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Measuring Organizational Culture from perceived values – proposal of an instrument

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ABSTRACT

The purpose of this paper is to present an instrument that aims to measure organizational culture from perceived values. This research was based on the robust method for culture diagnosis, the Competing Values Framework (CVF). Both theoretical and empirical studies were developed to understand the connection between the values perceived in an organizational context and the type of culture it presents. The development of the instrument followed the main four steps: (1) collection of values from literature; (2) classification of the values regarding the types of culture of the CVF they fit through panel with experts; (3) two applications of this instrument were carried out as well as the application of the Organizational Culture Assessment Instrument (OCAI) – also based on CVF; and (4) proposition of the final (current) version of the instrument. The proposed instrument is a qualitative method, and it is based on respondents' insights to assess the actual values of the organization. Thus, the results can be considered an approximation of the actual characteristics presented in this environment. By applying this instrument, we expect that a diagnosis of organizational culture can be more straightforward and less error-prone, compared to other instruments that have the same purpose.

Keywords: *Cultural Values/Cross-Cultural Differences; Group or Organizational Culture/Climate; Qualitative.*

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1. INTRODUCTION

In the current scenario, companies are paying more attention to adaptation of employees to the principles followed by the company and its culture. Many organizations already make additional efforts in talent management with the aim of fostering such a connection between employee and company. IKEA, for example, according to Brokaw (2012) prioritizes employee personality, behaviors, and values rather than technical skills, applying questionnaires to candidates to understand which are most likely to be adapted to the company culture and the values and attitudes prioritized in their daily activities.

Although the focus on organizational and personal values is increasing, there are situations where such ideals are established and are not put into practice by members, who may not identify with what has been defined (CARUCCI, 2017). Studies have shown that only 23% of US employees believe they can apply company values on a day-to-day basis, while 27% genuinely believe in their company values (DVORAK; NELSON, 2016). Another study based on more than 1,000 companies from the "Great Place to Work" list (Great Place to Work® Institute[1] a*pud* GUISO; SAPIENZA; ZINGALES, 2013) showed a strong correlation between financial performance and employee belief rates in company values, a strong belief can leverage the results positively and a lack of identification with such ideals may decrease their performance (GUISO *et al.*, 2013).

Another factor perceived in a study related to the low identification of employees with the values of their company was the gap between the culture experienced and the one desired by its members. Successful companies can identify such gaps and take actions that promote changes toward the desired state, which leads to increased performance, and such changes often involve greater dedication to the practice of their values (DVORAK; NELSON, 2016). Considering the relevance of this employee-company connection and strategies to reach an ideal culture, this article presents the proposal of creating an instrument that allows relating values lived in companies and the type of culture of this place. Experienced values do not necessarily converge with the values communicated by the company, even if this is the ideal. To achieve a good view of the organizational context, it is necessary to understand that the values focused by the instrument are those perceived by the people in that environment. With

[1] http://www.greatplacetowork.net/

this, it will be possible to get a better view of the current state and understand the state desired by the members, facilitating the development of evolution plans to achieve the desired objectives.

In the proposed instrument, the authors developed relationships between values found in the literature and data published by organizations and the types of culture of the Competing Values Framework (CVF), a model initially proposed by Quinn and Rohrbaugh (1981, 1983) with four quadrants, in which each quadrant identifies itself as a kind of organizational culture. The instrument under development had two applications in conjunction with another already used for cultural mapping purposes, the Organizational Culture Assessment Instrument (OCAI), developed by Cameron and Quinn (2011), based on CVF, to compare diagnoses and analyze possible changes to be performed, aiming at higher efficiency of the method. The first application occurred in a healthcare company, while the second was in a dairy products company.

2. LITERATURE REVIEW

2.1 Organizational Culture

According to Schein (1984, p.3), culture can be defined as "a set of basic assumptions that a particular group invented, discovered, or developed in learning to deal with their problems of external adaptation or internal integration, and which function well enough to be considered valid and taught to new members as the right way to perceive, think and feel about those problems".

Jones (2010, p.147) defines it as "the set of values and shared norms that control the interactions between the members of the organization and its suppliers, customers and other people outside it,", conveying a sense of identity to employees and increasing the stability of the social system (CAMERON; QUINN, 2011). Within a company, there may be a general culture and subcultures in some groups due to the heterogeneity of operations, and aspects of the general culture must be present in the subcultures so that there is no divergence between them, which could undermine general cohesion (SCHEIN, 2009).

According to Heskett[2] (2011 *apud* CAMPBELL, 2011), it acts strongly in the differentiation of a company, accounting for 20% to 30% of an organization's performance

[2] HESKETT, J. L., The Culture Cycle. 1. ed. Pearson FT Press, 2011.

compared to competitors with cultures with little operating force. It is important to remember that no culture is entirely good or bad so that a better understanding of its profile will allow us to understand which elements can bring advantages to the company and which require change (KATZENBACH; OELSCHLEGEL; THOMAS, 2016).

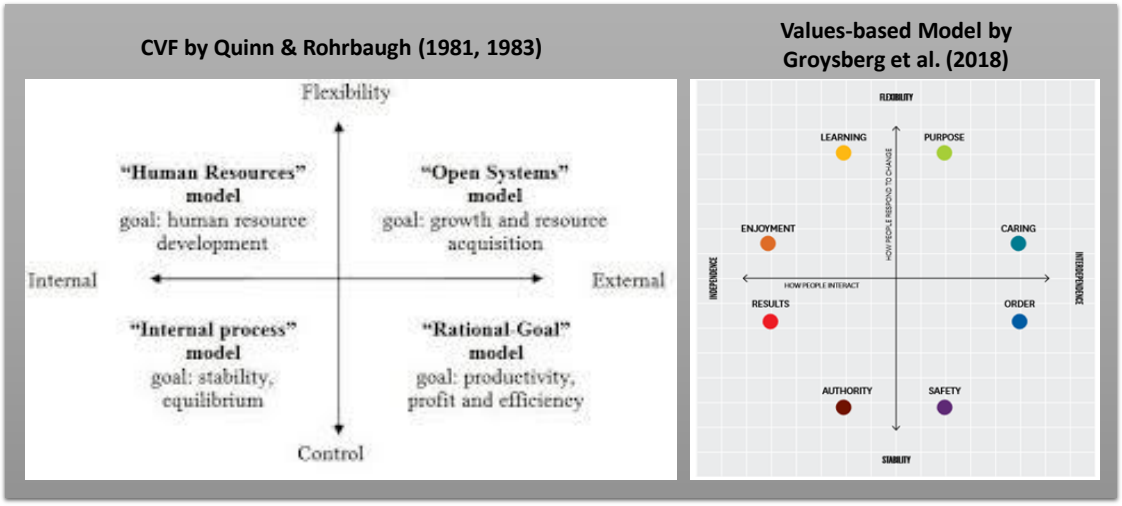
According to Gallup[3] (*apud* DVORAK; NELSON, 2016), has five significant representatives, *communication and leadership*, *values and rituals*, *practices and policies of human capital*, *teams, and structures of work* and *performance*. Such representatives shape how employees conduct their attitudes, how leaders make decisions, and how they do the work. Values and rituals indicate how members interact with others. By recognizing values-based actions, the company facilitates the creation of a culture that focuses on what is desired in that environment (DVORAK; NELSON, 2016).

