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**When everything goes toward “electronic commerce”,
is it still important to know each other?
Some first elements of response from inside & outside the USA ¹**

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Henrique Freitas

Visiting Researcher at ISRC, University of Baltimore (USA)
Associate Professor, GESID - PPGA - Escola de Adm. da UFRGS and CNPq Researcher (Brazil)
Docteur "nouveau régime" – Université Pierre Mendès France (Grenoble, France)
hfreitas@portoweb.com.br

Milton Jenkins

Professor and Director of ISRC, Information Systems Research Center, University of Baltimore (USA)
Ph.D. on Management Information Systems, University of Minnesota (USA)
mjenkins@ubmail.ubalt.edu

Jean Moscarola

Director of Ecole de Commerce, Ventes, Economie et Gestion, Université of Savoie, Annecy (France),
Doctor in Management (Université de Paris), Author of Sphinx’s software
moscarola@univ-savoie.fr

João Luiz Becker

Professor, GESID - PPGA - Escola de Adm. da UFRGS and CNPq Researcher (Brazil)
Ph.D. UCLA (Los Angeles, USA)
jlbecker@adm.ufrgs.br

Amarolinda C. Zanela, and Marie A. Macadar

M. Sc. Students, GESID - PPGA - Escola de Adm. da UFRGS (Brazil)
maro@adm.ufrgs.br

Abstract

This paper presents a description of a survey designed to accomplish a cross-cultural exploratory study in three different countries (Brazil, France, and USA), aiming to point out the main perceptions of the managers regarding the decision-making process. We present some of the first results obtained, to illustrate that we do find differences, and that we need to pay attention to cultural factors, especially now that we have every enterprise, every community trying to be in touch and doing some business anywhere. We would like to call your attention to the fact that, in electronic commerce, even if all tasks are technically possible in an automatic way, we need to know each other better, in order to better cooperate or to

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The survey research and quantitative-qualitative data analysis software Sphinx Lexica ® (1997) served as support to the accomplishment of the content and lexical analysis in this study; the survey instrument to collect data (in Portuguese, French, or English) is available upon request to hfreitas@portoweb.com.br.

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better negotiate: and, in this process, we are far from knowing everything about each other or completely understanding each other.

Keywords

Decision-making process - Content and Lexical Analysis - Qualitative and Quantitative Data Analysis

When everything goes toward “electronic commerce”,
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Some first elements of response from inside & outside the USA
A quantitative-qualitative, cross-cultural, exploratory study

1. Introduction: the research idea

The end of the twentieth century has been characterized by the redefinition of lines in the world map; and the emergence of a global culture has profoundly transformed the political and economic relationships among the countries. The beginning of the twenty-first century will be characterized by the intensification of markets globalization, competition, and cooperation. The **decision-making process** field [1, 15] has, in this connection, aroused much interest in the academic and entrepreneurial communities. The economic, as well as the cultural, social, and political **globalization** is making the earth seem like one only (and *small*) market [27].

There is a growing need for making decisions in less time; that is, the decision maker must rapidly assess this complex picture and its consequences. It is necessary to understand also the necessities and logic of decisions, which may vary from culture to culture. Ein-dor [6] found little literature and reflection on the effects of national culture on decisions involving information systems (IS). The National Culture should be given consideration, so as to facilitate successful technology transfer and construction of global information systems: “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”.

The present study may be an addition to these necessities by contemplating profiles of managers (Decision Makers) in the organizations and comparing the managers, especially considering national cultures. A study of this nature also has practical importance: for example, as two executives from different countries enter into negotiations, the negotiator that is acquainted with such a reference will be favored because of his understanding (and perhaps prediction) of the other negotiator’s reasoning, certainly taking advantage of the interaction or, at least, facilitating interaction and comprehension.

Simon' model [24, 25] still illustrates very well the decision-making process: his approach is based on the decision maker's limited rationality, which means he fully accepts tolerable decisions (and does not intend to maximize the utility). In fact, his model considers the way people decide in complex situations, incomplete information, inadequate knowledge, etc. He highlights some steps 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 necessitate the adoption of some controls in a way to be sure of the consequences, and also to be able to follow, and even review, the process and thereby improve the decisions. Simon [25] recently revised his notes about decision-making.

