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Managers' decisional profiles:
a survey with Brazilian, French
and American executive MBA students

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ABSTRACT

This paper presents the main results from an exploratory study whose goal was to identify the individual perception on the decision-making process. The methodology used was a survey based on the respondents' personal opinion. A comparative study was conducted in Brazil, France and the USA. Data were collected through a set of 3 instruments of qualitative nature, with a non-probabilistic sample of 285 people (approximatelly 100 individuals in each one of the 3 countries). The present work explores decisional perception, emphasizing the method and the qualitative data analysis process. As main results, different decisional profiles, as well as a comparison of the different perceptions (Brazilian, French and American) were outlined.

Key-words: Decision-making process, Qualitative analysis, Managerial profiles.

RÉSUMÉ

Ce papier de recherche présente les principaux résultats obtenus suite à une étude exploratoire dont le but était d'identifier la perception individuelle à propos du processus de prise de décision. La méthode utilisée a été une enquête basée dans l'opinion personnelle des répondants. Cette étude comparative a été réalisée au Brésil, en France et aux USA. Les données ont été obtenues au travers d'un ensemble de 3 instruments de nature qualitative, avec un échantillon non-aléatoire de 285 personnes (environ une centaine d'individus de chacun des 3 pays). Ce travail explore la perception à propos de la prise de décision, tout en mettant en valeur la méthode et le processus d'analyse de données qualitatives. Il en ressort comme principaux résultats des différents profils tout comme une comparaison des différentes perceptions (Brésiliens, Français et Américains).

Mots-clés : Prise de décision, Analyse qualitative, Profils managériaux.

40

1. INTRODUCTION

The end of the twentieth century has been characterized by the redefinition of lines in the world map, and the emergence of a new global order has profoundly transformed the political and economic relationships among countries. The beginning of the twenty-first century will be characterized by the intensification of market globalization, competition, and cooperation. The Decision-making Process field (Alter, 1996) has, in this connection, aroused much interest in the academic and entrepreneurial communities; economic, cultural, social and political globalization can be seen in the ever-close proximity between, for instance, the European Economic Community (EEC) and Mercosur. The same can be observed between the NAFTA and Mercosur (Thurow, 1996). The challenge for greater competitiveness has led to the *rethinking* of international entrepreneurial relationships. Joint-ventures and binational and multinational companies are ever more frequent, a fact that demonstrates the intensification of international interaction at the organizational level. This context has brought increasing complexity to the decision-making process.

Currently, the resources of Information Technology have made interaction, co-operation and negotiation among people and organizations possible in almost the whole world. However, the knowledge on the technological tools that allow such operations is not enough; it is necessary to know the human, behavioral and cultural aspects involved in these interaction processes (Ein-Dor *et al.*, 1993; Graham *et al.*, 1994). Therefore, understanding the aspects that influence how people decide and how they use IT to decide is relevant for the development of Information Technologies and Systems that can be effectively integrated.

Moreover, there is a growing need for making faster decisions; that is, the decision maker must rapidly assess a complex picture and its consequences. There may be short-term or long-term consequences at social, economic, or political levels. It is also necessary to *understand the necessities and logic of decisions*, which may vary according to a number of aspects such as culture, values, and individuals involved. The different countries, with which the decision makers relate, may also have an influence on decisions. Against this background, namely failing to mention, the serious political, religious, or other conflicts among nations and their consequent negotiations, it is easy to see the importance of performing studies in this area. How does the decision maker perceive such a process? How does the decision maker's reasoning develop during the decision-making process? What does the decision maker actually think and value during the decision-making process?

Ein-Dor *et al.* (1993, p. 42) found little literature and reflection on the effects of national culture on decisions involving information systems (IS). The available literature seems to be incipient according to their research. The National Culture should be given consideration in such studies, so as to facilitate successful technological transfers and construction of global

41

ISs. According to these authors, "the main objective of future research studies should be to determine *the nature of interaction between cultural variables and local variables* of IS for different national environments".

Within this topic, it has been found that the forms of communication and negotiation, as well as perceptions, ways of behaving, attitudes and decision-making styles, range according to cultural bases. Therefore, the overall objective of this study is to identify the perceptions of decision-makers during the decision-making process in different countries or regions in cooperation, verifying whether such variables as the origin of National Culture and individual background influence the decision making model. This project is an attempt to find evidence of possible discrepancies, and to establish a reference picture for international purposes and use, for public or private negotiators and scholars of the field. Based on the literature, we have identified two initial issues or questions on which to base our investigation. They are:

✓ "THE INFLUENCE OF MANAGEMENT THEORIES": in all groups to be addressed (regardless of their national culture or their decisional background), is it possible to identify (even implicitly) common factors, steps, guidelines or insights concerning the way people perceive the decision making process, especially taking SIMON's 'bounded rationality' model of decision making as a reference?

✓ "THE VARIATION OF NATIONAL CULTURE": can cultural diffe-rences account for deviation of the considered or outlined decision model? Will this variation influence the perception decision-makers have of the decision-making process?

We expect that, through the identification of some aspects that influence decision, the present study can highlight the importance of such aspects in the conception and development of Information Systems (more specifically, Decision Suppport and Knwoledge Management Systems). Moreover, we emphasize that studies like this also have a practical importance. For example, the information system in an organization composed of different units inserted in different cultural contexts can offer distinct reports to the magers of the different units.

This paper is organized as follows: firstly, the main theoretical basis adopted is exposed (section 2), followed by the survey methodology (section 3). We also present the specific process of qualitative data analysis and the results obtained from the analysis (section 4). The main results achieved by the survey are shown in this section, where different decisional profiles are outlined, comparing Brazilians, French and Americans. Section 5 presents some final recommendations.

2. THEORETICAL BACKGROUND

Our study of the decision-making process used Simon's (1987) decision-making process model, the *"theory of bounded rationality"*, as a comparison

42

basis. A number of authors deal with the decision-making process; however, we used Simon's model as a reference for it is an accessible and didactic description of the main phases of the decision-making process. (For further information on this topic, also see: Elster, 1988, 1989; Jarrosson ,1994; March and Olsen, 1976).

