

# **Examining the Impact of Organizational Culture on IS Strategic Alignment under a qualitative analysis**

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## **Résumé :**

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Le but de cet article est d'explorer l'impact de la culture organisationnelle sur l'alignement stratégique du système d'information. Nos analyses qualitative et quantitative de la littérature mettent en évidence une faiblesse significative de la prise en compte de cette dimension. Cet impact a été testé au sein d'une sélection d'entreprises européennes opérant en Tunisie ainsi qu'au sein d'entreprises locales, toutes étant en phase de post-basculement et d'usages opérationnels de leur système ERP. Quatre études de cas ont été réalisées à partir d'interviews semi-directifs de Directeurs Généraux, Directeurs des Systèmes d'Information et Directeurs "Métiers". Les résultats de l'analyse des contenus soulignent la nécessité de prendre en compte la culture organisationnelle en tant que facteur potentiel stimulant l'alignement stratégique. Une forme de "Clan Culture" se révèle ainsi en capacité de promouvoir l'alignement stratégique du Système d'Information.

**Mots-clés :** Alignement stratégique, Systèmes d'Information, Culture Organisationnelle

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# **Examining the Impact of Organizational Culture on IS Strategic Alignment under a qualitative analysis**

## **Abstract :**

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The aim of this paper is to explore the impact of the organizational culture on the IS strategic alignment. Our quantitative and qualitative analyses of the literature show very weak awareness of this dimension.

This impact was tested among a selection of European and local firms operating in Tunisia and which were in the post-changeover phase of their ERP systems. Four case studies were carried out from semi-structured interviews among General Managers (GM), IT and Business Department Executives. The results of the content analysis highlight the need to take organizational culture into account as a potential stimulator for strategic alignment. A “Clan Culture” that is sufficiently based upon the values of transparency, cooperation and partnership are likely to promote IS strategic alignment.

**Keywords :** Strategic Alignment, Information Systems, Organizational Culture

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## **Introduction**

« *There are two reasons why a strong culture is valuable: the fit of culture and strategy, and the increased commitment by employees to the firm. For a strategy to be successfully implemented, it requires an appropriate culture* » (O'Reilly, 1989, pp.16). If O'Reilly insists on the alignment of culture with company strategy and if the strategic alignment of IS consists in aligning IS with strategy, this necessarily highlights the existence of a possible link between culture and strategic alignment.

The literature review in the field of the IS strategic alignment reveals that most researchers mainly insist on the importance of the “structural” and “strategic” dimensions of alignment (Chan, 2002). According to Chan (2002), the IS alignment is a set of synchronous dimensions: “*that bring together an organization's Structure, Strategy and Culture at multiple levels, with all their inherent demands*” (pp. 99). Chan infers that informal organizational structure can be envisaged as a third decisive dimension of IS alignment, and that organizational culture is likely to affect the alignment. Moreover, Leidner et Kayworth (2006) and more recently Ravishankar, Pan et Leidner (2011) highlight a lack of interest in studying the role of national or organizational culture in strategic alignment. By drawing on these observations, our theoretical exploration of strategic alignment area (Appendix.1) shows that despite many attempts to identify enablers and inhibitors of IS strategic alignment, mobilizing a cultural approach has not been addressed as such (Chtourou, 2012).

In response to the Leidner and Kayworth's call, the paper's objective is to highlight the conceptual and managerial importance of a reflection around the impact of organizational culture on strategic alignment. In addition to the theoretical demonstration, this impact was tested through twelve semi-directive interviews carried out among General Managers, Business Executives and IS Managers from five companies operating in Tunisia and which were in the post-changeover phase of their ERP systems.

## 1. THEORETICAL BACKGROUND

### 1.1 THE CULTURAL DIMENSION OF STRATEGIC ALIGNMENT

According to Laudon et Laudon (2013), the organizational and managerial dimensions of Information Systems (IS) help us to understand why an IS investment does not necessarily guarantee a good return in terms of the effects produced by their actual usage. Brynjolfsson (2003) claims that organizations, which complete their investments in IS with complementary assets, such as new business processes, organizational culture and training greatly benefit. Organizational culture can be included in the assets which are complementary and necessary to the success of an IS investment. This echoes the Smircich's (1983) research, who starting from the cross point of the organizational and culture theories, highlighted the need for a culture paradigm to analyze organizational phenomena.

This reflection provided a landmark for many researchers interested in analyzing the effects of culture on the adoption and appropriation of IS. Without attempting to present an exhaustive analysis of the subject, we refer to Leidner et Kayworth's (2006) contribution. These authors conducted a meta-analysis on a comprehensive review of the IS literature, with a view to gaining a better grasp of the concept of culture, exploring how it is understood in the field of IS, and thereafter providing substantial directions for future research on IS.

Confronted with the proliferation of research dealing with strategies IS planning, Leidner et Kayworth (2006) emphasize this fact: *"While there is a wealth of research on strategies IT planning and IT alignment, there is very little research devoted to examining the role of national or organizational culture in the process of IT planning, in achieving IT alignment, or in the result of IT planning"* (pp.369). More recently, Ravishankar, Pan et Leidner (2011) reach the same conclusions, indicating that: *"Two important gaps exist in the information systems (IS) alignment research. First, there is scant research on the potential of organizational culture, and specifically subcultures to influence the strategic alignment of IS and organizations"* (pp.39).

