

IS Strategic Alignment: The Clan Culture's Impact. A Four Case Study (Tunisia)

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Abstract

This paper explore the role of the cultural dimension in IS strategic alignment, focusing its analysis on the impact of organizational culture. A theoretical exploration crossing the field of the IS strategic alignment with that of organizational culture has enabled us to both substantiate and justify the cultural assumption which was tested among four Tunisian firms which were in the post-changeover phase of their ERP systems. Twelve interviews were made with a selection of General Managers (GM), IT and Business Department Executives. The analyses of the empirical material show that a "Clan Culture" (Cameron & Quinn, 1999) based upon the values of communication, information sharing and internal partnership has a significant impact on IS strategic alignment. Such results provide empirical evidence of the relevance of taking into account the cultural assumption as a potential stimulator for IS strategic alignment.

Key Words: *Strategic Alignment, ERP Systems, Organizational Culture, Content Analysis.*

Introduction

The contribution and synchronization of IS with the company's strategy or at least its compliance with key organizational expectations, is a major issue and is becoming increasingly important in the concerns of communities (Fimbel, 2007). The research of Henderson & Venkatraman (1999), around their SAM model, revealed the need to integrate the management of IS to the strategic objectives of the organization. This reflection raised a new perspective of research called "the IS strategic alignment".

Most researchers in the field of the IS strategic alignment mainly insist on the importance of the "structural" and "strategic" dimensions of alignment (Chan, 2002). However, 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" (Chan, 2002, pp. 99). Chan, put in evidence that informal organizational structure can be regarded as a third dimension of IS alignment, and more precisely the obvious impact of organizational culture.

In addition to Chan's (2002) ideas, Leidner & Kayworth (2006) and Ravishankar, Pan & Leidner (2011) highlight a lack of interest in studying the role of national or organizational culture in strategic alignment (Chtourou & Fimbel, 2016). So, the exploration of strategic alignment area shows that the claims of these authors are not isolated observations, since they have led us to also observe 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).

The questions we raise concerning the application of a cultural assumption to the strategic alignment is in keeping with this dialectic reasoning. The challenge is thus to highlight a key idea related to the relevance of conducting thinking around the impact of organizational culture on strategic alignment. Furthermore, the culture assumption is confronted to professional reality through twelve semi-directive interviews carried out among members of management teams from four Tunisian companies, which were in the post-changeover phase of their ERP systems.

Research Questions

The Cultural Dimension of Strategic Alignment: the lack of interest

According to Brynjolfsson (2003), the organizational culture can be included in the assets which are 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 (Chtourou & Fimbel, 2016).

Leidner & Kayworth's (2006) conducted a meta-analysis on a comprehensive review of the IS literature, exploring how culture concept it is understood in the field of IS. The main idea emphasized by Leidner & Kayworth (2006) is that IS are symbolic and can be a subject for all kinds of cultural interpretations by those who use it. Confronted with the abundance of research analyzing strategies IS planning, Leidner & Kayworth (2006) highlight a lack of interest for research on the relationship between culture and strategic alignment. The same conclusion was revealed more recently by Ravishankar, Pan & Leidner (2011): "*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).

Van Der Zee & Jones (1999) argue that 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 (Chtourou & Fimbel, 2016). Chan & Reich (2007) indicate that there are specific social and cultural factors that are very important for the IS strategic alignment. As a result, many contributions focused more particularly on the factors likely to stimulate the IS strategic alignment.

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 (Chtourou & Fimbel, 2016). It is the case of Reich & Benbasat (2000) who reveal four social dimensions could affect 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 & Benbasat (2000) state that they are distinctive features of organizational culture (Chtourou & Fimbel, 2016). Luftman & al. (1999) show that IS alignment is dynamic and requires practices likely to improve the relationship between IT and the other organizational functions; promote better communication; and maintain the commitment and support of the Management. This also applies to Brown & Magill (1994) which suggest a model of antecedents of the IS function alignment with the other functions. 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 (Chtourou & Fimbel, 2016).

Watts (2005) underlines that Brown and Magill's research is the first to take into account the organizational culture as a potential dimension of the IS alignment. According to Brown & Magill (1994), culture can cause misalignment by reinforcing the autonomy of Business Units and clashing with a centralized IS structure.

