10. Culture and Performance of Global-Project Teams: A Study of Brazilian Multinational Companies

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Introduction

The growing importance of Brazil in the global economy has increased the number of Brazilian multinational companies, which, in turn, are adopting new forms of work organization in order to better utilize their resources across their various units. Global project teams have been seen as a source of knowledge about the needs of customers who are geographically dispersed, coming from different cultural backgrounds, speaking different languages, and having different sets of preferences.[33, 35, 39] This new reality introduces new management challenges due to the fact that individuals from different organizations, from different countries and from different value systems must share authority, responsibility and decision-making.[47]

In this context, the cultural issue becomes one of the most important aspects to be taken into consideration by multinational companies. Differences in the way leaders and their followers think, feel and act must be considered when we want to find viable solutions to be applied worldwide. Many solutions do not work or cannot be implemented when the differences in the way partners think are ignored.[23]

Along with the cultural issue, growing importance has been attached to the concept of cultural distance between global teams. Besides cultural differences, there are other circumstances that hamper the international flow of goods and services, such as differences in economic situation, level of education, languages, religions and legal and trade systems between the countries. The problems faced by global projects often result from conflicts caused by the cultural distance between team members, and from the fact that leaders do not understand individual and institutional behavioral patterns very well.[25]

While dealing with this situation is not a trivial problem for traditional multinationals, for Brazilian multinationals it is more challenging, considering that most of them are still young. Due to the risks of global markets and the competitive disadvantages of firms that are less experienced than those of developed countries, the internationalization process for Brazilian companies has been rather complex.[16, 51, 54]

Despite the importance of the issue, a study conducted by Henrie & Sousa-Poza[18] demonstrated that cultural factors are poorly studied by authors in the field of project management. By analyzing publications that specialize in the subject, in the period from 1993 to 2003, the authors concluded that publications focused mainly on project management processes, techniques and tools. Even though in the 90s studies on project management focused more intensely on human aspects, such as team building, leadership and motivation, the cultural issue did not have a relevant role. A similar result was achieved by Leybourne,[29] who pointed to the need to expand studies on project management, from a focus based primarily on management processes to a greater focus on the interactions between people. This gap in the literature poses challenges to researchers, who need to incorporate theories and concepts developed in other disciplines in order to build knowledge and methods applicable to the management of global projects. This provides an opportunity for further research into the topic.

In light of this background, the objective of this study is to identify and analyze which cultural characteristics affect the performance of global project teams in Brazilian multinationals, in the context of high and low levels of cultural distance. Therefore, this study contributes to the integration of two complex disciplines: team culture and project management. In an attempt to gain a better understanding of the performance of global-project teams from a cultural perspective, this study contributes to the field of project management by providing useful information from other areas, mainly from studies on organizational behavior. Thus, the theoretical contribution is substantial, due to the gaps in the literature on the theme. Furthermore, there have been many studies on multinational companies that have begun operating in the Brazilian market, but few studies on the opposite movement have been conducted. In this sense, this study also contributes to the development of incipient knowledge about the different dimensions that involve the internationalization of Brazilian companies, more specifically about the management of global teams. This study also seeks to make contributions to the professionals' practice by suggesting improvements to the management of multicultural teams that are peculiar to global projects, with the purpose of increasing the chances of success for such projects.

The chapter is organized in four sections. The first summarizes the main issues related to the management of global project teams and culture, without trying to cover every aspect. Next we present the methodological procedures adopted. We then discuss the results of the study. Finally, we offer some conclusions, highlighting the theoretical and managerial implications and recommendations for future studies.

Literature Review

This section introduces, in a concise way, the basic concepts covered in the study, focusing on two main dimensions and their interrelationships: global projects and team culture.

National cultures

According to Hofstede,[23] culture is the result of continuous learning and it predetermines, in part, human behavior. Despite the wide diversity of minds, each country has a cultural structure that is a starting point for mutual understanding. In addition to Hofstede, several authors, including Trompenaars[55] and, more recently, House et al.[24] have striven to study the various dimensions of national cultures. Among them, it is possible to say that there is more complementarity than contradictions. For the purposes of this study, we have adopted the dimensions proposed by Hofstede,[23] since there are more data available on these dimensions, allowing us to make comparisons between cultures of different countries.

The cultural dimensions proposed by Hofstede are called: a) power distance index (PDI); b) individualism versus collectivism (IDV); c) masculinity versus femininity (IMAS); and d) uncertainty avoidance index (UAI). This set forms a four-dimensional model of the differences between national cultures. According to this model, each country has different results for each dimension. There is a fifth dimension – long-term orientation versus short-term orientation. This dimension was not part of the previous model and was later incorporated by Hofstede, in order to capture values from the perspective of the Oriental society. It is also not considered in this article, since there are fewer data available about this dimension.

