



Virtual teams and multiculturalism: differences and impacts of organizational culture in an I.T. company

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Abstract

In the process of internationalization, multicultural management deal with the cultural differences issues, i.e. diversity related to language, values, customs and behavior in the workplace. Due to the internationalization of companies and work teams, new organizational structures have emerged, such as virtual teams. The purpose of this paper is to understand the influence of cultural differences and multiculturalism in virtual teams as well as to identify potential cultural impacts in their work development and performance. For this, it was conducted a single case study in depth in a US multinational IT company. After completed the content analysis, we identified issues related to the differences between the global organizational culture and the national culture of the team members, communication barriers, differences in leadership style and acclimatization to the virtuality. They led to the conclusion that virtual teams, although they are essential to the growth and evolution of the company, they need to be worked to overcome the multicultural differences among team members, or better managed toward an improved outcome for the organization. The reflection and contribution presented in this paper refers to the emergence of local culture studies about the organizational culture regarding global virtual teams.

Keywords: Organizational culture. Multicultural differences. Virtual Teams.

Introduction

With the internationalization phenomenon, many companies have been expanding their business and the boundaries of organizations have become closer than ever before. In this scenario, interconnection between countries, States, and organizations has taken place and with that, new challenges have settled in business environments, such as the multicultural management and issues regarding cultural differences like language, customs, behavior patterns and workplace practices (CANEN; CANEN, 2005).

In a multinational company, when individuals interact with each other they recognize different ways on how should be management and implementation of work activities. In the process of multicultural interaction, business teams can be structured in such a way that their work processes are improved by tapering their competence and combining their cultural diversity for the benefit of organizational processes and decisions (BUENO; FREITAS, 2015).

Novel organizational structures have replaced the traditional functional and/or matrix designs, with empowered, flexible and integrated work teams that requires horizontal communication on behalf of interdisciplinary activities, collaboration and mutual cooperation needs (GIBSON *et al.*, 2014). Thus, the virtual teams have emerged as an organizational structure that became possible by the advance of information and communication technology (GILSON *et al.*, 2015).

This contemporary organizational structure enables organizations to have access to qualified individuals for a particular job regardless of their location or nationality (TOWNSEND *et al.*, 1998; GIBSON *et al.*, 2014). With that, organizations are able to position themselves faster and become strategically flexible, in response to an increasingly competitive market (MALHOTRA; MAJCHRZAK, 2014). For this reason, virtual teams are considered strategic as they can provide the organization a potential source of competitive advantage (STRIUKOVA; RAYNA, 2008).

However, the market has been more and more concerned with the dynamics of virtual teams and their multicultural interaction. As a result, it becomes relevant to understand the influence of cultural differences on such work setting. Studies, such as Hofstede (1985; 1990), have focused on examining cultural differences in different countries and organizations in co-located teams, however, there are lacking studies on how this phenomenon occurs in virtual teams.

Therefore, the purpose of this study is to understand the influence of cultural differences and multiculturalism in the performance of three virtual teams of a multinational information technology (IT) organization.

To this end, this paper is structured by this introduction, followed by a theoretical foundation that addresses organizational culture, multicultural organizations and virtual teams, the presentation of the methodological procedures used for this research and the results and analysis of the gathered data, and lastly, the conclusions and limitations of the study.

Theoretical Foundation

Organizational Culture

Race, ethnicity or even their conjunction are not the only forms of cultural production. Social units, institutions and organizations are also forms of creation and transformation of culture. Since the 80's, many scholars (HOFSTEDE, 1985; SHRIVASTAVA, 1985; FREITAS, 1991; SCHEIN, 1993) have been gathering efforts to research and define the field of culture within social and organizational boundaries (MOTTA, 1997).

Schein (1993) presents one of the most used concepts of culture, he defines organizational culture as a model of basic assumptions, created and developed in the learning process of a particular group to deal with the internal integration and external adaptability to the organization. For this author, once the assumptions are all valid, they are taught and shared to others so that there is a standard way of thinking and acting with respect to the problems of the environment.

Schein (2009) uses the concept of organizational culture as a collective learning, that once developed in group, is shared with the other members for cohesion in resolving domestic issues facing the external environment. In this vein, Freitas (2007) states that the point of every organization owning a culture can be challenged whether there are or not opportunities of learning occur. The degree of organizational culture interaction is related to the time of interaction between the group members and the intensity that the collective learning takes place.

One has to say that much of the interest in studying organizational culture is to find out why groups behave in a certain way, as well as why certain values are defined within the organizations (FREITAS, 2007).