As already pointed out by Van Der Zee et Jones (1999), the challenge for future research in strategic alignment would be to clarify the understanding of the prerequisites for alignment in terms of culture, competences and responsibility. In the same line, Chan et Reich (2007) em-

phasize the existence of specific social and cultural backgrounds that are very important for the IS strategic alignment.

Perusing the reference work in this area, we identified a lack of interest for the cultural dimension. In reality, many attempts were made to identify enablers and inhibitors of IS strategic alignment; however, there are no examples of research explicitly analyzing the effects of culture as such. Reich et Benbasat (2000) highlight four social dimensions likely to impact strategic alignment: knowledge sharing between Business and IS executives; communication; successful IT history; and connections between business and IT planning. Although these dimensions are social, Reich et Benbasat (2000) state that they are distinctive features of organizational culture.

This also applies to Luftman, Papp et Brier (1999) which show that alignment is evolutionary and dynamic and thus requires the following practices: to improve the relationship between IT and the other organizational functions; promote better communication; and maintain the commitment and support of the Management. Brown et Magill (1994) suggest a model of antecedents of the alignment of the IS function with the other functions of the firm. This model attempts to understand which of the IS structures (centralized, decentralized or hybrid) is adopted and which of these antecedents are essentially connected to both the control structure within the IS function and the company culture. According to Watts (2005), Brown et Magill's research is the only one to take account of organizational culture as a potential factor of the IS alignment. Culture can prove to be a cause of misalignment of the IS as an emerging culture reinforcing the autonomy of *Business Units* and clashing with a centralized IS structure (Brown et Magill, 1994).

Chan (2002) put "the informal structure" as a third dimension of alignment that complement both strategic and structural components. According to Chan, the organizational culture and the informal network, which are conducive to encouraging staff and providing a positive work environment, are likely to promote IS alignment. He suggested that the literature on alignment area should highlight the importance of intangible factors (trust, cultural and social ties).

All these studies confirm the actual need for further research empirically sourced to explain the relationship between organizational culture and IS strategic alignment. Moreover, the recent work on alignment, in particular those of Walsh & al. (2013) and Ravishankar & al.

(2011), put the cultural dimension as a structuring element of alignment, respectively, under the names "User's IT Culture" and "Subculture". Walsh & al. (2013) have the advantage of understanding the alignment "as a practice" but reconfirm the interest of our exploratory contribution centered on organizational culture that is not reducible to the aggregate of individual cultures.

## **1.2 THE ORGANIZATIONAL CULTURE**

It is at the beginning of the eighties that first research led to recognize the importance of the organizational culture concept, its explanatory power in the area of contingency theories, and its relevance in dealing with organization problems (Pesqueux, 2004). This resulted in a proliferation of literature studying the concept of culture as a major managerial issue and more specifically as a facet of organizational behavior. Smircich (1983) distinguishes two streams of research: the "has" approach (the firm has a culture, and considers it as a variable affecting and /or affected by other organizational variables) and the "is" approach (the firm as a culture; culture is a metaphor for studying organizations). Cameron et Quinn (1999) argue that in addition to values, organizational culture reflects the dominant styles of management and leadership, the language and the symbols, the procedures and routines which make an organization unique. Denison (1996) proposes to extend the definition of culture by adding to beliefs and assumptions a set of management practices and behaviors likely to enrich and reinforce those basic principles.

In spite of the maturity acquired since its emergence, the concept of organizational culture has not succeeded in reaching a consensus as regards its definition. It is one of the most difficult to define and operationalize (Straub & al., 2002). However, Hofstede & al. (1990), Cameron et Quinn (1999) and Denison (1996) suggest pragmatic definitions indicating that the concept of culture can be operationalized as a set of management practices and behaviors, and can be considered as a measurable entity. Therefore, the dimensional model as proposed by Cameron et Quinn (1999) provides a concrete description of organizational culture.

In this study, we mobilize a cultural approach based on the "Competing Values Framework" CVF (Quinn et Rohrbaugh, 1983). Originally proposed as a "framework for organizational analysis", the CVF provides the theoretical basis for Cameron et Quinn's (1999) OCAI "Or-

*ganizational Culture Assessment Instrument*”, which can be used to profile organizational culture (Watts, 2005). The CVF is illustrated in Appendix.2.

This framework graphically depicts a profile of organizational culture along a continuum of two dimensions: the degree of inward/outward orientation of an organization and the degree of stability/flexibility of the organization (Watts, 2005). Four profiles graphically result in a quadrant: "Culture Clan", "Adhocracy Culture," "Market Culture" and "Hierarchy Culture". These profiles are built around a set of behaviors, values, beliefs and basic assumptions.

## **2. RESEARCH METHODOLOGY**

In light of Chan’s (2002) proposition, this study was conducted to explore the impact of organizational culture on IS strategic alignment. A multiple case study is carried out from 16 semi-structured interviews. Since qualitative samples tend to be oriented, rather than random, and respond to theoretical sampling criteria (Miles et Huberman, 2003), we defined the sample four survey sites. Twelve semi-structured face-to-face interviews, lasting an hour on average were conducted among 4 General Managers, 3 IS Managers, and 5 Business Department Executives from 4 survey locations (Appendix.3). The investigation lasted eight months. After having re-transcribed the full text of the 12 interviews, we analyzed the content. This type of analysis consists in fact in cutting the text into basic analysis units, regrouping these units into homogeneous and exhaustive units, and then linking them before reaching a description, an explanation or configuration (Wacheux, 1996). We followed these three steps, respectively:

- Pre-analysis: after ensuring the principles of completeness, homogeneity and representativeness, we developed “summary sheet” (Miles et Huberman, 2003) (Appendix.4). Structured around four headings, the summary sheet used to take all the highlights of the interview by detecting answers to the various questions through and beyond the apparent and formal content of verbatim.
- Codification: we adopted the Miles et Huberman’s (2003) coding approach. We began by establishing an "initial code list" before access to various survey sites. Secondly, our preliminary list unstructured has been revised throughout our empirical investigation eventually leading to the final “codebook” (Appendix.5). Based on this instrument, we proceeded to the speech coding by categorizing them into specific thematic units.