Towards A Cultural Assumption of IS Strategic Alignment

Based on this lack of interest, we think it is interesting to analyze some contributions, even if not address the cultural assumption as we do, their results are nevertheless very useful. Investigating the problem of IS misalignment, Chan (2002) attempted to describe managerial practices likely to improve the alignment and performance of IS. The results of his research reveal the importance of a third dimension of realignment, namely "informal structural organization" as a third dimension of alignment that complement both strategic and structural components. According to Chan (2002), the change of organizational structure towards a "human structure" largely accounts for the growing importance of informal structure. After having revised the nature of these three components, and explored the pre-conditions for each of them, Chan (2002) outlines the following result: informal structure is more important for the IS alignment than the two other components and that strong organizational culture can be a pre-requisite for that structure, thus re-enforcing alignment. The verbatim of a Business partner interviewed by Chan (2002) illustrates the point: *"I really like the culture. People are pretty relaxed and not conservative; it is a pretty up-to-date environment. People are active and outgoing. When I come to work, I feel like I want to come to work. I enjoy working and I know that I have had jobs in the past where I hated to come to work. I dreaded Monday morning. Whereas, here, I don't even think about it. It's like a second family"*. According to Chan (2002) this comment shows that organizational culture and the informal network, which are conducive to encouraging staff and providing a positive work environment, are likely to promote IS alignment (Chtourou & Fimbel, 2016). Therefore, Chan suggests that future research in IS alignment area should take into account the importance of these intangible factors and investigate pre-requisites for IS alignment (trust, social and cultural ties, virtual relationships...).

To our knowledge, Watts's (2005) research was the first to give empirical results adapted to the relationship between the IS strategic alignment and the cultural dimension. Taking Chan's (2002) analysis as a landmark, Watts asserts that though the structural and strategic components of alignment have been studied in some detail, the cultural component appears not to have yet been explored empirically by researchers in the field. In fact, his exploratory research includes an original contribution concerning the evaluation of the relationship between the degree of congruence of the organizational culture perspectives and the level of strategic alignment maturity perceived in organizations. The data was collected via a survey questionnaire administered to 111 Business Department Executives and IS Managers in 11 North American manufacturing companies. The results show a significant positive relationship between the degree of congruence of the organizational culture and the level of strategic alignment maturity. Thus, high cultural congruence results in a high level of IS strategic alignment maturity. Watts's (2005) study highlights the potential of cultural congruence as a crucial third dimension of the IS strategic alignment. Such a result can only confirm a real need for complementary research attempts in order to study and further clarify the relationship between organizational culture and the strategic alignment.

Finally, we observe that 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" (Chtourou & Fimbel, 2016). All these studies confirm the actual need for further research empirically sourced to explain the relationship between organizational culture and IS strategic alignment.

The Organizational Culture: The Competing Values Framework (CVF)

Smircich (1983) distinguishes two streams of research in organizational culture: the "has" approach, according to which the firm has a culture, and considers it as a device or variable affecting and /or affected by other organizational variables; and the "is" approach which sees the firm as a culture.

According to Schein (1993), culture corresponds to the deepest level of tacit basic assumptions shared by the members of an organization. For Hofstede & al. (1990), organizational culture is characterized as the

mind collective programming, which distinguishes the members of one group or category of people from another. Adopting the same vision, Cameron & Quinn (1999) argue that an organizational culture contains styles of management and leadership, language and symbols, procedures and routines, which mark the singularity of an organization. Denison (1996) adds to beliefs and assumptions a set of managerial practices and behaviors can re-enforce the basic principles of organizational culture.

Despite the maturity acquired, the concept of organizational culture has not succeeded in reaching a consensus as regards its definition (Chtourou & Fimbel, 2016). However, the definitions proposed by Hofstede & al. (1990), Cameron & Quinn (1999) and Denison (1996) indicating that the concept of culture can be operationalized as a set of management practices and behaviors, and as a result can be measured. Anyway, the Cameron & Quinn (1999)'s dimensional model reflects a concrete description of organizational culture. Therefore, this study mobilizes a cultural approach based on the "Competing Values Framework" CVF (Quinn & Rohrbaugh, 1983) (Appendix.A). Originally proposed as a "framework for organizational analysis", the CVF provides the theoretical basis for Cameron & Quinn (1999)'s OCAI "*Organizational Culture Assessment Instrument*", which can be used to profile organizational culture (Watts, 2005). The CVF offers a culture typology through crossing two dimensions: the degree of inward/outward orientation of an organization and the degree of stability/flexibility of the organization (Watts, 2005). Four profiles result: "Adhocracy Culture", "Market Culture", "Culture Clan" and "Hierarchy Culture". These profiles consist of a set of values, behaviors, beliefs and basic assumptions (Appendix.B).