Srivastava (1985) uses a more tangible concept about the organizational culture to consider it as a set of products for which the organization is perpetuated. These products include: myths, sagas, language, metaphors, symbols, ceremonies, rituals, values and norms of behavior.

The elements cited in literature make up the values, beliefs and assumptions and communication, as part of the creation and maintenance of the organizational culture. They are described in more detail in table 1:

Table 1 - Elements of the system of creation and maintenance of organizational culture.

Values	Beliefs and basic concepts in an organization. The organizational values form the central core of the organizational culture, by means of these are established standards of how to think, act and react the activities within the organization. According to Deal & Kennedy (1982) the values provide direction and serve as a guide to the behavior of all employees. Other elements are involved in the process of maintenance of values, such as the stories, myths, rituals and ceremonies.
Beliefs and	For Schein (1993), the vision of the world, the collective perception, and cognitive

Assumptions	intuition that are used within the organization are based on the beliefs and assumptions that have been validated by the group. Thus, the organizational culture is a constantly learning process, always based on a set of core assumptions and beliefs that individuals incorporate and validate as correct by means of their mutual interaction.
Communication	Schall <i>apud</i> Freitas (1991) argues that cultures are created, sustained, communicated and changed through social interaction. For the author, organizations are seen as a phenomenon of communication, without which it would not exist. The communication would be something intrinsic to the organization, which through the culture would be created and revealed to everyone who are part of.

Source: Created by the authors.

Deal and Kennedy (1982) argue that even in a strong culture, as in the case of large organizations, networking and effective communicative process can be one of the only ways to get the job done while respecting the cultural standard established by the organization.

According to Mintzberg *et al.* (2000), to the extent that the organizational culture is considered as the mind of the organization, this gives more clarity to the concepts by accepting that beliefs, common habits, symbols and other elements, that may be part of culture, are intertwined with the result of business management, even though there is no agreement among researchers and theorists on the influence of culture on organizational performance whatsoever (FREITAS, 2007).

Once exposed the contributions on the topic of organizational culture, next, the multicultural organization will be presented - a topic of culture that investigates the functioning of culture in international organizations that operate in different countries and are under the influence of various systems of national values, in addition to its global organizational culture.

Multicultural Organization

With globalization and the development of the international market, organizations have spread to different parts of the world. Thus, a company that had its operations restricted to the local market or even national has intensified the stage of its transactions with different countries and also has gone through the phenomenon of internationalization, developing branches, offices and production/business units in different locations apart from its national origin.

According to Freitas (2007), when large organizations have surpassed geographical boundaries, there is also a spread of socio-cultural matrices that these companies carry with them wherever they are installed. However, it should be noted that, even if there is influence and possible standardization of technologies and ways of working, every society sets itself by selecting and creating their own adaptations to the dominant culture. According to Motta (1997), in this process, there are global

values and customs, but also, the hybridity – mixing of cultures that is characterized as a field of study of the organizational culture.

In the end, there are several aspects that influence these cultural differences between companies. However, one of the most important factors that differentiates the culture of a company from another culture, perhaps most importantly, is the national culture. The core assumptions, customs, beliefs and values, as well as the artifacts that characterize the culture of a company, bring out, somehow, the brand of their corresponding national culture. There is no way, therefore, to study culture of companies operating in a society, without studying the culture-or cultures-of such society (MOTTA and CALDAS, 1997, p. 18).

Many studies have, as their object, the cultural comparison and the behavior of organizations located in different locations. This stream of research, initiated in Europe, is interested in investigating the cultural contingency and its influence in organizations (MOTTA, 1997; FREITAS, 2007).

One of the most cited research refers to the study developed by Hofstede (1985), who was interested in investigating the different organizational values and national systems. The author, during 15 years of research, in a single organization operating worldwide, involving more than 53 countries, identified four dimensions of values that explain to some extent the different patterns of work-related values. The dimensions identified were:

Table 2 – Hofstede’s Cultural Dimensions

Power distance	The extent in which society accepts the fact that power is distributed unequally in organizations and in society itself, of which there are privileges and where the personal absolute authority is accepted.
Uncertainty avoidance	The extent in which society feels threatened by uncertain and ambiguous situations. Different cultures have different coefficients of risk aversion and uncertainty.
Individualism <i>versus</i> Collectivism	The way the individual is connected to the social structure; if this loop is more or less flexible in order to provide opportunities for display of individual behaviors.
Masculinity <i>versus</i> Femininity	The extent in which certain society focuses on achievement, heroism, determination and material success, as opposed to the preference for relationships, modesty, watch out for the other, quality of life, etc.