- Inference and meaning extraction: note that all the interpretations we have inferred from our empirical corpus are the result of a “qualitative” content analysis. Therefore, in order to carry out our analysis of the meaning and make it easier, we have also helped to “matrices” (Miles et Huberman, 2003) for compressing and order data.

### 3. STUDY RESULTS

In order to collect relevant and credible answers to your questions, we follow three steps: we wanted to make sure, as a first step, if the interviewees were aware of the strategic contribution of the ERP system and the importance of the strategic alignment theme. In a second step, we tried to detect what reality corresponded ERP system strategic alignment both on strategic and business priorities. The third step was the opportunity to perceive the definition they attribute to the organizational culture. By following this logic, we have led to ask them on the impact of organizational culture on ERP system strategic alignment. The following table.1 illustrates the results of “meaning extraction” step.

**Table.1: Inference and meaning extraction from empirical corpus**

Survey site	Interviewee <sup>1</sup>	
“A”	BDE	<p><b>Verbatim</b></p> <p><i>“It is certain that the company culture is important for the success of the SA of an ERP system. [...] The capacity to listen and dialogue is necessary for the SA of an ERP system. Besides, this ability is an immutable feature of “A”” (Interview N°1 BDE.3).</i></p> <p><i>“Obviously, the SA of the ERP system necessarily requires the existence and the formulation of clear and transparent Business Department priorities: Business models and Business Processes must be well defined, clarified and explained from the beginning of the project. Undoubtedly, Business Department consensus is one of the key success factors of SA: the coherence between Business Department needs was 60% at the beginning of the ERP project. The remaining 40% were achieved through the configuration of the Navision system” (Interview N°1 BDE.3).</i></p> <p><b>→ Inference and meaning extraction</b></p> <p>On reading this extract, we notice that the “<i>dialogue</i>” and the “<i>consensus</i>” between BDEs are in line with the views of Broadbent and Weill (1993) when they emphasize the clarity of the strategic vision and consensus between executive directors with regard to the strategic approach and its division into Business Department requirements, as factors promoting Is strategic alignment.</p>

<sup>1</sup> For confidentiality reasons, the companies surveyed are referred to by the initial capital letter of their corporate name. Thus, for interviews, we used the abbreviation SA to refer to Strategic Alignment.

	<b>GM</b>	<p><b>Verbatim</b></p> <p><i>"It is undeniable that the cultural dimensions (trust, communication, partnership ...) are decisive for the success of the SA of an ERP system. However, it should be noted that organizational culture is largely influenced by national culture. In fact, the implementation of the SAP solution in European entities differs considerably from that of said solution in Maghreb entities particularly at internal partnership culture "</i> (<b>Interview N°1.GM.4</b>)</p> <p><b>→ Inference and meaning extraction</b></p> <p>The GM supports the need to consider the cultural dimensions at the strategic alignment of the ERP system: <i>"trust", "communication" and "internal partnership"</i>. The GM draws our attention instead of national culture.</p>
<b>"C"</b>	<b>BDE</b>	<p><b>Verbatim</b></p> <p><i>"Yes of course. With the development of the Business portfolio, we felt that there was a great need for reorganization. To this end, we implemented an ERP system [...]. Along with Navision, we introduced a more developed procedures manual. The implementation of Navision was accompanied by organizational restructuring. And thus the new organization will play in favor of the SA of the system"</i> (<b>Interview N°2. BDE.3</b>). Speaking about the "new organization" It turned out that it referred to the cultural aspect of the restructuring accompanying the implementation of the ERP system detailed as follows: <i>"In fact the culture of "C" is essentially based on team work while benefiting from cooperation. The team work is organized via a well structured functional hierarchy"</i> (<b>Interview N°2 BDE.3</b>).</p> <p><b>→ Inference and meaning extraction</b></p> <p>This also refers us back to the need, recognized by many researchers on strategic alignment to adopt a <i>"partnership and cooperative approach"</i> in order to achieve the successful IS strategic alignment.</p>
	<b>ISM</b>	<p><b>Verbatim</b></p> <p>The ISM of "C" highlights the inhibitors of ERP system strategic alignment as described below: <i>"The main difficulties characterizing the SA of an ERP system can be technical, human and organizational: slow adaptation to the new platform: some managers feel that they bear the brunt of the weight of inertia, and as a consequence show some reluctance towards integration and sharing information; the divergence of views"</i> (<b>Interview N°2 ISM.2</b>).</p> <p><b>→ Inference and meaning extraction</b></p> <p>Adopting analogical reasoning, we can admit that <i>"information sharing" and "vision convergence"</i> embody two cultural values that are crucial for the IS alignment (Reich and Benbasat, 1996; 2000).</p>
	<b>GM</b>	<p><b>Verbatim</b></p> <p><i>"Absolutely! First of all we need to formulate a very clear strategy and then transmit it comprehensively with all the details. Without this, we are likely to face patent failure. It is obvious, for the IS in general and for Navision in particular. If there is no well understood cohesion between all the users as well as common principles and cultural values, one person could impair the work of a whole team via a simple trick. Thus it is very important to have a cultural field covering the whole firm"</i> (<b>Interview N°2.GM.4</b>).</p>