Two reasons motivated our choice of the CVF. The first relates to the proliferation of substantial theoretical support for this framework. Since its mobilization by Cameron & Quinn (1999) to study the organizational culture, this cultural taxonomy represents the theoretical base for several research aspiring to concretely study the organizational culture. The second reason is the proven reliability and validity of the CVF measurement instrument. According to Cameron & Quinn (1999), a quantitative approach is valid not only if it measures the superficial attributes reflecting organizational climate, but especially the beliefs and underlying assumptions representing the core of the culture. To do this, they developed the instrument of measurement « The Organizational Culture Assessment Instrument » (OCAI). The reliability and validity of the OCAI have been empirically supported by many researchers, including Quinn & Spreitzer (1991) which showed a double discriminant and convergent validity of multidimensional scales through a multi-trait analysis and multi- methods.

Study Design

The development made in the previous part offers us a relevant analytical framework to support the emergence of a cultural assumption in the approach and treatment of the IS strategic alignment. This assumption is based on a project of knowledge whose main ambition to explore and to understand how organizational culture can affect the IS strategic alignment as an essential component.

A multiple case study is carried out from 12 semi-structured face-to-face interviews, lasting an hour on average, were conducted among members of management teams from 4 Tunisian companies (4 General Managers, 3 IS Managers, and 5 Business Department Executives) (Appendix.C). After transcription of the full text of the 12 interviews, we conducted content analysis. According to Wacheux (1996), this type of analysis consists in decomposing 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 (Chtourou & Fimbel, 2016).

These three steps are described as follows (adapted from Chtourou & Fimbel, 2016):

- **Pre-analysis:** after ensuring completeness, homogeneity and representativeness of interviews, we have established "summary sheet" (Miles & Huberman, 2003) (Appendix.D). It contains 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:** based on the Miles & Huberman's (2003) coding approach, we began by developing an "initial code list" before access to various survey sites. Then, this list has been revised throughout our empirical investigation, which led us to have the final "codebook" (Appendix.E). Based on this instrument, we proceeded to the interview coding by categorizing them into specific thematic units.
- **Meaning extraction:** all the interpretations we have inferred from the 12 interviews are the result of a "qualitative" content analysis. To facilitate the analysis of the meaning, we compress and put in order the data relying on "matrices" (Miles & Huberman, 2003).

Analysis¹

During interviews, we follow three steps (adapted from Chtourou & Fimbel, 2016): 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. 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. Finally, we have led to ask them on the impact of organizational culture on ERP system strategic alignment.

Survey Site "A"²

1. BDE.3: *"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. Besides, this ability is an immutable feature of "A". 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".*

From this extract, we deduce that the "dialogue" and the "consensus" between BDEs join Broadbent & Weill (1993)'s remarks when they emphasize the clarity of the strategic vision and consensus between units with the strategic approach and its division into Business Department requirements, as factors enhancing Is strategic alignment.

1.GM.4: *"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".*

Here, the GM indicates the cultural dimensions that can improve the strategic alignment of the ERP system: "communication", "trust" and "internal partnership".

Survey Site "C"

2. BDE.3: *"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. Speaking about the "new organization" It turned out that it referred to the cultural aspect of the restructuring accompanying the implementation of the ERP*

¹ The following transcripts are extracted from Chtourou & Fimbel's (2016) research.

² For confidentiality reasons, the companies surveyed are referred by the initial capital letter of their corporate name. For interviews, we used the abbreviation SA to refer to Strategic Alignment.

system detailed as follows: "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".

This also stressed the importance of the "partnership and cooperative approach" to achieve the successful IS strategic alignment. The ISM of "C" highlights the inhibitors of ERP system strategic alignment as described below.

2. ISM.2: "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".

From this verbatim, we can conclude that "information sharing" and "vision convergence" manifest as two cultural values that are crucial for the IS alignment (Reich & Benbasat, 1996; 2000)

2. GM.4: "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".

This GM confirmed the role of the "transparency" on the strategic alignment. According to Broadbent & Weil (1993), this cultural dimension provides the clarity and dissemination of the strategic vision to the different BDEs. Fimbel (2007) 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 (Chtourou & Fimbel, 2007).

Survey Site "T"

4. BDE.4: "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".

4. BDE.3: "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".

4. BDE.4: "Such an attitude is perfectly confirmed by the Sales Manager adding the lack of "synchronization" as follows: 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".