Source: Adapted from Hofstede (1985)

According to Hofstede (1985), the foreign subsidiaries of multinational organizations end up playing a hybrid organizational culture, a reflection of international organizational culture and national culture. However, the author reinforces that even among the employees of the subsidiaries of the same international business, are found differences in the values of working relationships, although in large international organizations whose culture is shared, you can identify a similarity between its members, even if from different nationalities. That is, there are similarities, but there are also differences and these differences are what we seek to show through this work.

The influence of national culture is relevant on the organizational culture. Considering this, there is a direct relationship in the performance of the organization, or their different work teams that are affected by the multiculturalism, so understanding the roots of cultural differences are crucial to the management of these teams as well as the overall company (BUENO; FREITAS, 2015).

As the scope of this work is to evaluate multicultural differences in virtual teams, the next topic describes and contextualizes such organizational structure.

Virtual Teams

The advance of information and communication technology and globalization process has boosted the emergence of a new organizational structure known as virtual teams (GILSON *et al.*, 2015). This scenario, where organizations are confronted with constant transformation of their business model and exponential development of technology, reflects a favorable environment to the development of these teams and the increase of their adoption within organizations worldwide (GIBSON *et al.*, 2014; GILSON *et al.*, 2015).

According to Powel, Piccoli and Ives (2004), virtual teams are groups of knowledge workers geographically, temporally, and/or organizationally dispersed, but brought together in time and space by the advanced information and communication technology. These teams can be classified as global, as per Maznevski and Chudoba (2000), when distributed internationally and with organizational authority to take or implement decisions with international implications. Virtual teams, when organized in a global scope, serves as an important mechanism for integration of information, decision making and implementation of actions around the world (GIBSON; GIBBS, 2006; GIBSON *et al.*, 2014).

Virtual teams can influence organizations to become more flexible and to strategically position themselves in order to act faster in response to an increasingly competitive market (BERRY, 2011; MALHOTRA; MAKCHRZAK, 2014). In other words, they represent strategic structures, as they may offer a potential source of competitive advantage (EBRAHIM *et al.*, 2009; STRIUKOVA; RAYNA, 2008).

However, there is no consensus on the concept of virtual teams. In an attempt to overcome this theoretical problem some researchers have considered the degree of virtuality (MALIK *et al.*, 2004; KIRKMAN *et al.*, 2004; MALHOTRA; MAJCHRZAK, 2014). According to Kirkman *et al.* (2004), virtuality describes the level at which the teams use technology to communicate and coordinate their activities and efforts. So, instead of comparing virtual *versus* co-located teams, scholars have focused on their

degree of virtuality, in recognition of the fact that nowadays most of the teams uses the technology in one way or another (GIBSON; GIBBS, 2006). Malhotra and Majchrzak (2014) corroborate with the idea of teams having different dimensions of virtuality, as that this is not about of simply adjusting the best technology to the team's activity (MAZNEVSKI; CHUDOBA, 2000), but also to adapt it to the needs of team's coordination (MALHOTRA; MAJCHRZAK, 2014). In this perspective, the virtuality becomes an element that enhances the understanding of work in organizational teams in general.

In addition to the controversies and diversity of concepts, there is also a theoretical pluralism in the study of virtual teams. This theoretical pluralism is not rare in the area of organizational theory as there isn't a unifying theory of teams (POWELL *et al.*, 2004; SCHILLER; MANDVIWALLA, 2007). The main constructs found in literature of virtual teams, according to Powell, Piccoli and Ives (2004), are: team inputs, team processes and team outputs. Gilson *et al.* (2015) added to this list of constructs, the mediators, such as communication, coordination, conflict and confidence; and moderators, such as virtuality and interdependence.

The plethora of benefits of adopting virtual teams come with challenges (ANDRES, 2012; HERTEL *et al.*, 2005), such as more complex people management and coordination of work that is distributed and dispersed in time and space (MCLEOD, 2013). In addition, the lack of a shared context and the discontinuities that members of the virtual teams face can affect the organizational strategic alignment (MALHOTRA; MAJCHRZAK, 2014).

Commonly, researchers consider that the team function is affected when its members rely primarily on technology (MALIK *et al.*, 2004), i.e. in teams with a high degree of virtuality (FOSTER *et al.*, 2015). However, the conditions that are favorable to the effectiveness of virtual teams remain unknown. In this vein, Guinea *et al.* (2012) showed inconsistent results between performance and virtuality, i.e., some research indicates that relationship as positive, others as negative or indifferent. This corroborates with the notion of virtuality that Kirkman *et al.* (2004) present: virtuality itself is not a performance inhibitor if members are able to use the most appropriate forms of technology at the right time. They concluded that virtuality itself does not generate harm but, on the contrary, can potentially become a strategic resource.