		<p>→ <b>Inference and meaning extraction</b></p> <p>The GM of “C” support the role of the “<i>culture of transparency</i>” on the strategic alignment. According to the GM, the essential purpose of such a culture is to ensure the clarity and dissemination of the strategic guidelines to the different BDEs including the ISM. In addition to the clarity of strategic vision put forward by Broadbent and Weil (1993) as an essential organizational practice for the strategic alignment of IS, the notion of transparency also refers us to Fimbel’s (2007) work. He emphasizes the necessary specification of the reference strategic trajectory for all the BDE and the ISM contributors, each of which is responsible for conceiving and conducting its contributing operation so that it is consistent with the strategic operation and in synergy with the other contributing operations (Fimbel, 2007).</p>
“T”	BDEs	<p><b>Verbatim</b></p> <p>The Sales Manager of “T”: « <i>Well, the running of Adonix is certainly sensitive to company culture. Especially, at the level of information shared between most Business Executives. Anyway, if the information does not get through, the operation will be hindered. In the case of a purchase order, if the information does not arrive on time, there will certainly be a risk of stock out. The information must be shared with the managements of the Purchasing and Production departments in order to produce the goods in time</i>” (Interview N°4 BDE.4).</p> <p>The Financial Director of “T”: “<i>Our cultural values? In reality, the question that needs to be asked is the following: do we have a leader or not? [...] Communication? Imagine that I, as the number one person in charge, receive the information and do not pass it on to my subordinate, how is he going to do his job? In short, that is what company culture is about. Sharing information? No it’s not that either (smiling) [...] What matters is that everybody has the same objective, focuses on the future of the business and unites their efforts around a same vision! Well, we are not yet adequately prepared to reach this level</i>” (Interview N°4 BDE.3).</p> <p>“<i>It is true that transparency is a reality within “T”! However, it needs to be formalized! In this sense, we all have our own objectives, but do these objectives, which, surely do not correspond in the absolute, really converge to a single goal? Really, if we lack something, it’s surely synchronization</i>” (Interview N°4 BDE.4).</p>
		<p>→ <b>Inference and meaning extraction</b></p> <p>We believe that it is worth focusing on the attitudes of the BD Executives of “T”. These attitudes were exciting all the more as they emphasized cultural values barely laid out within their firm and which are likely to improve strategic alignment: “<i>information sharing</i>”, “<i>communication</i>” and “<i>transparency</i>”. Nevertheless, if we come back again to his verbatim relating to the description of his company’s culture and to that of the Financial Manager, we can conclude that these values of “<i>sharing</i>” and “<i>transparency</i>” which play a stimulating role in handling alignment, remain fragile and almost non-existent in The “T” company. It should be noted that this result echoes the call made by Reich and Benbasat (2000) to put in place both “<i>transparency</i>” and “<i>information sharing</i>” in the approach to the IS strategic alignment.</p>
	ISM	<p><b>Verbatim</b></p>

		<p><i>“Of course, a culture of development and membership can positively influence the SA of the Adonix system, without of course forgetting the support of the General Manager(GM) and the role of monitoring! “T’s” culture is based on development. Our objective is exports. What is development? It’s having several certificates of quality. The GM can only land an external market, if we have this certificate. [...] We also have the value of “membership”. In this sense, when we have such a project, we must be ready to make sacrifices in terms of time and efforts. It is as if we were working for our own heritage. Here, all the staff work as if they were members of one and same family. We do not cultivate individualism” (Interview N°4 ISM.2). “ The success of Adonix within “T” is the result of the commitment and the monitoring of our GM [...] Monitoring based on the indicators. The latter should clarify and define the economic situation. [...] In fact we have an “Audit Department”, which is currently controlling the current situation; it gives us proposals and possible solutions decided in consultation with the BDMs” (Interview n°4 ISM.2).</i></p>
		<p><b>→ Inference and meaning extraction</b></p> <p>The view of the ISM of “T” strengthens our convictions concerning the contribution of organizational culture to the strategic alignment issue. A culture which is called upon to convey “<i>values of development</i>” and “<i>membership</i>”. In this sense, we think it is possible to understand the role of GM, as described by the ISM of “T” under the “<i>leadership</i>” angle which was already raised by Baker (2004) as a factor contributing to IS strategic alignment in the following way: “successful alignment requires a collaborative corporate culture and strong leadership from every player in the game” » (Baker, 2004, pp.19). According to Dmaithan and Zulkhairi (2010) leadership is one of the main representative factors of the “culture gap” between IS strategy and the business strategy of the firm. Furthermore, Cameron and Quinn (1999) stipulate that dominant management and leadership styles are among the fundamental components of organizational culture.</p>
<b>GM</b>	<b>Verbatim</b>	<p><i>“Well, the strategy must emanate from global thinking and the involvement of all the management of the firm. This strategy must be well debated and communicated to give it the best chance of success. Because, as you well know, a strategy, that does not go beyond the level of GM, will be compromised. Conversely, if it is well thought through, that is to say, if the executives have participated and have been convinced of its usefulness through good communication and discussion, there is more efficiency. This information sharing is essential for the success of the firm’s strategy and subsequently the success of the SA of the ERP system” (Interview N°4. GM.1). “The sense of membership is one of our cultural landmarks. It only subsequently repeats the commitment and earnestness of the person. We also have a code of ethics: respect for people, rigor, behavior management etc... which values are all embedded [...].When we speak of rigor, we empower, delegate and control all at once” (Interview N°4. GM.1).</i></p> <p><b>→ Inference and meaning extraction</b></p> <p>Such assertions reinforce the Luftman, Papp and Brier (1999) and Reich and Benbasat’s (2000) results which underscore the role of “<i>communication</i>”, “<i>mutual understanding</i>” and “<i>visions harmonization</i>”. In addition to these dimensions, the GM of “T” puts into perspective, almost symmetrically, the notions of “<i>membership</i>” and “<i>rigor</i>” as two determinant cultural landmarks of the deployment of their organizational culture.</p>
<b>“I”</b>	<b>BDE</b>	<b>Verbatim</b>