Of the many behavioral factors that influence the decision-maker, we can emphasize the Individual Experience and Characteristics inherent in the individuals [7] and the origin of National Culture. There are several dimensions concerning the National Culture, such as those studied by Hofstede [14]. "Culture is the collective programming of the mind which distinguishes the members of one group or category of people from another". Among these are the following: hierarchical or power distance, uncertainty avoidance, individualism versus collectivism, masculinity versus femininity, and short-term or long-term orientation [11]. Erez and Earley [8] also studied the *culture* aspect.

We present the main research questions (section 2), the objectives (section 3), as well as the main aspects of the research method (section 4); and then we develop some of the initial results (section 5), a brief conclusion being presented at the end (section 6).

2. The main research questions

Based on a literature review, we have identified three initial questions, on which to base our investigation [18]. They are:

- **“THE INFLUENCE OF MANAGEMENT THEORIES”**: In all groups to be addressed (regardless of their National Culture or their background), is it possible to identify (even implicitly) common factors, steps, guidelines, or insights concerning the way people perceive the decision making process, especially if we take the Simon’s “limited rationality” model of decision making as a reference?
- **“THE VARIATION OF NATIONAL CULTURE”**: Can the cultural differences account for deviation of the considered or outlined decision model? Will this variation influence the perception they have of the decision-making process?
- **“VARIATION RELATED TO THE DECISION MAKER’S INDIVIDUAL BACKGROUND”**: Is the effect of cultural differentiation further enhanced by individual background as represented by situations of responsibility in decision and others?

3. The research objectives

The overall objective is to identify the potential decision-makers’ perception of the decision-making process in different countries or regions, verifying whether such variables as the origin of National Culture and individual background influence the decision making model.

Among the specific objectives are the following:

- ⇒ Identify and validate instruments to collect quantitative and qualitative data.
- ⇒ Conceive and design a database to be explored by researchers from the countries involved.
- ⇒ Identify discriminating factors that influence decision-making perception.

4. Methodology

Different **methods and techniques** are being used in this research with respect to tools for the collection and analysis of quantitative and qualitative data. In fact, it is a cross-cultural exploratory cross-sectional survey. Protocols were designed to collect and analyze data. Originality lies in the exploratory work on the decision-makers' perceptions. This is an project shared by Brazilian, French and American partners, in the **'information-decision' axis**.

In order to apply the set of tools for quantitative and qualitative data collection characterizing a survey [9, 10, 12, 19], Executive MBA students are being invited to participate in the research, as well as professionals working in organizations. The possibility of applying the same tools to some companies or organizations is also being considered. Data from about 35 to 50 people were expected to be obtained in each country or region.

Three types of tools are being applied to these groups: open-ended questions about the decision-making process, a case study, and closed questions concerning decision and cultural aspects, and also demographic data. The protocols comprise interrelated question sets that allow us to obtain the decision-makers perceptions of certain aspects. All tools were submitted to standardization, double translation and back-translation (Portuguese, French, and English), and approval before starting collection of data.

In the **first** tool, open-ended questions should be answered, according to a Protocol of Word Association and a Protocol of Sentence Composition. The **second** tool seeks to complement the data collection undertaken with the previous tool. It is a case that involves the respondent in a given decision situation to which he should propose a solution consisting of 10-15 lines of text. For analyzing the case tool, a Protocol of Sentence Composition is used again. Thus, the protocols already used receive additional information that will lead to a greater understanding of the problem. In such analyses, we make use of content analysis and lexical analysis [2, 12, 16, 17]. The **third** tool concerns closed questions, making use of a Protocol of Attitude and Opinion Scales about Decision and Culture and another one with socio-cultural and some demographic measures. Such data will enable us to draw conclusions about the issues raised.

Crossing of the data collected (mainly using Correspondence Analysis [3, 4, 13] and Main Components Analysis [21]) by means of such tools and keywords obtained with the first and second tools, the country or

region, and the decision-managerial background will permit an in-depth analysis of the three issues initially proposed.

The answers obtained in sessions of about 50 minutes are being analyzed with Sphinx Lexica® (1997) software, appropriate for quantitative and qualitative analyses [20, 22, 23, 26], as well as simple and multiple crossings between variables. Since such tools are concerned with different concepts (national culture, individual background, and decision model), the importance and potential contribution of results from this study are highlighted, and the legitimacy of the results is afforded by the cooperation with researchers from Brazil, France, and USA.

Concerning the sample used for this paper (not yet the whole sample for the research project), the American respondents are younger (average age 29 years) than the French and Brazilian respondents (range 34 to 37 years); and the Americans have an average of 9 years of work experience, while the others have more than 14 years of work experience. For the entire sample, the average age is almost 34 years, and the number of years of work experience is more than 13. For this paper, we considered 55 respondents from Brazil (South, Center, and Northeast), 48 from France (Grenoble and Valence), and 44 from USA (Baltimore and Tuscaloosa).