By analyzing organizations, Simon *et al.* (1987) claim that "the activities carried out in organizations, at their various hierarchical levels, are essentially Decision Making and Problem Solving activities". *Decision* is the least visible part of the organizations policy; nevertheless, it is their main engine, since it is through decisions that an individuals' ideas, feelings, and ambitions turn into actions. In studying organizations, managers and executives, their information systems, etc., we cannot fail to understand the decision-making process.

Despite much work on decision theories, **Simon's model** (1987, 1997) still illustrates very well the *decision-making process.* Simons's approach is based on the decision maker's limited rationality. In fact, his model considers the way people decide in situations of complexity, incomplete information, inadequate knowledge, etc. He highlights some important steps (and their characteristics), like identify the problem and its scope; find and collect the relative information; set some objectives; design some practicable alternatives to consider, and evaluate each one, and then make a decision, which will determine some actions and need the adoption of some controls in order to guarantee the consequences and

also to be able to follow and even review the process and to improve the decisions. This is a 'didactical', well-known, American management reference. Simon (1997) recently revised his notes about decision-making.

The influences on the decision-maker during the decision-making process should be addressed as well. Of the many behavioral factors that influence the decision-maker, we emphasize his/her Individual **Experience** and Characteristics (Davis & Olson, 1987) and his/her National **Culture**. "Culture is a set of characteristics common to a particular group of people" (Erez & Earley, 1993).

Regarding national culture, a base reference is the work by Geer Hofstede, a Deutch author who is largely cited in the international literature on this topic. Hofstede (1991) carried out studies during a long period with divisions of the IBM in roughly 64 countries on the differences of values as part of a national culture. Other authors have also addressed this topic: Triandis (1982); Erez and Earley (1993); Baligh (1994); Ein-Dor *et al.* (1993); Glenn (1981); Graham, Mintu and Rodgers (1994); Hofstede (1980, 1994).

There are several dimensions concerning the National Culture, such as those studied by Hofstede (1991). "Culture is the collective programming of the mind which distinguishes the members of one group or category of people from another". They will be analyzed and explored during this project. Among these are the following: hierarchical or power distance, uncertainty avoidance, individualism versus

43

5

collectivism, masculinity versus femininity, and short-term or long-term orientation. Hierarchical or power distance: "it is the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally". In small power distance. Decentralization is popular; in the large power distance, centralization is popular. Uncertainty avoidance: "the extent to which the members of a culture feel threatened by uncertain or unknown situations"; in the weak uncertainty avoidance what is different is curious; in the strong uncertainty avoidance what is different is dangerous. Individualism versus collectivism: "I" versus "we". Masculinity, where the roles are clearly distinct, versus femininity, where we have "overlapping roles". Short-term, where values are more static, more focused on past and present or long-term orientation, where values are more dynamic, more focused on the future.

Hofstede also indicates that we can analyze culture considering several "layers" of mental programming within each person as if almost everyone belonged to a number of different groups and categories of people at the same time: country, gender, profession, generation or age, educational level, linguistic affiliation, regional, ethnic, or religious affiliation. Two other aspects, social class level and organizational level, were not used because respondents might become too sensitive about them.

These issues related on the above paragraph were addressed in other papers we have published during the present investigation (Freitas *et al.,* 1998; Zanela *et al.,* 1998; Macadar *et al.,* 1997). Here we have focused on data analysis, trying to point out the main results, mainly in building some managers' decisional profiles (instead of addressing each of the issues above).

3. RESEARCH METHOD

We have elaborated an instrument for *qualitative* data collection composed of three main parts. **The first part** was formed by open-ended questions related to word association. The respondents were invited to cite, spontaneously, verbs, adjectives and nouns related to decision making. Besides, each decision maker wrote his/her own definition of decision. The **second part** presented the respondent with the following question: "We would appreciate if you could tell us in a few lines about a personal or professional decision you have made". The respondent was then led to reflect on a decision process experienced by him/her. Finally the **third part** of the research presented a short case (10-15 lines) in which the respondent had to take on the role of decion maker and propose a written solution, the solution he or she would addopt for the situation presented.

All instruments were submitted to standardization, double translation and back-tranlation (Portuguese, French, and English) in order to standardize their application. The answers obtained in sessions of about 50 minutes where analyzed through Sphinx Soft-

44

ware, appropriate for qualitative analyses (Moscarola, 1991).

Besides the three parts in the main instrument, quantitative data were collected, implicitily unveiling concepts about culture, decision process and decision experience. A 21 question form (covering age, sex, language, etc.) allowed the collection of sociodemographic data, characteristic of the decision maker and his or her organization. However, quantitative data were not exposed in this paper. They were only used as complementary to the qualitative analyses described in section 5.

Since the instruments are concerned with different concepts (national culture, individual background and decision model), the importance and potential contribution of results from this study is highlighted, and the legitimacy of the results is also enhanced by the cooperation with researchers from Brazil, France and the USA. The data and other documents regarding this study can be obtained through the website http://gianti.ea.ufrgs.br.

3.1. Target Population and Sample

The sampling unit is the individual. Considering that all individuals are decision-makers, the chosen target population was composed of decision-makers involved in business, commercial or administrative activities. This group includes: managers, company executives and executive MBA students. The non-probabilistic method was adopted for convenience. The sample was selected by the criterion of accessibility, considering that the respondents to

whom the survey was applied could be contacted rather easily, given the educational activities of the project researchers. Thus, we must stress that the sample representativeness might not be completely ascertained. The sample comprised two types of respondents: academics – undergraduate, master and doctorate students from Management courses – and managers/executives – individuals who work in organizations as decision-makers (most of them with graduate-level education).