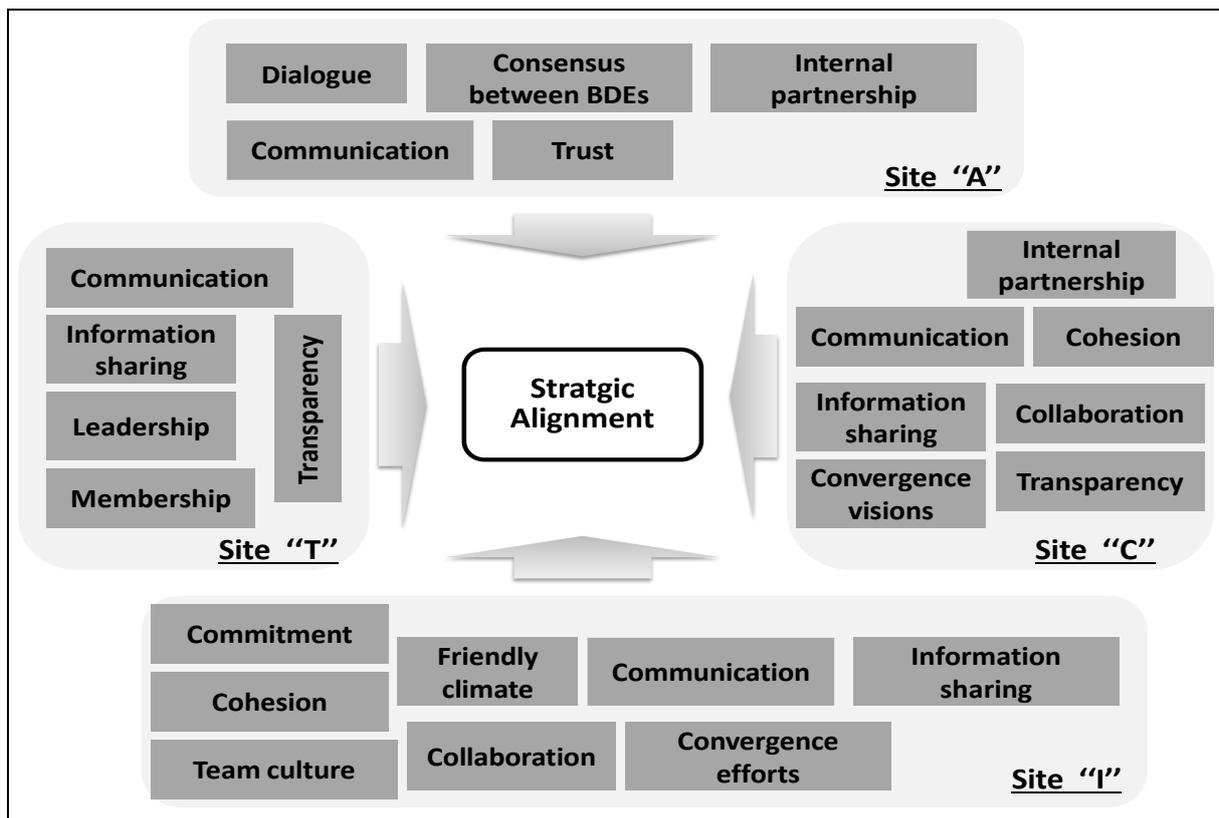
	<p><i>“Thus, communicating and sharing information can improve our practices in convergence with our priorities. As Resources Manager, I sometimes step in to consult information concerning purchases, stocks and sales. So I can ask the BD managers for reports on Navision even if they feel they are overwhelmed with work. This can be embarrassing! So if there was no communication, sharing and exchange culture and harmony between colleagues, I would not be able to make good use of Navision” (Interview N°5 BDE.3).</i></p>
	<p><b>→ Inference and meaning extraction</b></p> <p>The Resources Department Manager of “I” proves the obvious contribution of “<i>team culture</i>”. She explains how “<i>communication</i>”, “<i>information sharing</i>”, the “<i>friendly climate</i>” play for the ERP strategic alignment on business priorities.</p>
ISM	<p><b>Verbatim</b></p> <p><i>“Culture, it is certainly a factor which strengthens the advancement and an efficient operation of the system. Well, if there is an open and really cooperative spirit, it further facilitates the relationship and coordination between departments. This makes a strong case for the SA of the system. Yes, there is a cooperative initiative within “I”, but it is still embryonic. Well, even if people’s culture shows some degree of reluctance, the system will push them indirectly to collaborate and share information. The system will induce them into its own culture conditioned by shared information and a cooperative spirit. According to my experience, the organizational culture and the culture inserted in the ERP system both impact SA” (Interview N° 5. ISM. 2).</i></p>
	<p><b>→ Inference and meaning extraction</b></p> <p>The ISM of “I” stresses the importance of an “<i>open and cooperative culture</i>” to facilitate strategic alignment of the ERP system. However, his verbatim was particularly original. He states that the ERP system strategic alignment is affected both by the organizational culture and the culture conveyed by the system.</p>
GM	<p><b>Verbatim</b></p> <p><i>“Well, I would say that there is no direct link, but Navision like any other high level company project is very complicated especially at the cultural level. Thus it is true that it requires group cohesion and the support of the whole team if it is to succeed. But in this case, it is true; the company culture must promote commitment, support and the convergence of all efforts around one single project, however sensitive it may be. Thus the role of culture is not exclusively limited to SA, but rather applies to the general success of Navision” (Interview N° 5. GM.1). “Obviously, the strategic directions of the firm must be communicated not only to the ISM but also to all the BDEs so that they can share them. These guidelines, whatever the difficulties must be adopted and enforced. These BDEs must participate in the strategic choice through the definition of their departmental needs which will be made available to the ISM” (Interview N°5. GM.1).</i></p>
	<p><b>→ Inference and meaning extraction</b></p> <p>The GM of “I said at the beginning of his verbatim that it had a rather indirect effect. But, gradually as he developed his reasoning, he quickly put things right confirming that organizational culture- based on “<i>group cohesion</i>”, “<i>adhesion</i>”, “<i>commitment</i>” and “<i>convergence of efforts</i>”-played a major role in the strategic alignment of the ERP system, even in the global success of the project. According to him, a culture based mainly on “<i>communication</i>” and “<i>information sharing</i>” can ensure clarity and dissemination of strategic directions to the BDEs, including ISM. This will facilitate the ERP system strategic alignment.</p>

