

2007

# Cultural Diversity and Participatory Evolution in IS: Global vs. Local Issues

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## Recommended Citation

Deyrich, Marie-Christine and Ess, Charles, "Cultural Diversity and Participatory Evolution in IS: Global vs. Local Issues" (2007).  
*ACIS 2007 Proceedings*. 96.

<http://aisel.aisnet.org/acis2007/96>

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## Cultural Diversity and Participatory Evolution in IS: Global vs. Local Issues

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### Abstract

*A core issue in communication, culture should thus have considerable weight in IS as communication technologies. We review research documenting the importance of diverse cultural elements – including those identified by Hall and Hofstede – to IS design and usage if these are to be successful. An analysis of emerging participatory approaches facilitated by ICTs, including recent research on community networks and how users from diverse languages and cultures participate differently in Wikipedia, further highlights specific aspects of culture and language essential to successful IS design and implementation. We argue that participatory approaches and user-centric technologies appear to play increasingly important roles in diverse cultures and societies; this suggests IS research should take advantage of both extant and emerging frameworks for analyzing culture, technology, and communication – especially if IS is to continue to play a key role in the cultural (re)evolution ICTs facilitate.*

### Keywords (Heading – minor)

Culture, participatory approaches, Hall, Hofstede, community networks

### 1. Culture as a Major Issue in IS

More and more studies in the information systems field have recently been going far beyond a purely technical approach. It is worth noting that there has been a major increase in the number of socio-technical issues that are being explored. An example of this approach is given by Lichtenstein *et al.* (2004), whose research dealt with socio-technical issues in terms of implementation and/or service provision. Such a perspective gives evidence that explanatory models are becoming extremely intricate, since conjunctions of phenomena are emerging from the interaction of technological and social systems. The resulting complexity is largely due to the fact that the human factor needs consideration. However, researchers find this factor particularly difficult to analyze:

“Like all social processes, these aspects of information systems are inevitably chaotic, messy and encumbered with values, ideology and other social practices.” (Peszynski *et al.* 2005).

Dealing with the “messiness” of how people interact with products, tools and procedures seems to pose specific problems. This actually sets a challenge in IS research, which has been described as “dominated by the positivist paradigm” (Marshall *et al.* 2005; Mingers 2004; Orlikowski & Baroudi 2002) - i.e. reality is regarded as a “given”, independent of human- machine variables (physical, cognitive and/or organizational) and of everything which involves people. By contrast, for Marshall *et al.* (2005), dealing with the social construction of reality is an absolute necessity. The authors suggest the adoption of a social constructionist approach (Crotty 1998) augmented by pragmatism, in order to mirror this given reality, which can only be constructed in given situations and contexts (Marshall *et al.*, *op. cit.*). It may be argued at this point of the reflection that “reality” as such is not to be taken as granted either, notably because it depends on the perspective, on the beholder and on the situation (Hall 1976). This point is made clear by Marshall *et al.* (*op. cit.*) when the authors write that “pictures” of reality are “fleeting, local and provisional, and situated in and influenced by local history and culture”. In fact, the Social Construction of Technology (SCOT) model, first introduced by Bijker and Law (1992), makes clear that both human beings and the technologies they develop and use both shape and are profoundly shaped by the larger nexus of cultural values, assumptions, and practices that define the *social contexts of use* for technological design and implementation. In this light, dealing with humans supposes that the cultural dimensions be taken into account. Cultural and social issues should thus be in the foreground as significant factors regarding design, implementation and adoption both within organizational culture and also in

the interaction with culture at large: and, of course, especially as ICTs continue to weave together extremely diverse cultures around the globe, these larger cultural differences and their impacts on IS become increasingly important – and increasingly complex.

Addressing cultural issues in IS should thus carefully attend to cross-cultural differences. Most of the time, however, the reference remains the North American culture, which is supposed to be representative of the whole planet. As a consequence, failures in IS development are very often due to a lack of consideration of local cultures. Despite globalization, standardization cannot work because the human factor depends primarily on dissimilar cultures. Studying and fostering cultural diversity in ICTs has been on the agenda of CATaC researchers for nearly a decade, and the impact of culture to the success of IT implementation has been deemed a major issue.

