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The Role of IT Culture in IT Management: Searching for Individual Archetypal IT Cultural Profiles

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ABSTRACT

This article presents findings from an ethnographic study aimed at developing a typology of IT users based upon their Individual IT Culture. Social Identity Theory and the existence of a Technological Cultural identity in an individual are the two main underpinnings of this typology, which is approached in a holistic perspective of the concept of culture. This offers a new path to understanding IT adoption and diffusion in organizations, which is an alternative to traditional theories using Organizational Culture and National Culture as frameworks in IS research. Our typology, built upon users’ self identities, develops eight archetypal profiles of IT-users. Within these identities, IT-assumptions, IT-values and IT-practices compose what we present as the users’ technological cultural identities or profiles. This typology is then used to illustrate how individuals, depending on their Individual Technological Cultural Profiles, can play different roles in the socialization processes which are induced by the IT implementation projects.

Keywords: Users’ Typology, IT-Culture, Individual Technological Cultural Profile (ITCP), Social Identity Theory, Ethnographic Study, Socialization Processes.

INTRODUCTION

Research studies in the IS field are increasingly drawing attention on societal aspects of IT related issues. Some of them are explicitly focusing on culture, particularly when IT projects experience failure. In their literature review about IT and culture, Gallivan & Srite (2005) remind us that two separate dimensions of this concept predominate: national culture and organizational culture. The two resulting streams of research belong to intercultural management research (Hofstede, 1980, 2001) and its applications to IS or to research about the role of organizational cultural context in IT adoption studies (Lucas, 1973; Markus, 1983; Mumford, 1979).

Building on the work of Straub et al. (2002), Gallivan & Srite (2005) propose an alternative conception of culture, grounded on social identity theory (SIT) (Tajfel & Turner, 1979). At a given moment in time, and beyond his socio-demographic characteristics (sex, age…), each individual has an identity which is the result of his (her) various/multiple identities themselves resulting from his belonging to various groups: socio-professional group linked to work practices, ethnic group, sub-regional, national or supra-regional group, organizational group,…These various identities build up into layers which do not sediment in a definite manner and which make up the cultural framework of the individual at a given moment in time.
Such a perspective allows us to study the influence of an individual’s global cultural framework on IT adoption and appropriation by the individual himself and by groups to which he pertains, the development of IT competences, and managerial practices in the field of IS. Using this perspective, we use in this article the path opened by Kaarst-Brown & Robey (1999), followed by Leidner & Kayworth (2006) and propose to identify users’ archetypes based on their Individual Technological Cultural Profile (ITCP).

We propose to construct this typology from an empirical study we undertook on a sample of Small and Medium sized Enterprises (SME) in France. In this article, we first present the theoretical conceptual framework of our research. Then, we detail the empirical approach we have adopted and display our main results: the inferred ITCP typology and the interactions between the different profiles through organizational socialization processes noted a posteriori. Finally we discuss the managerial implications of our work, linked to the a priori identification and management of these socialization processes in order to promote the success of IT projects within organizations.

THEORETICAL FRAMEWORK

To explain and predict individual behavior with respect to IT, Information System theorists seem to favour descriptive models like the TAM (Technology Acceptance Model: Davis, 1989) or the TRA (Theory of Reasoned Action: Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980) to identify explanatory factors for IT acceptance and usages. This model of technology acceptance appears to be the most supported amongst IS researchers.

However one can envisage the possibility of moving away from these normative frameworks and consider the individual, enrolled in the usage process, as carrying a specific social identity resulting from an identifiable cognitive profile and susceptible to having an impact on the adopted usage. The concept of social identity offers a socio psychological perspective which is not often summoned to analyse IT usage in organizations.

Social Identity Theory

The notion of identity implies asking the question “Who am I?” and if the individual is part of a group or an organization “Who are we?” The answer is not single but multiple as it corresponds to multiple identities (Pratt & Foreman, 2000).

Psychology and sociology have been debating for a long time about the presence of multiple identities in a single individual (Burke, 1937; Feldman, 1979; Tajfel & Turner 1979; Markus & Nurius, 1986). Understanding and managing those multiple identities within organizations can be considered an important managerial task.