Both BDEs argue that the cultural values of "Information sharing", "communication" and "transparency" which play a stimulating role in improving IS strategic alignment, remain fragile and almost non-existent in The "T" company. This result joined the Reich and Benbasat (2000)'s call to put in place both "transparency" and "information sharing" in the approach to the IS strategic alignment.

4. ISM.2: "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. 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 BDEs"

According to the ISM, a culture based on "values of development" and "membership" contributes significantly to strategic alignment. In addition to this, we can interpret the role of GM under the "leadership" angle, as a factor stimulating to IS strategic alignment: "successful alignment requires a collaborative corporate culture and strong leadership from every player in the game" (Baker, 2004, pp.19). According to Dmaithan & Zulkhairi (2010), leadership is one of the main representative factors of the "culture gap" between IS strategy and the business strategy of the firm (Chtourou & Fimbel, 2016). Cameron & Quinn (1999) indicate that management and leadership styles are part of the essential components of organizational culture.

4. GM.1: "The GM enhance the contribution of "communication culture" and "information sharing": "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).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".

This verbatim support Luftman & al. (1999) and Reich & Benbasat (2000)'s results revealing the impact of "communication", "visions harmonization" and "mutual understanding". The GM also highlights two key elements of their organizational culture: "membership" and "rigor".

Survey Site "I"

5. BDE.3: "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".

This BDE highlights the apparent role of "team culture". She explains how cultural dimensions of "communication", "information sharing" and "friendly climate" impact the ERP strategic alignment on business priorities.

5. ISM.2: "Culture, it is certainly a factor which strengthens the advancement and an efficient operation of the system. Well, if there is an open and 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".

This ISM highlights the role of an “open” and “cooperative” culture on strategic alignment of the ERP system. He added, saying that the ERP system alignment is impacted both by the organizational culture of the company and by the culture conveyed by the ERP system itself.

5. GM.1: “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. 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”.

The first reaction of the GM to our question was however a little surprising. He said at the beginning that it had a fairly indirect effect. But, progressively he quickly confirmed that cultural dimensions like: “group cohesion”, “adhesion”, “commitment” and “convergence of efforts”, played a most important role in the strategic alignment of the ERP system. Furthermore, a culture based essentially on “communication” and “information sharing” can guarantee clarity and dissemination of strategic orientation to the BDEs. This may facilitate the ERP system strategic alignment.

Discussion and Managerial Implication

The content analysis of 12 interviews allowed us to identify that the majority of professionals, whatever their “strategic”, “business department” or “IT” view, indicate that the impact of organizational culture on the strategic alignment of ERP systems was obvious for them. They have referred spontaneously to the same cultural dimensions having a significant and marking effect on the strategic alignment (Table.1).

Table 1. Results of the content analysis of twelve semi-structured interviews

Survey Site	Cultural dimensions
A	Communication
	Trust
	Dialogue
	Consensus between BDEs
	Internal partnership
C	Communication
	Information sharing
	Convergence visions and efforts
	Internal partnership
	Cohesion
	Collaboration
	Transparency
T	Communication
	Information sharing
	Leadership
	Membership

Table 1. Results of the content analysis of twelve semi-structured interviews

I	Transparency
	Communication
	Information sharing
	Convergence visions and efforts
	Friendly climate
	Collaboration
	Commitment
	Cohesion
	Team culture

From this Table, we can interpret that an organizational culture based on trust, transparency, communication and information sharing may support the strategic alignment of ERP system in the post-changeover phase. Furthermore, a culture of cohesion, cooperation, internal partnership and membership can promote the strategic alignment. From this table, we can group these dimensions in two main categories of culture dimensions: “Communication and Information sharing” and “Internal Partnership” (Figure.1)