Power distance can be defined as "the extent to which the less powerful members of a country's organizations and institutions accept and expect the unequal distribution of power." The "institutions" are the key elements of a society, such as family, school and community, and the "organizations" are the places where people work. The measurement of power distance is based on value systems of less powerful people and the division of power is usually explained by the more powerful individuals, the so-called leaders. Here, it is essential to emphasize that authority can only exist when it is matched by subordination. The power distance indices show the dependency relationships in a given country. In countries where the power distance index is low, the teams' dependence on their leaders is small. The opposite occurs in countries with high power distance, where teams are more dependent on their leaders.[23]

Individualism is typical of societies in which the ties between individuals are loose. Each is expected to look after him/herself and his/her immediate family. *Collectivism* is typical of societies in which people from birth onwards are integrated into strong, cohesive groups, which protect them in exchange for unquestioning

loyalty. Naturally, the degree of individualism varies within countries and between countries [23].

For the author, *masculinity* and *femininity* are the differences related to self-assertion behavior and modest demeanor, respectively. According to the information about differences between societies related to this dimension, it is possible to define it as follows: masculine societies are the ones in which the roles are clearly differentiated (the man must be strong, assert himself and be interested in material success, while women must be more modest, tender and concerned about quality of life); feminine societies are those in which the social roles of the genders overlap (both men and women are expected to be modest, tender and concerned about quality of life). Masculine culture and feminine culture create two different models for managers. The *male*-style manager shows self-assertion, decision-making and aggression (in masculine cultures, this adjective has a positive connotation). He makes decisions by himself, based on facts, rather than based on the group decision. It does not matter if he is slightly sexist. The *feminine*-style manager is less visible, acts more by instinct than by decision, and is accustomed to seeking consensus.

Standards and laws are part of the means used by societies to avoid the *uncertainties* in the behavior of their members. This is quite visible in the workplace. In countries with a high uncertainty avoidance index (UAI), there are numerous formal and informal laws that govern the rights and obligations of employers and employees. When an individual moves from a country where there is not much avoidance of uncertainties to another one where there is considerable avoidance, it becomes difficult to understand that although the regulations may be ineffective, they satisfy the emotional need for a formal structure. The reality is less important than the satisfaction of such a need. In countries with poor avoidance of uncertainty, there seems to be emotional aversion to formal rules. Standards are set only when this is absolutely necessary. Members of these societies pride themselves on being able to solve many problems without the need for formal standards.[23]

The Brazilian national culture is seen as one of increased power distance. Both leaders and subordinates believe that ignoring power levels is a sign of insubordination, even though it makes the job easier. Brazil may be a country that is more collectivist than individualistic, albeit not in a way that is as pronounced as in the case of power distance and uncertainty avoidance. With respect to femininity and masculinity, Brazil's position is uncertain, but there is a tendency towards femininity. In this case, professionals are less oriented towards results. Care for others, equality, welfare and quality of life prevail. Finally, Brazil is considered a country of high uncertainty avoidance, where people feel uncomfortable with ambiguity. In the work environment, there is greater career stability and there is an emotional need for rules, even when they may be ineffective. People feel motivated

due to a sense of security, because they are esteemed and valued by the group.[23] Brazilian authors have confirmed, in large part, the theoretical findings of Hofstede, especially with regard to power distance and uncertainty avoidance.[1, 2, 6, 13]

Cultural distance between countries

The concept of cultural distance arises from the "psychic distance" term, coined by Johanson & Vahlne.[25] For these authors, psychic distance is the sum of factors, such as differences in languages, level of education, business and legal practices, culture, etc., that interfere with the flow of information between markets. Initially, companies tend to enter international markets with lower psychic distance, and only then do they expand into other markets.

Based on the extensive research conducted by Hofstede in 50 subsidiaries of IBM, whose results have already been discussed in the previous section, Kogut & Singh[27, 28] created an index of cultural distance, defined as a firm's degree of uncertainty about the characteristics of an international market. This contribution was considered innovative since it was able to translate cultural characteristics into a numerical index, allowing comparison of cultural distance between countries. This index is based on the deviation of each one of Hofstede's dimensions from the classification of the target country. These deviations are then adjusted for the differences in variance of each dimension, with the arithmetic mean also being calculated. It is important to highlight that Kogut & Singh[27, 28] dealt only with cultural distance. The concept of psychic distance is broader, since it includes other dimensions, such as political, geographical and economic ones.[10, 14, 43]

Despite the difficulties created by cultural differences, there are also opportunities. The project manager must identify potential competitive advantages and disadvantages brought to the team by professionals from different cultural backgrounds. Regardless of the cultural orientation, such a skill can be useful if the manager knows how to exploit it.