One method of cultural classification already widespread is the Competing Values Framework, by Quinn and Rohrbaugh (1981, 1983). This four-quadrant model was further developed by Cameron and Quinn (2011)[4], promoting the relationship of each quadrant to a type of organizational culture (Clan, Adhocracy, Hierarchy, and Market). Other studies have already analyzed possible classifications for types of organizational culture, such as the division proposed by Handy (1996) in four different types (Zeus, Apollo, Athena, and Dionysius), Sethia and Von Glinow (1985), with a division, also, in four types, and the most current proposal by Groysberg, B., Lee, J., Prince, J., & Cheng J.Y (2018), which has, as well as the CVF, two axes. Comparing the latter with the CVF, we notice that the novelty refers to a subdivision of the classification proposed by Cameron and Quinn (2011), that is, the four cultural types of the CVF were dismembered in eight central values, with a horizontal axis inversion between them. This exercise is interesting to show how the model initially developed in 1981 is still current, relevant and works as a basis for new developments. Figure 01 shows both models and their similarities.

[3] https://www.gallup.com/

[4] The first edition of the book **Understanding and Changing Organizational Culture** from Cameron and Quinn was published in 1999.

Figure 01* - The model published by Quinn & Rohrbaugh (1981, 1983) and Groysberg et al. (2018)



Source: The authors.
*Comparing both models (Quinn & Rohrbaugh at left and Groysberg *et al*. at right), one can observe that they are similar, but should also observe an inversion in the horizontal axis.

2.2 Values

Jones (2010) states that there are two types of values, the terminals, and the instrumental ones, based on Rokeach's[5] definition (1973 *apud* JONES, 2010). The terminal values indicate desired results by the members, while the instrumental ones refer to modes of behavior. Thus, the culture of an organization consists of the sum of its terminal and instrumental values, and different organizational cultures derive from the differences of terminal and instrumental values between them (JONES, 2010). Barrett (2010) states that the key to success, whether regarding employee or customer satisfaction, starts with the values of the organization. According to him, people express their personal values through behaviors, while organizations express them through cultural behaviors. The values can be positive, helping in the cohesion and success of the group, or potentially limiting, which may lead to problems or unwanted characteristics in the execution of activities (BARRETT, 2010).

The values established as a priority in companies must explain their reason for existence, guide decision-making and identify their purpose. They should be authentic and specific, harmonizing with the personality of their members and, once established, should guide performance evaluations, both personally and collectively (GLEESON, 2017). Such an

[5] ROKEACH, M. 1973. **The nature of human values.** Nova York: The Free Press.

assessment of the practice of these values is critical because many companies have formally specified values, but do not encourage a routine based on these practices or, even worse, they act in opposite ways to what their values encourage. Declarations of "empty" values create cynical and discouraged employees, alienate costumers, and undermine managerial credibility (LENCIONI, 2002).

Organizational culture is also a determining factor in the retention of talent, and in Campbell's research (2011) about which elements of commitment in the work environment most benefit daily operations, the culture was ranked by 80% of the respondents. In the current market, the search for talents occurs in a global sphere and the best professionals have a preference for companies that prioritize values and cultures like their own (CAMPBELL, 2011). It is crucial to creating declarations of values that represent the behaviors of this context, thinking critically about what it will inform about the company culture, affecting the decision making and performance in the professional environment (CANCIALOSI, 2015).

According to a study conducted by Guiso *et al.* (2013), who are researchers at the University of Chicago, values disclosed by a company are not significant, since selecting some values is something considerably easy. The values perceived by the people who participate in this context, however, are what provide information about their characteristics, deserving more attention. In their research, Guiso *et al.* (2013) used data provided by the Great Place to Work Institute about values perceived by employees of over 1,000 American organizations, seeking to understand if a company's culture impacts its success. One of the findings of Guiso *et al.* (2013) indicates that a high level of integrity perceived in companies has a positive impact on results so that even if a culture of integrity can generate costs in the short term, it generates excellent benefits in the long term. Another indication of how values are highly related to the organizational culture, and how this set has the power to impact the performance of a company (GUISO *et al*., 2013).

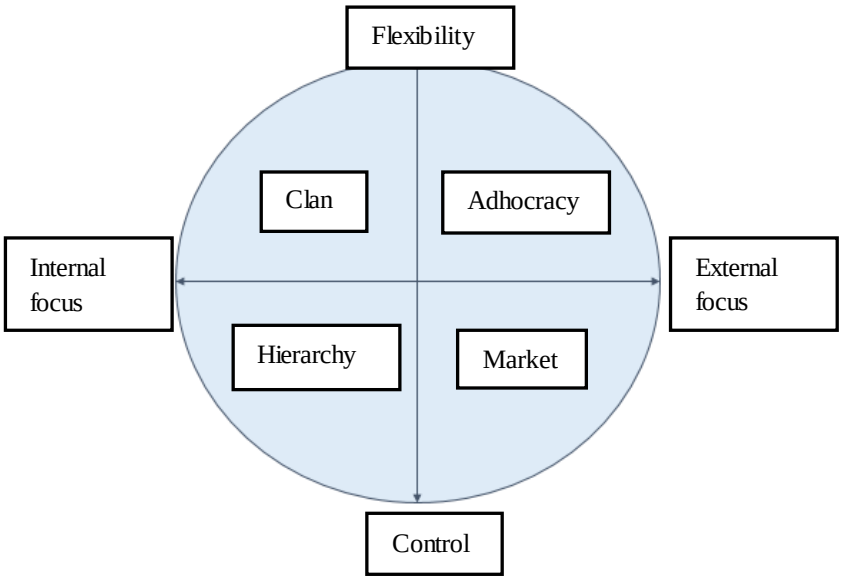
2.3 Competing Values Framework (CVF)

As already mentioned before, the CVF was developed by Quinn and Rohrbaugh (1981, 1983) and presents four quadrants. Each quadrant is linked to different efficacy indicators so that the diagonal quadrants represent opposing orientations with contradictory values (CAMERON; QUINN, 2011). Subsequently, Cameron and Quinn (2011) related each

quadrant to a type of organizational culture, according to the following profiles (as shown in Figure 02):

- **Clan**: upper quadrant, to the left, representing a style with internal focus and flexible structure. Emphasis on integration among members.
- **Adhocracy**: upper quadrant, on the right, with structure also flexible but focused on the external environment. Innovation is one of the main objectives of this type of organization.
- **Market**: lower quadrant, on the right, with a stable structure with an external focus. Its criteria refer to competitiveness, goals for improving performance and productivity.
- **Hierarchy** or **Control**: lower quadrant, to the left, with an internal focus and control structure. It represents rules-based organizations and respect for hierarchy.

Figure 02 - The model published by Cameron and Quinn (2011)



Source: The authors.

3. METHODOLOGICAL PROCEDURES

3.1 Data Collect

Initially, the research team collected values of organizations to develop the instrument sought in this research. Thus, research was promoted in the scientific literature to collect values, in addition to the analysis of data provided by companies known worldwide. From the database constructed with the values found, 584 in total, two filters were applied. One to evaluate the relevance of each value in the study and another to evaluate possible similarities between them, to reach those that are most relevant in the corporate scenario and that have more significant impact in the cultural characterization, with more significant potential to participate in the idealized instrument.

To promote the collection of values, we used as reference data released on institutional information of companies in their websites. Some of the companies used as a source were Adobe, Ben & Jerry's, Facebook and IKEA. Besides, values from the Personal Values Assessment (PVA)[6], a tool by Richard Barrett, were used based on values selected by the respondents to determine their characteristics, as well as values cited in articles available on the author's website. Another relevant source was a base of 500 values provided by Threads[7], American company focused on organizational culture. We also collected values available in scientific articles published by different authors.