SIT is rooted in social psychology and the research on intergroup relationships (Tajfel & Turner, 1979). It explains the individuals’ identification with some groups and the resulting behaviors through three processes, brought to light by Ashforth & Mael (1989): categorization, identification and comparison.

During the process of identification and comparison, the individual will stress the attributes which he considers make his group superior to the others and give a positive image of himself.

Part of the individual’s identity is the result of the organizations and work groups he belongs to (Hogg and Terry, 2000). There are interactions between identity, learning, and ego protective barriers. Within organizations, various collective identities linked to new technologies implementations do emerge (Kaarst Brown & Robey, 1999) and evolve over time. The manner in which these identities evolve in a situation of organizational learning is an important managerial concern (Brown and Starkey, 2000). Although SIT is traditionally used in socio-psychology to analyse large groups’ inter relations, Hogg, Ambra, Otten and Hinkle(2004) showed that it represents a general perspective for the study of groups of any sort or size.

Culture and IT Culture

Leidner & Kayworth (2006) identified 6 recurring themes through their literature review of 82 empirical works on IT and Culture (national or organizational). The last theme, IT Culture, is the theme which interests us in this article; it was first brought to light by Kaarst Brown (1995) and Kaarst Brown & Robey(1999).
We will adopt a conception of IT Culture as a separate dimension of the individual’s cultural framework, like the religious culture, ethnic culture, professional culture, national culture, etc. These varied cultural specificities interact, at different levels and with varying influences, depending on the individual, his surrounding context and his interactions with other individuals. These specificities are conceptualized as the layers of the “virtual onion”, which is the metaphor developed by Straub & al (2002) and built upon by Gallivan & Srite’s (2005) holistic view of culture.

The positioning of the individual with respect to IT, his perception of IT, his use of IT, his norms, beliefs and values (in the meaning of Bourdieu, 1979) linked to IT, can be seen as constituting a separate layer in the individual’s global culture.

**IT uses and behaviors: searching for archetypes of users.**

The development of IT users’ typologies has been undertaken by various authors from divergent theoretical views, using varied methodologies. We present a selection of these works (see Table 1, below), which does not aim at being an exhaustive review. Our purpose is to focus on typologies which could appear as built upon some cultural aspects of the users, possibly related to the users’ ITCP, as this theoretical lens has been scarcely used in the existing literature.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Date</th>
<th>Typology</th>
<th>Characteristics</th>
<th>Specificities</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Diffusion of innovations)</td>
<td>2003</td>
<td>* Early adopters</td>
<td>* Opinion leaders, respected by their peers.</td>
<td>Takes into account the social interactions; based on time dimension (delay in adoption of new technologies).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Early Majority</td>
<td>“Follow with good will but rarely lead”</td>
<td>Comment: Mostly applicable to innovations. Not appropriate when IT is not perceived as an innovation but as a day-to-day tool.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Late Majority</td>
<td>“Sceptic, adoption results from economical necessity and peer pressure”.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Laggards</td>
<td>“Their landmark is the past […] make decisions in function of what was done previously”</td>
<td></td>
</tr>
<tr>
<td>Lawless &amp; Price</td>
<td>1992</td>
<td>Technological Champions</td>
<td>Agents of potential users of the technology. Act through an implicit contract answering organizational constraints and needs as perceived by users. Importance of informal and non monetary motivation is underlined.</td>
<td>Study centred on users and does not take into account interrelations with management and the rest of the organization.</td>
</tr>
<tr>
<td>(Grounding their work on Zaltman &amp; Duncan’s 1977)</td>
<td></td>
<td></td>
<td></td>
<td>Comment: To be an agent of prospective users, one has to have the same needs and constraints as they do. But our argument is precisely to point out that all prospective users might not have the same needs and constraints.</td>
</tr>
</tbody>
</table>
### Boullier (Choice of the Chinese portrait to synthesize Usages)

1997  
- * The Brown Bear (Debate)  
- * The Dolphin (Links)  
- * The Beaver (Data transmission)  
- * The Seagull (Contacts)  

**“Grounded on stable landmarks” he sees mobility as a necessity and is “non committal towards technological innovation”**  
* “Communication tools enable and support movement while maintaining contact with the environment”  
* Expert, hard worker, he uses technology to communicate (but in a non synchronous way) and to extend his office space wherever he goes, to gain efficiency.  
* Always on the move. Mostly interested in mobile technologies to keep in touch.  