Global projects

In their generic definition, projects are temporary endeavors made to create products, services or unique results. Their characteristics are temporality, which means that all projects have a defined beginning and end; the uniqueness of their products, services or results; and their progressive development, which means their development occurs in steps and continues by increments.[41] Global projects could be defined as temporary structures designed to achieve a common goal, and whose results come from horizontal cooperation within or between organizations.[5] They involve multiple locations, entities, organizations, and business units, and they are scattered across different countries.[18, 30] A company with global-project management operates in an environment where technology, risks, finance and participation in new markets are shared with stakeholders. Global projects are

developed through alliances involving groups from R&D to outsourcing, in projects that vary in size and duration. A project will be more or less international depending on the relationship with stakeholders, which can be suppliers, partners or clients. The systematic analysis of stakeholders determines whether a project will be treated as international.

Performance of global teams

Global teams demand of their members a differentiated set of skills, attitudes and knowledge. Aspects such as collaboration, leadership, confidence building, conflict resolution, intercultural skills and distance monitoring are part of the skills of these professionals.[4, 30, 31, 38]

The critical factors that affect team performance are related to human behavior and management. The behavior factors are trust among team members and effective communication and relationships. The critical management factors refer to identifying the client's key needs; ensuring the stability of objectives; adherence to schedule; availability and sufficiency of resources; and adherence to budget.[35]

Hoegl et al[20, 21] define the performance of teams in terms of variables related to effectiveness and efficiency. Effectiveness refers to the degree to which teams meet expectations of clients regarding the quality of the service or product. Efficiency is related to the adherence to schedules and budgets. Piña et al[40] reviewed the literature on team performance in organizations. They argue that performance measures vary depending on the types of teams, which can be classified as work teams, parallel teams, project teams and management teams. With regard to project teams, the measures are related to project performance (adherence to the project budget; adherence to the project schedule; quality of tasks/products/services provided) and attitudinal issues of individuals (satisfaction of team members; commitment to results; trust; creativity).

Similar measures are defended by Prasad & Akhilesh.[42] The authors propose traditional measures (budget, schedule, quality of product or service, productivity) combined with less-traditional measures, such as generation of new knowledge and satisfaction of team members. These measures would contribute to the organization's learning process, innovation process and value creation process.

Performance measures related to the project can be more easily measured than attitudinal measures, as they are objective and established at the outset of the project. Attitude performance measures depend on the context and a work environment that challenges professionals and stimulates communication among team members, mutual trust and respect.[50]

It is possible that good performance achievement is more difficult in multicultural teams, since they are particularly more vulnerable. Their members may have different perceptions of the environment, of communication standards, of

stereotyping, of ethnocentrism, of prejudice, etc. The consequences of such problems could be the degradation of performance due to lack of social cohesion.

From the above we can infer that the intercultural competence of companies and organizations is a success factor in the internationalization of companies, and in the management of global projects. The more we know the culture of the host country, the lower cultural distance and the greater the possibility of success for the company in its international endeavor. Intercultural competence is defined by Johnson et al[26] as the effective action of individuals based on their repertoire of skills, knowledge and personal attributes, which allow them to work successfully with people from different cultural backgrounds, either in these individuals' country or abroad. For Higgs,[19] the competences needed for companies that venture into the international arena are: a) awareness of their own culture and the cultural differences; b) construction of knowledge about the impact of cultural differences, as well as about the strengths and weaknesses related to different cultures; and c) development of skills to identify the impact of cultural differences on management and behavioral adaptation, with the purpose of achieving effective results. With respect to people, some necessary attributes include traits such as ambition, courage, curiosity, determination, enthusiasm, integrity, ability to judge, loyalty, perseverance, self-development, and tolerance to ambiguity, among others. Personal competence, which covers skills and attitudes, is translated as the individual's ability to adapt to different cultural contexts and norms, to manage stress and to resolve conflicts. It involves the self-examination of one's own mental programming and how it differs from that of other individuals. For this, it is necessary to know how cultural values are learned, and to understand how to compare and contrast different cultures.

The good news is that intercultural competence can be learned, especially with regard to explicit knowledge. Intercultural learning does not mean that individuals should change their own culture, but must accept that there are other ways of seeing things that are equally valid. In order for intercultural interaction to be effective, it is necessary to establish a compromise between one's own culture and the other person's culture.[3]

Methodology

Research design, variable definition and hypothesis

The research question of this study is "what are the cultural characteristics that affect the performance of global project teams in contexts of high and low cultural distance?" In order to demonstrate the relationships established by this question, three main variables were defined: team cultural characteristics (independent variable), team performance (dependent variable) and cultural distance (moderating

variable). The variables and their definitions came from the literature review section, where they have been discussed.