As for the composition of the sample, it had 285 respondents, distributed as follows: 103 respondents from Brazil, 102 from France, and 80 from the USA. The data were collected in many cities. In Brazil: Aracaju, Porto Alegre, Rio de Janeiro, São Paulo, plus a random subsample of cities in the countryside of Rio Grande do Sul (different regions of the state). In France: Annecy and Grenoble. In the USA: Baltimore (Maryland), Washington D.C., and Tuscaloosa (Alabama).

As for the socio-demographic profile of the sample, table 1 attempts to show the main characteristics investigated (educational level, age, gender, etc.) and how they appear in the sample, also presenting the significant differences among Brazilian, French and American groups.

As for professional background, the majority of individuals originated from applied social sciences: 59,2% of the Brazilians, 57,8% of the French and 60,0% of the Americans). A significative difference was detected (via the chisquared test; $p > 0,0165$) in the number of professionals with an engineering

45

Characteristics	Socio-demographic profile of the sample	Significant differences among countries
Educational level	Grad-level education (96%)	
Age	Mean age 30 years	Brazilians show the highest mean age (33 years); Americans the lowest one (28 years)
Gender	Most are males (64%); 36% females	
Time at job	11 years on average	Brazilians have the longest mean time at job (14 years); Americans have the shortest one (9 years).
Managerial experience	6 years on average	France has the highest mean management experience time (8 years); the USA has the lowest one (4 years).

Table 1: Socio-demographic profile of the sample.

background, who represented 14,4% of the total sample: 25,5% of the French, 6,8% of the Brazilians and 10% of the Americans. Differences were also noticed in certain types of professional activity, more specifically in the numbers of Brazilians in General Management and HR (28.2%), number of French in Research and Development (12,7%) and of Americans in Accounting and Finance (15,0%). Despite the differences, there are **no significant interferences** in the results presented.

3.2. Analyzing decision-related words

The first challenge in the analysis of the qualitative data is the suitable codification of information. According to Hoslti (apud Richardson *et al.*, 1985), "codification is the process by which raw data are systematically transformed and sorted in units that allow an exact description of the relevant characteristics of the content".

In order to categorize the words (verbs, adjectives, nouns) related to

decision (research instrument 1), a lexical analysis was conducted, and, according to Bardin (1996), it can be defined as the classification and thorough accounting of frequencies of a vocabulary. Lexical analysis is a type of analysis that can be carried out within the context of an analysis of content: the words, according to their meaning, are sorted in categories for subsequent calculation of their incidence in each of the categories.

According to Krippendorff (1980), data reliability evaluation is an important factor against data corruption due to adverse circumstances (including subjectivity in the evaluation). By definition, favorable data remain constant through variations in the measurement process. The author also classifies three types of reliability in content analysis: stability, reproducibility and accuracy. Stability is the degree in which the process remains unaltered along the time; it measures inconsistencies in the analyses, through the conduction of two other analyses which are compared against each other: test and re-test. Re-

46

producibility is achieved through the comparisons of analyses from different researchers, whereas accuracy is related to the comaprison against a well-known standard.

In order to achieve greater result re-liability, through reproducibility, the words were analyzed by a committee formed by three researchers envolved in the project, two of them having lived in the USA (one of them for 4 years, the other for 1 year), while one of them lived in France for 4 years. Each committee member analyzed the data. Using words printed on stickers, each member, separately, sorted the words perceived as common, creating categories (verbs, adjectives, nouns) related to decision-making.

The investigators received sheets for word categorization with the following format:

CATEGORY:		
BRAZIL	FRANCE	USA

In the space below the name of each country, the words belonging to a cer-tain category were fixed, considering the language and vocabulary of each coun-try, as shown in the example below.

CATEGORY: Decision-making related to the word EASY (adjective)		
BRAZIL	FRANCE	USA
Fácil	Claire	Easy
Simples	Facile	Simple
Clara	Serein	Solvable

After each investigator had created his classification independently, the staff held a meeting and discussed every word group; thus, categories

were formed within each group. Seve-ral categories were common under the point of view of each investigator. In the event of disagreements, that is, dif-ferent categories, these were discus-sed, with every staff member arguing and arriving at the final categories by consensus. It must be mentioned that each category was based on the most mentioned words.

The time devoted to analyses had the following breakdown: the indivi-dual analysis of each one of the 3 word groups (verbs, adjectives and nouns) took 5 hours on average. The collective analysis (to arrive at a consensus over each one of the 3 groups) took 2 meetings of about 4 hours each. The analysis comprised a total of approximately 23 working hours for each investigator, 8 hours of which spent on joint work.

Each classification by *word group* (verbs, adjectives, nouns) was perfor-med separately, that is, there was no attempt at forcibly using the same ca-tegories for each group, although each of the 3 groups had common catego-ries among each other, given the natu-re of the words described by the re-spondents. For the creation of every category in each word group, a few basic rules, which Bardin (1996) points out as key to the elaboration of cate-gories, were observed. The categories must be:

- *Homogeneous:* don't mix things up. Each category pertains to an exclusive central idea.

- *Exhaustive:* check out the whole text. Practically all words were

47

classified, even though some terms couldn't be classified.

- *Exclusive:* one same element in the content cannot be classified in two different categories. Consequently, each word belongs to one category only.

- *Objective:* different coders must arrive at equal results. Each staff member performed an individual analysis. Disagreements were debated until a common perception was reached, an attempt to reduce the subjectivity in the analysis.

- *Suitable or pertinent:* rules must be adapted to content and goal.

4. QUALITATIVE DATA ANALYSIS AND MAIN RESULTS

For a better understanding of the results, the methodology for analysis of the qualitative data is detailed, especially regarding the data from instrument part 1 (word association) and 2 (composition of sentences), since other questions and qualitative instruments were treated according to the same methodology. Results are shown along with a description of the process of analysis, an approach that helps unveil how rich the use of qualitative data is.