The first filter was the separation of values that were not so relevant to the purpose of the research, considered too specific for certain types of industry or that would not add valuable information considering the scope of our research, such as mystery, hygiene, cleanliness, and elegance. The table of values initially contained 584 values, and the application of the first filter decreased this number to 541. The second filter was applied to find values with definitions considered similar or synonymous, considering what they represent in organizations. This filter decreased the values' database to 364 values.

Subsequently, a study was conducted addressing the most relevant values in the instrument, since this number would still be too high to be included in our instrument (that should be such as a survey for values and culture mapping). We determined that it would be interesting to obtain a selection of 100 values initially, considering the simplicity of the

[6] Details about the Personal Values Assessment are available at Barrett Values Centre's website: https://www.valuescentre.com/our-products/products-individuals/personal-values-assessment-pva.
[7] Details about Values provided by Threads are available at the website https://www.threadsculture.com/core-values-examples/.

instrument, drawing on the quantity existing in the PVA. These 100 values should contain equal amounts to each main quadrant of the CVF represented by them. There are values in the database that can be related to unwanted characteristics, considered "potentially limiting" by Barrett's definition (BARRETT, 2010). Although they are not values usually communicated in the companies, their member may experience them in the work life, so we decided to include such values in our list because they can collaborate in the understanding the cultural context since they are related to possible problems existing in a particular cultural type (BARRETT, 2010).

Therefore, the first proposal for selection of values comprehended 25 values for each type of the four cultures (clan, adhocracy, market, and hierarchy), as described in Table 01.

Table 01 - The first selection of values

Clan	Adhocracy	Hierarchy	Market
Believing in people	Adaptability	Care	Conquest / Focus on result
Collaboration	Challenge	Consistency	Daring
Communication	Change	Continuity	Competitiveness
Empathy	Creativity	Coordination	Continuous improvement
Family atmosphere	Development	Dignity	Courage
Motivation	Ease with uncertainties	Credibility	Consumer focus
Personal development	Empowerment	Safety at work	Energy
Teamwork	Freedom	Prudence	Hard work
Tolerance	Informal	Simplicity	Productivity
Joy	Resilience	Training	Results
Welcoming	Risk-taking	Tradition	Meritocracy
Accessibility	Agility	Maturity	Low costs
Coaching	Anticipation	Concentration	Excellence
Gratitude	Clever	Conformity	Leadership
Respect	Creation	"Feet on the ground"	Performance
Balance: work and life	Curiosity	Efficiency	Prosperity
History	Determination	Experience	Honesty
Loyalty	Entrepreneurship	Formality	Economy
Open	Growth	Hierarchy	Competence
Compromise	Innovation	Obedience	Effectiveness
Singularity	Proactivity	Quality	Conscious cost
Calm	Value creation	Responsibility	Maximum use
Criticism	Anxiety	Bureaucracy	Aggressiveness
Repentance	Fail	Humiliation	Ambition
Frustration	Loneliness	Silence	Power

Source: The authors.

Firstly, the project team classified each value in a related cultural type. These relationships were established through the study of the definitions assigned to each value and its meaning in business contexts.

Based on these 100 values initially chosen, we carried out a survey. At this stage, 82 specialists[8] in the culture theme answered the survey questionnaire. To simplify and encourage responses, five different questionnaires were created with the values, and each person was asked to evaluate only 20 values for the primary and secondary quadrant, based on CVF. In the questionnaires 1, 2, 3, 4 and 5 were obtained 10, 17, 6, 11 and 9 answers, respectively, and some answers were added after the second application of the questionnaire, which implied some changes planned for the third version. The questionnaires were made available on the SurveyMonkey®[9] platform, and the link was sent by e-mail to the selected people, explaining the purpose of this study. In each questionnaire, the 20 values were randomly distributed, as was the case with the distribution of questionnaires to the respondents. Each answer in the questionnaires does not necessarily indicate the participation of different people since some respondents showed an interest in this dynamic and made themselves available to answer more than one questionnaire. In total, 84 people were invited, with 53 responses submitted by 32 respondents; that means that 21 respondents answered more than one of the five available questionnaires.

After the period provided for answers, we analyzed how convergent were the classifications previously defined, i.e., the classification of the research team and the classification of the specialists' group. To promote such a study, the research team established weights for the quadrants classified as primary and secondary, being these weights 7 and 3, respectively, since the quadrant selected as primary has greater relevance than the selected one as secondary. From this, we calculated the number of votes in each quadrant, with their associated weight, to the total number of votes in value. These calculations showed which quadrant was associated with each value according to the classifications suggested by the specialists. Then we compared the results of the specialists to see if they conferred with the assumption of the project team, promoting changes when necessary.

To exemplify the weighting and the calculations performed after the questionnaire analysis, we choose the value: 'Family Atmosphere,' in which the following votes were received for the primary and secondary quadrant (see Table 02):

[8] The term "specialist" refers to professionals and students who have been trained in the topic Organizational Culture and in the CVF method in graduate, postgraduate and MBA courses offered in the last 5 years by the Research Groups in which the researchers authors of this article are members.

[9] https://pt.surveymonkey.com/.

Table 02 - Calculating the weighting of values – Example for the 'Family Atmosphere' Value

Primary				**Secondary**			
Clan	Adhocracy	Hierarchy	Market	Clan	Adhocracy	Hierarchy	Market
6	1	0	0	0	4	0	0

Source: The authors.

Thus, the total number of votes in primary and secondary quadrants was 7 and 4, respectively. Considering the weights 7 for the first quadrant and 3 for the second quadrant, we obtained:

- $Clan\ Culture = \frac{(6x7)+(0x3)}{(7+4)} = 3{,}82$
- $Adhocracy\ Culture = \frac{(1x7)+(4x3)}{(7+4)} = 1{,}73$
- $Market\ Culture = \frac{(0x7)+(0x3)}{(7+4)} = 0{,}00$
- $Hierarchy\ Culture = \frac{(0x7)+(0x3)}{(7+4)} = 0{,}00$

The research team explored different possibilities for developing the first version of the instrument and arriving at a proposal with little complex application and diagnosis that favors the analysis of the results under the CVF. The application of this proposal has two stages. In the first, the respondents must identify the values according to what they are currently observing in the organization, and the second refers to what they want to become a reality in that environment, that is, an ideal future situation. For each step, there should be a process of choosing values from those that most represent the context portrayed and which less depict this context. Initially, we proposed 10 values for each choice in each situation. All the respondents received a consent term firstly, so that the data provided by the respondent would only be used with the permission of the person and for research intention only.

This method of application has PVA reference, which requires the choice of 10 values that best represent the individual out of the 100 available. The development of the survey was based on this method due to its simplicity of accomplishment. However, some changes were made to adapt the needs of the survey to the project objectives. Thus, space was devoted to assessing the values that least represent the organization, allowing a broader analysis, besides obtaining a diagnosis based on CVF.

We used the OCAI as the reference in this study due to some factors are seen an advantage in this method. However, this instrument has some points considered harmful, widely perceived during the applications, which were considered in the planning of the new instrument as characteristics to avoid. Like the OCAI, the PVA also has its strengths and weaknesses. Based on the evaluation of these methods, it was possible to plan the developed survey better, to achieve better results. Table 03 shows some characteristics taken into consideration in the study of these instruments.

Table 03 - Analysis (Pros and Cons) of OCAI and PVA instruments

OCAI		**PVA**	
Strengths	**Weaknesses**	**Strengths**	**Weaknesses**
Empirically validated in different searches	The complexity of execution, since it is necessary to perform a process of counting points based on the relativity of each item in the context, adding 100 points	Ease of execution, since the only need is the choice of 10 items out of 100	Low comprehensiveness, since only values chosen as representatives of the individual are considered
It is not so long, taking only 24 items			Does not have publications about the method in the academic literature
Diagnosis based on CVF			

Source: The authors.

