



## ERP System and Hidden Cost in the Civil Construction Sector

### Sistema ERP y Costo Oculto en el Sector de la Construcción Civil

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#### ABSTRACT

This study aims to understand how ERP users see their role and interpersonal relationships to avoid hidden costs linked to its misuse. In order to understand the actors that are part of the functional network as users of ERP system, the study was carried out in a case study exploratory qualitative approach considering both the lack of similar previous studies in the literature and the understanding of the company in its own context. The process of data collection considered categories regarding organizational culture and hidden costs. The study used primary and secondary evidence for data triangulation. After organization and transcription of the collected material, content analysis was applied as data analysis technique on them. The investigated company proved to be positive for all the cultural characteristics analyzed, although it still presents dysfunctions in its activities. It was concluded that excluding situations with perfect system and actors, all organizations are subject to hidden costs. The observation of these can operationally, competitively and financially boost the organization, it is up to the manager to choose whether or not to pay attention to the “iceberg” in his direction. The research presents practical contributions to companies of the civil construction and also provides academic contribution by addressing the issue of costs information systems through a theoretical perspective from organizational culture.

**Keywords:** hidden costs; ERP systems; organizational culture; civil construction.

#### RESUMEN

Este estudio tiene como objetivo comprender cómo los usuarios de ERP ven su rol y las relaciones interpersonales para evitar costos ocultos vinculados a su mal uso. Con el fin de comprender a los actores que forman parte de la red funcional como usuarios del sistema ERP, el estudio se realizó con un enfoque cualitativo exploratorio de estudio de caso considerando tanto la falta de estudios previos similares en la literatura como la comprensión de la empresa en su propio contexto. El proceso de recolección de datos consideró categorías en cuanto a cultura organizacional y costos ocultos. El estudio utilizó evidencia primaria y secundaria para la triangulación de datos. Luego de la organización y transcripción del material recolectado, se aplicó el análisis de contenido como técnica de análisis de datos sobre los mismos. La empresa investigada se mostró positiva para todas las características culturales analizadas, aunque todavía presenta disfunciones en sus actividades. Se concluyó que excluyendo situaciones con sistema y actores perfectos, todas las organizaciones están sujetas a costos ocultos. La observación de estos puede impulsar operativa, competitiva y financieramente a la organización, corresponde al gerente elegir si prestar o no atención al “iceberg” en su dirección. La investigación presenta aportes prácticos a las empresas de la

construcción civil y también brinda aporte académico al abordar el tema de los sistemas de información de costos a través de una perspectiva teórica desde la cultura organizacional.

**Palabras claves:** costos ocultos; sistemas ERP; cultura organizacional; construcción civil.

## 1. INTRODUCTION

The hidden costs, although difficult to map and measure, directly reflect on the entity's economic result (Freitas & Severiano Filho, 2007), on the competitiveness capacity (Bhushan, 2017), and on the operational tracking of its own activities (Larsen et al., 2013), which makes it a relevant object to be studied. However, although it is an element that has an impact on the organization, studies on the subject are still scarce.

Hidden costs are associated with transactions carried out by employees whose salaries make up the total costs of organizations (Bhushan et al., 2017), where for Lima (1991) the dysfunctions that result in hidden costs are derived from the interaction between the organizational structure and behaviors.

Lima (1991) explains that the interaction between structures and behaviors results in the pulsation of activities, providing observation about the desired and observed functioning. The distance between the expected and the real is called dysfunction, which in turn corresponds to hidden costs. Femenick (2005) points to unskilled managerial or operational manpower as a hidden cost, and exposes that the hidden costs caused by managerial manpower incompetence are exponentially greater than those caused by the operational area. The worker-company relationship affects the way employees view the coercive characteristics of their contract, including the minimum effort requirement performed and the monitoring suffered (Riener & Wiederhold, 2016).

Entering in the civil construction universe, which presents the need for a rigorous cost control system, from the project budget to its realization (Kern & Formoso, 2004), construction companies have adopted ERP (Enterprise Resource Planning) systems that correspond to an integrated management system (Chung et al., 2009) capable of helping to monitor the resources allocated to ongoing projects (Gavali & Halder, 2019). The ERP brings transparency and increases trust among the people of the entity. Although it represents an expensive and time-consuming configuration element, when implemented efficiently, it brings great benefits (Gavali & Halder, 2019). According to Padilha and Marins (2005), the use of this type of system optimizes the flow and access to information, in addition to making it more consistent for the basis of decision making.