5. Some preliminary results

As an IS community interested in Electronic Commerce, our goal is only to show some of our research results, in order to allow us to verify that we need to have ongoing studies regarding the managers doing such a task or activity. The more we know about the managers, the better will be the relationships in this information and decision process. To illustrate this view, we will point out some initial results from data collected in the USA, and then we will compare some of the results from data collected in France and Brazil.

Our first example is from two different cities in USA. In Southeast USA and Northeast USA, we can start to find some differences, based on the following cultural values, keeping only the most frequently mentioned words after lexical analysis on data from a question where the goal was to ask respondents about *which personal characteristics would they consider the most when “choosing” (imagining that it was possible) their son-in-law or daughter-in-law*. Eleven of the eighteen values are not common! Four in Tuscaloosa, and seven in Baltimore, indicated with underscoring.

- Tuscaloosa in Southeast USA: loving (7), caring (5), intelligence (5), honest(y) (4), compassion (3), integrity (3), strong (3), trustworthy (3), dependable (2), happy (2), understanding (2).
- Baltimore in Northeast USA: honest(y) (11); working (3); loving (3); caring (3); goal-oriented (2); sincerity (2); intelligence (2); sense (2); respect (2); integrity (2); good (2); sociable (2); compassion (2); trust (2).

If we go ahead with this example, looking at what the managers think about the decision-making process, we can find some more differences looking at the verbs in their answers when they tried to define what they perceive by “decision-making process”: Fifteen of the 20 verbs define a difference among the managers in two cities in the same country, regarding the same subject! Eight in Tuscaloosa, and seven in Baltimore are different, as indicated with underscoring.

- Tuscaloosa in Southeast USA, from 91 words: decide (5), act (4), consider (4), analyze (3), choose (3), ponder (3), think (3), conclude (2), debate (2), determine (2), judge (2), make (2), plan (2).
- Baltimore in Northeast USA, from 121 words: evaluate (5); choose (4); decide (3); determine (2); facilitate (2); act (2); think (2); take (2); define (2); change (2); prioritize (2); identify (2).

A lexical analysis of the main verbs, after deleting some verbs and grouping some others, allows us to generate a new variable, which we can call “main verbs” or main actions. If we consider the “country” and make a crossing, or two-way analysis, only keeping the most frequently occurring verbs, we have a result as illustrated in Figure 1, where a clear distinction can be defined among the three countries. So, we have once again a sign that a difference can be recognized regarding the perception of the decision-making process; which could be useful information regarding the discussion we always have in a discussion among people from many countries on commercial, political, or even social affairs.