## 4. DISCUSSION AND INSIGHTS

Based on the "meaning extraction" perspective's Wacheux (1996), content analysis of 12 interviews allowed us to see that the majority of professionals interviewed have referred spontaneously to the same cultural dimensions that are capable of having a marking and discriminating impact on the strategic alignment of the ERP system.

From Figure.1, we conclude that a culture sufficiently based on communication, trust, transparency and information sharing is likely to promote the strategic alignment of ERP system in the post-changeover phase. Thus, a culture of internal partnership, cohesion, cooperation and membership can consolidate the strategic alignment.

**Figure.1: Exploring the cultural dimensions of strategic alignment**



Referring to the organizational culture's taxonomy of Cameron et Quinn (1999), we can interpret these dimensions as constitutive elements of "Clan Culture". In fact, this cultural profile characterizes enterprises tend to follow both the "Internal Orientation" and the "Organizational Flexibility" of structure. The clan culture is built around a fundamental assumption "human affiliation". In this sense, it conveys the belief that people behave appropriately when they

have confidence in the organization and explained trajectory and embodied by leaders. This confidence is gradually consolidates and materializes in the sense of membership. Moreover, it embodies the values of commitment, affiliation, collaboration and trust. Behaviors that flow from this cultural profile be characterized by teamwork, participation, involvement and open communication.

The awareness of the majority of respondents from the contribution of clan culture joined the recommendations of Luftman & al. (1999), Reich et Benbasat (2000) to consider the role of communication, information sharing and group spirit in mutual understanding between the stakeholders involved in the strategic alignment.

## **Conclusion**

The major issue of this research was essentially to examine the impact of organizational culture on the IS strategic alignment. To this end, an exploratory approach based on 12 semi-structured interviews was conducted among 4 GMs, 3 ISMs, and 5 BDEs.

We can admit that the content analysis of the interviews has enabled us to feed a construction explaining the impact of cultural dimensions on the strategic alignment of IS, and this through concrete examples drawn from professional experience. Such a general result whose main priority objective is the progression of knowledge linked to the IS strategic alignment must also be useful for the professional world. In fact this result calls for serious consideration by the firm of the role it is ready to grant to organizational culture when faced with a strategic alignment operation. This is likely to both guide the action and to help us to understand how the firm, through a clan culture that is sufficiently imbued with the values of communication, information sharing, membership, internal partnership and cooperation, can significantly contribute to the success of the strategic alignment during the most critical phase of ERP project : “the post-changeover phase.

In a practitioner perspective, the ERP system alignment does not spontaneously apprehended collectively and synchronized by the GM, BDEs and ISM. In fact, these stakeholders with different visions and different priorities may aggravate misunderstandings and conflicts that may bias the strategic alignment. They are well advised to recognize the role of organizational culture in adjusting their interaction zones.

Although we have felt that the content analysis is too attractive in terms of the quality and wealth of the information with regard to our cultural assumption, it will invite the same criticism in terms of reproducibility and generalization (Allix-Desfautaux, 1995). Considering that precautions were taken to address the validity and reliability of the qualitative research, we were aware that the analysis of the verbatim was mainly based on inferences in which our own intuition would prevail, which is likely to have a negative impact on the accuracy of the measure. In fact, if we were able to infer the main cultural landmarks of the five companies surveyed, and holistically analyze and interpret how these landmarks impact the strategic alignment of IS, we find ourselves unable to accurately measure the degree of impact according to the cultural profile in the sense of Cameron et Quinn's (1999) cultural taxonomy.

It is in this sense that the shortcomings of our qualitative study on the one hand, and the ambition to enable the emergence of knowledge empirically validated with regard to the cultural dimension of the IS strategic alignment on the other hand will legitimize our use of the survey questionnaire within the framework of a complementary qualitative approach. A convincing justification of this choice is to be found in Allix-Desfautaux (1995) according to whom: *“Resorting to triangulation, enables one, by means of the qualitative method, to obtain depth and foresight, whereas the quantitative statistic method provides the security of generalization”* (pp.20).