From the definition of categories, dictionaries for each word group (verbs, adjectives and nouns) were organized. Afterwards, using a qualitative statistics software (Freitas and Moscarola, 2000), a multiple choice variable was created of which the answer is the presence of certain catego-

ries (groups of keywords or main ideas in the answers of each respondent). Thus, the final result stems from a careful analysis encompassing the different views from 3 investigators and the discussion, reflection and consensus about a set of categories and dictionaries that allowed analyzing the qualitative data of this instrument (Freitas and Janissek, 2000).

The words associated spontaneously to decision-making were analyzed from the perspective of two investigative questions. The first attempted to verify whether it was possible to identify the occurrence of a model of decision-making process through words. For comparison, Simon's (1987) basic model was used. It reports the following phases of the decision-making process:

a) *intelligence or investigation phase,* the exploration of the setting occurs and the data are processed for clues that may identify problems and opportunities; the variables related to the situation are collected and exposed;

b) *design or conception phase,* creation, development and analysis of potential courses of action occurs; the decision-maker establishes the problem, develops and analyzes available alternatives;

c) *choice phase,* an alternative or course of action is selected;

d) *feedback,* between the phases that constitute the model, the decision-maker can return to a previous phase, aiming at better elaborating, listing and evaluating alternatives in the pursuit of a so-

48

lution that better meets his goals and criteria.

We tried to verify whether it was possible to associate words to Simon's model at each one of its phases, neglecting the nationality criterion initially. Tables 2, 3 and 4 show the categories of the most frequently mentioned words (verbs, adjectives and nouns).

Verbs	Frequency	%
Decide/Choose	174	61
Reflect/Think	131	46
Collectivism/Interact	114	40
Act	102	36
Compare	76	27
Power/Responsibility	74	26
Search	69	24
Risk/Inovate	66	23
Total observations	285	

Table 2: Verbs related to decision-making.

Adjective	Frequency	%
Reflected	116	41
Important/Decisive	112	39
Good/Right	81	28
Actual/Practical	71	25
Feelings	67	24
Reliable	66	23
Effective/Efficient	65	23
Quick	61	21
Total observations	285	

Table 3: Decision-making adjectives.

Nouns	Frequency	%
Setting/Process	108	38
Goals/Results	102	36
Collectivism/Interaction/ Players	92	32
Reflection/Intellect	83	29
Problems/Alternatives	75	26
Decision/Choice	69	24
Feelings	59	21
Economy	58	20
Trust	57	20
Total observations	285	

Table 4: Decision-making nouns.

Here (table 5) is a synthesis of the ideas that stem from the most mentioned words in general (without segmentation by nationality):

Decision-related actions	Decision qualities	Decision characteristics
Deciding is:	**A decision is:**	**Characteristics and objects related to a decision:**
1. to choose (first and foremost); 2. to reflect, think about; 3. to interact, negotiate, communicate, and 4. to take action	1. thought out, intelligent; 2. important, decisive, irrevocable; 3. good, right; 4. sound, actual, practical and exciting, marvelous, interesting, encouraging... 5. reliable, effective/ efficient, and 6. quick.	1. firstly, the setting/processes and goals and results; 2. the players involved in the decision-making process and the collective (negotiation, interaction); 3. reflection, intellect; 4. problems, alternatives and the choice per se.

Table 5: Perceptions on decision-making in the words associated to it.

49

Analyzing the set of replies of the words in relation to Simon's model, it can be concluded that the model cannot be observed in its totality; only some of its phases can be unveiled, namely:

- *the choice phase*, indicated by the verbs choose/decide and by the nouns related to the idea of decision/choice;

- *the design phase,* indicated by the verbs reflect/think, by the adjectives that define the decision mainly as thought out and by the nouns related to the idea of reflection/intellect.

Other phases cannot be associated to the most frequently enlisted words. Similarly, other elements are not indicated by the emerging reference model:

The importance given to the collective, to the people, and players involved in the decision-making process (indicated by the verbs related to the collective and to interaction, and the nouns that refer to the setting that surrounds the decision-maker, to the players involved in the decision making process, and to collectivism, interaction);

- *The importance given to action*, indicated by the verbs that refer to do/act, and the adjectives that describe the decision as sound/ actual/practical and quick.

These "new" elements are probably related to a stage described by Sprague and Carlson (1982), Mintzberg, Raisinghani and Théorêt (1976), and Silver (1993). This phase would involve "post-decision" activities, also called action/implementation: to communica-te and implement a decision, put the decision into effect, explain the decision to people, achieve consensus, achieve commitment from others to the chosen alternative, that is, *collective* activities involved during the postdecision period.

Once words were analyzed according to the Simon's model, we proceeded to ascertain how the variable "national culture" influences the perception on decision-making. Thus, we identified that there were differences in the association of words according to the individual's nationality. Table 6 summarizes the results, showing the categories of words (verbs, adjectives and nouns) most frequently mentioned by each respondent group (Brazilians, French and Americans).

Brazilians tend to define decision as something dynamic, practical, not so complex. They are the ones who least relate the idea of reflection to decision, not defining it as something difficult. Literature attributes these characteristics to Brazilians. Hickson and Pugh (1995) define Brazilians as managers who desire rapid and decisive actions in business affairs. Similarly, Brazilians are the ones who most frequently associate decision to feelings, attributing a more subjective aspect to decisionmaking.