Study of blended practises on communication and mobility done on a population of 48 frequent travellers whose functions imply intensive use of various means of transportation (plane, TGV, etc) and IT.  

**Comment:** Attached to one specific technology, Our purpose is to define a users’ typology which can be applied to any IT tool.

### Agarwal & Prasad (Grounding their work on Flynn & Goldsmith’s 1993)

1998  
**Categorization depending on individuals’ PIIT**  

*PIIT= Personal Innovativeness in IT= the willingness of an individual to try out any new technology*.  

Study done on a population of 175 professional students in an MBA course.  

Measures conscious intended use. Limited to a population of highly qualified individuals.  

**Comment:** Based once again on the innovative aspect of technology (which we consider is today redundant) and limited to highly educated users (which does not cover the population of all IT users).

### Malhotra & Galetta (Grounding their work on Kelman’s, 1958)

1999  
- * Conforms  
- * Identifies  
- * Internalizes  

* “When an individual adopts an induced behavior not because he adheres but because he expects from it gratifications or wants to avoid punishments.  
* “When an individual accepts an influence because he wants to establish or maintain a relationship which allows him to define himself in relation to another person of a group.  
* “When an individual accepts an influence because it is congruent with his own value system.  

Study done on 208 office workers in several urban hospitals, which are part of a health organization, during the implementation of MS Exchange (software aimed at improving communication, collaboration, and coordination). Takes into account the social influence which affects individual behavior.  

**Comment:** Brings us closer to our analysis framework and throws down some sound basis for our work. However, it does not appear specifically linked with ITCP.

### Prensky 2001  

* Digital Natives  
* Digital Immigrants  

* They have spent their lives surrounded and using computers, video games, mobile phones, playing digital music, and generally using all tools of the digital era.  
* They were not born in the digital world but, at a certain moment in their life, they have become fascinated with IT and have adopted many IT tools but they have kept their native, immigrant “accent”.  

Study done on a population of students and teachers. Only takes the age into consideration.  

**Comment:** Though culture evolves with age, it certainly cannot be brought down to this variable only.
Table 1: Examples of users’ typologies in the literature

<table>
<thead>
<tr>
<th>Raz &amp; Goldberg.</th>
<th>2006</th>
<th>*Tayloristic Profile</th>
<th>*They are expected to follow rules and procedures under direct supervision from their hierarchy, without trying to understand. They are motivated by a salary paid for a given and established task, which they accomplish.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Concept of Cognitive</td>
<td></td>
<td>*Expert Profile</td>
<td>*They are expected to use in their work tacit knowledge which includes their know-how and competence. They are supposed to be motivated by their task when it is well done. *They use their intuition and acumen to find creative solutions. They are motivated by their work challenges and have enough freedom in their work to explore new ideas.</td>
</tr>
<tr>
<td>Knowledge Identity)</td>
<td></td>
<td>*Innovator Profile</td>
<td>Study done on 580 employees of 18 different organizations. Only takes into consideration organizational identity and not individual global identity. Work done on cognitive aspects of organizational culture. Comment: deals with organizational stereotypes and expected users’ behaviors rather than users’ true ITCP.</td>
</tr>
</tbody>
</table>

These works pay little attention to the individual global culture of the users and/or do not investigate cultural archetypes linked globally with IT (applicable to the implementation of any IT-tool), which could imply “the persistence of enduring values and assumptions that are deeply rooted in human experience” (Kaarst-Brown et Robey, 1999: 214). In this paper, we bring to light individual users’ technological cultural archetypes, from an exploratory empirical study done on the employees of eight French SMEs. We then examine how these different profiles position themselves in the organizations through dynamics where individual identities and/or group identities play a role of utmost importance.