3.2 First Application

The application of the initial version of the questionnaire was carried out in a healthcare company located in the city of São José do Rio Preto, state of São Paulo, Brazil. The company is medium-sized and manufactures medical-surgical-hospital products, with approximately 300 direct employees. Both questionnaires (survey of values and OCAI) were available in the SurveyMonkey® platform and had, respectively, 30 and 38 respondents. The audience to which these questionnaires were assigned was the company's management team, with operational leaders, coordinators, managers, directors, and members of the administrative council. The application period run from 2018, May to June.

The value questionnaire contained two situations, the current and the desired, and the respondents were asked to select up to 10 values that most represent the company and up to 10 that less represent the company, for each one of the situations, that is, they should perform this practice of selection four times. From the responses of the people and the feedback they

brought, it was possible to perform an analysis of the results obtained by each method, trying to understand how these diagnoses were related.

As feedback, there were some points raised by a considerable portion of the respondents, such as:

- Difficulty in executing the questionnaire – a considerable amount of values to analyze;
- Page limitation – the number of pages and count of values. It is important to mention that the description of each value was in the body of the survey in order to guarantee the same understanding of each value;
- Personal values – mode for choosing values.

During the analysis of the answers, we identified some problems, for instance, some respondents selected more than ten values, and others evaluated all 100. Therefore, we created a criterion considering possible errors of counting by inattention, being that up to12 values in any of the situations were considered in the analysis. Based on this, of the 30 responses obtained, 21 were considered appropriate for analysis.

Alternatives were considered to improve the efficiency of the method, reducing the number of values presented, then overcoming these difficulties. Of the 100 initial values, 48 would be presented, with 12 related for each quadrant and among them, at least one potentially negative. Besides, a section was set up to define the values, allowing them to be better distributed and facilitating the overview. Changes were also made to the introductory text, clarifying that values should be representing the organization.

For the execution of the diagnosis, the research team counted how many votes each value had in each scenario and verified how many votes each quadrant received, backing up in the relations between the CVF values and quadrants. For the most representatives of the organization, one has the descending order of possible cultures, by the quadrants voted. Jointly the possibility of graphical representation, thinking of maintaining the format of the dimensions of the CVF, a radar chart. On the other hand, the values chosen as the least representative represent the descending order of quadrants theoretically inverse to that obtained in the previous scenario, allowing an extensive cultural analysis. For all this, the similarity with the OCAI result is remarkable, which allows the comparison between the results of the tools and evaluation of the effectiveness of the developed instrument, to a well-disseminated for cultural mapping.

Another relevant analysis is the most voted values by quadrant, mainly detection of irregularities between the determined cultural profile and the voted values. The most voted values avoid the dissemination of opposed values to the culture of the organization.

Because of this stage, we revised the questionnaire as well as the way to proceed with the new analyzes.

3.3 Second Application

The organization for the second application was a large dairy company (706 employees), with units in 10 cities in the state of Paraná, Brazil. The study was carried out in 3 of these units, involving various positions in the organization chart, distributed from operators to unit managers. As a matter of practical application, modifications were made to the structure of the questionnaire, making it printed. Then, the reviewed questionnaire presented two tables with the values, the first representing the current situation and the second representing the desired situation. In each case, it was asked to circulate up to 10 values that most represent / should represent the organizational context, with blue pen, and, with a red pen, the ten values that less represent / should represent the organizational context. Some changes were also made in the name of the values, seeking to standardize the way of writing and to facilitate understanding, such as Open for Openness, Empowerment (in English instead of Portuguese, since the term ‘empowerment’ in English is prevalent in the vocabulary of Brazilian companies), among others.

In this version, the 48 existing values for choice were the 11 with the highest scores for each quadrant, with the addition of one considered potentially limiting related to each one, resulting in 12 values per quadrant. Table 04 shows the selected values:

Table 04 - Selection of values for the second proposal

Clan	Adhocracy	Hierarchy	Market
Family atmosphere	Innovation	Feet on the ground	Aggressiveness
Accessibility	Creativity	Formality	Prosperity
Welcoming	Openness	Safety at work	Results
Empathy	Creation	Continuity	Humiliation
Coaching	Courage	Hierarchy	Conquest / Focus on result
Loyalty	Empowerment	Care	Competitiveness
Teamwork	Curiosity	Prudence	Ambition
Joy	Entrepreneurship	Conformity	Consumer focus
Tolerance	Risk-taking	Bureaucracy	Performance
Gratitude	Change	Traditional	Productivity
Balance: work and life	Fail	Obedience	Effectiveness
Repentance	Anxiety	Loneliness	Frustration

Source: The authors.

The application of this questionnaire occurred at the end of July to the beginning of August 2018. Out of the 84 responses obtained, seven were discarded due to non-consent of the research use and data invalidity. Therefore, we obtained 77 valid anwsers in our study. The application of OCAI co-occurred to the application of the questionnaire of values, for the same group, but in this case, only 48 were valid. This shows the impact of its application difficulties since it involves a sum method with excellent possibility of errors and failures in the understanding.

4. RESULTS AND DISCUSSION

4.1 Data Analysis

After collecting values, applying the filters and obtaining the 100 values chosen to give continuity to the instrument, surveys were carried out with people external to the project through the five online questionnaires. The analysis of the data obtained with these questionnaires allowed to understand better how each value should be classified.

Out of the total, 77 values converged to the initial assumption. Those with a small difference (less than 0.5) between the two quadrants with the highest score were disregarded, as it showed a great uncertainty of classification. Table 05 presents the 17 values that have undergone this process. Thus, in the final version are the 83 values that remained from these criteria and calculations.

Table 05 - Values not considered because of the uncertainty of their classifications

Value	Clan	Adhocracy	Hierarchy	Market	Difference 1st - 2nd
Challenge	0.00	2.83	0.00	3.06	0.22
Efficiency	0.00	0.37	2.68	2.89	0.21
Quality	0.39	0.00	2.83	2.67	0.17
Agility	0.42	2.25	0.42	2.25	0.00
Hard work	0.43	1.08	1.73	2.14	0.41
Anticipation	0.12	2.04	0.80	2.12	0.08
Excellence	0.49	0.82	1.54	200	0.46
Resilience	0.85	2.05	1.35	1.75	0.30
Meritocracy	0.80	1.52	1.36	172	0.20
Responsibility	1.48	1.14	1.95	1.48	0.48
Determination	1.31	1.73	0.92	1.35	0.38
Communication	2.21	1.93	0.21	1.21	0.29
Simplicity	1.08	1.52	1.48	1.16	0.04
Training	1.71	1.65	1.06	0.65	0.06
Personal development	2.20	2.00	0.24	0.64	0.20
Experience	1.85	1.42	1.42	0.62	0.42
Believing in people	2.20	1.95	0.15	0.50	0.25

Source: The authors.

4.2 First Application

For this application, the questionnaire contained 100 values for selection, since external participation (from specialists) was still open and the analysis had not yet been finished. However, for analysis, only the classifications of the 83 values were considered, disregarding the votes for values that were among the 17 excluded from the method. The diagnosis showed good proximity to the OCAI result; the dominant cultures were the same for the two methods. In the OCAI, the averages for each culture, according to the relevant answers in the two situations are presented in Table 06.