The French group displays characteristics that we could call "political" in the decision-making process; they are the most reflective, demonstrating to be concerned with choice, the decision per se, with reflection/intellect. They speak of power and responsibility more often, qualifying the decision as collective, indicating "political" as-

Central ideas	DISAGREEING CATEGORIES	BRAZIL n=103	FRANCE n=102	USA n=80
Decision is choice, decision per se	decision related to choosing/deciding (VER)*	58%	76%	45%
	decision described as important/decisive(ADJ)**	27%	48%	44%
	decision related to choice/decision (NOUN)***	16%	39%	16%
Decision is risk/innovation	decision related to risk/innovation (VER)	30%	23%	15%
	decision related to risk/innovation/progress (ADJ)**	35%	02%	19%
Decision related to the setting in which the decision-maker is inserted	decision related to research/search (VER)*	40%	10%	23%
	decision related to setting/process (NOUN)	44%	26%	45%
	decision related to "economy" (NOUN)***	26%	06%	31%
	decision related to information (NOUN)	21%	07%	18%
Decision is power and responsibility	decision related to power/responsibility (VER)	31%	29%	15%
	decision related to power/responsibility/competence (NOUN)	15%	26%	14%
Decision is reflection/ intellect	decision related to reflection/intellect (ADJ)	31%	52%	39%
	decision related to reflection/intellect (NOUN)	26%	36%	24%
Decision is feeling	decision related to feelings (VER)	22%	09%	15%
	decision related to feelings (ADJ)	35%	10%	26%
	decision related to feelings (NOUN)	26%	23%	11%
Decision is collectivism/ interaction	decision related to collectivism/interaction (ADJ)**	17%	26%	06%
Decision is good, right/ effective/efficient	decision described as good/right (ADJ)	45%	17%	23%
	decision described as effective/efficient (ADJ)	32%	17%	19%
Decision is difficult	decision described as difficult (ADJ)**	07%	21%	21%
Decision is action and practicality	decision described as sound/actual/practical (ADJ)	39%	19%	15%
	decision described as quick (ADJ)	29%	20%	14%
	decision described as action (NOUN)***	27%	21%	05%

Table 6: Results from the analysis of the words related to decision x nationality.

LEGEND:

Items marked with this color have an effective frequency significanly lower than the theoretical frequency expected for the distribution among countries.

Items marked with this color have an effective frequency significanly higher than the theoretical frequency expected for the distribution among countries.

*Verbs: Very significative dependency. Chi2 = 27, df = 8, 1-p = >99%.
**Adjectives: Very significative dependency. Chi2 = 101, df = 18, 1-p = >99%.
***Nouns: Very significative dependency. Chi2 = 68, df = 14, 1-p = >99%.

pects. They are the ones who least associate decision with the setting in which the decision maker is inserted, with processes or aspects related to "economy". They describe (though not so often) decision as hard, attribu-ting more complexity to it than Brazilians do. The French attitude finds justifications in literature. Hickson and Pugh (1995, p. 65) say that among the French there's "… suspicion of power, a trend to politicize the organization,

for constantly regarding everyone as a manipulative individual seeking a position." Likewise, the French are characterized by appreciating intellectual debate (Hofstede, 1991); not by coincidence this group most frequently related decision-making to reflection/intellect.

Americans presented replies that were less conclusive than those of Brazilians and the French, not revealing any category that is more strongly associated to decision. However, they demonstrated, just as Brazilians did, to attribute importance to the setting in which the decision-maker is inserted: research, search, information, processes, "economy". The group displayed the weakest connection between decision and political character (power/responsibility), not strongly associating decision to the idea of action, differently from Brazilians. Similarly, Americans were the ones who less frequently describe decision as quick or sound/actual/practical. Therefore, they are shown to be more "neutral" in comparison to Brazilians and French.

There were not verified the occurrence of other decision-making process models adopted according to nationality. An exception to this fact is that the French seemed to value the political dimension related to the decision-making process, revealing a trend that points towards the political decision-making process (Anastassopoulos *et al.*, 1991; Einsenhardt and Zbaracki, 1992). It's suggested, therefore, that a more thorough investigation should be conducted into this evidence.

4.1. Analyzing decision reports

In instrument part 2, reports were analyzed under two aspects. In the first, we attempted to identify the presence (or not) of the main stages of the decision-making process according to Simon (described in the previous section). The second aspect considered was the types of decisions (personal, career, business, etc.) reported according to nationality. An analysis of content was performed for the reports of every respondent (Bardin, 1996). To identify each phase of Simon's model, reports were analyzed as follows: two members of the research staff analyzed each reply (report) separately in a "form" with the following format:

Report: *I've made the decision of promoting regionally the sales of products that have problems in the southern region. Specific actions for specific problems.*

☐ INTELLIGENCE ☐ DESIGN ■ CHOICE
☐ REVISION ☐ FEEDBACK

The analysts read each respondent's account and marked the stages of the decision-making process ascertained in the reply. Once every researcher performed his analysis separately, the analyses were gathered and each reply was checked, looking at disagreements and judging carefully each phase of the process (whether there was an occurrence of the phases in the reply), and a final result was achieved. It must be stressed that the degree of agreement between the 2 researchers was of 89%, a strong reliability indicator according to the reproducibility method (Krippendorf, 1980).

52

Results: Simon's model (1987) applied to decision reports

Here are the results achieved from the analysis of accounts, without initially considering the nationality of the respondent (table 7).

Simon's Model	Frequency	%
Choice	238	84
Design	157	55
Intelligence	116	41
Review	35	12
Feedback	8	3
Total observations	285	

Table 7: Simon's model in the decisions made.

Thus, Simons' model was identified in the decisions reported by the respondents in its 3 main phases: choice, design and intelligence (the latter with lower incidence). The revision and feedback phases of the process were not often identified.

However, considering nationality, the phases of the reference model were not indicated with the same intensity. Table 8 shows the verification frequency of each phase in the Brazilian, French and American groups.

The French are the ones that least indicate the occurrence of the intelligence phase in the process (with p=8.81%). Americans are the ones that most indicate the design stage in their accounts (p=1.42%). Brazilians are the ones that most indicated the revision phase in their decisions (p=1.8%), even though this phase was not strongly identified. Regardless of nationality, choice is the most evident phase in the accounts.

An American model? Analyzing the frequency of occurrences of each phase, we can conclude that, although intelligence, design and choice phases are present in general, Simon's model stages – except the revision one – tend to appear with higher frequency in the American group. See table 9.