The dependent variable called "performance of global teams" is represented by human indicators such as job satisfaction, existence of a creative environment, commitment and trust,[32, 36, 37, 40, 45] and by technical indicators such as achievement of schedule, time and quality objectives.[38, 40, 41, 42, 44, 53]

The independent variable refers to cultural characteristics, as proposed by Hofstede.[23] For the purpose of this study, these dimensions have been translated into team cultural characteristics (hierarchical proximity, collectivism, femininity, and risk propensity). As the literature review pointed out, there are other cultural dimensions that could influence the performance of project teams. The choice was made to use these four dimensions due to the existence of data that would allow comparing the countries participating in the study.

The concept of cultural distance has been adapted from studies on internationalization of firms, specifically the studies conducted by Kogut & Singh.[27, 28] Here, cultural distance is defined as the extent to which project teams distance themselves from each other due to differences in cultural characteristics. The operational definitions of all variables used in the study as well as the metrics used are shown at the end of the chapter.

After presenting the conceptual model defined for this study, we can now define the hypotheses that will guide the data analysis process. Several authors state that in a project environment, unlike what happens in operational and routine environments, the main focus is on results, rather than on power relationships. The project leader should be a facilitator and adopt an open learning process, to encourage innovation.[38, 41, 44] Thus, apparently, a low power distance may favor the performance of global project teams. However, when the cultural distance is high, this performance can be negatively affected, since there is the possibility of conflicts of authority. Therefore, regarding this first dimension, this study formulates the following hypotheses:

Hypothesis 1: hierarchical proximity is positively related to overall team performance.

Hypothesis 1a: hierarchical proximity is positively related to the team's technical performance.

Hypothesis 1b: hierarchical proximity is positively related to the team's human performance.

Hypothesis 1c: hierarchical proximity is positively related to the performance of the team in a context of low cultural distance.

In project environments, teamwork, cooperation and sharing of common objectives are important to teams' performance. This would not be true in the case of high cultural distance, due to possible conflicts and misunderstandings in the communication process. So, now we define the second set of hypotheses:

Hypothesis 2: collectivism is positively related to overall team performance.

Hypothesis 2a: collectivism is positively related to the team's technical performance.

Hypothesis 2b: collectivism is positively related to the team's human performance.

Hypothesis 2c: collectivism is positively related to the performance of the team in a context of low cultural distance.

Considering that femininity is related to concern for others, one would imagine that it would contribute to the satisfaction and commitment of the teams. Likewise, it is related to customization and not to mass production. Thus, this cultural characteristic may also be positively associated with the technical performance of teams.[23] The same would not happen if the team had a high cultural distance, as this would imply possible conflicts over the way to treat people – that is, with more or less rigor. So, now we can define the third set of hypotheses:

Hypothesis 3: femininity is positively related to overall team performance.

Hypothesis 3a: femininity is positively related to the team's technical performance.

Hypothesis 3b: femininity is positively related to the team's human performance.

Hypothesis 3c: femininity is positively related to the performance of the team in a context of low cultural distance.

Projects represent the means by which business strategies are implemented. Thus, projects and risks are intrinsic. In other words, the risk is part of the project. In risk-averse cultures, this reality is not easily accepted, and therefore the excess of rules imposed to control risks can slow or halt the project. Thus, it is postulated that the propensity for risk is favorable for the performance of project teams. This performance would also be positively associated in a context of low cultural distance, where the thoughts, values and standards are similar. Therefore, the fourth set of hypotheses would be as follows:

Hypothesis 4: propensity for risk is positively related to overall team performance.

Hypothesis 4a: propensity for risk is positively related to the team's technical performance.

Hypothesis 4b: propensity for risk is positively related to the team's human performance.

Hypothesis 4c: propensity for risk is positively related to the performance of the team in a context of low cultural distance.

All hypotheses express a positive relationship between variables and never causality, as mentioned by Selltiz.[46] In this context, the hypotheses formulated are only intended to create a framework in order to discuss to what extent some cultural characteristics contribute to team performance, in contexts of high and low cultural distance.

Sample

First, an effort was made to define how many Brazilian multinationals are in operation. As a result of research in specialized newspapers, journals and websites, a total of 70 companies were found.[11,12] This quantity probably does not represent all Brazilian multinationals, but is the most accurate number possible. All 70 companies were contacted by telephone in order to confirm whether or not they had global projects, resulting in a final sample of 34 global projects from 15 Brazilian multinational companies.