Table 06 - Averages of OCAI application (first case)

CURRENT			DESIRED		
Culture	**Average**	**Classification**	**Culture**	**Average**	**Classification**
Clan	29.31	Prevailing culture	Clan	29.44	Prevailing culture
Adhocracy	23.33	Tertiary culture	Adhocracy	26.48	Secondary culture
Market	21.50	Less present Culture	Market	22.66	Tertiary culture
Hierarchy	25.86	Secondary culture	Hierarchy	21.42	Less present Culture

Source: The authors.

For each value, we observed the quadrant to which it was connected, allowing an analysis of the selected values in cultural terms. A separation of the most voted values in each case was also made, trying to interpret the main points observed or desired by the members. To that end, those selected were chosen by 20% or more of the respondents (21 respondents valid in the current situation and 20 in the desired situation), since this criterion would allow selecting a not very high number of values, allowing good visualization of those who had the most significant influence on the results.

Thus, for the current situation, the most chosen values referring to the one that most relates to the company and its correlations, disregarding the values that were among the discarded ones, are represented in Table 07. The number of values by cultural type of the most voted and the total number of votes are shown in Table 08.

Table 07 - Most chosen values of those that best represent the company (current situation)

Values	No.	%	Culture
Innovation	10	48%	Adhocracy
Coaching	9	43%	Clan
Hierarchy	6	29%	Hierarchy
Compromise	6	29%	Clan
Accessibility	5	24%	Clan
Competence	5	24%	Market
Team work	5	24%	Clan
Bureaucracy	5	24%	Hierarchy

Source: The authors.

Table 08 - Current values by culture (current situation)

Type of culture	Number of values per culture	Total number of votes per culture
Clan	4	54
Hierarchy	2	39
Adhocracy	1	41
Market	1	25

Source: The authors.

For the desired situation, the values with the most significant number of choices regarding what the organization should represent are represented in Table 09 and the number of values for each type of culture, considering the most voted, and the total number of votes for each type in Table 10.

Table 09 - Most chosen values of those that best represent the company (desired situation)

Values	No.	%	Culture
Coaching	10	50%	Clan
Innovation	8	40%	Adhocracy
Collaboration	7	35%	Clan
Motivation	7	35%	Adhocracy
Competence	6	30%	Market
Creativity	6	30%	Adhocracy
Team work	6	30%	Clan
Compromise	6	30%	Clan
Honesty	6	30%	Clan
Proactive	5	25%	Adhocracy
Respect	5	25%	Clan

Source: The authors.

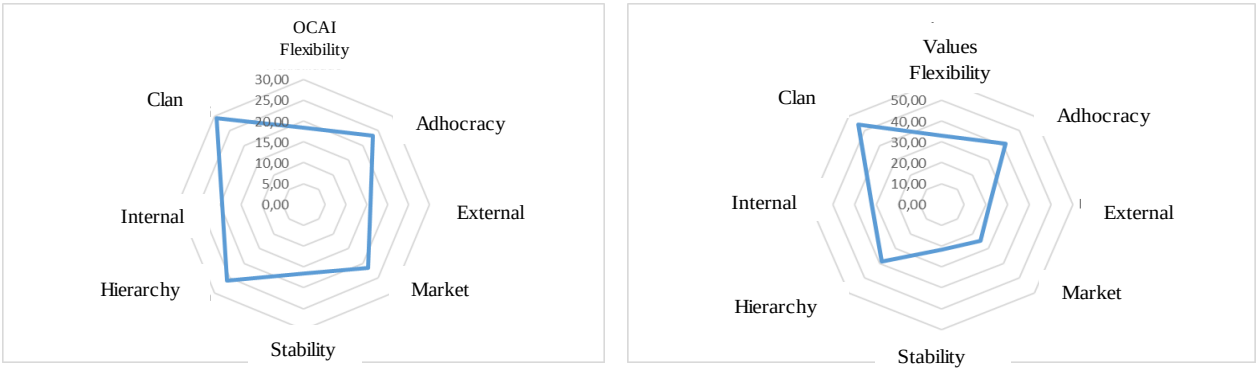
Table 10 - Desired values by culture (desired situation)

Type of culture	Number of values per culture	Total number of votes per culture
Clan	7	48
Adhocracy	4	51
Market	1	31
Hierarchy	0	15

Source: The authors.

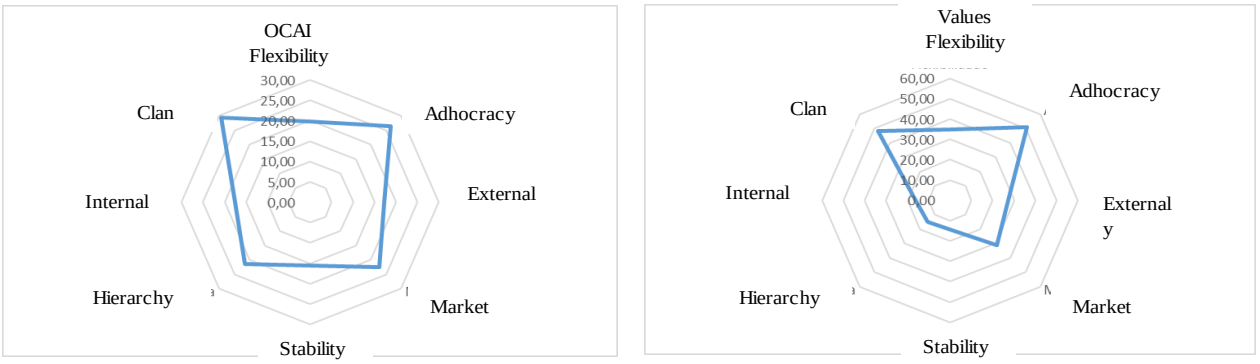
After the analysis of the instrument, whose goal was to define the cultural profile of the organization according to its most preferred values, we compared each graph of the proposed questionnaire concerning what was obtained through the OCAI. Figures 03, 04 and 05 show such a comparison. The graphs to the left refer to the one obtained in the OCAI and the graphs to the right with what was obtained in the questionnaire of values.

Figure 03 - Current Situation



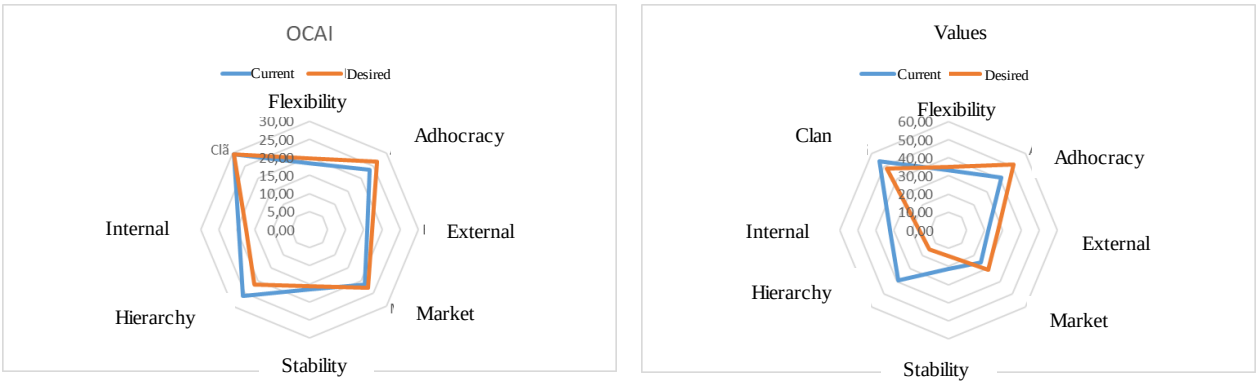
Source: The authors.

