reliability more than 90%

Source: The authors.

The initial phase of our analysis with PLS was the valuation of the measurement model, in this phase, first, we confirmed individual reliability of each item and each constructo, and second, we confirmed convergent and discriminate validity of all the constructos. During this phase we made a purification of scales, this process diminished to 69 items. After valuing positively the validity and reliability of all the constructos, on the second

phase of our analysis, we evaluated if the structural model supports the proposed research model.

We emphasized the high and significant value of the explained variance for the dependent variables. System Quality is explained 74%, Information Quality is explained 81.6%, Service Quality is explained 84.2% and Net Benefits is explained 86.6%. Table 2 shows the valuation of the structural paths of the model and its association to the hypotheses.

The table 3 shows the summary of the test of hypothesis.

Table 3: Test of hypothesis

	Structural paths		
Hypothesis	*Beta*	*Significant*	*Confirmed*
H1a: IT Strategic Planning has a positive impact on System Quality.	*-0.29*	No	No
H1b: IT Strategic Planning has a positive impact on Information Quality.	*-0.22*	No	No
H1c: IT Strategic Planning has a positive impact on Service Quality.	*0.21*	No	No
H1d: IT Strategic Planning has a positive impact on Net Benefits.	*0.11*	No	No
H2a: Executive Commitment has a positive impact on System Quality.	*0.34*	Reliability 90%	Partial support
H2b: Executive Commitment has a positive impact on Information Quality.	*-0.06*	No	No
H2c: Executive Commitment has a positive impact on Service Quality.	*-0.15*	No	No
H2d: Executive Commitment has a positive impact on Net Benefits.	*0.14*	No	No
H3a: Project Management has a positive impact on System Quality.	*0.02*	No	No
H3b: Project Management has a positive impact on Information Quality.	*-0.20*	No	No
H3c: Project Management has a positive impact on Service Quality.	*-0.36*	No	No
H3d: Project Management has a positive impact on Net Benefits.	*0.17*	Yes	No
H4a: IT skills have a positive impact on System Quality.	*-0.13*	No	No
H4b: IT skills have a positive impact on Information Quality.	*0.45*	Reliability 95%	Yes
H4c: IT skills have a positive impact on Service Quality.	*0.42*	Reliability 95%	Yes
H4d: IT skills have a positive impact on Net Benefits.	*0.31*	No	No
H5a: Business Processes Skills have a positive impact on System Quality.	*0.14*	No	No
H5b: Business Processes Skills have a positive impact on Information Quality.	*-0.02*	No	No
H5c: Business Processes Skills have a positive impact on Service Quality.	*0.28*	Reliability 90%	Partial support
H5d: Business Processes Skills have a positive impact on Net Benefits.	*0.00*	No	No
H6a: ERP Training has a positive impact on System Quality.	*0.53*	Reliability 95%	Yes
H6b: ERP Training has a positive impact on Information Quality.	*0.33*	Reliability 95%	Yes
H6c: ERP Training has a positive impact on Service Quality.	*0.27*	Reliability 95%	Yes
H6d: ERP Training has a positive impact on Net Benefits.	*0.12*	Yes	No
H7a: Learning has a positive impact on System Quality.	*0.36*	Reliability 95%	Yes
H7b: Learning has a positive impact on Information Quality.	*-0.02*	No	No
H7c: Learning has a positive impact on Service Quality.	*0.15*	No	No
H7d: Learning has a positive impact on Net Benefits.	*0.14*	No	No
H8a: Change Readiness has a positive impact on System Quality.	*-0.07*	No	No
H8b: Change Readiness has a positive impact on Information Quality.	*0.65*	Reliability 95%	Yes
H8c: Change Readiness has a positive impact on Service Quality.	*0.22*	No	No
H8d: Change Readiness has a positive impact on Net Benefits.	*-0.04*	No	No
H9: System Quality has a positive impact on Net Benefits of ERP implementation.	*0.11*	No	No
H10: Information Quality has a positive impact on Net Benefits of ERP implementation.	*-0.57*	No	No
H11: Service Quality has a positive impact on Net Benefits of ERP implementation.	*0.53*	Reliability 95%	Yes