Data collection

For data collection, a questionnaire was developed by the authors based on operational definitions of the variables, which in turn were derived from the theoretical background of the study. To reduce the possibility of complacency among the respondents, the questionnaire included reverse questions. During the processing of data, the scale of these questions was duly corrected in order to maintain the same interpretation base as the others. Such questions indicate that, in general, the answers seem to have been consistent, since their score was lower than the others. A pretest was carried out on a project selected for this purpose, to detect and solve problems concerning the clarity and accuracy of terms, an adequate number of questions, the understanding of the research objectives, and improvement of the questionnaire's functionality.

In order to obtain more reliable results, all the questionnaires were applied in person. Respondents were chosen according to criteria of involvement with the project, organizational knowledge, and professional experience.[15] With respect to the respondents' positions, more than 50% of them were division directors, department directors and managers. The majority had managerial responsibilities as project managers or project offices managers. In general, the respondents had been with the company for over 10 years. So, in addition to knowledge, they also had professional experience. In terms of professional specialization, the largest share (37%) belonged to the Research & Development (R & D) area. There were also a significant number of professionals dedicated to project management (18%), when

this was a department with its own structure within the organization, and to information technology (12%).

Treatment of data

Before applying statistical tests, we applied the Cronbach's alpha test, which measures the internal consistency of the research instrument. The test was applied to the 54 questions of the questionnaire, resulting in a value of 0.93, which allowed accepting the reliability of the instrument, since a Cronbach's alpha coefficient of 0.70 or higher is theoretically considered appropriate. With respect to the sample, we carried out the Kolmogorov-Smirnov test, which determines whether the values of the sample can reasonably be regarded as originating from a population with a certain theoretical distribution.[48] The result (D = 0.27) was greater than the D considered critical (D = 0.23). This allowed accepting that the perception of respondents was not evenly distributed with respect to the performance of project teams, showing that the cultural characteristics of professionals may be associated with the performance achieved by project teams.

In order to test the hypotheses, two non-parametric techniques were used, namely:

Chi square test: This test was used in the first stage, in which the data from 34 cases were considered together. For acceptance of the hypotheses, an alpha equal to 0.10 was used. For Hair et al,[16] the conventional criterion of significance is an alpha equal to 0.05, as some researchers believe that if the function is not significant at the 0.05 level or above, there is little justification to go beyond. However, the author also says that there are several researchers that disagree and decide to continue at a lower level of significance (e.g. 0.10), analyzing the cost versus the value of the information. Considering that the sample used in this study is small, we opted for the 0.10 significance level, which is less conservative, but it was more sensible for the size of the sample, making it possible to obtain more significant information.

Fisher's test: In a second stage of the analysis, the data were divided into high and low cultural distance, based on the median, resulting in 17 cases for each segment. For this analysis we adopted the Fisher's test, which is particularly suitable for small samples (20 points or less, in which case the chi-square test would be contraindicated).

The cultural distance was chosen as a moderating variable, since the study focuses on global projects in Brazilian companies in the process of internationalization. In this case, the cultural distance seems to be an important variable as advocated by studies presented in the literature review. For its calculation, we employed the aggregate index of Kogut & Singh,[27, 28] whose significance has already been addressed in the conceptual review. The mathematical formula developed by the authors to calculate the cultural distance degree is:

$$DC_j = \sum_{I=1}^{4} \{(I_{ij} - I_{ik})^2 / V_i\} / 4$$

where:

I_{ij} = value of the "i cultural dimension" index of country j;

V_i = variance of the "i dimension" variance;

I_{ik} = value of the "i cultural dimension" index of Brazil.

The CD (cultural distance) index is made up of the sum of all indices of Hofstede at the same time. In the cases studied here, there is the presence of more than one foreign country in the composition of the project team (ranging from 1 to 4 countries). Thus, the CD rate is also a summation of indices obtained by the participating projects. Countries like the Dominican Republic, Mozambique and Angola, which have participants in the sample, were not studied by Hofstede.[23] Thus, we considered the indices of regions that were geographically closer, namely:

Dominican Republic ➔ Mexico

Mozambique and Angola ➔ East Africa

Results and Discussions

Here we discuss the non-parametric analysis of the associations between the independent variable (team cultural characteristics) and the dependent one (team performance). The results of the statistical analysis are summarized in Table 1, considering, in terms of team performance, the human and technical indicators and the overall value (technical and human indicators combined).