However, important moderators and contextual variables have not been deeply explored in research (FOSTER *et al.*, 2015). Foster *et al.* (2015) understand that teams influence and are influenced by the context, and therefore, it is an important element for the understanding of the field, yet, there is still no consensus on how to describe or define it. For example, Guinea *et al.* (2012) conclude that virtuality may generate different effects on teams, according to the duration of time in which their members work together, i.e. the context of temporal stability. So, cultural diversity is another relevant factor to the processes and results of virtual teams. The cultural composition of a team is a major structural feature and integration processes, as multicultural interaction training, are likely to be key factors for their success (MAZNEVSKY; CHUDOBA, 2000; HOCH; KOZLOWSKI, 2014). For example, a more collectivistic culture has positive impact in team processes when compared to an individualistic culture (MOCKAITIS *et al.*, 2012). Therefore, it is important to include

contextual factors in virtual teams' research in order to explore their attribute of virtuality (FOSTER *et al.*, 2015).

Methodological Procedures

For this study, we used a qualitative research because of the interest in the interpretation that the participants own regarding the situation under investigation. The case presented below aims to identify multicultural differences in virtual teams of an IT multinational company based in the United States, hereafter called ATCHE (fantasy name given to ensure confidentiality).

On the above, it is intended to achieve the goals of this study through the research strategy of an in depth single case study based on data collected mainly through interviews. According to Yin (2010), a reason to choose case study as research strategy is the question of research set out with 'how' and 'why'. That is, the more the question seeks to explain any circumstances present, or when the issue requires a broad and thorough description of a social phenomenon where the researcher has little control over the events, and when the focus is on contemporary phenomena inserted in real-life context (YIN, 2010; GANDHI; MELLO; SILVA, 2010).

The data collection technique predominantly used was the semi-structured interview combined with non-participant observation. Due to the nature of virtual teams, as well as the global feature of the organization studied reflecting a multinational company, we decided to operationalize most of the interviews in virtual form, i.e. by video conferencing. Respondents are presented in Table 3.

Table 3 - Research Interview Respondents.

Teams / Interviewees	Job Allocation	Function	Company Time (years)	Country allocated	
VT ALFA	R1A	Global Manager	Global Man./Sponsor	15	Canada
	R2A	Regional Manager	Team Manager CN	11	Canada
	R3A	Regional Manager	Team Manager US	16	USA
	R4AB	Regional Manager	Team Manager(β) AL	6	Brazil
	R5A	Consulting Engineer	CTO Team Global	12	USA
VT BETA	R4AB	Regional Manager	Team Manager (β) AL	6	Brazil
	R5B	Consulting Engineer	Team Leader (TL)	8	Brazil
	R6B	Engineer	Engineer	10	Brazil
	R7B	Engineer	Engineer	10	Brazil
	R8B	Engineer	Engineer	6	Brazil
VT OMEGA	R1W	Regional Manager	Team Manager (ω) AL	17	Brazil
	R2W	Consulting Engineer	Team Leader (TL)	10	Brazil
	R3W	Engineer	Engineer	14	Brazil
	R4W	Engineer	Engineer	7	Brazil

Source: created by the authors.

Because it is a qualitative research and with a great volume of textual data, we used *Atlasti* software to assist with data analysis. A hermeneutic unit, equivalent to a qualitative database, was created to manage the whole encoding process and data analysis. The interviews were recorded, transcribed and transferred to the *Atlasti*,

one by one. Each interview was described separately, as a single entity, and subsequently, all relevant comparisons. After that, we defined the codes used to map the important accounts and capture related meaning to the achievement of the study proposed objectives.

As a method to parse the interviews, we used content analysis. This technique employs systematic procedures and objectives description of contents of messages aimed at obtaining indicators that allow building knowledge regarding implied variables of messages (BARDIN, 2006). The intent of the content analysis, according to Bardin (2006, p. 34): "is the inference of knowledge concerning production conditions (or, possibly, reception), this inference, which refers to indicators (quantitative or not)". This technique requires an organized structure, divided into three stages, being first organized in a pre-analysis step, then, in the exploitation of collected data and, finally, on the stage of the processing of results that will crown in the inferences and interpretations of the researchers (BARDIN, 2006).