METHODOLOGY

We opted for a qualitative approach which materialized into an ethnomethodological stance. This choice was prompted by the profile of this article’s first author, who has been involved in several IT consulting assignments, more particularly concerning Human Resources aspects; during her corporate life, she also managed several IT projects as CEO/project manager in a SME. This profile allowed the researcher an easier approach as « to understand the interpretation process, the researcher must take the role of the actor whose behavior he intends to study, the interpretation being given by the actor » (Blumer, 1969: 45).

Ethnomethodology, taking its inspiration from phenomenological tradition, is also suitable for the investigation of behavioral archetypes as it allows an ideographic description of a private universe but which can be shared with and useful to others (Garfinkel, 1967). This approach was adopted by Kaarst-Brown & Robey in their investigation of archetypes linked to organizational IT culture; it was also recommended by Schein (1985, 1991) for studies on culture in social groups as it allows a rich and multidimensional description of reality, from the point of view of the “participants” to the study, i.e. the observed individuals and groups (Miles et Snow, 1994; Boullier, 1997, Prasad, 1997).

A comparative study of eight SMEs (named “A” to “F”), different in terms of industry and size, was conducted on a period of approximately twelve months. A short time before the research started, these SMEs had all been involved in a major change of their IS, although the concerned IT projects were very different; the scope of the inferred change was sufficient to have involved the full company, all its departments, and the majority of its employees in their daily work routines. Amongst these eight companies, six were enrolled in an IT public grant program, organized by a Chamber of Commerce and Industry. These six companies were supervised by consultants appointed by the Chamber of Commerce and Industry.

Data was collected by semi-directive centred interviews organized with CEOs, project managers, consultants and users at different hierarchical levels. These interviews lasted on average one hour, were recorded and transcribed in extenso. Various documents, put at our disposal by the various actors, were analysed: meetings’ detailed accounts, Intranet’s contents, written descriptions of the projects. One of the researchers also attended various stakeholders’ information meetings and IT-
exchange meetings organized by public bodies; project managers, CIOs and CEOs, belonging to the studied SMEs and involved in the current IT projects of their companies, also attended these meetings. A « focus group » including six IT consultants (appointed to supervise various SMEs benefiting from government grants) was also organized in the exploratory phase of this research; amongst other elements, this focus group allowed us to finalize our interview guide. The transcriptions of the various interviews represent a corpus of 150 pages.

Our conclusions were drawn by successive iterations between theory and practice (Miles & Huberman, 2003). The variety of the people interviewed (consultants, project managers, users) and the choice of methods (participant observation, documents analysis and interviews) allowed us to cross examine the collected informations by triangulation.

Our results and some of our recommendations were transmitted to the public body in charge of following up the IT projects of six of the studied SMEs; this insured the external validity of the present research.

RESULTS

We first define a typology based on the individuals’ ITCP; this typology constructed itself as we proceeded through the interviews. We then investigate this typology in the studied organizational contexts. An analysis allowing us to link actors’ ITCP with the success or failure of the IT project in each of the investigated organizations is then presented. The term active user indicates a voluntary, unplanned, and strong personal implication in the IT project on the user’s part. The term passive user then designates a non active user. Finally the term constrained is self explanatory.

Users’ typology based on the individuals’ ITCP.

The cultural identifiers, on which this typology is based, include visible and audible behaviors, rituals, languages, manifestations expressed through artefacts which partly reflect users' values and basic assumptions. Each of the identified profiles is introduced and then briefly illustrated by quotes extracted from the interviews. The frightened user (passive user)

For this category of individuals, the world of IT represents an unknown and terrifying land. When they are in front of their computer and using their software, they feel they do not master what they are doing at all. Some are not inclined to try and learn more; others want to go forward and understand but are afraid of failure.

-Enterprise F (CFO, female, 44): “IT is a tool which helps me in my day to day work. It really does help me but still frightens me today. I am not afraid of IT as such but it is something I do not master. [...] I have a feeling of failure ».

One can identify elements of this type of profile in many insufficiently trained IT users. It could also be a compulsory, though usually transitory, feature for most “digital immigrants” (Prensky, 2001).