Considering the data presented in Table 1, it is possible to accept that both hierarchical proximity and femininity are associated with the overall and human performance of global-project teams. However, no cultural characteristic was shown to be associated with technical performance. These data strengthen the view of authors that advocate further studies on the role of people in projects to the detriment of technical aspects. Apparently, methodological issues related to the management of projects have been mastered, so there is room for further behavioral studies.

CULTURAL CHARACTERISTICS	GLOBAL TEAM PERFORMANCE			CONCLUSION
	OVERALL	TECHNICAL	HUMAN	
	χ^2	χ^2	χ^2	
Hierarchical Proximity	2.95	0.12	2.95	There is a positive relationship between hierarchical proximity and overall and human performance of teams (Hypotheses 1 and 1b accepted). There is no relationship between hierarchical proximity and technical performance (hypothesis 1a rejected).
Collectivism	0.12	1.06	0.12	There is no relationship between collectivism and overall, technical and human performance of teams (Hypotheses 2, 2a and 2b rejected).
Femininity	3.04	0.12	3.04	There is a positive relationship between femininity and overall and human performance of teams (Hypotheses 3 and 3b accepted). There is no relationship between femininity and technical performance (hypothesis 3a rejected).
Risk Propensity	1.99	1.99	1.99	There is no relationship between risk propensity and overall, technical and human performance of teams (Hypotheses 4, 4a and 4b rejected).

Table 1 - Relationships between the cultural characteristics and performance of global teams

Notes: Critical $\chi^2 = 2.71$ Level of significance $\alpha = 0.10$ N = 34
Shaded cells indicate a significant association between the variables

After the comparative analysis of dependent and independent variables, we now discuss the similarities and differences between the data found in the research and those described in the literature. The hierarchical proximity is related to a more horizontal power relationship, in which the decentralization of authority and of the decision-making process prevails. The data seem to show that it is positively linked to the performance of teams with respect to overall indicators and human indicators. This is in line with what was described by the authors studied in the literature review, when they stated that high-performing teams are more comfortable with power and information sharing because, in general, the project's structure is more parallel than hierarchical. There is also consensus that, in this type of team, status is based on knowledge and competence and not on power. Therefore, if the team feels comfortable with the hierarchical proximity, the fact that this variable may be positive related with the team performance seems natural. These data are also consistent with what was stated by Hofstede,[23] whose assessment of the relationship between cultural characteristics and projects reveals that, as projects are small structures inside a larger one, the hierarchy is not the main criterion in the decision-making process. In addition, the author argues that most members of the team have two leaders: the functional manager and the project manager. Therefore, people need to tolerate ambiguity and need to be able to resolve conflicts, focusing on the interest of the project rather than on individual issues. It is interesting to note that Brazil, in addition to other countries participating in the sample, is considered a country of high power distance. However, some authors argue that this characteristic may have changed (or may be in the process of changing), because Hofstede[23] conducted his survey at a time when a military dictatorship prevailed, at

a moment when a lot of importance was placed on the pyramidal hierarchy.[1, 16] The data also seem to confirm this theoretical premise.

The lack of association of collectivism with technical and human indicators is surprising, especially with regard to human indicators. It is worth remembering that, in the case of individualism, the individual interest prevails over the group's interest, and this would refer, in the project environment, to those professionals that prioritize their own interest. In collectivism, the interests of the group overlap the individual's interest, and this leads to the formation of more cohesive groups. Several authors consider that activities carried out by teams have a pre-defined mission, which must be discussed and analyzed by all its members. Thus, the authors expected that there would be an association between collectivism and performance, at least in relation to human factors, since the typical characteristics of collectivism are considered critical success factors in projects. It is also possible to observe that this characteristic was associated neither with low nor with high performance. That is, it seems to have a neutral effect on the performance of teams. However, the data related to collectivism seem to be in line with the arguments of Hofstede[23] when he says that projects are temporary and flexible systems to achieve a specific outcome, thus becoming more oriented towards tasks and less towards people. Since in global projects the bonds between people are temporary, the relationships tend to be more peripheral. For the author, in cultures that are more collectivist, people will probably feel a certain loss of identity when they are removed from their functional group to work in temporary project teams.

With respect to femininity, it is worth remembering that its opposite, masculinity, attaches a high value to assertiveness, competitiveness and achievement of goals, whereas the female role tries to achieve these goals by better managing interpersonal relationships and care for others. Again, it was found that femininity is positively associated with the team's performance with respect to the overall and human indicators. According to the literature, commitment, confidence, creativity and satisfaction are critical success factors for the performance of project teams, and such factors are obtained when interpersonal relationships are well cared for, which seems to justify the association between femininity and human performance indicators.[8, 33] Since there is no association with technical indicators, perhaps assertiveness and focus on goals, both characteristics of masculinity, would be more conducive to project results in terms of time, quality and costs.