Very simply: failure to take cultural dimensions into consideration generally leads to devastating failures. To take but one example: Abdat and Pervan (2000) observed the cultural impacts of anonymity features in a Group Support System (GSS) deployed in Indonesia. We need to remember here that Western proponents of CMC argued, especially in the 1990s, that anonymity is a key advantage of these technologies: on this view, such anonymity will thereby ostensibly encourage more open and free communication and, it was hoped, a flattening of hierarchies. Such a view clearly reflects Western commitments to individualism, freedom of expression, and egalitarianism over against hierarchy. Abdat and Pervan found, however, that in the Indonesian context, the anonymity feature of a GSS led to communicative disaster. Given the ability to submit anonymous communications, subordinates indeed felt free to offer critical comments. Their superiors, however, operating from a Confucian framework that emphasizes the importance of “face,” experienced these comments nonetheless as an attack upon their face. As a result, Abdat and Pervan recommended that subsequent designs for GSS include the ability to switch off anonymizing features in order to make such systems more culturally appropriate to the Indonesian context. Similarly, South Korea has recently started requiring users of public chat systems to log on using their national social security number. The point is to make participants accountable for their statements online – and thereby protect the face of others, including important public officials, company executives, etc. (Jang 2005).

Analyses of these sorts of failures of IS – i.e., as rooted in conflicts between the cultural values of IS designers and those of IS users – often take up several frameworks of cultural analysis which, up to a point at least, provide categories that not only uncover the cultural roots of failure, but also help shape “best practices” of culturally-aware IS design and implementation.

### Theoretical Backgrounds for the Culture Factor

In particular, beginning in the 1970s, Gert Hofstede developed a number of axes or dimensions for understanding cultural differences that he believed contributed to communication failures among the managers and personnel in the offices of multi-national corporations – starting with his own employer, IBM. One of these axes contrasts the emphasis in many Western cultures on the individual vis-à-vis the emphasis in many Eastern cultures on the collective (1980).<sup>1</sup> In this light, we can see the Western enthusiasm for anonymity as facilitating free expression indeed reflecting Western values – beginning with the emphasis on the freedom of the individual over such issues as “face” or public reputation, group solidarity, etc. Embedding anonymity as a design feature in CMC technologies such as GSS thereby embeds a specific cultural value – one clearly not shared by many Eastern, especially Confucian cultures, as the conflicts observed by Abdat and Pervan make clear.<sup>2</sup>

A second important framework for cultural analysis of CMC is Edward T. Hall’s distinction between high and low context cultures (1976). In this schema, contemporary societies such as the United States, the United Kingdom, and the Germanic countries show a preference for *literate* (i.e., textual), high content (but low context) information transfer. By contrast, societies such as Arabic cultures, indigenous peoples, and many Asian cultures prefer instead more *oral*, low content (but high context) modes of communication (see Hermeking 2005). Not surprisingly, CMC systems designed especially in the 1990s reflected the communicative preferences of their English-speaking designers for *high content* information transfer systems – systems that then proved all but useless in the social contexts of use defined by *high context* cultures, such as those of the indigenous peoples in South Africa (Postma 2001). Similar contrasts have also been documented with regard to efforts to work with the Maori people of New Zealand (Duncker 2002; Keegan *et al* 2004).

### Best Practices of Culturally-Aware CMC

#### 1. Japanese CSCW

In fact, Hall’s distinction between high content/low context and low content/high context communication preferences can be seen at work in the Japanese redesign of Computer-Supported Cooperative Work (CSCW) systems, as documented by Lorna Heaton: briefly, Japanese engineers found CSCW systems designed in the West (as high content/low context) almost totally unsuited to the Japanese context, whose high context/low

content characteristic included a strong reliance on nonverbal communication (body distance, gaze, gesture) to convey important elements of communication, including recognition of status (2001).

## 2. McDonalds Glocalizes the Web

Elizabeth Würtz (2004) has undertaken a more global study of the websites of one of the worlds' most successful multi-national corporations – namely, McDonalds. She finds that McDonalds' websites are indeed highly “glocalized” – i.e., tuned to the local cultural values and communicative preferences of their intended customers – and in ways consistent with the frameworks developed by Hall and Hofstede. So, for example, Würtz argues that McDonalds' Japanese site, as it uses animation to show four McDonald's employees bowing to their viewer, thereby appeals to the emphasis in Japanese culture on interpersonal, *high context* communication (i.e., consistent with Lorna Heaton's findings, above). Similarly, both Japanese and Indian sites reflect a *collectivist* preference as these sites – like the Hispanic sites analyzed by Leonardi – emphasize photographs of people together, in activities such as sport and shopping. By contrast, the websites for more *individualist* cultures (Germany, Switzerland, Denmark) highlight photographs of individuals alone.