Larsen et al. (2013) point out that in the face of a network of tasks there is greater complexity where organizational activities require continuous communication, with the coordination of decisions and behaviors. Gomes and Vanalle (2001) cites the impact on human resources as an important characteristic of ERP systems, since employees must have a view of the process, extending their concern beyond their specific activity. The activity carried out within a department can quickly affect other departments, and within this perspective, there will be a need for multidisciplinary, where the components of this operational chain will need to acquire new knowledge about areas other than their own.

According to Chiavenato (2021, p. 12) “organizations do not work by chance, nor are they successful at random, [...] purely technical knowledge is able to lead to a certain point, but after that, interpersonal skills become essential”. Chiavenato (2021, p. 100) points out that each organization has its organizational culture, and states that “[...] to live in an organization, work in it, act in its activities, develop a career in it is to participate intimately in its organizational culture.” Along with culture, organizational flexible institutionalization structure has an essential effect on business performance on both financial and non-financial aspect (Cetinkaya, Karayel, & Tefek, 2018).

Baldissera (2011, p. 55) emphasizes that “recognizing subjects as agents in/of the cultural process means saying that they are not only influenced/marked by culture, but that it, as a process, suffers their action”, and points out questions that deserve attention, such as the fact that culture brings a sense of stability to an organization, but that this apparent stability actually hides “the permanent organization/disorganization, order/disorder tension” (Baldissera, 2011, p. 56).

Given the importance of employees in the performance of the management system chosen by the organization, the present study focused on giving voice to these actors, seeking to understand how they see the importance of their role in cost management, as well as the importance of their role within the functional web that makes up the ERP system, based on the understanding that a disorderly performance may incur hidden costs for the organization marked by reworks in the construction of similar information in multiple sectors, erroneous measurement of costs and waste of system tools, thus bringing up the following problem: how do ERP users view the importance of their role and interpersonal relationships to avoid the incidence of hidden costs linked to the bad use of the management information system?

The research is justified by empirically contributing to the community linked to the field of civil construction on the importance of quality in the performance of each of the actors involved in cost management, as well as the importance of interpersonal relationships for the good use of the implemented management system, where dysfunctions in activities correspond to hidden costs for the organization. Silva, Corrêa & Ruas (2018) cite the scope of the civil construction sector on various elements, such as labor, materials, projects, requiring a total resource management system that can improve all processes.

The research also contributes to the academic environment, by approaching the topic of hidden costs and management information systems, using the theoretical lens of organizational culture. Jungkenn and Scroferneker (2020) emphasize that theories and/or approaches that translate man as machines reflect a reductionist and mechanistic vision, with the need to seek a different vision for this contemporary man, using a more humanitarian bias.

## 2. LITERATURE REVIEW

### Hidden Costs

In the mid-1970s, through studies carried out by the Socio-Economic Institute of Firms and Organizations – ISEOR, the relationship between dysfunctions, hidden costs and economic performance in organizations was observed. The starting point for the interpretation was the finding of economic performance below the expected level in some companies. That said, some dysfunctions were observed in organizations, such as absenteeism, accidents at work, etc., which were not being considered as costs in the analyzed companies (Pedrosa Neto, 2009).

When it comes to hidden costs, the adjective hidden does not come only from the difficulty of measurement, but also from the fact that there is no observation through accounting or management reports (Silva et al., 2018). On this approach, Silva et al. (2018) points out that hidden costs cannot be considered accounting, since the accounting cost comes from the application of resources in the operational activity of the organization. On the other hand, he states that hidden costs can be understood as economic costs, given their connection with the concept of scarcity of opportunity cost resources, thus having the possibility of being used for managerial purposes.

Lima (1991) describes hidden costs as dysfunctions, that is, the distance between the expected functioning and the achieved functioning, caused by the interaction of the organization's structures and its behaviors. By structure, we have the physical structure, related to the physical space and its working conditions; the technological structure, which portrays the sophistication and level of wear and tear of the equipment; the

demographic structure that outlines the structure of the population in terms of age and education levels; and the mental structure, which corresponds to the management style and culture of the organization.