Figure 04 - Desired Situation



Source: The authors.

Figure 05 - Current and desired situation



Source: The authors.

From the analysis of the graphs, one can understand that the general format obtained by each method is similar, although it has been in different proportions for each one. In this

way, we can see a potential for the relationship between diagnosis using values and that obtained by OCAI.

We also took the values most voted and those selected, in total, from those who represent less or who should represent it to the current situation, following the same selection criterion of the 20% voted. Tables 11 and 12 present these data and the number of values of the most voted for each cultural type and the total of votes per quadrant, in the scenario that less represents the organization.

Table 11 - Values that least represent the organization (current situation)

Values	No.	%	Culture
Aggressive	11	52%	Market
Silence	10	48%	Hierarchy
Humiliation	7	33%	Market
Anxiety	6	29%	Adhocracy
Continuity	5	24%	Hierarchy
Loneliness	5	24%	Hierarchy
Competitive	5	24%	Market
Informal	5	24%	Adhocracy
Calm	5	24%	Clan
Frustration	5	24%	Market

Source: The authors.

Table 12 - Less representative values by culture (current situation)

Type of culture	Number of values per culture	Total number of votes per culture
Market	4	31
Adhocracy	2	50
Hierarchy	3	44
Clan	1	35

Source: The authors.

Following the criteria previously discussed and with the same presentation are the data for the desired situation, the values most voted as those that should represent less the organization, Table 13 and the count of the quadrants of the most voted values and the total of votes, Table 14.

Table 13 - Most voted values that should represent less (desired situation)

Values	No.	%	Culture
Loneliness	15	75%	Hierarchy
Humiliation	12	60%	Market
Bureaucracy	11	55%	Hierarchy

Anxiety	11	55%	Adhocracy
Fail	11	55%	Adhocracy
Repentance	11	55%	Clan
Frustration	10	50%	Market
Silence	8	40%	Hierarchy
Informal	7	35%	Adhocracy
Aggressive	7	35%	Market
Traditional	5	25%	Hierarchy

Source: The authors.

Table 14 - Desired values that are less representative by culture (desired situation)

Type of culture	Number of values per culture	Total number of votes per culture
Hierarchy	4	61
Adhocracy	3	48
Market	3	29
Clan	1	27

Source: The authors.

In a joint analysis of the two questionnaires (OCAI and Values) and the current and desired situations, one can determine the types of culture. In a representation, we have Table 15, with the arrangement of cultural types in descending order of diagnosis, including two approaches of values, total votes and the number of values per culture.

Table 15 - Decreasing orders of the culture of the studied situations

	OCAI	VALUES – TOTAL	VALUES – MOST VOTED
MORE REPRESENT	1st Clan 2nd Hierarchy 3rd Adhocracy 4th Market	1st Clan 2nd Adhocracy 3rd Hierarchy 4th Market	1st Clan 2nd Adhocracy 3rd Hierarchy 4th Market
MORE SHOULD REPRESENT	1st Clan 2nd Adhocracy 3rd Market 4th Hierarchy	1st Adhocracy 2nd Clan 3rd Market 4th Hierarchy	1st Clan 2nd Adhocracy 3rd Market 4th Hierarchy
LESS REPRESENT	-	1st Adhocracy 2nd Hierarchy 3rd Clan 4th Market	1st Market 2nd Hierarchy 3rd Adhocracy 4th Clan
LESS SHOULD REPRESENT	-	1st Hierarchy 2nd Adhocracy 3rd Market 4th Clan	1st Hierarchy 2nd Adhocracy 3rd Market 4th Clan

Source: The authors.

For the "More Represent" scenario there is a consensus regarding the first type of culture (Clan) and the last one (Market) in all methods. As for the intermediate cultural types,

there was an inversion. Hierarchy is the second culture that most represents according to the OCAI and Adhocracy according to the Values. In the scenario "More Should Represent," the congruence in all methods is in the last types of culture, third and fourth (Market and Hierarchy). In the first two (Clan and Adhocracy) there is inversion when we look at the two perspectives of Values. From the perspective of the most voted, the order found converges with that of the OCAI.

Thus, one can conclude that people could associate specific values with specific characteristics predominant in types of culture, by showing a good correlation between such factors and cultural mapping. In general, it is credible to perform, through the analysis of values, cultural identification, even with possible improvements to achieve greater convergence, especially considering the total votes.

In the case of "Less Represent," the order of the types of culture for the most voted values is the opposite of the case "More Represent," pointing again to the congruence in cultural identification. For the desired situation, "Less Should Represent," the order Hierarchy – Adhocracy – Market – Clan, presented in both Values analyses, is exactly opposite to "More Should Represent," for the analysis of the most voted. It was understood, then, that the analysis of values more voted is closer to the expectation of the questionnaire.

4.3 Second Application

With the results and feedbacks of the first application, the second version of the instrument was applied, with modifications in the method. In this case, the data obtained with the OCAI application, from the 48 responses considered valid, that is, without counting errors and are arranged in Table 16.

Table 16 - Averages of OCAI application (second application)

CURRENT			DESIRED		
Culture	**Average**	**Classification**	**Culture**	**Average**	**Classification**
Clan	18.17	Less present Culture	Clan	31.23	Prevailing culture
Adhocracy	22.36	Tertiary culture	Adhocracy	24.92	Secondary culture
Market	34.73	Prevailing culture	Market	22.91	Tertiary culture
Hierarchy	24.74	Secondary culture	Hierarchy	20.98	Less present Culture

Source: The authors.

For the values questionnaire, the most voted values were considered those with more than 30% of the votes to the 75 responses. This percentage was higher concerning the diagnosis of the first company because this application had a more significant number of responses. In the Table 17 are the data, for the current situation that exposes the most voted values and, in Table 18, the number of values of the most voted for each cultural type and the total votes per quadrant.

Table 17 - Most chosen values of those that best represent the company (current situation, second application)

Values	No.	%	Culture
Productivity	41	0.54	Market
Consumer focus	39	0.51	Market
Safety at work	35	0.46	Hierarchy
Team work	32	0.42	Clan
Conquest / Focus on result	27	0.35	Market
Competitiveness	26	0.34	Market
Innovation	26	0.34	Adhocracy
Feet on the ground	26	0.34	Hierarchy
Traditional	25	0.33	Hierarchy
Courage	24	0.32	Adhocracy
Results	23	0.30	Market

Source: The authors.

Table 18 - Current values by culture (current situation, second application)

Type of culture	Number of values per culture	Total number of votes per culture
Market	5	208
Hierarchy	3	185
Adhocracy	2	155
Clan	1	177

Source: The authors.

In the same way that 30% of the votes for the current situation were considered, in the desired situation as well. In Table 19 the most voted values, and in Table 20, the number of values among the voted for each quadrant and the total of votes per quadrant.

Table 19 - Most chosen values of those that best represent the company (desired situation, seco[nd] application)

Values	No.	%	Culture
Team work	57	0.75	Clan
Innovation	44	0.58	Adhocracy
Creativity	35	0.46	Adhocracy
Safety at work	33	0.43	Hierarchy
Joy	31	0.41	Clan
Family atmosphere	25	0.33	Clan
Change	25	0.33	Adhocracy
Balance between work and life	24	0.32	Clan
Consumer focus	24	0.32	Market
Results	24	0.32	Market

Source: The authors.