As McDonald's successful exploitation of Hall's framework makes clear, cultural conflicts in IS are avoidable – beginning with the effort to become aware of such dimensions of culture and communication as those developed by Hall and Hofstede, and to take these into account as we extend our efforts to communicate cross-culturally online. Of course, these frameworks must be used with caution: given the extensive range of cultural factors that affect IS design and implementation, using only four or five dimensions as tools for helping us better understand is comparatively crude and limited. More recently, in fact, Baumgartner (2003) has suggested a framework that incorporates Hall and Hofstede – but further develops a matrix of 22 factors that initial research demonstrates as having an impact on successful cross-cultural IS. At the same time, however, it is a somewhat astonishing fact that despite the genuinely global reach of contemporary ICTs – e.g., as of this writing, over one billion people on the planet have access to such technologies – at least within the English-speaking world, research and literature on effective cross-cultural communication online is only in its infancy.<sup>3</sup>

## 2. Participatory Approaches and Cultural Diversity

In addition to these now established frameworks for cultural analysis, our further contention is that what we call recent participatory evolutions provide additional ways of discerning and articulating the fine-grained details of local cultural elements at work in civil society, and hence in organizations: taking these elements of local organization cultural into consideration is likewise essential to the successful design and implementation of IS in specific settings. Stated negatively: if IS does not take the recent participatory evolutions into consideration they are bound to be disconnected from the actual needs of people in civil society and hence in organizations.

In the following, we will highlight representative examples and elements of participatory processes that we believe bring to the foreground additional elements of local cultures – specifically, organizational cultures – that are essential to successful IS design.

### Communities in Organizations

Society and work are based on communities. When it comes to IT, it should be noted that a wide array of innovative communities have already been enabled. This is an ongoing process, which should continue and expand, according to Raskino and al. (2007) who present and discuss *Gartner Key Predictions for IT Organizations in 2007 and Beyond*. The authors consider that by offering new ways to collaborate, technologies are extending the boundaries of organizations, which should thus be more and more open to new sources of talent. In this evolving context, technology-enabled communities are going much beyond the scope of organizations to include new forms of contributions and new contributors. This trend should thus have a significant transformative effect.

The participatory and collaborative impulse is closely linked with global practices on the Internet, i.e., those involving collaborative media, free software, collaboration tools such as blogs, wikis and RSS, etc.. New forms of implementation of technologies – often misleadingly referred to as ‘Web 2.0’ – have more to do with change in attitude than in technology. O'Reilly (2005) attempts to clarify the participative evolution by listing a set of principles and practices: an “architecture of participation”, “the web as a platform”, “trust your users”, etc. In the participatory approach, the user is trusted and controls his/her own data. Recent trends in the technology and business of the Web companies are thus “harnessing collective intelligence”. The approach presupposes that user participation is essential. Such is the case, in particular, of Wikipedia where any web user can add an entry or edit an article. And of course, without participation, eBay wouldn't exist, since it depends on the collective activity of all its users.

What about information systems: are they at risk with user generated content (UGC) or in the midst of a Copernican revolution, where they have a role to play? For French philosophers Crépon and Stiegler (2007),

participatory design and co-evolution are shaping a new world and thereby creating a revolution of minds. Moreover, Crépon and Stiegler emphasize that this process will have a major impact on the global economy: sharing intelligence is becoming a value of exchange; there are no longer producers and users but participants – creating what Axel Bruns has called "produsage" (2006). All participatory experiences should thus be taken seriously by deciders of all fields. Information systems studies are particularly affected, since participatory design is modifying the structure of information and communication. The question can be tackled from a technical perspective. It can also be examined in terms of its impact on culture and society.

### **Aspects of Participatory IT Usage**

Since participatory approaches are user-centric, IT cannot be considered as culturally neutral. The question of the user has thus to be raised to get a better idea of the ways she interacts with collaborative usage in IT and its evolutions. To trace these participatory phenomena, two lines seem possible: a quest for invariants on a global scale and a location of more specific/distinctive traits, i.e. which would depend on the local culture.

From a general perspective, it can be observed that IT literacy has become commonplace. Most IT technologies are now accessible and easy-to-use, even by non-specialists. It is manifest (trite to say that) that being computer literate is far easier than it used to be. In effect, new technological affordances are accessible to the "average person", who is now given access to easy-to use-inventions, such as weblogs and wikis. In this context, the computer buff of the new generation has a significant role to play, through his authoring, posting, subscribing, etc. New competences are thus being developed in these environments. Implicitly or explicitly, people are becoming designers of information resources – can we go so far as to say that they could also become designers of information systems?