The disappointed and fatalistic user (passive user)

In most of the cases identified and studied in this archetype, the users experienced IT organizational implementations which ended rather badly either with the cancellation of the project or with time consuming daily uses of badly designed tools. They are embittered and approach anything to do with IT with a negative stance.

Enterprise G (CEO, male, 42): “We were not given all necessary information [...] It is the problem of software companies who delivered applications without teaching us how to use them properly.”

Enterprise F (CEO, male, 45): “I only experienced sabotages [...] Too many software companies [...] promised miracle solutions without even doing the bare minimum, hence my indifference for IT today.”
The dangerous user (active user)

These profiles are attracted by IT. They clearly display their volition to be involved in all organizational IT projects. All SMEs investigated had at least one individual belonging to this archetype, if not several. These profiles do tasks for which they are badly prepared.

Enterprise D (Internship student, male, 23, speaking about one of the regular staff): “he is “into” computers. He is a hacker. He patches up programs for people [...] it’s only troubleshooting … .”

Enterprise F (CEO, male, 42, talking about one of his associates): “He had a personal taste for computers, but one must be very careful about personal taste for computers. Many people like this are just trouble shooters but as soon as it becomes fastidious and very stringent, they are not interested any more; they don’t like computers any more.”

This profile is very common in companies. Pichault et al. (2001) noted that « more than 50% of the people whose functions are IT-linked do not have initial academic training in the field and IT knowledge updating seems to go through self training and mentoring from colleagues or on the basis of peers network (Internet). For many, this apprenticeship is done during their free time, off work » (Pichault et al., 2001: 11-12).

The studious user (active user)

These profiles like to learn and are very diligent in their learning processes. They are very good assistants but are also facilitators and generally leaders in the global IT adoption processes. They either have IT academic training or they self train depending on their background.

- Consultant (male, 45): “I do not know her academic level, I would say not very high. High school level I would say...She self trained for a previous IT project, and she realised what it brought to her, so she is the leader in the current project and she manages the sales side of the software. Question: She self trained for previous IT projects? That's it exactly...And she is not afraid to do it again...to ask questions… .”

- Enterprise H (Project manager, male, 45): “And then, at that time, everybody was starting to talk about computers. And that’s when I started, on Saturdays, Sundays, night and day, to learn about computers. On my own […] Computers fit with my personality which has always been organized and methodical … ”

- Enterprise D (male, 23, IT academically trained): “When it doesn’t work, some people want to understand why; they want to do it themselves. Then when they do it, they’re happy.”

The passionate user (active user)

These profiles are impregnated with IT and cannot consider having no access to a computer. Everything related to IT fascinates them.
In their study of internet usages, Boullier & Charlier (1997) identify this type of profile which they named “Net hooked” and introduced it as innovative but, at the same time, “IT-dependent”.

Globally this profile is close to the Japanese “otaku” or to the American computer “nerd” or “geek”, even if these terms have a rather derogatory connotation and are not particularly linked to the organizational context.

- Enterprise D (storeman, academically unqualified, male, 24): “at home, that’s the only thing I do […] I am all the time on my computer.” Question: and how long can you stay away from a computer? Answer: “one day”.

The disciplined user (passive user)

The disciplined users are passive but can be well trained and made competent. They are good underlings but contrary to the studious users, they rarely get involved in IT projects as a personal choice.

- Enterprise F (CEO, male, 45, talking about some of his collaborators): “They don’t have a taste for computers, they have only professionally understood that it is an essential and strategic tool for the organization”

The natural user (passive user)

These profiles connect easily with IT, which they consider is part of their personal lifes and of their professional attributes in the organization. IT daily use is part of their basic assumptions. They might not be very well trained in a given technology but they use a computer as naturally as they read a book.

- Enterprise D (internship student, male, 23): “I am not a great expert in computers, but I know how to use most PCs and standard software, especially for work. But computers are not one of my passions”

This profile is close do Prensky’s “digital natives” (2001).

The dodger (constrained user)

For these profiles, IT is a punishment which they try to avoid at all cost.