Regarding the choice of case, the study is considered in depth single case (YIN, 2010). Due to the need to consider the importance and/or rarity that a single case study must have (YIN, 2010), we opted for a company with tradition in virtual teams; a world reference company that is pioneer in the adoption of advanced information and communication technologies to facilitate the work of employees with the possibility to act efficiently and effectively from anywhere at any time.

It is important to note that the survey was conducted within seasoned virtual teams that are considered reference models within their business units, and that have been performing in this work design for over 9 years, therefore, are representative objects of study. In addition, the adoption of the research protocol, prior to the field trip and gathering phase, in conjunction with the use of a qualitative database (*Atlasti*), represent tactics that corroborate to research's validity and reliability (YIN, 2010).

With respect to the chosen virtual teams, representing each a unit of analysis or a case (YIN, 2010) in this research, their choice meets the arson criteria as per Creswell (2010). This criterion is used to select cases that allow the understanding of the context, as well as the opportunity to deep investigate and a comparative basis between them (CRESWELL, 2010).

We chose permanent virtual teams - project engineering teams, and managers- that are considered solid and seasoned teams so that from the investigation of the interaction between their members, it was possible to study the multicultural differences and its potential influence on the performance of the teams. After the choice and definition of internal cases, the actors involved were identified within each of the teams for the interview phase. The respondents were selected by their involvement with virtual teams, be in your decision, implementation, coordination and/or performance.

Findings and Analysis

Case study description

The company researched is one of the largest technology companies in the world and their Brazilian subsidiary is among the 10 largest companies in the country. To maintain the secrecy, its identity will not be revealed and the fantasy name ATCHE was assigned to characterize it. ATCHE is an American multinational, which among other things, operates in the IT services segment. With offices in more than 100 countries, distributed in 6 continents, and 280,000 employees, the company had a revenue exceeding \$100 billions of dollars and presented a net profit of about 5 billion dollars in fiscal 2014.

Despite being an American company, most of the revenue is currently outside the United States. This, in a way, legitimizes the criticality of integration, as well as the availability of infrastructure for collaboration at a distance. Within the company, the business unit target for this study was “Services”, which had a revenue of approximately \$23 billion, which represents 19% of the company’s total revenue.

Description of the studied virtual teams

Three units of analysis, that is, three virtual teams were selected. These teams are linked to the global network services, an area responsible for the network infrastructure service line. The chosen virtual teams are solid and are virtual work pioneers in the internal environment of the organization. They share the same advanced IT infrastructure, organized for the virtual work for over 9 years and referred to hereafter by the following names fantasies: Alpha, Beta, and Omega.

The Alpha team, according to Duarte and Snyder (2001), is a management team, where members work through space and time, but usually in the same organization, resolving issues that arise. It differs from the other two by its role and level of expertise. The Beta and Omega virtual teams are composed of specialists and engineers that provide project engineering services. According to Duarte and Snyder (2001), they can be characterized as production, project and service teams because they work on a regular and continuous fashion in a functional area, dealing with non-routine activities that have specific and measurable results, with clear and defined goals, and also, they take advantage of the differences between time zones.

Virtual Team Alpha

The level of activity of Alpha is strategic because it brings together the leaders of each region of the globe that delivers services and enables new business opportunities. It is thus a management team (DUARTE; SNYDER, 2001), formed predominantly by managers of the regional teams, which respond to the global manager. More specifically, this management team works promoting the corporate alignment through communication, priority-setting, and resolution of issues from regional teams. In short, the Alpha team presents a high degree of virtuality (KIRKMAN *et al.*, 2004), once the leaders are geographically dispersed, in different time zones and

thus depend on a great extent of advanced information and communication technology to operate.

Alpha is currently composed of 8 managers covering the following world regions: AMERICAS (Canada, United States and Latin America); EMEA (Germany and England); and ASIA Pacific (Japan and New Zealand). For this study, the managers from Canada, United States and Latin America, as well as a Senior Engineer and member of the team were interviewed. This was accomplished in order to investigate the perception with respect to work and cultural differences existing in their virtual teams, relationships and interactions as a member of the Alpha team, and as a manager of other regional virtual team, where you need to deal with conflict management, decision making, negotiation, among other tasks.

Virtual Team Beta

The Beta team' scope is network security engineering. It is responsible for providing network security infrastructure designs for internal and external customers of Latin America under the global architectural standard to guarantee seamless network security designs worldwide. The Beta team emerged within an already established virtual culture of work. The team is currently composed of over 20 engineers distributed in the following countries: Mexico, Chile and Brazil. Most of the team, however, is distributed between São Paulo and Rio de Janeiro sites.