The extent to which people can control their computing has increased considerably with free software. Unlike non-free software which restricts use and development, free software allows unrestricted usage and transformation. Moreover, information can be used and shared freely. Granting such independence cannot but transform usage and attitude, since users are not considered as passive recipients anymore but as potential actors on the computing scene. Whether or not new practices will be recognized legally as legitimate is also worth consideration, since free software sheds a new light on the debate about copyrights since the question of rights and what they convey cannot be dismissed.

In Open Source products, users take centre stage. With this kind of flexible and open development method, power is distributed since users are at the same time allowed and able to adapt and transform the products. Open Source has not only been adopted by some private users: it has been chosen by a small but growing number of IT organizations in order to have a more user-focused, as well as cost-effective infrastructure. If this trend is to be confirmed, we can imagine that users' cultural attitudes will be given more and more consideration.

Another interesting aspect of Open Source is the notion of community. This is made clear in an array of projects and events relying on Open Source: an open community is particularly eager to share its knowledge on a participatory basis. As shown in the presentations of the Open Source Initiative (OSI), a non-profit corporation, an open community generally wants to "educate about and advocate for the benefits of Open Source and to build bridges among different constituencies in the open-source community" (<<http://www.opensource.org>>).

Free/Libre Open Source Software (FLOSS) has been developing a sense of community and a collaborative spirit, either explicitly in community Open Source (where the community is concerned), or rather quietly in commercial Open Source (where the decision belongs to one single company). In the latter case, Rielhe (2007) asserts that Open Source has changed the rules of the game in organizations, where employees' positions and value to a firm are expected to evolve, since users of IT can become contributors who in turn will strive to play a "committer" role, i.e., they have the right to make decisions about software design. According to Rielhe, the impact on the structure of the organization goes even further: "Open source reinforces the trend toward employees becoming 'free agents.' Committers who rationally follow their economic interests are likely to be more loyal to the Open Source project than to their current employer because that's where their market value lies." Among the numerous ethical questions regarding IT usage, the issue of loyalty could thus be of interest in the near future.

### **3. Aspects of Participatory and Shared Culture in Global and Local Communities**

Participatory models are gaining ground in communication theory, but modes of participation are diverse and in constant evolution. "Communities of practice" (Lave & Wenger 1991) facilitate our making sense of organisational issues and challenges. It seems interesting to take this concept as a basis to analyze how participatory approaches impact IT usage from a socio-cultural standpoint – especially those impacts resulting in new forms of partnerships between research and civil society and new modes of innovation.

## Collaboration Based on Local Competencies

Some participatory projects are highly dependent on local expertise. Such is the case of community-based programs to collect data. Among those, networks for observing and documenting the natural environment, including specific plant species, and a range of related networks rely on local volunteers who gather valuable data to support scientific research in the field of phenology<sup>4</sup>, which studies the timing of recurring plant and animal life cycle events. The timing provides indicators of the impacts of climate change. Most of these programs focus on one particular item (frogs, ladybirds, ice, etc.). The need of collaboration of local people is emphasized to help in the fine-grained research in this domain. For example, an interesting network called "l'observatoire des saisons" (<http://www.obs-saisons.fr>) was launched in 2006 in France. Aimed at collecting data to study seasonal activity and variation, it is composed of two sub-groups: one for adults and young adults, one for children. Both groups follow a scientific protocol and submit the data they collect over the Internet. They have access to reports and different information as well as discussion forums. This example highlights cooperative production of knowledge and the role of citizens in such knowledge production.

### Community-based forms of communication for development

Since the importance of communication is crucial in the field of development, ethical and participatory approaches to ICT have been launched in various projects which promote grassroots participation. Such is the case for example of an initiative called *C4C*: "Communication for Change" (<[http://www.rcpla.org/comm\\_4\\_change.html](http://www.rcpla.org/comm_4_change.html)>), which focuses on the context in which community media exists and the system in which it operates. From their perspective, stimulating the potential for change within a community through local medium of communication usage is an influential means towards sustainable development. More generally speaking, participatory approaches of this kind can be characterized by the attention that is paid to the "C" of ICTs: communication is basically envisioned in terms of collaboration and sharing of knowledge and information among people.

## From Wireless Networking to Wireless Communities

A major move towards participatory democracy is facilitated by wiki technology and the ensuing developments made possible by collaborative practices, owing to the flexibility of wikis' open architecture, the social and democratic aspects of authoring shared spaces and texts, etc.