Table 9 shows, in percentages and citations, how many respondents in each country indicated 1, 2 or 3 phases of the Simon's model, these being: in-

	Intelligence		Design		Choice		Review		Feedback	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Brazil	45	39	50	32	87	37	20	57	4	50
France	33	28	52	33	83	35	7	20	2	25
USA	38	33	55	35	68	29	8	23	2	25
Total	116	100	157	100	238	100	35	100	8	100

Table 8: Simon's model x nationality.

	1		2		3	
	Freq.	%	Freq.	%	Freq.	%
Brazil	23	22	42	41	25	24
France	28	27	34	33	24	24
USA	12	15	22	28	35	44
Total	63	22	98	34	84	29

Table 9: Frequency of occurrence of Simon's model phases x nationality.
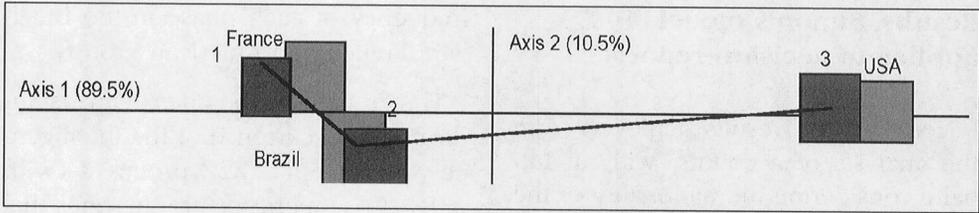
53

Figure 1: The occurrence of the Simon's model phases.

telligence, design and choice (the most frequent, in general). Thus, it's clearly noticed that the Americans are the ones that most indicate the main stages of the model: 44% of them indicated the 3 phases, in comparison to 24% of the Brazilians and French, these 2 groups indicating more often 2 of the 3 phases of the model. This result is not surprising, as the creator of the model himself belongs to the American management school. The Correspondence Analysis (CA) shown (Figure 1) illustrates the stance of the 3 countries regarding the phases indicated, opposing the Americans to the Brazilians and French.

Different decisions: the nature of the reported decisions – Another analysis performed on the account of a past decision addresses the nature of the decisions made (personal, professional, etc.). Without taking into account the nationality, the types of decision reported are: career decisions (promotions, relocations, improvement, etc.) – 41% ; in second place

were personal decisions (related to family, shopping, etc.) – 2% ; and business decisions (company decisions, decisions related to subordinates, etc.) – 22%. However, differences were observed while cross-checking these results against nationality (see Table 10).

The Americans (57%) are the ones that most mention career decisions ($p=0.01\%$) ; the French are the ones that least talk about this kind of decision (25%). The Brazilians, by their turn, are the ones that most report business decisions ($p=0.31\%$) ; while the French (though without significant differences in comparison to the other groups) are the ones that most report personal decisions.

The fact that Americans stand out for mentioning career-related issues is justified by the features attributed to them in the literature. Hofstede (1991, p. 93) correlates this concern with career with the fact that the USA is a country that praises male values: "Men are expected in male societies to aim at ri-

	Brazil		France		USA	
	Freq.	**%**	**Freq.**	**%**	**Freq.**	**%**
Carreer decision	46	45	26	25	46	57
Personnal decision	23	22	34	33	18	23
Business decision	31	30	25	25	7	9
No decision reported	3	3	5	5	3	4
Total	103	100	90	100	74	100

Table 10: Content of reports x nationality.

54

sing in their career; studies show a marked unanimity regarding this among male American students". Hickson and Pugh (1995, p. 64) say that (referring to Americans): *"… in an individualistic and assertive society they hire and fire, and they themselves are hired and fired. Job mobility isn't restrained by consideration of the social class as is in Europe – and, undoubtedly, in the rest of the world."*

Therefore, we conclude that, while decision-making reporting occurs spontaneously, without any proposed framework, cultural characteristics are found to manifest themselves in the replies. This is tantamount to stating that, when thinking about decision-making in general, each group thinks of decisions of distinct nature, under the influence of cultural factors, unveiling aspects that could hardly surface by using quantitative data alone.

Aiming at guaranteeing quality and greater validity of data analysis, for each treatment of open questions, we relied on the analysis of at least two staff researchers. This aimed at reducing the subjectivity of the analysis, even though one must understand that subjectivity cannot be eliminated altogether. Similarly, research staff counted on members who lived for a long period of time amid the French and American cultures. Ideally we would like to rely on researchers from those cultures. However, the demand in terms of time and dedication for the analysis of qualitative data must be considered, creating obstacles to the composition of a multicultural analysis.

4.2. Defining a profile of Brazilian, French and American decision-makers?

Looking at the main results pertaining to the influence of national culture on the perception of the decision-making process, it was attempted to survey the profiles of each one of the 3 groups, considering both common perceptions and divergent ones. Thus, we have provided a reference for researchers and others who may be concerned about the characteristics of managers in each of the countries in question.

Table 11 presents some of the characteristics of the decision-making process for each of the groups (Brazilian, French, American). It also presents the characteristics identified from the evaluations of the 5 dimensions of national culture described in Hofstede (1991): aversion to uncertainty, distance from power, individualism x collectivism, masculinity x femininity, and short or long-term orientation. Even though a large part of the stances in the 3 groups show similarities, some differences can be observed, which allowed the creation of table 11.

Table 11 highlights the greater tension during the decision process described by American respondents, the only ones that frequently declared feeling nervous while deciding. This can be regarded as a sign of a more competitive culture, which exerts greater pressure for personal achievement. Although all groups demonstrated a collectivist behavior, Table 11 shows that Americans have the greatest individualistic trend, a reflection of the competitive culture, where the individual is always required

55

to present top performances. This can also be related to an American trend to consult or involve family in business decisions, evidence of a lesser difference between personal and professional subjects in the US.