According to the Manager, over time team's virtuality degree has reduced. Currently, it does not rely completely on IT to operate. The concentration of members geographically near the main office allows them to work in co-presence. So, it's a mixed or hybrid team (partly virtual, partly co-located), but predominantly virtual in the sense of having their interactions and activities mediated by technology. Besides, Beta also interacts with others regional non-distributed/co-located teams, namely, with teams that only work in co-presence.

Virtual Team Omega

The Omega team' scope is network engineering. More specifically, it is responsible for designing internal infrastructure-related networks, such as data centers. Its mission is to provide network engineering services to Latin America, following the architectural standards and functions pre-defined by the global team, so that clients receive the same service delivery worldwide.

The Omega team has currently 16 engineers distributed between Brazil and Chile. Therefore, Omega encompasses both structures: virtual and co-located work. The manager coordinates the efforts of the team from Sao Paulo's office, from where most engineers work and also other teams which they interact with – all in co-presence. Besides, the regional leadership of the Brazilian subsidiary also works mainly from this office.

Data Analysis

During the examination of the interviews, were found some categories of analysis that helped the understanding of the responses with respect to the researched matter. The categories that were used addressed the following: organizational culture, communication, leadership, virtuality and virtual work and influence of cultural differences on the performance of the team.

During the interview phase, the word culture came about naturally, without any specific relationship with questioning the company's organizational culture and whether in fact there were some cultural differences in work teams. We highlight in Table 4, some transcripts of interviews that assist in the understanding of the categories of analysis found.

Table 4 – Analysis Categories

Analysis Categories	Interview Transcript
Organizational culture	“When you're dealing with any group of people that come from a certain place and time you're dealing with the culture. And that's what feeds and drives and gives meaning to everyone's of those people's day.” (Respondent R1A)
Communication	“The cultural barrier that is very disruptive is communication, it must be overturned in order to really achieve the results that are expected.” (Respondent R2W)
Leadership	“Local Leadership is effective in knowing how to speak to individuals in a more appropriate way - blunt (in the case of Brazil) - not focus only on metrics like Americans.” (Respondent R2W)
Virtuality	“At the organizational level, it allows everyone to work in specific ways without getting in the way of how other people do their work. The technology and the structure allow any one person to work in pretty much any fashion that works best for them.” (Respondent R5A)
Influences on work	“Their goal is to leave everything the same so that a person from the United States can solve a problem in Brazil, for example. But the biggest problem, not only Brazil but Latin America is how they work time.” (Respondent R6B)

Source: research data.

Regarding the organizational culture, respondents point to reflections about the differences between the enterprise global organizational culture and national cultures where staff are allocated.

“If you can get the direction and mission of the company and adjust it as close as possible to your region, it would be the most appropriate. I think following 100% is not possible because of cultural issues ... every part of the world you have a type of cul-

ture, you have a kind of customer culture, the culture of the person who will work with you.” (Respondent R4AB)

Although the company has employees from various countries of the world, and people working virtually, the case study focuses on a work composed by many North American employees (The United States and Canada) and by Latin America (Mexico, Chile, Peru, Brazil), in that sense, it was found some similarity when compared the local national cultures and the company’s global culture.

“What I mean by the fact that Canadians and Americans were very streamlined together is ... they share similar holidays they share many of the same days off... It is a fundamental cultural structure. And the other things that form culture are media and communications and when you live in Canada one of the things you have to do is that a great deal of what you experience in this world is media and communications from America.” (Respondent R1A)

The American organizational culture adaptation is simplified when the employee comes from a national value system similar to the United States one, as is the case in Canada, as demonstrated by respondent R1A. When the interviewee is from other countries in Latin American, other perceptions are felt about cultural differences.

“Cultural differences, conflict aversion, focus, work organization, punctuality, respect the rules. Brazilian in general, he does not shy away from conflict, we like to debate and discuss in a warmer way. And I even think that sometimes this is quite positive when you have a sharper discussion.” (Respondent R2W)

In one of the Hofstede’s researches (1985) the author brought specific considerations about Brazil. According to his research’s results, Brazil can be considered a collectivist society, not, however among the most collectivist ones. But it's in a quadrant as stipulated by Hofstede far from the individualist culture of United States. Brazil still appears among one of the nations where the search to avoid the uncertainty is too large and its feminine dimension, although close to the male, has a high representation.

In Latin American countries, as well as in Brazil, there is a need to personal approach and bonding process, unlike the United States and Canada - even in virtual teams, this feature is not left out.