### Community wireless networking

The idea of offering free wifi access started with the interest that it could bring to commerce (restaurants, hotels, shops,). A different approach to free wifi access is developing. "Imagine a free wireless networking system that any municipality, company, or group of neighbors could easily set up themselves" (CUWiN's Vision <<http://www.cuwin.net>>)<sup>5</sup>. There is a growing movement to build nonprofit, open-source, broadband networks. Providing free public wireless Internet access to mobile users is dealt with along different structures and in different cultural backgrounds, but on the whole, there are common underlying values: sharing access to information, giving personal access, and in exchange, being able to connect in another place (city country etc.). Additional values include a sense of belonging to a community which fosters some kind of cultural intelligence (you do not need a big operator like Orange in France to do it for you) and a different approach to usage (no longer simple consumers, communities are taking hold of IT potential).

A first series of communities are self-organized: Community Wireless Networks is a network of networks centered on the "Community Broadband Movement," which has a political vision and fosters debates on important issues in meetings and more formal summits. This movement was first initiated in the US at the first "National Summit for Community Wireless Networks" in 2004. The number of communities and of countries involved has been expanding since then (e.g., The International Summit for Community Wireless Networks in May 2007) to explore the future of broadband and foster deployment of community wireless systems.

This phenomenon is more developed in Anglophone countries but it can also be found in francophone communities, mainly in Canada. *Île Sans Fil* (<<http://www.ilesansfil.org>>) is devoted to providing free public wireless Internet access to mobile users in public spaces throughout Montreal where there are now 135 free community hotspots. Interestingly, objectives are not limited to sharing free access: they further comprise promotion of "interaction between users, show new media art, and provide geographically- and community-relevant information". Involvement in the community includes public participation, dialogue and intervention.

Francophone wireless network communities are more difficult to find in France. This raises another issue about these communities: it seems that only initiated people have access to the access, as if these communities constitute secret rather than open societies. Nonetheless, it seems to be growing and I could even find a *Fédération France Wireless* site that provides a link to such a community in Paris called *Paris Sans-Fil* (<<http://www.paris-sansfil.info/home.php>>) aimed at non-profit wifi deployment: but it does not go beyond the opening page, raising the question as to how alive this community may be. No other wireless community is

mentioned for Paris on the site of the *Fédération France Wireless*. An interesting French specificity is that the phenomenon is increasing in rural areas where some of these communities seem to be well established. In Quercy, for example – a rural area with scattered municipalities – a community called wifi Quercy (<<http://www.wifiquercy.net>>) has been running for 2 years and belongs to what they call a RAN (Rural Areas Networks). In order to gain access to wireless services that most urban and suburban residents have enjoyed for years, rural area networks rely on small active communities. Bridging the digital divide is among the objectives announced by the RAN list: “*la Ran liste sert a regrouper les compétences, afin de déployer cette technologie fiable(contrairement a ce que disent nos détracteurs) et peu coûteuse qu'est le wi-fi.*” [it is aimed at combining competencies for the deployment of wifi technology, which can be done for a very small amount of money – contrary to what our detractors say (disparaging remarks)]<sup>6</sup>. Taking the very small village of Tamnies in Périgord as an example, the initiative started with a farmer who gradually became IT competent because he sensed he had to for the good of the community. “*Si les petites communautés rurales se développent autant c'est qu'elles n'ont pas le choix ! A Tamnies en Périgord si je n'avais pas créé le réseau sans fil depuis plus d'un an beaucoup de foyers n'auraient toujours pas d'internet haut débit*”<sup>7</sup>. [In Tamnies in Périgord, if I had not created the wireless network more than a year ago, many households would still be deprived of high speed Internet access]. Despite their small size, these communities would like to be taken more seriously. “*Et pourquoi quand on dépense des sommes importantes pour faire des études au niveau d'une communauté de communes qui finalement n'aboutissent à rien. Ne serait-il pas plus judicieux d'aider des petits réseaux ruraux ...*” [And why are we spending such huge sums for groups of municipalities, on surveys which never provide any results. Wouldn't it be wiser to help small rural networks...]. The sense of community is further developed through meetings, where they share expertise and good time: “*A Tamnies le club informatique que j'ai créé joue un rôle important : initiation, formation, création site web <<http://www.tamnies.com>> , utilisation des logiciels open source (ubuntu, firefox, open office, dd-wrt , monowall ...) entraide entre les utilisateurs*”. [In Tamnies, the computing club I started plays an important role: initiation, training creation of website <<http://www.tamnies.com>>, use of Open Source software (ubuntu, firefox, open office, dd-wrt , monowall ...), mutual aid programs]