When it comes to behaviors, Lima (1991) classifies them “by individual logic (personality, and professional and extra-professional characteristics, mainly family), activity group logic (pertinence to a particular service), category logic (pertinence to a professional category), pressure group logic (pertinence to a moral, religious, political, trade union conviction, of common origin) and collective logic (for example, in situations where the very existence of the company is jeopardized)”. Also, for Lima (1991), hidden costs can constitute expenditures that could be avoided or missed occasions. The fact that they are “broken and scattered” makes companies rarely measure them.

For Larsen et al. (2013), hidden costs have a negative effect on the estimation of impacts resulting from strategic decisions, hiding important costs from the management core. In their study, the authors argue that hidden costs are neglected in the implementation of strategic decisions, reflecting a limited rationality on the part of decision makers, and given the high complexity that these costs represent, managers end up ignoring the consequences that involve the organizational changes, hiding the real costs of a strategic decision.

Bhushan et al. (2017) begins his paper on the impact of hidden costs, recalling the episode of the ship Titanic, where its captain was unable to detect the huge “iceberg” in front of an apparently calm sea, and when he saw only the tip of it, he was unable to undermine its impact. Through this scenario, Bhushan (2017) aims to illustrate the impact that an organization can suffer in terms of competitiveness when its manager is unable to see the hidden costs that silently permeate the company. Bhushan et al. (2017, p. 2) adds that “hidden costs are invisible costs associated with transactions carried out there by people whose wages and salaries represent the total costs”.

For Souza et al. (2019) the identification and measurement of hidden costs that permeate the operational routines of the organization represents a differential for it. Considering the constant evolution of the market, just knowing the costs that make up the production process of an organization becomes insufficient, with the need for qualitatively more detailed and comprehensive information, Souza et al. (2019) points to the identification and measurement of an entity's hidden costs as an essential tool for managerial purposes.

For Gama et al. (2009) hidden costs represent “losses that are difficult to customize because they are not easily qualified”, and they address that even recognizing their existence, there is no way to make the direct allocation to products or processes, however, reasoning by the competitive strategy, some companies visualize them to avoid unnecessary costs, making them directors of managerial actions. In their research, Gama et al. (2009) focused on the hidden costs of set-up, absenteeism, idleness, work accidents, inventories and obsolescence.

Cockins (2001 as cited in Krishnan 2006) points out that revealing to the staff the obvious and hidden costs that permeate the quality of their function can be a valuable tool for an increase in performance. The worker-company relationship affects the way employees view the coercive characteristics of their contract, including the minimum effort requirement performed and the monitoring suffered. (Riener & Wiederhold, 2016). Pedrosa Neto (2009) indicates that “if the company motivates, makes workers responsible and aware, they will perform better”.

Femenick (2005) points to labor managerial or operational manpower as a hidden cost and exposes that the hidden costs caused by managerial manpower incompetence are exponentially greater than the hidden costs caused by the operational area. Among the mistakes made by the managerial workforce, Femenick (2005) mentions the hiring of employees without experience. Bearing in mind that business agility requires trained professionals, “unproperly qualified labor is certainly a factor that generates “hidden costs”.

There is a strong interconnection between an organization's structure and processes. The behaviors built into the processes can be associated with a high hidden cost. Among them are “high labor turnover, dishonesty of employees and poor communication” (Bhushan et al., 2017). Civil construction, for example, is a sector that is based on money and trust, with trust based on transparency, commitment and quality, and money resulting from operational efficiency (Gavali & Halder, 2019). Gavali and Halder (2019) point out that ERP systems are implemented to solve problems in supply chain management, and reinforce the importance of communication between the estimation, operation, accounting, engineering, contracting, acquisition, purchasing and equipment sectors, to that the project is completed within the proposed time and budget.

Organizational culture is a factor that interferes with the use of ERP systems by entities, considering the human element that compose them (Nascimento et al., 2016). Wahyudin et al. (2021) point out that innovation and risk-taking, attention to detail, results orientation, people orientation, team orientation, aggressiveness, and stability are primary characteristics of organizational culture.

### **Organizational Culture**

Organizational culture corresponds to the set of norms and values of an organization that control the interactions of its members internally and with the external environment, being a strong tool to increase organizational effectiveness and achieve competitive advantages (Jones, 2010) and plays key role as a basis of effective development of an organization (Osodlo, Rybchuk, & Krykun, 2021)

Jones (2010) points out that the values of an organization segregate the behaviors of its members into desirable and undesirable. These values can be classified as terminal or instrumental. Terminal values correspond to those principles used for a desired result. Within this group are for example excellence, responsibility, reliability, profit, innovation, economy, morality and quality. Instrumental values correspond to the desired individual mode of behavior, including hard work, respect for traditions and authority, being conservative and cautious, being simple, creative and courageous, being honest, taking risks and maintaining high standards.