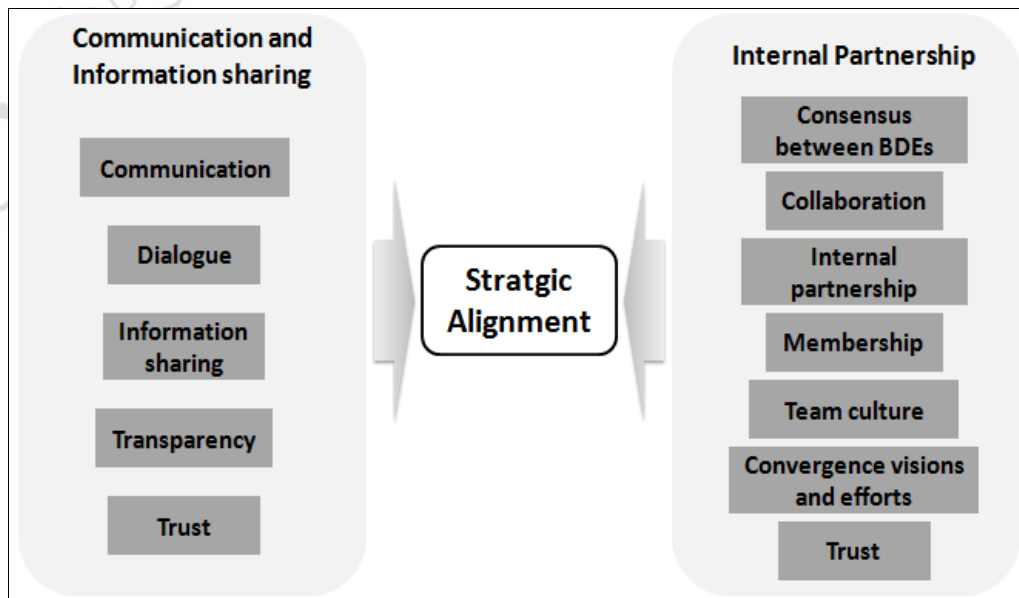


Figure 1. Exploring the cultural dimensions of IS strategic alignment

Based on organizational culture’s taxonomy of Cameron & Quinn (1999), we can conclude that “communication and information sharing” and “internal partnership” are two crucial components of «Clan Culture». This cultural profile marks firms that follow both the "Internal Orientation" (enhancing internal capabilities, integration and unity of the process), and the "Organizational Flexibility" of structure (Reflecting the dynamism and discretion). The “Clan culture” is based on a fundamental assumption: “Human Affiliation”. This assumption reflects the belief that people behave appropriately, when they have confidence in their organization. This confidence supported progressively by the sense of membership and affiliation. Furthermore, the “Clan Culture” characterized by the cultural values of collaboration, trust, teamwork, participation, involvement and open communication.

Thus this result joined the recommendations of Luftman & al. (1999) and Reich & Benbasat (2000) to take into account the role of information sharing, communication and teamwork in mutual understanding between the stakeholders involved in the strategic alignment namely General Managers, IS Managers, and Business Department Executives . Here again is demonstrated the necessary congruence between an explanation of the inclusive nature of organizational and the primacy of a truly collective culture with the very nature of the ERP system. Moreover, Broadbent & Weill (1993) emphasized the clarity of the strategic vision and consensus between the Executive Directors as to the strategic direction and guidance to its business orientation, as key organizational practices in IS strategic alignment. Thus, Reich & Benbasat (2000) note the need for clarification of the company's strategic options for each of the BDEs and the IS Manager, each responsible for designing and lead his business needs in line with the corporate strategy.

Such results must also be useful for the professional world. In fact, we invite companies to consider the role of culture in the strategic alignment of ERP system. This will guide the action and help to understand how the firm, through a “Clan Culture”, sufficiently based on the values of communication, information sharing and internal partnership, can extensively contribute to the success of the strategic alignment during the “post-changeover phase” of ERP system project. The professional reality shows that the ERP system alignment does not spontaneously apprehended collectively and synchronized by the GM, BDEs and ISM (Chtourou & Fimbel, 2016). These three managerial stakeholders have different visions and priorities (needs) that may increase misunderstandings and conflicts around strategic alignment.

They are invited to recognize the crucial role of organizational culture in “adjusting their interaction zones” (Schneider & Barsoux, 1997); which enable them to achieve a higher level of awareness and creativity by the gradual creation of a set of shared meanings and common thought processes can reduce the intensity of tensions and conflicts around IS strategic alignment.

Conclusion

In the present work, we examined the impact of organizational culture on the strategic alignment of ERP system. To do this, we conducted an exploratory approach based on 12 semi-structured interviews among 4 GMs, 3 ISMs, and 5 BDEs from four Tunisians companies which were in the post-changeover phase of their ERP systems.

The content analysis of the interviews show that the “*Clan Culture*”, sufficiently based upon the communication, the information sharing and the internal partnership, is likely to promote strategic alignment of ERP system usages during the post-changeover phase; and this through concrete examples drawn from professional reality. Such results provide empirical evidence of the relevance of taking into account the cultural assumption when studying the problems of the strategic alignment of IS.