The risk propensity was not associated with performance of teams in any of the indicators analyzed. Considering that most of the countries participating in the projects have low propensity for risk (or a high level of uncertainty avoidance), there seems to be certain logic in this result. The project type probably influenced this result, since R&D projects, usually those with a higher degree of risk, are only part

of the sample. Other types of projects in the sample, such as construction and information technology, where technical difficulties are already better known, may offer less risk.

The associations between the dependent variable and independent variable discussed here might be changed, as other elements that are inherent in the situation under study are considered. Therefore, it seems of interest to evaluate the relationship between cultural characteristics and overall team performance, in a context of low and high cultural distance (moderating variable). Here the Fisher's test was used, since the data were divided into two groups with 17 cases each, which precludes the application of the chi-square test previously used. The cultural distance was calculated according to the model proposed by Singh & Kogut, already explained in the methodology section. Table 2 presents the results found.

CULTURAL CHARACTERISTICS	OVERALL TEAM PERFORMANCE		CONCLUSIONS
	LOW CULTURAL DISTANCE (p)	HIGH CULTURAL DISTANCE (p)	
Hierarchical Proximity	0.63719	0.004	Hierarchical proximity is not associated with the performance of the team in a context of low cultural distance (hypothesis 1c rejected).
Collectivism	0.34694	0.574	Collectivism is not associated with team performance in a context of low cultural distance (hypothesis 2c rejected).
Femininity	0.015	0.993	Femininity is associated with team performance only in a context of low cultural distance (hypothesis 3c accepted)
Risk Propensity	0.13122	0.558	Risk propensity is not associated with team performance in projects of low cultural distance (hypothesis 3c rejected).

Table 2 - Relationships between dependent variable, independent variable and moderating variable

Notes: Level of significance α = 0.10 N1 = N2 = 17
Shaded cells indicate a significant association between the variables

When we analyze the data in Table 3, there is an association between hierarchical proximity and overall team performance in the case of projects with higher cultural distance. In other words, this cultural characteristic is important when teams are heterogeneous from a cultural standpoint. This result is contrary to the research hypothesis formulated (hypothesis 1c). So, what could have led to this result? Brazil is a country of high hierarchical distance, so when leaders come in contact with countries of low cultural distance, such leaders may have had to adapt to this context. In addition, some studies argue that when the professional and intellectual level of the team members is higher, hierarchy becomes less important than the task.

In relation to femininity, the data of Table 2 show that there is a relationship with team performance when the cultural distance is lower. That is, solidarity and care

for others, characteristics of femininity, seem to be more related to performance in a context of culturally homogeneous teams, rather than characteristics more related to masculinity such as success, competition and individual initiative. For example, in a project involving Brazil, a country of moderate femininity, and Japan, also known for its femininity, the project leader should have this cultural characteristic. This might not be true in projects between Brazil and the United States, with moderate femininity and high masculinity respectively. Americans are more assertive, competitive and focused on results rather than on the process. Thus, potential conflicts could affect the performance of teams. As there was no association between the dependent variable and independent variable in cases of collectivism and propensity to risk, there was also no association when the moderating variable was added.

Conclusions

This study aimed to determine which cultural characteristics are associated with the performance of global teams in high and low cultural distance contexts. Based on a literature review and on a survey that included managers of 34 global projects in 15 Brazilian multinationals firms, it is possible to conclude, in summary, that:

a) Human performance seems to be positively affected by hierarchical proximity and femininity. There is no association between collectivism or risk propensity and human performance in either case;

b) A team's technical performance seems to be independent of cultural characteristics, at least considering the results of this study;

c) In contexts of high cultural distance, team performance is positively associated with hierarchical proximity, while in contexts of low cultural distance it is associated with femininity. Collectivism and risk propensity do not seem to interfere with team performance in any of the two contexts.

What are the managerial implications of these empirical findings? Although the associations between team performance, cultural characteristics and cultural distance were not as linear as predicted, they exist and affect the project outputs. This implies that intercultural knowledge is a competence to be developed by project managers. In this study specifically, some cultural characteristics seem to be better for team performance than others, but it is important to recognize that each global team has its own amalgam. It is difficult to say whether this will be applicable to any team, without distinction. Therefore, more importance has been attached to the issue of intercultural competence of project leaders who, above all, will need to determine what the expected behaviors of their employees are in view of the culture that they carry. This leads to managerial implications that involve the proper selection of the project leader and other team members, either for the development of intercultural competences, or for the organizational learning of such competences.