BRAZILIAN	FRENCH	AMERICAN
Seek safe alternatives, instead of risky ones when making a decision.	Seek safe alternatives instead of risky ones when making a decision. Relatively, they are the ones who least frequently seek safe alternatives.	Seek safe alternatives, instead of risky ones, when making a decision.
Rarely feel tense or nervous while deciding.	Rarely feel tense or nervous while deciding.	Frequently feel tense/nervous while deciding.
Are the ones who most frequently agree that the rules of a company can be violated if it is for the benefit of the company.	Are divided between violating rules or not.	Agree that the rules of a company can be violated as long as it is for the company's own benefit.
Find important for a manager to have accurate answers to most of the questions raised by the subordinates.	Find important for a manager to have accurate answers to most of the questions raised by the subordinates.	Find important for a manager to have accurate answers to most of the questions raised by the subordinates. Relatively, they are the ones who least tend to attribute importance to this idea.
Seldom fear to show their disagreement with superiors in decision-making situations.	Seldom fear to show their disagreement with superiors in decision-making situations. Respondents also tend to regard the style of their hierarchical superior as democratic, often consulting the team while making a decision.	Seldom fear to show their disagreement with superiors in decision-making situations. However, relative to others, Americans fear the most to show disagreement. They tend to evaluate their hierarchical superior as democratic.
Are the most collectivistic among the 3 groups.	All answers considered, they tend to be collectivistic.	All answers considered, they tend to be collectivistic. Comparatively, are the most individualistic and most family-oriented, often consulting with the family while making decisions.
Are the ones that most define their personal style as democratic. Are also the ones who most often consider the staff's opinion while making a decision.	Define their personal style as democratic. Relatively, they are the ones who least describe themselves in this way.	Define their personal style as democratic. Often Consider staff's opinion while making a decision.
The values they most admire* are, in the first place, honesty; in second place, work/ambition; in third place, love/feelings. Among the 3 nationalities, Brazilians give the greatest importance to intellect/education.	The values they most admire* are love/feelings (first place); work/ambition, and honesty/good character.	The values they most admire* are love/feelings, being the ones that most frequently mention these values. In second place, honestly/good character, and, in third, work/ambition.
While making decisions, they aim at the long term; however, they are the most concerned with short term issues.	Among the 3 nationalities, they are the most concerned with the long term while making decisions.	While making decisions, they aim at the long term.

(*) Faced with the specific question: "IF your child is about to getting married and you could choose your son-in-law or daughter-in-law, what personal characteristics would you value the most in him/her?"

Table 11: Decision-making profiles according to Hofstede's dimensions of national culture (1991).

56

Another important aspect in Table 11 refers to the Brazilian acceptance that company rules can be violated for the company's own benefit. Even though such acceptance is displayed by the French and American groups, it is greater in Brazil, a fact that can stem from two basic aspects: (1) low levels of trust in rules and justice, probably due to the widespread corruption, particularly in the Brazilian public sector, amply propagated in the media; this may genarate a sense of impunity in the population; and (2) the Brazilian culture, typified in the experesion "the Brazilian way", which demonstrates not only acceptance but also admiration for a type of creativity used for taking advantage of others, even when that means somebody else's loss.

The reflection of these elements, which start to be questioned by the Brazilian society, may explain why Brazilian put honesty in first place in Table 11. Similarly, deficiencies in the educational system may explain the importance Brazilians attributed to intellectual skills and education.

Other aspects of the respondents' decision-making styles are presented in table 12, where some common traits were found among the 3 groups, as well as some differences, especially when considering qualitative data.

Analyzing the results in relation to objectivity/subjectivity of a decision in the quantitative data, for instance, the respondents in general (regardless of their nationality) were shown to be rational and objective, often relying on figures in order to make a decision. However, by means of the analysis of the qualitative data (despite the results of the objective questions as it shows table 11) the Brazilians were found to

BRAZILIAN	FRENCH	AMERICAN
Make decisions rationally, objectively and based on figures. However, qualitatively associate decision to feelings.	Make decisions rationally and objectively.	Make decisions rationally and objectively, often based on figures.
Make decisions quickly.	Respondents are the quickest to make decisions.	Make decisions quickly.
Often contemplate the alternatives carefully before deciding, and often know beforehand the consequences from the decisions.	Often contemplate the alternatives carefully before deciding (relatively, are the ones who least do it), being the ones who least say to be aware of the consequences from decisions.	Often contemplate the alternatives carefully before deciding, and often know beforehand the consequences from decisions.
After having analyzed several alternatives, look back seeking to identify others before choosing. However, they seldom change their minds after having made a decision.	Tend not to change their mind even before choosing, let alone thereafter.	After having analyzed several alternatives, they change their minds, seeking to identify others before choosing. They rarely change their minds after having decided. However, relatively, they are the ones that most tend to change their minds after a decision.

Table 12: Decisional styles – qualitative and quantitative data.

57

BRAZILIAN	FRENCH	AMERICAN
Considering the words associated to decision: Decision is related to the idea of action; it's described as quick, sound, actual, practical, indicating a character related to action and a practical sense. It's also described as good/right and effective/efficient. When thinking of a decision, they also associate it with risk, innovation, progress. They relate it to information, research, setting, processes, and aspects linked with economy, as well as factors related to the setting in which the decision-maker is inserted. They present a dynamic style with respect to decision-making.	**Considering the words associated to decision:** Decision is directly related to the idea of choice and decision itself. They are also the ones who most associate decision to reflection/intellect. They are the ones who most mention power and responsibility and most describe a decision as collective. They are the ones who least associate decision to the setting in which the decision-maker is inserted, and processes or aspects related to economy. They are the ones who most attribute characteristics that could be labeled "political" to the decision-making process, and demonstrate to be the most reflective among the 3 groups.	**Considering the words associated to decision:** Concerning the ideas that they associate with decision, these are: information, research, setting, processes and aspects related to economy, and factors related to the environment in which the decision-maker is inserted. Decision has little relation to the idea of action. They are also the ones who least describe it as quick, sound, actual, practical. They are the ones who least associate decision with power/responsibility, also being the ones who least describe a decision as collective. They were found to be the most "neutral" with respect to the perception of the decision-making process, indicating there is no action, characteristic or quality they would particularly ascribe to a decision.