Methodologically, the main limitation inherent in the qualitative approach regarding the use of semi-structured interviews as the only tool for exploring the impact of organizational culture on IS strategic alignment. Consolidate the results by a floating or participant observation will be very useful to reach a cross-checking data between the testimonies of the interviewees and the reality as experienced and analyzed by the researcher. This is likely to raise real research perspectives such as that relating to the dynamics of interaction and conflict management between managerial stakeholders involved in strategic alignment (GM, BDE and ISM).

Furthermore, the content analysis is too attractive in terms of proliferation and quality of the information with regard to our research question. Nevertheless, it suffers from the same criticism in terms of reproducibility and generalization of results. Anyway, we are conscious that the content analysis was mainly based on inferences that have been identified with our own intuitions. So it will be interesting to complement our qualitative study with a quantitative approach through the mobilization of a survey questionnaire.

To conclude, we can consider our research work as an original analytical framework that can generate other more extensive research issues. It can contribute to the design of new research projects that will further enhance the diversity and complexity of the ERP system strategic alignment in the post- changeover phase. This is likely to ensure ever greater validity of results obtained in particular moments and contexts.

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Appendix

Appendix A: Competing Values Framework (adapted from Cameron and al., 2006)

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

Appendix B: The Competing Values Framework's four culture types (adapted from Quin and Kimberly, 1984³)

Culture Type	Assumptions	Beliefs	Values	Artifacts (behaviors)	Effectiveness Criteria
Clan	Human affiliation	People behave appropriately when they have trust in, loyalty to, and membership in the organization.	Attachment, affiliation, collaboration, trust, and support	Teamwork, participation, employee involvement, and open communication	Employee satisfaction and commitment
Adhocracy	Change	People behave appropriately when they understand the importance and impact of the task.	Growth, stimulation, variety, autonomy, and attention to detail	Risk-taking, creativity, and adaptability	Innovation
Market	Achievement	People behave appropriately when they have clear objectives and are rewarded based on their achievements.	Communication, competition, competence, and achievement	Gathering customer and competitor information, goal-setting, planning, task focus, competitiveness, and aggressiveness	Increased market share, profit, product quality, and productivity
Hierarchy	Stability	People behave appropriately when they have clear roles and procedures are formally defined by rules and regulations.	Communication, routinization, formalization, and consistency	Conformity and predictability	Efficiency, timeliness, and smooth functioning

Appendix C: Detail of 12 semi-structured interviews

Survey Site	Activity	TO (Million TND)	Number of employees	Interview N°	Interviewee Position	Gender	Age	Interview duration (minutes)
A	Production of carton packaging & Printing	55 MD	194	1. BDE.3	Finances Director	M	42	45
				1. GM.4	General Manager	M	55	60
C	Production, Distribution & packaging olive oil derivative .	130 MD	300	2. ISM.2	IS Director	M	39	70
				2. BDE.3	Finances Director	M	49	60
				2. GM.4	General Manager	M	48	75
T	Confectionery, poultry and Distribution of electricity materials	42 MD	140	4. GM.1	General Manager	M	46	40
				4. ISM.2	IS Director	M	31	70
				4. BDE.3	Finances Director	M	37	55
				4. BDE.4	Sales Director	M	39	50
I	Software engineering and assembling computers	52 MD	145	5. GM.1	General Manager	M	45	60
				5. ISM.2	IS Director	M	39	60
				5. BDE.3	HR, Finances & Logistics Director	F	37	50

³In Hartnell and al. (2013)

Appendix D: Summary sheet of a semi-structured interview (adapted from Chtourou & Fimbel, 2016)

Summary sheet		N° : 4.BDE.3			
Type	Semi-structured				
Relevance degree	1	2	3	4	
Survey site	T				
Interviewee	N.B				
Position	Finances Director				
Contact No	1				
Duration	55 Minutes				
Preliminary Interpretations					
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					
Revealing points					
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					
Notes about interviewee					
An excellent understanding of the subject and concepts					
Very rewarding interview					

Appendix E: Codebook (adapted from Chtourou & Fimbel, 2016)

Categories and themes	Code	Subcode	Description
Strategic Alignment	SA		This code refers to the overall theme of strategic alignment
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...
ERP System Strategic Alignment	SA>ERP		This code refers to the system ERP strategic alignment
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.
Cultural Profile	CP		This code refers to the organizational culture
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...