Analysis of results and conclusions

H1 is not supported by the results. Although is possible to determine a positive value for the relation between this variable and Net Benefits (H1d), this value is not statistically significant. Due to previous studies about this positive relation, we think appropriate to deepen this result in the future. In addition, we believe that is important to consider the cultural differences between the organizations of the sample and the organizations studied previously, Krumbholz et al. (2000) and Krumbholz and Maiden (2001) provide elements about the effects of these differences. In conclusion and according to our results, we cannot support the H1 in none of its points (H1a, H1b, H1c, and H1d).

The investigation found a positive relation between Executive Commitment and System Quality (H2a). However, the support to this hypothesis is only partial because the reliability level is 90%. Still, as Executive Commitment is a success factor that is repeated constantly in studies about implementation of new processes and IT, we believe consistent this positive relation with System Quality, due to this variable reflects the characteristics of the information technology. Also the study found a positive relation between Executive Commitment and Net Benefits (H2d); however this value is not statistically significant. In conclusion, we can support H2 partially in relation to the positive impact of Executive Commitment on the success of system ERP, measured as System Quality (H2a).

Although the study found positive relations between Project Management and System Quality (H3a) and between Project Management and Net Benefits (H3c), these are not statistically significant. This result is contradictory with the previous support that has this antecedent of success in the literature. We understand that Project Management is important to reach the good end of the implementation project (in time and budget), however that is not fundamental for the global success of the system implementation; this global success is measured when the organization operates normally with the ERP. To reach the good end of project ERP is necessary to achieve the implementation success, but it is not sufficient. In conclusion, we cannot support H3 in none of its points (H3a, H3b, H3c, and H3d).

The results of the work ratified H4. In specific, these results indicate that IT skills have a statistically significant positive impact on Information Quality (H4b) and on Service Quality (H4c). Although there are precedents in Xu et al. (2002) of the first result (H4b), the positive contrast of H4c is an important contribution of these results to future investigations. In addition, our results indicate that there are a positive relation between the IT skills and Net Benefits (H4d); however, this relation is not statistically significant. In conclusion, we can support H4 in relation to the positive impact of the IT Skills on the success of ERP system, measured as Information Quality (H4b) and Service Quality (H4c).

The results of our empirical investigation support partially (with a significant level of 90%) that Business Processes Skills have a positive impact on Service Quality (H5c). We think that if the company's personnel understand how the business operates and can

predict the impact of a particular decision or action on the rest of the organization then the perception about the systems service will improve. Additionally, the study found a small positive relation that is not statistically significant between Business Processes Skills and Systems Quality. In conclusion, we can support partially H5 in relation to the positive impact of the Businesses Processes Skills on the success of ERP system, measured as Service Quality (H5a).

The results of the study support H6. ERP Training has a positive impact and statistically significant on System Quality (H6a), Information Quality (H6b) and Service Quality (H6c). Additionally, we found between ERP Training and Net Benefits (H6d) a positive impact but statistically significant. As we have indicated, the role of the training in terms of facilitates the implantation of information systems has been extensively documented in the literature (Nelson and Cheney, 1987). Our results, besides of confirming this relation in general, provide an empirical test of this in the context of ERP systems. In conclusion, we can support H6 in relation to the positive impact of the ERP Training on the success of ERP system, measured as System Quality (H6a), Information Quality (H6b) and Service Quality (H6c).

The results of our study support the positive relation between Learning and System Quality (H7a). Also there are impacts not statistically significant of this variable in Service Quality (H7c) and Net Benefits (H7d). Although there are theoretical supports about the relation between Learning and ERP system success, we think that this result establishes an important distinction. The confirmation of H7a indicates that the increase of learning competitions implies an increase in the intrinsic characteristics of ERP system, as by example, reliability and ease of use. In conclusion, we can support H7 in relation to the positive impact of Learning on the success of ERP system, measured as System Quantity (H7a).