- Enterprise B (CEO, male, 37): “one of my executives is not at all in to computers; she does not want to use the tool. It’s not her kettle of fish”

It might be useful to examine how many individuals in organizations correspond to this profile, or even if this profile can still continue to exist in today’s organizations when one knows that most organizational tasks are now less and less exempt from specificities directly or indirectly linked to IT.
Archetypal ITCP and organizational dynamics

The eight profiles identified in the field are generic, idealized and simplified, models. One can identify a given archetypal profile in a user’s ITCP at a given moment in time just as one can identify a combination of several archetypes, with the predominance of a given one.

Some of the eight archetypes described above can cohabit in the same individual (for example the studious and passionate profiles). However some profiles are auto exclusive (for example, the studious profile and the dodger).

Furthermore, it is important to underline that individuals’ technological cultural archetypes are enrolled in temporal and organizational dynamics: individuals can be brought to evolve and change their attitudes, their behaviors and more generally their ITCP, depending on their socio-organizational context (shared or suffered IT projects, meetings with other types of actors, professional and academic training, etc.).

From the interviews conducted in Enterprise F we noted for example that the profile of the CEO (who was also the current IT project manager) evolved during his professional life (in a way one could estimate as negative) from the studious profile to the disappointed fatalistic profile, after the perceived failure of several IT projects in his company.

Conversely, months after the first interviews were conducted, the CFO of the same company showed a distinct evolution from a frightened/dodger profile to a disciplined profile and was able to analyse it herself: “Facing IT, I used to have cold feet! ... I still lack some know how and it is not one of my passions, but I am now able to analyse my needs and find out what could help me...I have become much less resistant to IT...I like to write and I used to take pen and paper to do so. But I am now finding it is easier to use my keyboard, my mouse and my screen ... So it’s a huge leap for me!”

We therefore tried to understand the possible factors which could intervene in a user’s ITCP to enrol him into one dynamic rather than another. Two phenomena were identified: emerging social identity and organizational socialization processes.

We first noted in all investigated SMEs, the formation of groups, in general informal, which connected individuals with approaching ITCP, like the studious and passionate profiles, in contrast with the dodgers, frightened and disappointed, fatalistic profiles.

This phenomenon was described by a CFO as follows: “There really is a scission between people who have an easy approach to IT, and people […] like me […], an intellectual scission between the group of people who ‘speak’ computer language as if it were a usual language, and the others who do not have this easy approach to IT and who, in fact, do not understand really all that is said and done about IT”.

The « scission » mentioned by this speaker is felt strongly by the individuals who belong to this group and also by those outside the group, the “good ones” or reference group and “the others”, the “less good” or inferior group.

We noted in most of the investigated SMEs that a reference group emerged, bringing together the dangerous, the studious and the passionate profiles or, in summary, the active users. The group is brought together in an informal, unorganized and hierarchically unsolicited fashion.

Belonging to this reference group is not linked to the academic level, the nationality, any given hierarchical level in the company, the age, nor the gender. At this level we have to underline that none of these socio-demographic variables was noted as having any relevance to differentiate the identified ITCPs.

A positive social identity emerges in the reference group with a strong image attached to the membership of this group (“We-They”).

This identity is felt within the group, but is especially noticeable outside the group. This positive image is often linked to the reference group because it is close to high hierarchical levels, in an informal way. The consultants who were interviewed were the most explicit about this particular point. We could bring forward one reason for this: the consultants, being external organizational actors, had probably the best perspective to identify these internal dynamics, inherent to the organizations, and which thus could be blurred in the main actors’ perspective, from inside the organizations.
- Consultant, female, 42: «They (the people belonging to the emerging reference group) make themselves indispensable, let’s say. After a certain time […] even if the project manager is not aware of it, he relies anyway on these people”

- Consultant, male, 40: “The relationship between the project manager and this person changes, evolves; there is a trust, a special relationship, which implies that even if the person has no particular title, it makes this person closer to the boss”.

- Consultant, female, 42: “You have different levels of exchange in organizations…and sometimes you notice collusion between the project manager and somebody else in the company, you can see it, they have an obvious complicity”.

- Consultant, female, 42: “somebody…who, at the start, is at a level which is not involved with managerial decision, will finally be at the core of managerial strategic decisions, because of his attendance at certain meetings during the start of the new IS implementation. Then, suddenly, he becomes important…He becomes important and detains a power…which was not particularly always planned at the start ».