Managers who are not sensitive to this situation will probably have lower success rates than managers who are sensitive to these differences.

Although it is not possible to generalize the results of this study, hierarchical proximity proved to be an important cultural feature for team performance, particularly in heterogeneous cultural contexts. Brazilian managers, whose national culture is more focused on hierarchical distance, must be prepared to share power with the team and focus on results rather than on hierarchy. Equal treatment seems to encourage people to achieve better outcomes in global environments. Femininity, as a cultural characteristic, also deserves attention from project managers. This becomes especially true when the cultural environment is more homogeneous. Closer relationships, concern for staff welfare and focus on people seem to be well accepted when the countries involved in the project are culturally similar. The manager must be aware, however, that in contexts of high cultural diversity, these elements should perhaps give way to objectivity and focus on results.

Another factor that may have managerial implication is that technical outputs do not seem to be much affected by cultural issues. There is possibly a common technical language that facilitates the performance of global project professionals in terms of time, costs and quality issues. Thus, this study suggests that the concern of the manager should be more focused on human behavior of people than technical aspects of the work.

As a result of the Brazilian companies' internationalization process, people management strategies become necessary, including definitions regarding expatriation policies, training and development of manpower in the country of origin and host countries, and international selection of qualified professionals. In light of these strategies, it is up to the project manager to recognize the cultural differences that he or she will face, considering them during all team management phases, such as planning, mobilization, development, management and even demobilization. Thus, it is necessary to go beyond technical competences, to consider also the intercultural competences that are necessary for their professionals. These competences will certainly have a beneficial effect on the projects, as they can reduce conflicts and facilitate the team manager's work.

Based on our findings about the importance of intercultural skills, practical measures can be suggested that may increase the likelihood of success of international projects. During the phase of team planning and mobilization it is important to do a map of the cultural distance between countries involved in the project. This procedure will facilitate identification of the necessary intercultural competences and allow for a more careful selection of team members, whether they are Brazilians or foreigners, considering not only technical skills but also intercultural, social and interpersonal communication skills. To the extent possible, project leaders should adapt their

leadership style to the characteristics of team members, taking into account the cultural dimensions. For example, it is necessary to understand how team members behave with respect to power distance, femininity, collectivism and uncertainty avoidance in projects. In addition, it is important to create situations in which it will be possible to effectively internalize the intercultural knowledge acquired throughout the various global projects. Besides having adequate staff and best practices in terms of methods and techniques, global projects require, more than ever, collaboration and integration among the various departments in order to handle all the peculiarities of global projects.

With regard to the consequences for organizations, we must recognize that the more deterministic methods and management tools, based on processes with inputs and outputs, have contributed and will continue to contribute to the management of projects and their teams. However, it is important to understand the other interactions between different variables involving the management of global teams. The life cycle for a global project is expanded, since it begins now with the strategy of internationalization and goes through the placement and monitoring of the product and/or service in the new organizational environment or market. That is, the management of project teams begins before and goes beyond the project completion, indicating that participation of the various functional areas, such as strategy, people management, information technology management, among others, will improve the results, because variables such as communication, training, compensation, etc. will be supplementary and not isolated. Therefore, the management of global projects requires a leader who has influence in different departments, so as to promote the interaction among multicultural professionals, to stimulate intercultural learning and to implement training programs that can help develop the global mindset of professionals.

Considering these conclusions, it is possible to observe, in terms of theoretical implications, that isolated studies on project management are not sufficient to address the complexities of managing multicultural teams. It is necessary to adopt a multidisciplinary view of project management. The recommendations presented in this study try to follow this direction.

It is important to highlight the limitations of this study. They arise especially from methodological restrictions. As in most scientific studies, methodological choices were made in order to make research feasible, while other possibilities are left out. For example, it was not possible to obtain data through the triangulation of the respondents, so the results achieved only take into account the project managers' opinions. Another limitation is that all respondents are Brazilians, so it is important to consider that the data reflect only the Brazilian point of view. Therefore, other studies in this field might present new results that would include foreign

participants. Due to inaccessibility, data were collected in the portion of the population that agreed to participate in the survey. As a consequence, the sample was non-probabilistic, and therefore results cannot be generalized to other contexts that do not take into account the peculiarities of the companies and global projects surveyed. It is also necessary to say that the choice of indicators was based on the literature, but nonetheless it reflects a selection that took into account the feasibility of the study. There are certainly other factors, besides the cultural ones, that can affect the performance of global teams, and there are other possible performance indicators, such as the degree of organizational knowledge. The above-mentioned limitations may serve as inspiration for other studies that will allow solving them, making it possible to increase knowledge about an issue that is so important to global enterprises.