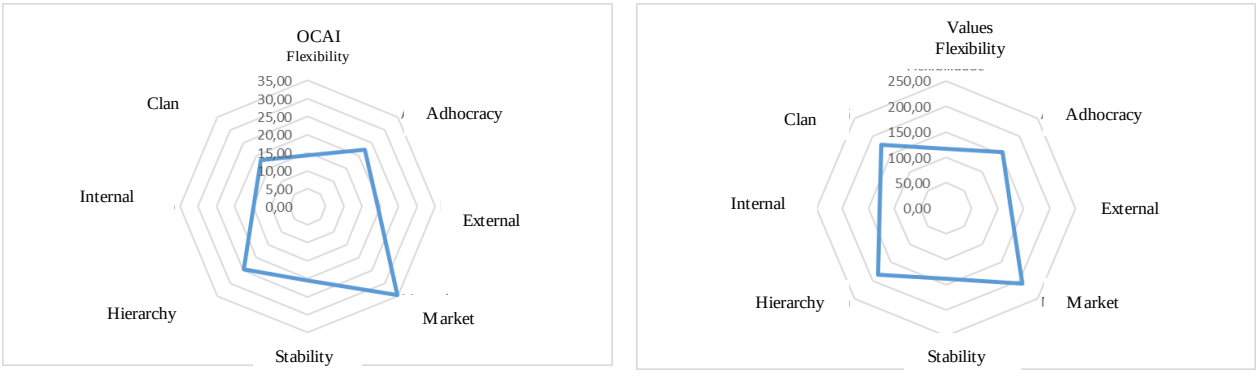
Table 20 - Desired values by culture (desired situation, seco[nd] application)

Type of culture	Number of values per culture	Total number of votes per culture
Clan	4	238
Adhocracy	3	199
Market	2	170
Hierarchy	1	122

Source: The authors.

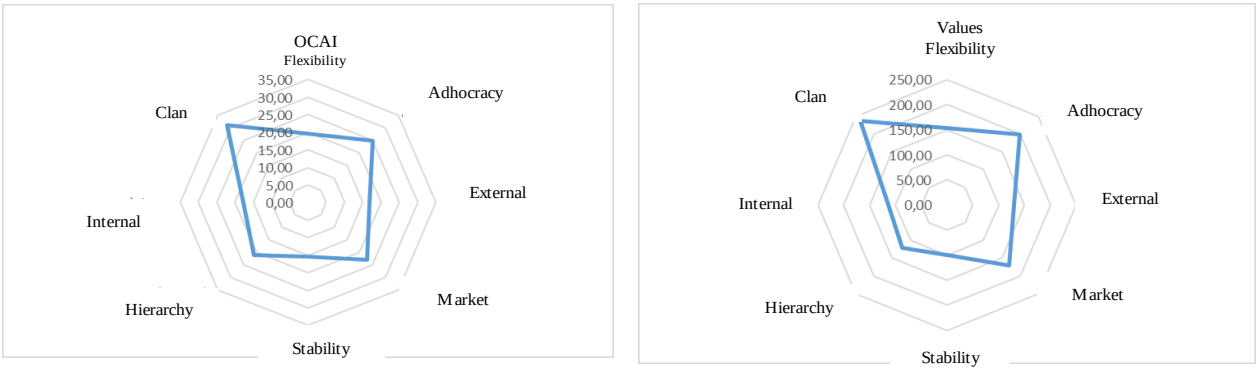
Comparing, once again, in Figures 06, 07 and 08, the results obtained by the OCAI on the left and by the values on the right.

Figure 06 - Current Situation (2nd application)



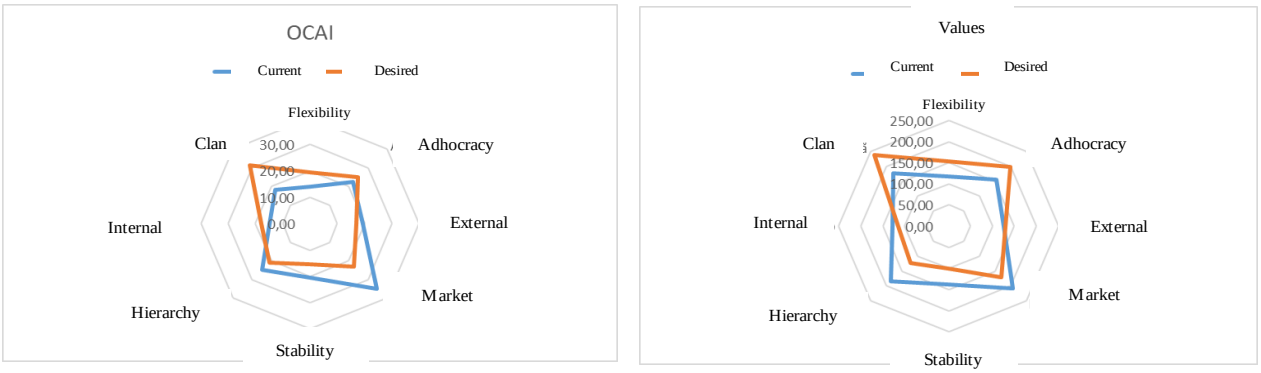
Source: The authors.

Figure 07 - Desired Situation (2nd application)



Source: The authors.

Figure 08 - Current and desired situation (2nd application)



Source: The authors.

In these graphs, one perceives a higher similarity when compared to the first application. Here it is possible to visualize the improvements obtained with the changes made for the second application, leading to greater convergence of results between the value questionnaire and OCAI.

Table 21 presents the most voted values for the situations that less represent the current environment and that less should represent it in the desired situation. The evaluation of votes of values by culture and total votes for the current situation is in Table 21.

Table 21 - Values that least represent the organization (current situation, second application)

Values	No.	%	Culture
Frustration	30	0.39	Market
Repentance	29	0.38	Clan
Fail	29	0.38	Adhocracy
Humiliation	29	0.38	Market
Anxiety	28	0.37	Adhocracy
Loneliness	27	0.35	Hierarchy
Aggressiveness	24	0.32	Market

Source: The authors.

Table 22 - Less representative values by culture (current situation, second application)

Type of culture	Number of values per culture	Total number of votes per culture
Market	3	143
Adhocracy	2	167
Clan	1	174
Hierarchy	1	124

Source: The authors.

For the desired situation, Table 23 shows the most voted values and Table 24 the least values desired by culture.

Table 23 - Most voted values that should represent less (desired situation, second application)

Values	No.	%	Culture
Fail	58	0.76	Adhocracy
Loneliness	54	0.71	Hierarchy
Frustration	53	0.70	Market
Humiliation	49	0.64	Market
Anxiety	42	0.55	Adhocracy
Aggressiveness	40	0.53	Market
Bureaucracy	34	0.45	Hierarchy
Repentance	31	0.41	Clan
Empathy	25	0.33	Clan
Traditional	23	0.30	Hierarchy

Source: The authors.

Table 24 - Desired values that are less representative by culture (desired situation, second application)

Type of culture	Number of values per culture	Total number of votes per culture
Market	3	185
Hierarchy	3	170
Adhocracy	2	128
Clan	2	89

Source: The authors.

Tables 25 compares the results obtained in each case, which shows the descending order of cultural types from the OCAI diagnosis and the values questionnaire considering the two situations studied, which analyzes the total number of votes and their correlations with cultural types and the one that analyzes the number of values by cultural type among the most voted.