The primary characteristics of organizational culture pointed out by Wahyudin et al. (2021) are: innovation and risk-taking, the extent to which employees are encouraged to be innovative and take risks; attention to detail, the extent to which employees must be careful and thoughtful of details; results orientation, that is, the extent to which management focuses on results rather than on the process to obtain them; people orientation, the extent to which management decisions look at the effect of results on people in the organization; the orientation of the team, determining which activities will be organized in teams, and which will be individual; aggressiveness, to what extent actors are more competitive and less relaxed; and stability, which demonstrates the degree of status maintenance as opposed to growth or innovation.

Napitupulu (2018) states that organizational culture encourages the mutual understanding of the actors that make up an organization, since there is an agreement on the common procedures and practices to be followed, which will constitute a truth for the achievement of the objectives proposed by the entity. Additionally, organizational culture positively effects on perceived organizational support by employee which may be lead also to psychological capital (Vasconcelos, de Oliveira, & El-Aouar, 2022).

For Napitupulu (2018, p. 3), organizational culture is “extracted from common values, principles, traditions and forms” that correspond to the system of meanings shared and maintained by the actors of an organization, distinguishing it from other organizations. Thus, in his study, the author presented the research model shown in Figure 1.



Figure 1. How Organizational Culture Affects the Quality of the Management Information System  
Source: Napitupulu (2018, p. 8)

Napitupulu (2018) showed that organizational culture affects the quality of the management information system, confronting system quality characteristics (integration, flexibility, reliability and efficiency) with quality characteristics of organizational culture in the development and implementation of the system (attention to detail, innovation, team orientation, result orientation and aggressiveness).

### 3. RESEARCH METHOD

#### Sample and procedure

The case investigated was selected based on research previously developed by of the Fernandes, Callado and Freitag (2021), where the participant, organization controller, described the use of an ERP system in a positive way, emphasizing as a practice of the organization the awareness that all actors are part of the gathering of information for making decisions, clarifying the importance of each position occupied, and reinforcing the importance of this awareness in the field of civil construction, since the activity is all based on budgets that need to be met, making it necessary to unite the sectors in this control.

Given the facts, the company becomes eligible for an exploratory study on aspects of organizational culture in the optimized use of the management system, avoiding the occurrence of hidden costs, which can be represented by reworks in the construction of similar information in multiple sectors, erroneous measurement of costs and waste of system tools.

For this study the selection of respondents was based on their cultural and sensitive relationship with the organization. The controller was responsible for indicating the employees to participate in the research. The selected employees work in the accounting departments; tax department and human resources; and finance department.

Respondent 1, male, member of the accounting department, calls himself the “manager accountant” of the company studied. In the survey he will be named as the RESPONDENT/ACCOUNTANT. In an interview, he stated that all information is channeled via ERP by their respective sectors, being concatenated, analyzed and accounted for at the end of the month, and after consolidation, appreciated by the controllership sector.

The RESPONDENT/ACCOUNTANT, facing the organization's network of actors, mentioned the purchasing departments as sectors that affect accounting; warehouse; financial; and fiscal, and claims that his department directly influences the controllership.

Respondent 2, female, is part of the finance department, working in accounts payable, accounts receivable, cashier and banks. In the survey she will be named RESPONDENT/FINANCIAL. In an interview, the respondent stated that the finance department is influenced by information fed by the purchasing and

commercial department; and that the information fed by the finance department directly influences the commercial department, construction management and the accounting department.

Respondent 3, male, integrates the tax and human resources departments. In the survey he will be named RESPONDENT/TAX&HR. In an interview, this actor stated that the allocation of employees made by his sector impacts the calculation of costs, as well as the calculation of the INSS to be collected at the end of the work, thus pointing out the accounting department as influenced by the information generated in his sector.

An interview protocol was given to the participants, so that the respondents felt comfortable in participating in the data collection, having the prior knowledge of what would be questioned. A free and informed consent form (ICF) was also delivered, containing the purpose of the research, explaining that although it is of great importance to the academy, its participation would be voluntary, that your privacy and that of the company will be respected, and finally requesting permission. to use the results found in scientific works.

To understand in depth the motivation of the actors that are part of the functional network that uses an ERP system, the study was carried out in a qualitative way.