Table 12: Decisional styles – qualitative and quantitative data (cont'd).

be the ones that most relate decision-making to feelings, revealing a greater trend towards subjectivity.

Another opposition between qualitative and quantitative data is revealed in the analysis of how fast decisions are made. In the quantitative data, the respondents in general demonstrated to be faster than slow on making a decision, the French appearing as the ones that most tend to make decisions quickly. However, through the qualitative data, the Brazilians were shown to be the ones that most associate decision to the idea of action, innovation, practicality, and rapidity. They reveal, additionally, a more dynamic style in comparison to the French and Americans.

The French, by their turn, reveal in qualitative questions a more political view on the decision-making process and a more reflective style, while the Americans have a more neutral attitude, revealing, however, to attribute importance to the setting, and are the ones that least indicate "political" aspects, unlike the French, or a dynamic view of the process, like the Brazilians do.

These aspects illustrate the complexity of the use of quantitative and qualitative data as well as the possibility of drawing meaningful conclusions by gathering both, enabling us to grasp potential "contradictions" or supplementations in data of distinct nature. For further studies, we must underscore the need of instruments that encompass both modes of data collection and analysis with the purpose of generating knowledge and

58

know-how with surveys of quantitative and qualitative nature.

As for ascertaining whether the Simon's decision process model occurs or not, the model phases identified are those of choice, design, and, with less intensity, intelligence. The revision and feedback stages often are not identified. Nevertheless, considering the respondent's nationality, even though the phases of intelligence, design and choice are present, these aren't indicated with the same intensity (Table 13): the Americans, for instance, are the group in which the model phases (except for the revision one) are indicated with greater frequency.

It was also found that the respondents indicated through the qualitative data (though with different intensities according to their nationality) other elements related to the decisional process that aren't highlighted in the reference model, such as: importance given to the collective (negociation, interaction, communication), action (taking action, doing, quick, sound decisions, etc.), and power/responsibility.

Decision is also related to the idea of risk/innovation and progress.

5. CONCLUSIONS AND LIMITS

This paper presented the main results of an Brazilian, French and American executive MBA students comparative qualitative exploratory survey aiming to identify the individual perception on the decision-making process. With a non-probabilistic sample of 285 people, the main results outlined were the different decisional profiles, as well as a comparison of the different perceptions (Brazilian, French and American).

The respondents in general (regardless of their nationality) were shown to be rational and objective, relying on figures in order to make a decision. Qualitative data indicates Brazilians as the ones that most relate decision-making to feelings, as well as they were shown to be the ones that most associate decision to the idea of action, innovation, practicality, and rapidity. They reveal, additionally, a more dy-

BRAZILIAN	FRENCH	AMERICAN
Regarding Simon's model, Brazilians indicated the intelligence, design and choice phases. Relatively, they are the ones who most indicated the occurrence of the revision phase, although this is found with low incidence.	Regarding Simon's model, the French indicated the design and choice phases, but are the ones who least indicated the intelligence phase.	Regarding Simon's model, Americans compose the group in which the phases of the model (exception to the revision phase) are indicated with the greatest frequency. They are also the ones who most indicated the design stage.
While reporting any decision, they think initially about career-related decisions. However, they are relatively the ones who most mention business decisions.	While reporting any decision, they initially think about personal decisions. Relatively, they are the ones who most mention decisions of this kind.	While reporting any decision, they think initially about career-related decisions, and are the ones who most mention decisions of this kind.

Table 13: Simon's model and nature of reported decisions.

59

namic style in comparison to the French and Americans. The French, by their turn, reveal a more political view on the decision-making process and a more reflective style, while the Americans have a more neutral attitude, revealing, however, to attribute importance to the setting, and are the ones that least indicate "political" aspects, unlike the French, or a dynamic view of the process, like the Brazilians do. Concerning the Simon's decision-making process model, considering the respondent's nationality, even though the phases of intelligence, design and choice are present, these aren't indicated with the same intensity: the Americans are those in which we can more clearly identify each of the model phases.

It is indeed a very complex task to mix quantitative and qualitative data in the analysis process. As main results, in addition to those found by (the above) data analysis, we highlight the development of a peculiar methodology for analysis of qualitative data, underpinned on the work by the research staff. From the work methodology also resulted a dictionary of Portuguese, French and English words that the 3 groups associated to decision-making. The words were organized and sorted, and may serve other investigators and those concerned with the topic, or even be useful for the analysis of other texts. Finally, we suggested a reduction in the research instruments. The new instruments can be used by all of those interested in studying the decision-making process. Similarly, the research database can be reused for the study of other subject matters. The account of past decisions,

for instance, can be considered from different perspectives of investigation, including areas such as Organizational Sociology and Psychology, since it consists of a data source that illustrates the decision-making styles (and, consequently, the thinking style) of executives from 3 different countries.

It must be underscored that difficulties were encountered when verifying the compliance of the results with Hofstede's (1991) classifications regarding the stance of the 3 countries in every dimension under study. However, the analysis and comparison of the answers allow us to build a referential picture with respect to the dimensions of national culture ascertained in the considered sample. We recommend, for further studies, a deeper evaluation of the manifestations of national culture dimensions on decision-making.

It is important to stress that the idea of national culture has its limitations, a fact that may explain part of the difficulties faced by Hofstede (1991) in the evaluation of his elements. It may also partly explain the homogeneity in the results from Brazil, France and the USA. The limitations are related to the concept of culture and the questioning of the real existence of a proper characteristic culture. One might consider that cultural differences among groups inside a given country (e.g. social class) are greater than differences between the populations of two distinct countries. According to Avison e Myers (1995), traditional studies in the IT area use the predominant view embodied in the statement that "culture is something which identifies and differentiates one social group from ano-

60

ther". However, many studies analyze cultural aspects that differentiate countries, as we have done here.

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61

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62