Table 25 - Decreasing orders of the culture of the studied situations (2nd application)

	OCAI	VALUES – TOTAL	VALUES – MOST VOTED
MORE REPRESENT	1st Market 2nd Hierarch 3rd Adhocracy 4th Clan	1st Market 2nd Hierarchy 3rd Clan 4th Adhocracy	1st Market 2nd Hierarchy 3rd Adhocracy 4th Clan
MORE SHOULD REPRESENT	1st Clan 2nd Adhocracy 3rd Market 4th Hierarchy	1st Clan 2nd Adhocracy 3rd Market 4th Hierarchy	1st Clan 2nd Adhocracy 3rd Market 4th Hierarchy
LESS REPRESENT	-	1st Clan 2nd Adhocracy 3rd Market 4th Hierarchy	1st Market 2nd Adhocracy 3rd Hierarchy 4th Clan
LESS SHOULD REPRESENT	-	1st Market 2nd Hierarchy 3rd Adhocracy 4th Clan	1st Market 2nd Hierarchy 3rd Adhocracy 4th Clan

Source: The authors.

Therefore, we can observe that, for the current situation regarding those that represent the organization, the order between the OCAI and the questionnaire of values, considering the count of all values, converged on the first two places of the cultural types representing this environment, with an inversion between the third and fourth quadrants. In the situation where the number of values among the most voted in each quadrant is analyzed, the order obtained is

the same as that achieved by the OCAI. Thus, an improvement in results compared to the previous application is observed.

In the desired situation, in relation to the ones that most should represent this environment, all the situations studied were in the same order, that is, the diagnosis obtained with the OCAI was the same one that was reached considering the count of votes to all values and the number of values of each cultural type among the most voted. The graphical comparison also allows visualizing how the obtained results were very close, which collaborates with the objective of the project.

In comparison with what was obtained by the OCAI, there was not a great fulfillment of the expectations of decreasing order of values that less represent or should represent the environment since this order should theoretically be inverse in the situation of values that most represent or should represent the environment. Besides, we observed that the presence of potentially limiting values brings drawbacks to this analysis since because they have a more negative aspect, they become more likely to be selected by the people, regardless of the cultural type desired.

4.4 Discussion

From the results obtained in the application in the two companies, the research team developed a new version of the instrument. From the first application to the second, there was an improvement in the feedback received about the instrument's difficulty, so that in this case only two of them were answered incorrectly. This execution error was because the instrument had four different stages so that the respondents understood that there were only 2 (the current situation of the company and the desired one), without specifying whether the selected values were referring to what more or less represent / should represent the company.

From this difficulty about the extension of the instrument, which was a big problem in the first application, which counted with the 100 values, and to a lesser extent in the second application, even if it existed, after the reduction to 48 values, we understood that we could still reduce it. By studying the applications diagnoses, the results obtained, both in the current situation and in the desired situation, as well as the values that they most represent and should represent, had a good approximation to what would be expected in comparison to the OCAI. Besides, from the first application to the second, the results of the methods presented an even greater convergence. Thus, we believe that such cases present significant potential for cultural

mapping based on CVF, being preferable that they have continuity in the development of the tool.

In the case of the values that less represent or should represent the organization, only in some of the cases studied the diagnosis was close to what was expected, and only considering the most voted values, not the total values. In most of the analyses carried out the decreasing order of votes for these situations did not bring significant contributions to the cultural diagnosis of the company under study. Besides, the fact that potentially limiting values existed meant that many people in those situations chose them to represent what they least wanted or observed today in the organization because these values have a more negative aspect. We realized that such situations might even undermine the analysis, rather than bringing relevant data to the diagnosis. In this way, the research team chose to remove such cases from the instrument. This makes its extension decrease, facilitating its execution and reducing the probability of errors, increasing the sample of available data for analysis after the survey application and improving the relevance of this data.

Another factor perceived as potentially harmful in the diagnosis was the fact that at least one potentially limiting value was attributed to each cultural type, even though it was not among the values with the highest scores. Considering that the purpose of the instrument is cultural assessment, it was decided to remove this requirement from its construction and to make better use of high-scoring values, which may be more relevant in cultural mapping.

5. CONCLUSIONS

After the second application, there were still new contributions in the questionnaires of participation of external people (specialists), and these contributions were once again considered to the database to participate in the scoring system assigned to the values.

As the typical situations of what less represents or should represent the organization was withdrawn, we observed that the instrument would be less extensive, and so the values with high scores could be over again better utilized. Thus, the project team planned a more significant number of values to be included in the instrument, seeking the maximum potential of the performed study, taking care not to lose improvements made with the changes made from the first application to the second. It was thought, therefore, to reach an intermediate

value between what existed in the first application (100 values) and what was in the second (48 values), besides being a value divisible by 4 to allow each quadrant to have the same quantity of values. Some studies of the values were carried out to understand which could bring more significant contributions to the instrument and, in conclusion, reached 60 values. In this case, the 15 values with the highest score of each quadrant would be chosen, disregarding the values that were among the 17 discarded previously, in which case the next value would be advanced according to the descending order of punctuation. Thus, the third version of the instrument would have the values illustrated in Table 26 (presented in descending order according to the score):

Table 26 - Third proposal of values selection (last one in the scope of this paper)

Clan	Adhocracy	Hierarchy	Market
Family atmosphere	Innovation	Feet on the ground	Aggressiveness
Accessibility	Creativity	Formality	Prosperity
Welcoming	Openness	Safety at work	Results
Empathy	Creation	Continuity	Humiliation
Coaching	Courage	Hierarchy	Conquest / Focus on result
Happiness	Empowerment	Care	Ambition
Teamwork	Curiosity	Prudence	Consumer focus
Joy	Entrepreneurship	Conformity	Effectiveness
Tolerance	Risk-taking	Bureaucracy	Productivity
Gratitude	Change	Traditional	Low costs
Balance: work and life	Fail (PL)	Consistence	Performance
Collaboration	Energy	Loneliness	Competitiveness
Calm	Singularity	Concentration	Maximum use
Honesty	Daring	History	Competence
Dignity	Development	Economy	Continuous improvement

Source: The authors.

The main contribution of this research is the expansion of knowledge about factors that can be analyzed for understanding the organizational culture. Besides, it provides a new, easy-to-apply method for collaborating on cultural diagnosis, signaling points with potential for change. The values most voted for the desired situation of the company can have several meanings. They can either represent the characterization of this environment according to the members' vision, or they can bring about signs of desired changes, that is, factors that the employees believe deserve more attention in this context, lacking in improvement. For similar reasons, some critical values for the company context may not be among the most voted for the desired situation, because the employees consider that, in this regard, there is no great

need for improvement. So, it is possible to continue the activities in the way as they already do.

We expect that the use of the instrument can assist in the assessment of the alignment of practices and ideals in the company. It is essential to understand if the stated purpose is presented in everyday activities and, perceived by employees concerning values. Such a method may also contribute to the definition or revision of the values established by the company, avoiding "empty" statements, seeking to communicate a context that is observed by its members. This can avoid adjustment problems for future employees who relied on such value-added statements for decision-making.

Future Research

The next step of the research team is to apply this third version of the instrument to evaluate its effectiveness. In this version, the questionnaire will contain the 60 values (according to Table 26) for consideration in two different situations, the current one of the organization and the desired one. For each one, up to 10 values most that represent / should represent the context under study should be selected. From experience gained from previous applications, the team considers that such a method will achieve good results because it is simple, with fewer necessary steps, which reduces the chance of errors, with an adequate number of values for the analysis of the respondents. Besides, we expect that the result will be even more convergent to that obtained by OCAI, showing the potential of the instrument in becoming a useful method of cultural mapping in companies. This method will facilitate management practices and signal critical points to promote change, seeking to achieve maximum efficiency, taking full advantage of the potential presented by the team and the characteristics of the organization.

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