"We created a habit every Friday, which I loved, a time set aside to talk about projects that were hidden, we had the same concerns about general issues It is difficult for an American that we entered to the point people even... " (Respondent R3W)

Virtual meetings that bring the team members together, activities that involve close contact between the team and its customers although they are not stimulated by enterprise global culture programs, these situations are easily found when employees are still under the influence of their systems of national values.

"I think the Latino have a preference for maintaining a closer relationship and like to know the person, then ... I think when you personally you know they give you more value, more trust and creates a more collaborative environment ... I guess when you meet in person, you end up creating the right link and the person is more willing to help, is nicer, is friendlier. American, American and it looks like it's targeted at not having both contacts like that." (Respondent R3W)

Issues such as these can lead us to believe that although the scope of virtual work is conceived and initially worked in American culture, it can be deployed on other cultures, whereas there will be adaptations with regard to employment relationships even if these are configured differently from the model proposed by American values.

"The American, with whom he is working, in fact if the person is in Brazil, is in India, is in the United States, professional contact that he wants to be, you don't want to talk too much." (Respondent R3W)

Considering the issues related to language and communication, several notes were raised by respondents with respect to the way that occurs to the communication and how language issues are resolved in this multicultural environment.

"We also have cultural level since it is global and internationally everyone has sort of more than how different culture handles different situations. Different in Brazil vs. Costa Rica vs. US vs. India. So the virtual collaborate tools give us a way to basically find a common, uh... find a simple language that we

can all talk into this from what we're viewing." (Respondent R5A)

It is clear to some respondents that as there are barriers in communication due to cultural differences, the virtual work can also resolve some of these difficulties, although it is clear that for Brazilians respondents the lack of physical presence seems to be a barrier to the smooth running of the activities in these teams.

"At the time of a crisis, or a conversation. When you are physically present, you can have a better approach. Not that the technology would not be able to supply this need. I think that today, people hold a lot in e-mails, to have everything filed ... instead of you pick up the phone and call. I think that this technology could be used rather than you simply send an email, waiting for someone else to answer," (Respondent R4AB).

In a theme related to interrelationship and the dynamics of working in virtual teams, respondents were asked about the role of leadership on the team, the effectiveness of leaders and how they should work in a virtual environment. Again, we found differences between the perceptions of the North and Latin American employees.

"When you work within an American company is almost impossible to see the manager. Even if you are intimately connected." (Respondent R1A)

It can be noted the spontaneity in which the Canadian respondent talks about the lack of direct contact with the leader unlike the reports of Brazilian respondents. For Latin Americans, mainly in Brazil, even in virtual teams, much is said about the need to be close to your leader. In some cases, in virtual teams, employees are in the physical space of the company, but are involved in projects and working with different people out there, sometimes the team leader or manager is by your side or is in another country.

"I think it should be something that would force people to have a sense of commitment ... in Brazil sometimes work is the result of friendship, and friendship is the result of the work. You end up creating a relationship with the person because you work. Here in Brazil, the person works if you're her friend." (Respondent R8B)

"When misunderstandings occur ... in Brazil is sometimes difficult, depending on the person you

have to take it slower, it can't go so direct in point, have to go just before cooking. If it's someone from the outside is more comfortable. " (Respondent R8B)

It was observed that the personal relationship, with team members, or in this case with the leadership, reflects much the commitment that will be given by the employee at the time of the work. For the virtual team, this can be one of the great difficulties when we're dealing with different local cultures. In the leading role, the leader must understand that the treatment and the interrelationship with some team members will generate more motivation and so may have more positive results. It is an adaptive process, from person to person, from culture to culture.

As already mentioned above, the national American culture is often fused with Canadian culture, and although very different from the other Latin American cultures, one of the respondents, in your role as global manager, understands and explains very clearly that great cultural differences related to the leadership challenges.

"I would say that disadvantage summarizes as a result of poor leadership. Because expectations are what poor leadership give you. So, when I first set up the Brazilian team for firewall engineering Don C expected them to act like Americans. He was my boss. He expected them to want to work 24 h a day 365 days a year and I say no. We are not paying these guys 85k a year We are not paying these guys to ignore their culture, you're not paying these guys to reject their families, and their churches and their cultural traditions. We're paying these guys a salary to do a job ... And the job has limits depending on the individual that must be respected. And there is law in place to enforce that." (Respondent R1A)

Differences and thoughts like these, are even more evident when respondents are asked about the virtuality of the work, the process of adaptation to the virtual team, the perception that they have about virtuality and the difficulties in that scope of work.