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## Appendix

### APPENDIX.1: Bibliometric results from the requests in ProQuest, EBSCO and “ScienceDirect”

	Field codes <sup>5</sup>	Results	Field codes	Results	Field codes	Results	Research treating more or less explicitly the cultural hypothesis of strategic IT/IS alignment
ProQuest	Ti (Alignment)	24698	Ti (Alignment) + Ti (Culture)	45	Ti (Alignment) + Ti (Organizational Culture OR Corporate culture)	18	1/ “The relationship between IT-Business alignment and organizational Culture: An exploratory study”. Watts, N. D. <i>Thèse de doctorat en sciences de gestion</i> . Université de Memphis. 2005. 2/ “Culture organisationnelle et Alignement Stratégique des systèmes ERP : quelle relation?”. Chtourou, N. <i>13ème Congrès de l’AIM (pré-ICIS Workshop)</i> . Paris, 13 et 14 Décembre 2008.
			Ti (Alignment) + Ab (Culture)	196	Ti (Alignment) + Ab (Organizational Culture OR Corporate culture)	20	
	Ti (Alignment) + Ti (Information System OR Information Technology)	176	Ti (Alignment) + Ti (Information System OR Information Technology) + Ti (Culture)	0			
			Ti (Alignment) + Ti (Information System OR Information Technology) + Ab (Culture)	5	Ti (Alignment) + Ti (Information System OR Information Technology) + Ab (Organizational Culture OR Corporate Culture)		
	Ti (Alignment) + Ti (IS OR IT) + Ab (Information System OR Information Technology)	140	Ti (Alignment) + Ti (IS OR IT) + Ab (Information System OR Information Technology) + Ti (Culture)	2	Ti (Alignment) + Ti (IS OR IT) + Ab (Information System OR Information Technology) + Ti (Organizational Culture OR Corporate Culture)	1	
	Ti (Alignment) + Ti (IS OR IT) + Ab (Information System OR Information Technology) + Ab (Culture)		3	Ti (Alignment) + Ti (IS OR IT) + Ab (Information System OR Information Technology) + Ab (Organizational Culture OR Corporate Culture)			
	Ti (Alignment) + Ti (Système d’information OR Technologie d’information) + Ti (SI OR TI)	15	Ti (Alignment) + Ti (Système d’information OR Technologie d’information) + Ti (SI OR TI) + Ti (Culture)				
EBSCO	Ti (Alignment)	1970	Ti (Alignment) + Ti (Culture)	8	Ti (Alignment) + Ti (Information System OR Information Technology) + Ti (Organizational Culture OR Corporate culture) <i>OR</i> Ti (Alignment) + Ti (IS OR IT) + Ti (Organizational Culture OR Corporate culture)		1/ “Is Your Culture Hindering Alignment?”. <i>CIO Insight</i> . 2004, Issue 45, p65-77. 2/ “Examining the Strategic Alignment and Implementation Success of a KMS: A Subculture-Based Multilevel Analysis”. Ravishankar, M. N.; Pan, Shan L.; Leidner, Dorothy E. <i>Information Systems Research</i> . 2011, Vol. 22 Issue 1, p39-59. 3/ “Diagnosing the Gap in IT – Business Strategic Alignment: A qualitative analysis among public Shareholding Firms in Jordan”. Al majali, Dmaithan; Dahlin, Zulkhairi Md. <i>International Journal of Electronic Business Management</i> . 2010, Vol. 8 Issue 4, p263-271. 4/ “Leading Alignment”. Baker, Edward H. <i>CIO Insight</i> . 2004, Issue 45, p19-22.
			Ti (Alignment) + Ab (Culture)	46	Ti (Alignment) + Ti (Information System OR Information Technology) + Ab (Organizational Culture OR Corporate culture) <i>OR</i> Ti (Alignment) + Ti (IS OR IT) + Ab (Organizational Culture OR Corporate culture)	1	
ScienceDirect	Ti (Alignment)	3873	Ti (Alignment) + Ti (Culture)	5	Ti (Alignment) + Ti (Information System OR Information Technology) + Ti (Organizational Culture OR Corporate culture) <i>OR</i> Ti (Alignment) + Ti (IS OR IT) + Ti (Organizational Culture OR Corporate culture)		1/ “Strategic alignment and a culture innovation: Using the SPRINT methodology to meet two challenges of information age government”. P. Kawalek, D. WastellV. <i>Evaluating Information Systems</i> , 2008, Pages 218-235
			Ti (Alignment) + Ab (Culture)	30	Ti (Alignment) + Ti (Information System OR Information Technology) + Ab (Organizational Culture OR Corporate culture) <i>OR</i> Ti (Alignment) + Ti (IS OR IT) + Ab (Organizational Culture OR Corporate culture)	1	