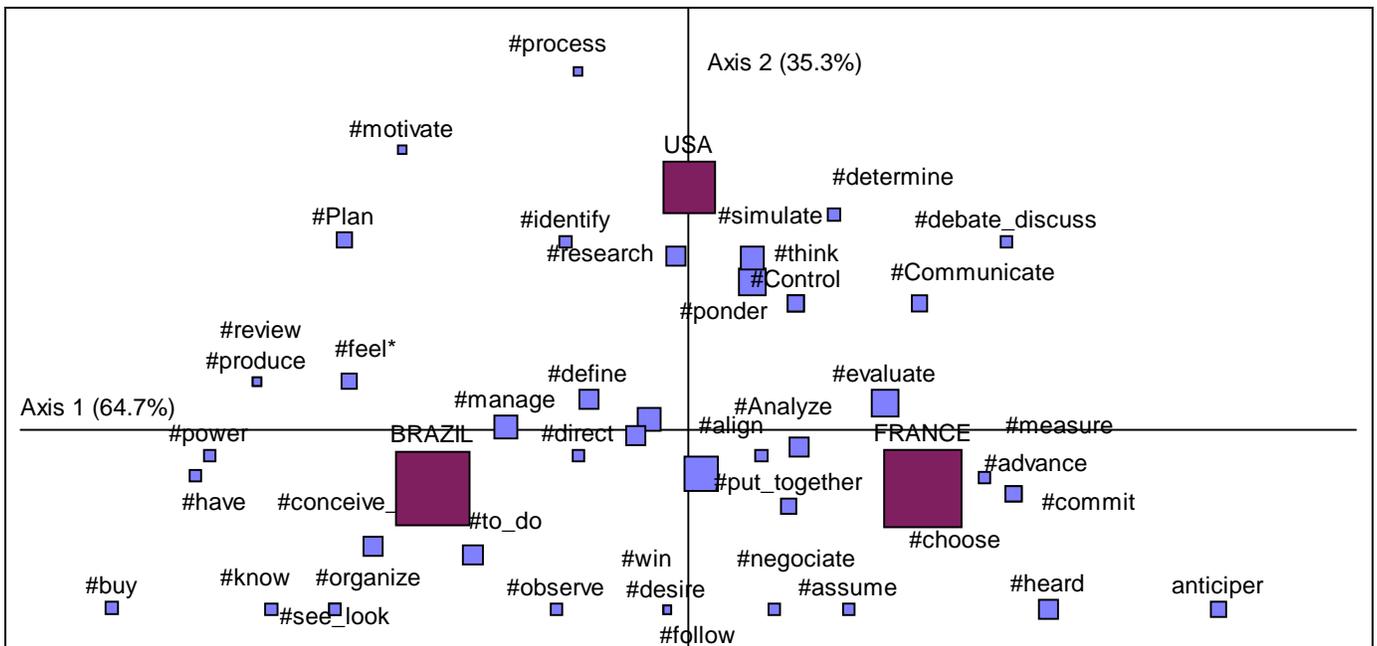


Figure 1 - The decision-verbs: a clear different perception of the “actions”? (“#” means a group of words under the most frequent word inside this group, or even under a new word representing the main idea of this group)

For further details concerning analysis of this kind, Correspondent Analysis (CA) and also Main Component Analysis (MCA), please see [3, 4, 13]. A review of this literature (CA and MCA) is proposed by Cunha Jr [5]. A geographic reading of the factor chart is enough to understand or point out some differences.

If we have as a reference, the decision-making process as described by Simon [25], it is not so easy to find a difference, but we can know how they are supposed to behave concerning a decision process. With Likert questions, scaled response ranked from 1 (Rarely) to 5 (Frequently), and still using data from Baltimore and Tuscaloosa, we have:

- Recognized alternatives are carefully considered when you make a decision: frequently (from 72% to 90%), mean above 4 on this scale (standard deviation less than 0.8),
- The consequences of your decisions are known before the decision itself: not so frequently (from 50% to 56%), Mean by 3.3 (standard deviation = 1.0); but in Southeast USA we have 40% rarely (and only 12% rarely in Northeast USA),
- After examining various alternatives you "go back", trying to discover others before deciding, still not so frequently (from 40% to 50%), mean = 3.2 (standard deviation = 1.0); and rarely from 20% to 36%).
- After having made a decision you "change your mind": rarely (from 65% to 72%), mean = 2.2 (standard deviation = 0.8); but with 16% frequently in Northeast USA. What about the Brazilian and the French decision-makers regarding this "changing mind"? In Brazil, we have 67% rarely and only 7% frequently (mean = 2.20, standard deviation = 0.90), and in France, we have 72% rarely and only 2% frequently (mean = 2.10, standard deviation = 0.70).

When we cross some data, in an exploratory analysis, trying to verify if there are some differences in the perception of the decision-making process in the three countries, Brazil, France, and USA; we start to find some interesting and possibly useful results pertaining to a commercial partnership or the electronic commerce community.

A second point is that the Americans make their decisions more individually than collectively? The Brazilians make their decisions more collectively than individually? The French managers make their decisions both ways, individually and collectively? The results are illustrated in Figure 2.

Individ.-collect. Country_data_from	Individually	Indiv Collect	Collectively	TOTAL
BRAZIL	14% (20)	5% (7)	19% (28)	37% (55)
FRANCE	10% (14)	12% (17)	12% (17)	33% (48)
USA	14% (21)	7% (11)	8% (12)	30% (44)
TOTAL	37% (55)	24% (35)	39% (57)	100% (147)