The individual who belongs to one of the inferior groups, experiences the subjective hope of belonging to the reference group as a probability to acquire a social status leading to an identity he perceives as preferable.

The “anticipatory socialization” (Merton, 1965) by which “an individual acquires and interiorizes the values of a group (reference group) he wants to belong to”, helps him “to haul himself up into the group” (Dubar, 1998: 61).

Belonging to the reference group appears to be an “appropriate behavior” as described by Lacaze (2005); using Schein’s work (1985), Lacaze reminds us that organizational socialization is about learning appropriate value systems, norms, attitudes and behaviors.

Enterprise F, female, 44: “This (IT) allows you to go much further, especially in a world where people communicate more and more through IT”.

Consultant, male, 67: « The person (belonging to the referent group) is then in a much improved socio professional set up compared to what it was before”

Furthermore, identity is a human construct which is the result of successive socializations: Primary socialization and secondary socialization (Parsons & Bales, 1955; Berger & Luckman, 1966). Changes in a user’s ITCP can then be seen as resulting from a socialization process which is brought about, consciously or unconsciously, by the individual himself to reach the social identity of the sought after group.
This phenomenon is illustrated by one of our interviewees who relates the positioning of one his staff as he perceives it:

- **Enterprise F (CEO, male, 45)**: ‘IT for him? [...] He is not an executive, he has a job with middle/low responsibilities, but he is involved in IT implementation, then in a way he stands in for the executives, the ‘white collars’.”

**Managerial implications.**

Concerning IT, one of the managerial aspirations is to drive IS implementation projects to success. The interviews we conducted in the investigated SMEs concerned mainly their latest IT project. We interviewed all project managers who, in five of the eight investigated companies, were the companies’ CEOs themselves. We asked them to tell us if they considered their last IT project as a success or as a failure. Failure was understood simply as the project being dropped; therefore we did not measure success in terms of the extent of adoption or appropriation. We also asked them to describe the profile(s) of the collaborator(s) they found helped the most during the IS implementation phase or simply to identify the person(s) who played a leading role in these projects, though not officially appointed to do so at the start of the projects. These persons were named facilitators. Most of the project managers did identify some facilitators whom we tried subsequently to meet in order to identify their ITCP within the typology we had brought to light.

Table 2(below) presents for each of the investigated companies the identified facilitators, their respective ITCP, as well as the project managers’ ITCP and the result of the corresponding IT projects. Three interviews with people identified as facilitators could not be conducted, and the interviews with their project managers did not give us sufficient information. Thus we were not able to define their ITCP. These unidentified profiles led to the qualification “not enough information” in Table 2.

<table>
<thead>
<tr>
<th>Enterprise</th>
<th>Project manager’s ITCP</th>
<th>Identified facilitators</th>
<th>ITCP of facilitators</th>
<th>Success / Project dropped</th>
</tr>
</thead>
</table>
| Enterprise A | Female, 42: Studious | * 1 storeman (31, no diploma)  
* 1 production assistant (29, 2-year textile technical degree) | * Dangerous  
* Studious | Success |
| Enterprise B | Male, 37: Natural | * 2 pharmaceutical assistants (28, 2-year pharmaceutical technical degree) | * Sudious  
* Disciplined | Success |
| Enterprise C | Female, 30: Disciplined | * 1 salesman (35, 2-year mechanics degree)  
* 1 machine code (29, 2-year Industrial microtechnics degree) | *Not enough information  
*Not enough information | Success |
| Enterprise D | Male, 38: Natural | * 1 storeman (24, no diploma)  
* 1 internship student (23, 4-year University degree) | * Studious  
* Natural | Success |
| Enterprise E | Male, 38: Disciplined | * 1 R&D assistant (35, 2-year technical degree) | *Not enough information | Project dropped |
### Table 2: Project managers’ and identified facilitators’ ITCP - Success/ Failure of corresponding IT projects as perceived by project managers.