#### Wireless network users' community

A second series of communities is devoted to sharing a user's home network in order to make wifi universal and free. For example, joining *OpenSpark* (<https://open.sparknet.fi/index.php>), a community launched from Turku, Finland, means letting other community members use one's wireless access point (bought for 95 euros) and thereby gaining free access to the Internet through all OpenSpark and Sparknet access points (1902 access points available on June 16 2007). Experience suggests that a community can better develop, since the quality of the network coverage depends on the number of OpenSpark base stations. Another example is called *Fon*. Starting to gain ground in France, *Fon* provides the same kind of technology, but with a difference: a sense of community is developed as a central piece. *Fon* members have a name: they are *foneros* (400 000 *Foneros* announced on June 12, 2007), which, one may guess, gives them a sense of belonging to a community. “At FON, we share to receive, and when *Foneros* install La Fontenna, the whole Community benefits with much greater WiFi coverage for everyone, everywhere” <<http://www.fon.com/en/landing/fontenna>>. Their Community WiFi router, named *La Fonera* or *La Fontenna* – depending on the country – costs €34.44. The sense of community is developed on an international blog in several languages (12). It is interesting to note that it means both going global and local. Taking the French blog *FrancoFON* as an example, we observe that it comprises 4 regional blogs. Lastly, there are different types of members in the *Fon* community. The way they are called convey an idea of the values attributed to each category. First, there are “Linuses”, who simply share their WiFi at home and in return get free WiFi wherever they find a FON Access Point. People from the second category, who are called “Aliens”, don't share their WiFi yet and are charged €\$ 3 for a Day Pass to access the FON Community. The third category is composed of “Bills”, because they get a 50% share of the money that “Aliens” pay to access the Community through their FON Access Point. It is a guess that the solution adopted by *Foneros* varies according to cultural attitudes and values: would “Bills” be regarded the same way in different cultures? Another point to ponder is the legal problem: in France (according to some IT technicians), sharing your access can be considered as illegal because it does not allow identification.

## 4. Language and Cultural Diversity in a Participatory Environment

### Languages from a Cultural Perspective

Language and culture cannot be dissociated. In particular, it is interesting to examine linguistic elements in order to find out what they reveal in terms of cultural preferences and attitudes. For French linguist Antoine Culioli (1990), linguistic marks which are on the surface of any discourse testify to much deeper representations. Tackling this issue from a cross-cultural perspective leads logically to the idea that, since cultural identity expresses itself through language, studying variations of utterances can contribute to a better insight into cultural attitudes toward communication and technology.

An interesting survey of communication diversity, cultural variations and preferences showed how language and culture are interrelated: Zaharna (1995) explored differences in how the American and Arab cultures view the role of language: “a medium of communication used to convey information” for the American culture, “a social tool used in the weaving of society”. Placed on Hall’s continuum, cultural linguistic preferences denote a focus on *form* in the first case (low-context), on *meaning* in the second (high-context). It is not only a question of making the point directly or indirectly, it also denotes ways of taking the listener/interlocutor into account. In high context cultures, the speaker is expecting the listener to bridge the gaps of the message. The onus is on the listener who is somehow responsible of the “burden of meaning”/should be able to make sense out of what he can perceive.

This proves (if it were needed) that it should be borne in mind how language and culture are interrelated in communication. It is also interesting to investigate to what extent they can impact on IT usage (or non usage) – as, in fact, we have seen in an initial way in Part I (see especially Würtz 2005).

### **Languages in Collaborative Authoring: the Case of Wikipedia**

Among the many studies in the field of cultural differences, some have recently investigated how different language communities use the same IT device. An excellent opportunity was offered by Wikipedia since the collaborative online encyclopedia exists in many languages but on the same organizational pattern.