The study is classified as exploratory because it presents a little studied problem, and prepares the ground for new studies (Sampieri et al., 2013), making the theme clearer (Raupp & Beuren, 2004), considering “the most varied aspects related to the fact or phenomenon studied” (Gil, 2018, p. 26).

Developed through a case study, the research sought a holistic perspective on organizational and administrative processes (Yin, 2015), using a company as an object of study, to understand it in its own context (Michel, 2015).

The interviews were carried out in a semi-structured way, based on a script of questions, allowing the researchers freedom to ask new questions to the interviewees, to open more information about the topic studied (Sampieri, 2013).

The organization and transcription (Sampieri, 2013) of the material collected in the interviews was used as a technique, and content analysis was applied, consisting of systematizing the content and meaning of the messages, using logical deductions, based on their origin of issue, context of the situation and effect of the message, finding answers to the formulated question (Kripka et al., 2015). Results were treated using inferential interpretation (Bardin, 1979).

## Measures

To understand how ERP users view the importance of their role and interpersonal relationships, avoiding the incidence of hidden costs linked to the misuse of the management information system, the research used interviews were carried out in a semi-structured with questions relating the categories of hidden costs and organizational culture, as shown in the following table 1 and table 2:

Table 1. Hidden Costs x Organizational Culture

Quality characteristics of organizational culture (Napitupulu, 2018)	Hidden costs caused by the misuse of the ERP system
Attention to the details	<ul style="list-style-type: none"> <li>• Mismeasurement of costs; and</li> <li>• Reworks on building similar information across multiple sectors.</li> </ul>
Innovation	<ul style="list-style-type: none"> <li>• Waste of system tools.</li> </ul>

Team orientation	<ul style="list-style-type: none"> <li>• Reworks in the construction of similar information in multiple sectors.</li> </ul>
Result orientation	<ul style="list-style-type: none"> <li>• Mismeasurement of costs; and</li> <li>• Waste of system tools.</li> </ul>
Aggressiveness	<ul style="list-style-type: none"> <li>• Waste of system tools.</li> </ul>

Table 2. Methodological Mooring Matrix

Quality characteristics of organizational culture (Napitupulu, 2018)	Respondents	Hidden costs caused by the misuse of the ERP system	Questions
Attention to the details	Respondent/ Accountant	Mismeasurement of costs	1 – Do you often re-examine in detail the work that has been or will be done? How do you see the importance of this attention to detail for the construction industry?
	Respondent/ Financial Respondent/ Tax & HR	Reworks on building similar information across multiple sectors	2 – Is there a concern about how your role might affect the performance of another sector? Why?
Innovation	Respondent/ Accountant	Waste of system tools	3 – Do you seek to use as many tools as the system provides?
	Respondent/ Financial Respondent/ Tax & HR	Waste of system tools	4 – Do you have the freedom to create your own way of doing your work, in order to optimize time and use of the system?
Team orientation	Respondent/ Accountant Respondent/ Financial Respondent/ Tax & HR	Reworks on building similar information across multiple sectors	5 – Do you usually do your work in collaboration with other sectors?
		Reworks on building similar information across multiple sectors	6 – Do you visualize any type of information that your sector records, which could already be fed by another sector, optimizing time?
		Reworks on building similar information across multiple sectors	7 – Do you record in the system some type of information that some other sector also records, and that could be used in your sector?
Result orientation	Respondent/ Accountant	Mismeasurement of costs	8 – How would you describe the importance of your role in tracking real estate construction costs?



	Respondent/ Financial  Respondent/ Tax & HR	Waste of system tools	9 – Is the importance of your role explained by the administrators, in order to guide you on the goals to be met?
Aggressiveness	Respondent/ Accountant	Waste of system tools	10 – You have already consulted with other people who also use the system, and have tried to see if you are managing to make the most of the tools, or if someone else has managed to make better use of SIENGE, you have an approach of people outside the company, other companies that also use this system?

### Reliability

The study used primary and secondary evidence. The primary evidence corresponds to the data produced and recorded by the researchers (Yin, 2016), collected through an interview with the controller about the attitude of employees in relation to the use of the ERP system, and interviews with employees about the importance of their use role and interpersonal relationships in the use of the management system. As a source of secondary disclosure, the study by Napitupulu (2018) was used to align data collection with quality characteristics of organizational culture.