We found without great surprise that no frightened, dodger or disappointed fatalistic profile was identified as a facilitating, leading element during the IT projects. We did not meet any « pure » passionate profiles either although in both enterprises D and F, one of the facilitating profiles identified had some features approaching the passionate profile but not as a dominant.

The perceived success of the project appears to be associated with the presence of the studious profile as facilitator and of the studious, natural or disciplined profiles as project manager.

Of course our topic is not to generalize this type of correspondence between ITCP and project success, but we would like to underline that we did not obtain any noticeable incongruity in our findings (for example, a dodger profile identified as a facilitator in a successful project).

A possible extension of the present research would be to investigate further the dynamics which settle around these facilitating profiles and the possible inter group emulation which could facilitate IT adoption in organizations.

The identification of these facilitating profiles, and managing the resulting dynamics, through organizational socialization, allowing them to mediate the adoption processes during IT projects, through categorization, identification and comparison (Social Identity Theory), is one of the main managerial implications of the present research.

We interviewed the consultants about the perceived facilitating role of some of the users. The answers were more easily formulated in terms of critics about some profiles evaluated as “dangerous” during implementation processes. These critics are mostly directed towards the profile we named “dangerous” who is insufficiently and superficially trained though voluntarily active during IT projects:

- Consultant (Male, 49): “The danger is that he is going to believe that he has IT skills whereas…he does not have our experience. And this can lead to conflicts because…he does not see the full scope of possible
problems. It is usually better when they have a « talent » for IT, an inclination, when they are not adverse to it, but they must let the people whose job it is, with a technical approach, do their so called jobs”

And concerning the passionate ITCP:

- Consultant (male, 67): “Overall my work experience, I have met a CEO for whom the experience proved very dangerous. His company nearly closed down. He immersed himself so completely in the IT project that he didn’t do his job anymore. It was a sawmill. Sawmills buy wood every season and he missed the buying season!”

Globally, our interviews bring out the fact that the facilitator’s role is not clearly correlated with a given ITCP. Furthermore the facilitator is not always easily identified in companies

Consultant (female, 42): “I did not always find such a person. I missed it. Unfortunately, I did not always find him/her. […] If such a person does exist in a company, if he/she brings himself/herself forward, or is identified, recognized, then everything goes much smoother and faster.”

This difficulty appears linked to the fact that the facilitating profiles are not only linked to a user personally very implicated in the IT project but more to a person, or a group, who is susceptible to create dynamics which stirs up other users’ involvement an/or an organizational learning process.

Enterprise D (CEO, male, 42) talking about the storeman, first facilitator without any academic training of any sort, identified as studious ITCP (See Table 2): “We had involved everybody very early on. Him (the facilitator), he is more active than he was originally […] today he is even able to train others […] He even trained the student (internship student with 4-year University degree, see the other facilitating profile identified in this company Table 2). Now they improve together”.

CONCLUSION

In this exploratory study, a users’ typology based on the users’ ITCP has been proposed. Many researchers studied interrelations between IT and culture but most only took into account the individuals’ national and/or organizational culture. Very few researchers took into account the individuals’ global culture and, to our knowledge, no other work has studied the possibility of a technological cultural dimension intrinsic to each individual.

The analysis framework we used in this study adopts a holistic approach to Culture (Gallivan & Srite, 2005). It allowed us to bring to light eight archetypes of ITCP, each taking a different stance with respect to IT and inducing different occurrences during IT implementations in organizations. These archetypes were constructed through data obtained from the various investigated organizations.

The possible links between our users’ typology and Kaarst-Brown & Robey’s IT organizational archetypes should be studied. Further work using both qualitative and quantitative research methods could be pursued, to test this typology and refine the proposed archetypes. More particularly, the possible links between the main actors’ ITCP and the possible success/failure of the implementation of an IT project appear important to investigate.

From a managerial perspective, the awareness of these different ITCP amongst actors in an organization, which could lead to various Group Technological Cultural Identities, could allow us to manage projects implying major technological changes in a more pragmatic fashion. The identification of some of these facilitating profiles, the conscious managerial choice of these people to contribute to the day to day success of the implementation of a new tool, their a priori adequate training and the control of their socio professional progression within the organization, will then follow.
REFERENCES