#### **Content analysis of cultural dimensions**

Pfeil and al. (2006) explored the relationship between national culture and computer-mediated communication in Wikipedia. The authors focused on articles on the topic “game”, which were posted on the French, German, Japanese, and Dutch Wikipedia websites. They resorted to a content analysis method to examine all history entries for the four selected language versions in order to find out if there were correlations between patterns of contributions and the four dimensions of cultural influences proposed by Hofstede (Power Distance, Collectivism versus Individualism, Femininity versus Masculinity, and Uncertainty Avoidance). Their analyses showed that Wikipedia cannot be considered as culturally neutral. It was notably established that there were cultural differences in the style of contributions across the cultures investigated, which could be correlated to Hofstede’s cultural dimensions. For example, findings tend to corroborate the correlations between Hofstede’s dimensions and cultural attitudes in feeding a Wikipedia article: the number of contributions is in the category Add Information was correlated with the Uncertainty Avoidance Index. That is, the higher the Uncertainty avoidance index, the less willing members of a culture are to take risks, and thus they are less likely to introduce their own material and/or edit the material of others. It was also established that the higher the Power Distance Index of a country, the fewer deletions are made in that particular Wikipedia page. This was explained by the fact that in countries with a high Power Distance Index, such as France, people are reluctant to delete others’ work more because they are generally expecting to have decisions taken by superiors (Hofstede, 1980). On the latter point, the implications which arise collaborative online work according to Pfeil et al. are that, because of the negative correlation observed, “It is therefore advisable not to expect or require it of them in collaborative online work”.<sup>8</sup>

#### **Implications of context on language choices**

Admittedly, differences in behaviour across cultures which were observed by Pfeil and al. are interesting to stress. It may however be of interest to cross-reference the findings with Hall’s theory of high-context cultures and low-context ones and wonder what additions or deletions would mean in both cases. From this perspective, in a high-context culture such as France, such operations would happen only when they are actually felt necessary, i.e., because a critical point has been reached which makes it important that a point should be explicitly made.

To explore this hypothesis/idea a little further, it seems of interest to have a closer look at articles in Wikipedia, written both in English (*Wikipedia The Free Encyclopedia* 1 824 000+ articles in English, June 4 2007) and in French (*Wikipedia L’encyclopédie libre* 506 000+ articles in French, June 4 2007). A first observation is that, despite the apparent similarity of most articles written in both languages, some of them are more culturally marked than others. As an example an article has been selected for analysis here that directly relates to the focus of this paper on participatory practices: “*démocratie participative*” in French and “*participatory democracy*” in English. We have also chosen this article due to the fact that participatory democracy has become a new buzzword in France, since the beginning of the 2007 presidential campaign, especially as implemented by the Socialist candidate during meetings where people were supposed to be active contributors to her program.

The French version, titled “*Démocratie participative*”, comprised 3658 words on June 4 2007; the English version, “*participatory democracy*”, consisted of 895 words. But dissimilarity cannot be considered as quantitative only, since contents bear few elements in common, apart from the very first sentence: “*La démocratie participative recouvre des concepts permettant d’accroître l’implication et la participation des*

*citoyens...*”/“Participatory democracy is a process emphasizing the broad involvement of constituents...” In the English version one single topic is actually treated (*political variants*), but only in a few words, whereas 6 topics are copiously developed in the French version: assessment of benefits; participatory vs. direct democracy; induced perverse effects; different participatory approaches; “sortition”, i.e., selection by lottery to allot decision makers; examples of participatory practices around the world. The history of contributions shows that there were 146 successive versions of the article in English (which started on 3 July 2003) and 201 in the French article (which started on 30 April 2004). If we compare the number of deletions in both versions, we observe that the English version ranks first, which is consistent with Pfeil et al’s findings that deletion of data correlates negatively with Uncertainty Avoidance Index (high for France). However, when focussing on the last 2 months, the trend changes completely. First, in terms of intensity, there were 26 revisions on the English side and 45 on the French side; secondly, this period corresponds to an important rise in deletions for the French article. As an example, there were deletions of items which had just been added on 3 occasions within the same day (May 6 2007). Seen from the French context, this phenomenon can be deciphered as corresponding to a peak of interest for the participation phenomenon during the last electoral campaign. (Knowledge of the local background allows for a more balanced analysis of the situation.)

In Wikipedia, then, a community of users has shaped information according to their visions of how things are felt and experienced in the community at a precise moment of the evolution of their histories – in the French case, during an important presidential election. In this particular case, Uncertainty Avoidance became secondary: contributors felt compelled to devote the energy required in order to have their say (against another interpretation). In a high-context culture, such as France, deletion represents a radical operation, i.e., an operation that can be avoided most of the time since a consensus is presupposed to be preferable. Changes that have to do with clarification or addition of information generally prevail. This can be interpreted as a form of accommodation through a careful or prudent use of language. The analysis thus engages another aspect of cultural diversity, by pointing to the role language can play in high context countries, both in the physical world - here political life, as such - and, more indirectly, in the virtual world, through quantitative and qualitative variations of utterances hinting at degrees of involvement of the speaker in related issues.