### Validity

The triangulation of the study occurs when verifying the event in three different ways (Yin, 2016), where the controller's report is confronted with the report of multiple employees and interpreted through the quality characteristics of the organizational culture presented in Napitupulu's study (2018).

## 4. DESCRIPTION AND ANALYSIS OF RESULTS

In the present study, organizational culture characteristics (Napitupulu, 2018) were related to possible hidden costs associated with the use of an ERP system. Lima (1991) describes hidden costs as dysfunctions, that is, the distance between the expected functioning and the achieved functioning, caused by the interaction of the organization's structures and its behaviors. The dysfunctions for this study were: erroneous measurement of costs; reworks in the construction of similar information in multiple sectors; and waste of system tools. That said, here are the main results found.

### Attention to Detail Characteristic

The characteristic of attention to detail, according to Napitupulu (2018) is to re-examine in detail the work that has been or will be performed, in addition to using the available data for a proper analysis of the work.

In this topic, the participants were asked: 1 – if they were in the habit of re-examining the information that they had already fed or that will still be fed into the ERP system, as well as about the importance of attention to detail for the civil construction sector; and 2 – if there is concern about how its performance affects other sectors. The hidden costs considered in this topic were: “wrong measurement of costs” for question 1 and “rework in the construction of similar information in multiple sectors” for question 2.

The RESPONDENT/ACCOUNTANT stated that all processes are seen and reviewed throughout the information chain fed and channeled into the ERP system, by the most diverse sectors, whose information will result in the accounting and reports analyzed by the controllership.

When asked if there is concern about how its performance affects other sectors, the RESPONDENT/ACCOUNTANT stated that “yes, for sure” since the information will compose the cost of the properties that will be presented to the managers. According to the RESPONDENT/ACCOUNTANT, the construction industry bases its activity on budgets that need to be followed. The performance of each sector depends on attention to detail so that the information is aligned with reality and with the forecast made for each work. Thus, the data fed into the ERP system must follow efficiently, whether in the entry of materials, whether in the timely payment of this purchase, or in the accounting of this fact. The word control defines the operational activity of this branch. An error in the process can trigger a delay in the entire operational chain.

The RESPONDENT/FINANCIAL, pointed out the review of her work as something essential, and explained that she follows a routine of daily activities: “every day we have a routine, everything right, what we must do for tomorrow, and then we follow and check that everything is ok, even after doing it. Mainly cash flow [...] there are many numbers, then you must look”.

In relation to whether there is concern about how its performance affects other sectors, the RESPONDENT/FINANCIAL said “yes”, explaining that if it does not correctly write off customer receipts, the commercial sector will suffer from the erroneous information. If you make a wrong payment to an employee, the correction of this error will depend on the managers of the works to contact the employee and recover the amount. In the case of the accounting department, if the financial entries are not properly aligned with the financial chart of accounts, which is the same used by accounting, the financial statements will be directly affected and he added by explaining that the consequence of an error will take time from other sectors to solve it, which would set up a hidden cost type.

THE RESPONDENT/TAX&HR also stated that he paid attention to details, explaining about his role in the tax department that there is always a pre- and post-registration review of documents.

In relation to his HR function, the RESPONDENT/TAX&HR mentioned the care with the allocation of employees in their respective works, as this reflects in the budget and in the operating results of the works. The respondent stressed the importance of the board seeing a correct and real position of costs.

The RESPONDENT/TAX&HR also recognizes the concern about how its performance affects other sectors, mainly accounting, since erroneous information fed by its sector will impact the operating result. And he explained that together with the accounting department, they seek to work in the most correct way possible.

### **Characteristics of Innovation**

Arising from the perception of a particular individual or a unit of adoption, innovation corresponds to something new, be it an idea, practice or object (Rogers, 1983). For Napitupulu (2018) the cultural characteristic of innovation is about finding a way of performing the work, through trial and error, to define a better way to perform a task.

In this research topic, the interviewees were asked: 1 – about their relationship with the system used, whether there was a search for the maximum use of tools provided by the ERP; and 2 – if they have the freedom to

create their own way of performing a task. The hidden costs considered in this topic were: “waste of system tools” for both questions.

The RESPONDENT/ACCOUNTANT stated that he seeks to exhaust all available tools, and go further, suggesting new ideas to the ERP supplier to improve the system. The respondent also stated that the search for improving the tools is not limited to improving only the activity of his sector, but finding ways to improve the information channel for the most diverse sectors, always seeking a holistic view of the business.