The results of the empirical study support H8, in specific the positive relation between Change Readiness and Information Quality (H8b). Also was found an impact between Change Readiness and Service Quality, but do not statistically significant (H8c). We understand that the resistance to the change can be expressed through sabotages to the system, and one of the most frequent sabotages, because it is difficult to trace, is the input of data with errors. On the other hand, also it is possible that the lack of employees' motivation, as a result of a change that they do not understand or do not accept, can affect the processes of verification of the data before its input. In any case, the quality of the information is deteriorated if does not exist a change readiness. Therefore, is natural to accept that a better Change Readiness affects the Information Quality. The hypothesis that indicated that Change Readiness has an impact on Net Benefits (H8d) was not verified in the study. An explanation to this result could be related, in similar way to Project Management, that this antecedent is necessary for the good end of the project; however this does not affect significantly the Net Benefits, when the organization operates normally with the system. In conclusion, we can support H8 in relation to the positive impact of the Learning on the success of ERP system, measured as Information Quality (H8b).

In relation to the variables that measure the success of ERP system, our research model indicated a positive impact of System Quality (H9), Information Quality (H10) and Service Quality (H11) on the variable Net Benefits. In the case of H9, the results of our study do not indicate a value significant statistically, and therefore we cannot support this hypothesis. In the literature there are empirical antecedents about this relation in general (Etezadi-Amoli and Farhoomand, 1996), however our result aligns with the work of Gable et al. (2003), this study does not establish a causal relation between System Quality and other dimensions of the success of system ERP, among them, Net Benefits (that are represented in the model of Gable et al. (2003) as organizational impacts). In conclusion, we cannot support H9 that indicated a positive impact of System Quality in Net Benefits.
Also, the results of our study did not confirm H10. In the same way to of previous case, the literature provides empirical tests of this relation in general (Seddon and Kiew, 1994; Goodhue and Thompson, 1995; Teo and Wong, 1998); however, the results of our work are aligned, again, with Gable et. al. (2003), that is to say, Quality of System doesn't have causal relation with other dimensions of the ERP system success. In conclusion, we cannot support H10.

In relation to two previous results, we want to make a reflection about the commentary that Lee (2000) did with reference to the research in information systems. In his article the author indicated the scientific interest of the revision of old theories with new information technologies, as the systems ERP, because it may imply, on the one hand, if the application of these theories is successful, the consolidation of a theoretical body for the discipline, and on the other hand, if this application to these new circumstances does not have the wished results, the refinement and improvement of these old theories. Relative to H9 and H10 is possible to think that a developed theory for the information systems in general is not applicable to ERP systems in particular. And therefore, our results support a refinement of the theory in relation to the dimensions of the information systems success, as Gable et al. (2003) indicated.

The final hypothesis in our research model (H11) indicates a positive impact on the Service Quality of the information systems area on Net Benefits. The results of our study support significantly this relation. Although in literature this dimension of success had been proposed (Pitt et al., 1995; Kettinger and Lee, 1994; Li, 1997; Wilkin and Hewitt, 1999; DeLone and McLean, 2003), we proposed the relation between this dimension and Net Benefits in the development of the model. Considering the previous thing, we are doubly satisfied by this result. Firstly, this is the first empirical test of which we have knowledge that includes this variable to measure the success of an information system, and second, we have proven the positive relation between Service Quality of the information systems area and Net Benefit in the context of ERP systems, verifying with this result our own conceptual development. In conclusion, we supported the hypothesis H11 that indicates a positive impact of Service Quality of the information systems area on Net Benefits.

Limitations

The main limitation of this study is the use of a process of sampling non probabilistic, however the lack of previous studies and of public registries of ERP users in Chile, do not allow a probabilistic sampling. On the other hand, the sample size is clearly small compared with the complexity of the model, in this sense would be interesting to have a greater number of surveys in order to measure the global adjustment of the model.
Finally, we cannot solve two problems. First, due to Chilean reality we contacted only large companies, and second, these organizations had operating its ERP with relative success, that is to say, we did not count on experiences of absolute failure.

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