In sum, we hope this analysis, though brief, nonetheless supports our larger contention that exploration of cultural differences would be greatly enriched by conjoining cultural theories with language analysis – though it must be recognized at the same time that domains of language use and linguistic cultures (e.g., French, English, etc.) do not always correspond directly with nations and national cultures.

## Conclusion

We have shown that attention to the multiple elements of culture is essential to successful IS design and implementation, especially as ICTs increasingly facilitate cross-cultural communication on a global scale. While there is a growing body of research and literature that helps make this point – we have also seen that work in this domain is still very much at a beginning stage. In this paper, we have introduced a new theme in these explorations – namely, analysis of how *participation* as facilitated by ICTs may be affected by specific cultural and linguistic elements, using the example of wifi communities and Wikipedia.

Given the extensive range of cultural elements that likely affect IS design and implementation (Baumgartner 2003), there are clearly a wide range of additional elements that require further research – but we would emphasize that a focus on language and culture remains central. This is especially true as what we have called a participatory evolution, as facilitated by ICTs, continues to develop and expand its influence both within and between cultures and societies around the globe. In light of this growing, global and local evolution IS needs to be newly conceptualized in order to increase our ability to design and implement IS in culturally-aware ways.

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<sup>1</sup> Lorna Heaton (1998) describes Hofstede's additional axes most succinctly:

The first dimension, that of *power distance*, refers not to the actual distribution of power, but to the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally. This dimension has implications for hierarchy, centralization, privilege and status symbols. The *individualism/collectivism* dimension identifies the strength of ties to and belonging in a group. One might expect this dimension to be correlated with loyalty, trust, shared resources, even the relative importance of verbal or nonverbal communication. The *masculinity/femininity* dimension measures the clarity of gender role distinction, with masculine cultures having clearly defined gender, and feminine cultures considerable overlap. Finally, the *uncertainty avoidance* dimension measures the tolerance (or intolerance) of ambiguity, the way in which people cope with uncertain or unknown situations. In the workplace, one might expect correlations with the way the environment is structured, rules, precision and punctuality, toleration of new ideas, as well as with motivation (achievement, security, esteem, belonging). (1998, fn. 5, 169.)

Carleen Maitland points out that a fifth, "Confucian" dimension, the contrast between short-term and long-term orientation, discovered originally by Michael Bond, is frequently included with Hofstede's original four dimensions (1998, fn. 2, 55), and describes it helpfully:

Characteristics of long-term oriented societies include respect for social and status obligations within limits, thrift, high savings rates, and perseverance. Countries scoring high on this index include China, Hong Kong, Taiwan and Japan. Short-term orientation cultures are characterized as having respect for social and status obligations regardless of cost, social pressure to 'keep up with the Joneses' even if it means overspending, and low levels of savings. Countries with a short-term orientation include Canada, Philippines, Nigeria, and Pakistan. (1998, 56)

<sup>2</sup> These findings are consistent with those of Nasrin Rahmati's analysis of basic contrasts in responses to such GSS systems in Malaysia and Australia (2000). Taken together, these studies point to a cluster of South Asian cultural values that conflict with Western CMC:

*face-saving (Confucian)*  
*high uncertainty avoidance (low risk tolerance)*

*high collectivism/low individualism*

*high power distance*

These findings, moreover, correlate with Maitland and Bauer's demonstration that

*low uncertainty avoidance* and

*gender empowerment*

are significant *cultural* factors promoting diffusion of IT (2001).

<sup>3</sup> The most important of these is the bibliography developed by Macfadyen et al (2004). But to my knowledge, no one has developed a comprehensive, systematic, and theoretically well-grounded set of guidelines and best practices for cross-cultural communication online analogous, for example, to the best practices in website design reviewed above.

<sup>4</sup> Phenology “is derived from the Greek word *phaino* meaning to show or appear”, definition given by the USA National Phenology network. < <http://www.uwm.edu/Dept/Geography/npn/index.html>>

<sup>5</sup> CUWiN (the Champaign-Urbana Community Wireless Network) is presented as “a world-renowned coalition of wireless developers and community volunteers committed to providing low-cost, do-it-yourself, community-controlled alternatives to contemporary broadband models”.

<sup>6</sup> Extracted from a letter of a member of the RAN list, who is now running a small business

<sup>7</sup> Based on an interview with Richard who started the project in Tamnies.

<sup>8</sup> In addition to their consistency with the findings of the studies discussed in Part I, these findings are likewise consistent with a large number of studies in organizational communication that focus on international collaboration: for an overview and discussion, see Lübcke 2006.