Regarding the freedom to define a better way to perform a task, the RESPONDENT/ACCOUNTANT stated that the sectors seek to work together, with the freedom to suggest new ways of working, which are implemented if they are positive for all sectors affected. The respondent also explained that the company seeks to align new ideas with the ERP system, so that there are no parallel tools.

The RESPONDENT/FINANCIAL stated that she usually uses “everything” that the ERP system offers her. And he said that he always seeks to clear the system with the accounting department. Whenever they think that something is not good enough, they look for a new way to perform the task. The RESPONDENT/FINANCIAL stated that the ERP system is already “very complete” due to the quest to improve the system, and concludes by saying that “everything, a pin is there in the system”.

Regarding the freedom to create new ways of performing a task, the RESPONDENT/FINANCIAL stated that there is indeed the “freedom to create new paths”.

The RESPONDENT/TAX&RH regarding the maximum use of ERP resources, answered “yes, yes”, that they are always looking to improve and optimize processes.

And in relation to the freedom to create new ways of performing a task, as well as the RESPONDENT/ACCOUNTANT, the RESPONDENT/TAX&HR stated that this freedom does exist, “as long as I communicate it to my management, to my manager”.

### **Team Orientation Characteristic**

As a cultural characteristic of team orientation, Napitupulu (2018) considered teamwork or working with other divisions (sectors).

In this research topic, the interviewees were asked: 1 – if they used to work together with the other sectors; 2 – whether there is information that could be used from other sectors and today is not; 3 – if there is information from your sector that could be used in some other sector, and is not. The hidden costs considered in this topic were: “reworks in the construction of similar information in multiple sectors” for the three questions.

About working together with other sectors, the RESPONDENT/ACCOUNTANT stated that as already mentioned, “we try to work together, all with a holistic view”. In relation to information that could be used from other sectors and are not, the respondent states that “yes, yes, we still have it, unfortunately, it has already been sent to the supplier, but we have not yet received answers”. It's about low stock. The respondent explains that the inventory write-off information, resulting from material requisitions by the works, is not yet integrated with the accounting department, having to account for such values manually.

Regarding information from the accounting sector that could be used by other sectors and are not, the RESPONDENT/ACCOUNTING did not mention any.

About working together with other sectors, the RESPONDENT/FINANCIAL says that “enough, there is no way to work alone, anywhere. I think that when you open for you to work together with other people, the

other sectors always tend to help you, even if they are not part of it". The interviewee cites the relationship with the commercial department, explaining that when the department encounters a problem, as it does not master the system, the finance department helps it, jointly seeking ways to carry out the tasks.

Regarding information that could be used from other sectors and are not, or information from your sector that could be used by another sector and are not, the RESPONDENT/FINANCIAL states that there is none. And he states that the system is very "correct", but that it was not always like this, the employees went to great lengths to align the system, always questioning if the way it was done was correct and was the best way. According to the interviewee, "it was an evolution. Each person improved, especially when we started to work with the system more, because before we didn't use it so much, and then today we use it".

Regarding working together with other sectors, the RESPONDENT/TAX&HR affirms that they do work together, stating that "one always helps the other. The communication that is quite timely".

In relation to information that could be used from other sectors and are not, the RESPONDENT/TAX & HR cites the same case cited by the RESPONDENT/ACCOUNTING about the write-off of inventory that is not integrated into the department. Regarding information from the accounting sector that could be used by other sectors and are not, the RESPONDENT/TAX&HR cites a case that was not mentioned by the RESPONDENT/ACCOUNTING, which is the lack of integration of the payroll module with the module accounting. The respondent explained that the entries related to the payroll are still carried out manually by the accounting department, but that the integration is already being studied.

### **Result Orientation Feature**

As a cultural characteristic of result orientation, Napitupulu (2018) considered the conviction that a certain work will achieve the expected results and that the activities performed are the maximum hope for achieving these results.

In this topic, the interviewees were asked: 1 – about how they describe the importance of their functions in monitoring the costs of built properties (question directed to the RESPONDENT/ACCOUNTING and RESPONDENT/TAX&HR, since the RESPONDENT/FINANCIAL is more focused on the flow of payments and receipts, which will result in income elements only through financial costs and income, not directly linked to the operation); and 2 – on how the importance of their functions are explained to them, pointing out performance goals and objectives of the organization. The hidden costs considered in this topic were: "wrong measurement of costs" for question 1 and "waste of system tools" for question 2.