**APPENDIX.2: Competing Values Framework (adapted from Cameron & al., 2006)<sup>2</sup>**

<b>Flexibility and discretion</b>			
<b>Internal focus and integration</b>	<b>Clan</b>	<b>Adhocracy</b>	
	<p><b>Thrust:</b> Collaborate</p> <p><b>Means:</b> Cohesion, participation, communication, empowerment</p> <p><b>Ends:</b> Morale, people development, commitment</p>	<p><b>Thrust:</b> Create</p> <p><b>Means:</b> Adaptability, creativity, agility</p> <p><b>Ends:</b> Innovation and cutting-edge output</p>	<b>External focus and differentiation</b>
	<b>Hierarchy</b>	<b>Market</b>	
	<p><b>Thrust:</b> Control</p> <p><b>Means:</b> Capable processes, consistency, process control, measurement</p> <p><b>Ends:</b> Efficiency, timeliness, smooth functioning</p>	<p><b>Thrust:</b> Compete</p> <p><b>Means:</b> Customer focus, productivity, enhancing competitiveness</p> <p><b>Ends:</b> Market share, profitability, goal achievement</p>	
<b>Stability and control</b>			

<sup>2</sup> We may note that each cultural profile represents a theoretical archetype. In other terms, there is no intrinsic superiority from one profile to another. This means that an organization could be dominated by the group culture, be supported by elements of the development culture, but marginally influenced by rational and hierarchical cultures.

**APPENDIX.3: Detail of 16 semi-directive interviews<sup>3</sup>**

Survey Site	Origin	Activity	TO (Millions of TND)	Number of employees	Interview N°	Interviewee position	Sex	Age	Interview Date	Length of interview (in minutes)
A	French	Production of Industrial & Medical Gaz	43 M	194	1. BDE.3	Business Department Executive Health	M	42	5/6/2009	45
					1. GM.4	General Manager	M	55	5/6/2009	60
C	Tunisian	Production, Distribution and packaging of olive oil and derivatives	130 M	300	2. ISM.2	Information Systems Manager	M	39	14/5/2009	70
					2. BDE.3	Financial Manager	M	49	16/5/2009	60
					2. GM.4	General Manager	M	48	01/6/2009	75
T	Tunisian	Confectionery, poultry farming and distribution of electricity equipment	42 M	140	4. GM.1	General Manager	M	46	24/7/2009	40
					4. ISM.2	Information Systems Manager	M	31	10/8/2009	70
					4. BDE.3	Financial Manager	M	37	04/11/2009	55
					4. BDE.4	Sales Manager	M	39	05/11/2009	50
I	Tunisian	Software engineering micro-computer assembly	52 M	145	5. GM.1	General Manager	M	45	09/10/2009	60
					5. ISM.2	Information Systems Manager	M	39	10/12/2009	60
					5. BDE.3	Human Resources Manager	F	37	17/12/2009	50

<sup>3</sup> Though they show divergences at the level of the nature of the activity, the size and the positioning in the Tunisian market, they have three criteria in common: 1/They have an ERP system; 2/ They are in a changeover phase ( 12 to 18 months after implementation) ; and 3/ They gave a favorable answer to our request for collaboration by giving us free access.

**APPENDIX.4: Summary sheet of a semi-structured interview**

Summary sheet		N° : 4.BDE.3			
Type	Semi-structured				
Relevance degree	1	2	3	4	
Survey site	T				
Interviewee	N.B				
Position	Financial Manager				
Contact No	1				
Date	04/11/2009				
Duration	55 Minutes				
<b>Preliminary Interpretations</b>					
The interviewee emphasizes the effect of cultural dimensions of communication and transparency by arguing with concrete examples					
He confirms the impact of the agreement on the performance of the IS strategic alignment					
He cites examples showing the effect of culture on the harmonization of actions and interaction around the strategic alignment					
<b>Revealing points</b>					
He would not directly answer the question of the culture of the company " T " (he is not satisfied with such culture)					
He stressed the importance of organizational culture for interaction between stakeholders around strategic alignment of Adonix system					
<b>Notes about interviewee</b>					
An excellent understanding of the subject and concepts					
Very rewarding interview					

## APPENDIX.5: Codebook

Categories and themes	Code	Subcode	Description
<b>Strategic Alignment</b>	<b>SA</b>		<b>This code refers to the overall theme of strategic alignment</b>
Strategic Priorities		SA>SP	The respondent mentions the strategic priorities of his company: external growth, improving economic efficiency, development of new products / markets, increased skills...
Business Priorities		SA>BP	The respondent mentions the business priorities of his business unit: operational excellence, transformation of the business model or the supply chain, innovation, political means, investment optimization...
<b>ERP System Strategic Alignment</b>	<b>SA&gt;ERP</b>		<b>This code refers to the system ERP strategic alignment</b>
ERP strategic alignment on strategic priorities		SA>ERP/SP	The respondent explained the strategic alignment of ERP system on the strategic priorities of his company.
ERP strategic alignment on business priorities		SA>ERP/BP	The respondent explained the strategic alignment of ERP system on the business priorities of his business unit.
Key success factors and key challenges of ERP SA		SA>ERP/SCF	The respondent illustrates Key Success factors and key challenges of system ERP strategic alignment.
<b>Cultural Profile</b>	<b>CP</b>		<b>This code refers to the organizational culture</b>
Clan Culture		CP>CLAN	The respondent mentions the following cultural dimensions: individual development, work environment, solidarity, teamwork, empowerment, involvement, loyalty...
Adhocracy Culture		CP>ADHO	The respondent mentions the following cultural dimensions: creativity, entrepreneurship, innovation, adaptation, anticipation, experimentation, flexibility, risk taking, uncertainty...
Hierarchical Culture		CP>HIER	The respondent mentions the following cultural dimensions: structure, hierarchy, control, coordination, rule-enforcement, standardization, reliability, uniformity...
Market Culture		CP>MARK	The respondent mentions the following cultural dimensions: environment, competitiveness, market share, business goals, profits, performance, productivity...