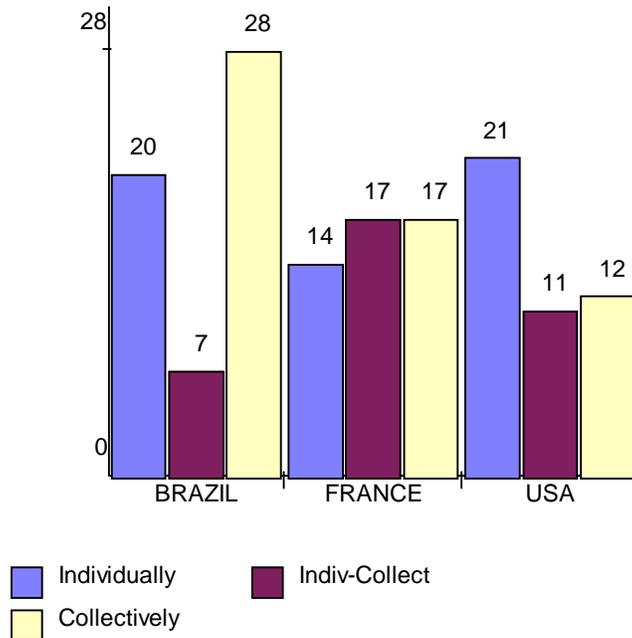


Figure 2 - The decision: a individual or collective process?

We collected data regarding the decision-making process, mainly looking for variation with the national culture and the managerial experience. One of the concepts that we can analyze is “uncertainty avoidance”: It seems that the American manager feels more tense or nervous (mean = 3.1, compared to the total sample (mean = 2.8). The Americans (mean = 2.4) and the Brazilians (mean = 2.5) disagree more than the French managers (mean = 3.2) that we should not break rules when the situation leads you to believe that breaking them would benefit the company. Another concept is “power distance”: The American managers (mean = 2.5) are more afraid than Brazilian managers (mean = 2.1) or French managers (mean = 2.3) of showing disagreement with their supervisors. These results are illustrated in Figure 3.

Country_data_from	27.Rational emotional	28.Safe risky	29.Stay in organization	37.Prevent unforeseen	38.Tension nervousness	40.Superv. disagreement	42.Breaking rules	43.Precise answers
BRAZIL	2.2	2.4	3.3	3.5	2.8	2.1	2.5	3.6
FRANCE	2.0	2.3	2.9	3.9	2.6	2.3	3.2	3.3
USA	2.1	2.3	2.6	3.6	3.1	2.5	2.4	3.0
WHOLE	2.1	2.3	3.0	3.7	2.8	2.3	2.7	3.3

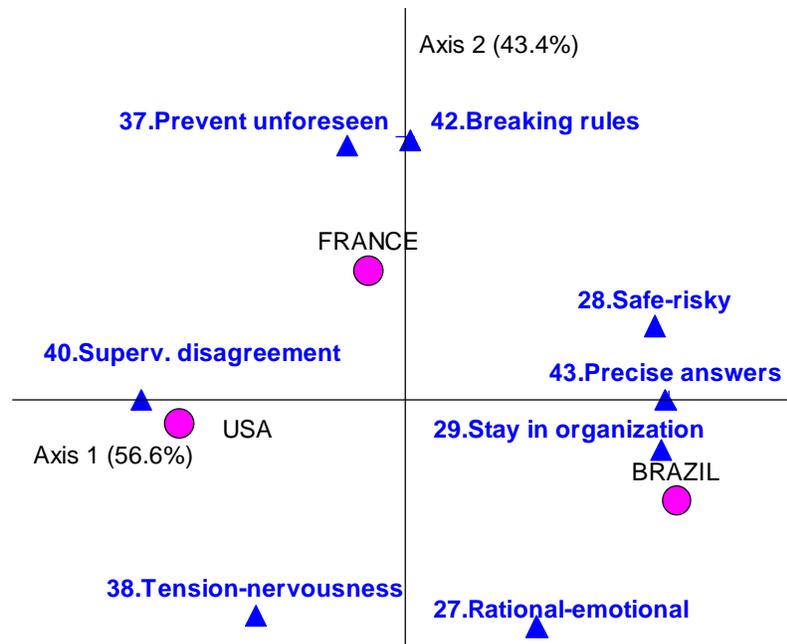


Figure 3 - Some difference of means concerning the perception of the decision-making process

6. Conclusion

The main goal of this paper is to offer to the electronic commerce community some data and initial results, which could deserve their attention. It is very important to develop a body of knowledge, if not a data base, concerning the decision-makers' profiles regarding the multiple, national and regional cultures involved in global electronic commerce.

We hope it will be useful to help managers to better understand (or even only to think about) some of the main aspects of such a complex process that constitutes decision-making. The data collected will allow us to further investigate our research questions. The results in this paper should be considered only as a "single curiosity", since our goal was to illustrate our purpose. The question is: since we found differences among the three countries and regions involved, are we able to offer them different tools to facilitate the electronic commerce tasks to increase world trade?

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