The RESPONDENT/ACCOUNTANT stated that regardless of the branch, accounting with the controllership has the purpose of control. Information must be controlled so that maximum assertiveness is achieved in measuring costs, providing managers with security in the information computed, and avoiding losses and deviations from the business.

For the RESPONDENT/TAX&HR, the importance of the tax sector is in the analysis of invoices, verifying the inputs, so that they are correctly accounted for. In relation to the human resources department, the respondent cites the "issue of the employee allocation sheet [...]" so that those units of that work come out correctly according to what is planned in the budget".

Addressing the second question, about the explanation of the importance of the functions by the administration, pointing to the employee's performance goals and objectives of the organization, the RESPONDENT/ACCOUNTANT stated that this occurs yes, that there is a concern that everyone knows their function so that the objective be achieved.

The RESPONDENT/FINANCIAL stated that “yes, for sure [...] from the beginning”, and explained the importance of daily monitoring of the financial flow, so that there is no financial absence in the payment of obligations.

The RESPONDENT/TAX&HR, in turn, stated that “yes, yes” that the goals and importance of their role are presented.

### **Characteristics of Aggression**

As a cultural characteristic of aggressiveness, Napitupulu (2018) considered comparing results with other team members. In this work, the aggressiveness characteristic was approached in the comparison of intra-organizational results, being directed the questioning to the RESPONDENT/ACCOUNTANT about whether he had already had contact with people who work in the accounting of other companies in the field, users of the same ERP system, about the use of its tools, analyzing whether this organization has in fact been aggressive in the use of the system.

The RESPONDENT/ACCOUNTANT said that they had already hired a consulting company focused on the use of ERP, and it stated that the company had indeed stood out for “so many questions regarding the use of ERP, improvements, [...] of reports, [...] the search for information, the exploration of what it can give us to improve the process”. Thus, the company has shown characteristics of aggressiveness.

## **5. CONCLUSION**

The present study aimed to understand how ERP users view the importance of their role and interpersonal relationships to avoid the incidence of hidden costs linked to the misuse of the management information system. In their study, Gavali and Halder (2019) concluded that an ERP system brings transparency and an increase in trust between the actors of an organization, so, although it represents an investment considered expensive and time-consuming, the benefits outweigh the difficulties when used effectively.

The effectiveness in the use of the system depends on the performance of the actors that will handle it, Gomes and Vanalle (2001) cites the impact on human resources as an important characteristic of ERP systems, since employees must have a view of the process, extending your concern beyond your specific activity. The company studied demonstrated to act in a harmonious way, with employees informed about their functions, and about how their roles can influence this network of actors and tasks of the organization.

The acquisition of an ERP system stems from the need to centralize information, facilitate its flow, reduce rework through the integration of the various sectors of an organization, and when the system is not well aligned between sectors, it can cause hidden costs for the organization, resulting from dysfunctions such as: erroneous measurement of costs; reworks in the construction of similar information in multiple sectors; and waste of system tools. The type of use of an ERP system can make up for these costs, since the accountable part and exposed in reports is only the disbursement for monthly payment of the right to use the system.

Although it is not exposed in reports, it is up to managers to observe how the acquired system has been used. The characteristics of organizational culture mentioned in this study demonstrate the attitudes of employees together with managers, making the tool achieve its purpose, whether through attention to detail, which deals with the rigor and precision of employees in their actions (Napitupulu, 2018); whether in the innovation characteristic, which motivates employees to innovate through system experimentation (Napitupulu, 2018); or in the team orientation resource that brings collaboration between actors (Napitupulu, 2018); or in the results orientation resource, where the focus of the work and the expected results are demonstrated (Napitupulu, 2018); or by the characteristic of aggressiveness, bringing the spirit of competition and improvement (Napitupulu, 2018).

Through the analysis of the data collected in this study, we saw that even an aligned organization, presenting in a positive way all the cultural characteristics studied, can come across situations in which there are reworks or longer paths to perform a task. In the case studied, the interviewees mentioned situations such as the non-integration of modules in the ERP system. The problem has already been reported to system support in search of solutions. But the case brings the following reflection: excluding the perfect situations, with the perfect system and all the actors in the organizational network working perfectly well and together, all organizations are subject to hidden costs. The observation of these can operationally, competitively and financially boost an organization, it is up to the manager to choose whether to pay attention to the “iceberg” in his direction.

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