"South America is very particular, there is still very resistant to this type of structure, for example, in Mexico, was very unhappy to hear the engineer who was working on the project was Brazilian, who was in Brazil, his own personal account leader required to have a Mexican engineer working there in Mexico, only to meet a particular customer. This happened also in Chile, in Peru, and in various locations they demanded to be hired the staff of local subsidiary, to be able to meet." (Respondent R5B)

It was noticed that the difference of work in Latin America and North Americans, is that here there is still a very strong plea for face-to-face meetings, personal contact with people from the same culture. Even though the company is global, people of certain location prefer that their project is led by a local engineer. This interaction with the client, considered generally natural here, is almost proscribed in the United States and in Canada.

In reference to the ambiance and adaptation to virtual work, respondents argue that must have an alignment between what the company hopes with this structure and also the perception and adaptation that the person has in this process. Especially for Brazilians employees who are not so used to this scope of virtual work, words like "growth" and "learning" are often used to refer to the process of adaptation to the virtual team.

"With respect to the employee, this is done at the very beginning, the new people that come in, they don't get into the company and already are remote. Has a period of about 3 months, so that she will understand the operation because it will deal with the person, she will see the leader there, so I think that in this period of ambiance if solve many things." (Respondent R6B)

As part of the objectives of this study, in addition to identifying the multicultural differences in virtual teams, we seek to identify and analyze the cultural influences on the progress and performance of the virtual teams. To do so, we considered team performance as a measure of effectiveness at work, achieving goals and good results in the projects in that virtual teams are involved.

"In Brazil there still has a lot of restrictions when working with virtual teams... it is a lot of mess ... still has the appeal of the handshake, hug," one little thing ", I help you help me. So, I believe that virtual teams can work, but it takes longer, is more complicated." (Respondent R1W)

"In Brazil things are much slower, I think there's little interaction between the teams and the people end up trying to copy the processes that are imposed by the United States but due to the cultural issue here in Brazil not working right even with the settings and everything else." (Respondent R6B)

Right there, we realize in the speaking of Brazilians, that the virtual teams are not yet well operative in Brazil, which justify with the fact of national cultural differences with respect to the scope of work. As elaborated above, the need for closeness

and personal interaction, the presence of leadership, adaptation to American values, are facts that influence the performance as well as the function of members of virtual teams in Brazil.

"If you have people on the team who are not accustomed to working with remote teams, the project suffers impact, because the person is so used to walk 2 meters and talk with each other and have the answer right away, rather than depending on a response from a person I'm away and she can't charge." (Respondent R6B)

So, it was noted a big challenge to the scope of virtual work to be well accepted in Latin America. However, it is also observed the various reports that virtuality, to a greater or lesser degree, has helped in the development of the projects and activities of the company, especially considering its performance in the world market, that without the virtual work, many activities and projects would be doomed to failure. However, this leads us to state that although the virtual teams are critical to the growth and evolution of the company, they still need to be worked out so that the cultural differences between the teams be, if not exceeded, better managed so that there are greater synergy and better results for the organization.

Final Remarks

The aim of this study was to understand the influence of multicultural differences in virtual teams and the possible impact on their operation and performance. We conclude that although much is gained by the company with the use of the virtual work, there is little preparation to the employees, including leaders, with virtual interaction.

Although there is a global organizational culture prevalent at all business units, large cultural differences are identified in the studied virtual teams. These differences are basically justified by local values systems and the national culture where workers are physically located.

Besides, despite the growing prevalence of virtual teams, relatively little is known about this new organizational structure and its dynamics (PINSONNEAULT; CAYA, 2005; GIBSON *et al.*, 2014). The research on this topic is still in its early stages and many areas were not examined (MAZNEVSKI; CHUDOBA, 2000; EBRAHIM *et al.*, 2009; GIBSON, *et al.*, 2014; GILSON *et al.*, 2015).

Future research should explore global values systems and prevalent organizational culture in other countries and regions, in companies from Europe, Asia or other, whereas a large number of studies in this area are restricted to North American companies and IT companies. We believe that different cultural aspects may emerge when compared to other values systems, cultures and also other industries.

To wrap up the discussion presented in this research and in order to encourage further studies in this underdeveloped theme, we end this section with the following excerpt from one of the interviewee:

“This is not an experiment in IT management. This is an experiment in a virtual culture work!!” (Respondent R1A).

In other words, along with the advantages of the adoption of the virtual teams, there are also many challenges, especially those related to the social and human aspects such as communication, shared knowledge, among other factors that the lack of co-presence raises (GILSON *et al.*, 2015). With that said, the thinking presented in this work brings a contribution to deepening the discussion in the area of administration, especially as the emergence of studies in these new forms of work organization, and especially on how local culture influences on the organizational culture in global virtual teams.

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