

Effectiveness indicators as interpreted by the subcultures of a higher education institution

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ABSTRACT

In the last decade, the interest in the study of organizational culture and effectiveness has increased; however, few studies have been done in the educational field. The objective of this research is to deepen the knowledge of the relationship between organizational culture and effectiveness in institutions of higher education, and to try to respond the following research question: How are effectiveness indicators interpreted in a higher education institution with differentiated culture?

This research used the organization ethnography approach; the sample was made up of 23 informants; and the tools used were interviews, observation, and documentary information. The data analysis was done following the Spradley methodology (1979) and the results of the study seem to indicate that the educational institution studied has a differentiated culture and that the main cultural groups maintain a series of shared values with which they interpret a series of effectiveness indicators in a similar way. Nevertheless, this research also shows that there are some indicators that are not acknowledged by the cultural subgroups, and it is also observed that a series of indicators is interpreted differently by each subculture. Based on these results, it is possible to consider that the acknowledgement of the existence of a differentiated culture in a higher education institution allows its leaders to send the right messages to its members and to leverage from its culture to develop more effective higher education institutions.

Keywords: Organizational Culture, Subcultures, Organizational Effectiveness, Organizational Performance, Higher Education.

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INTRODUCTION

Modern organizations face a complex, competitive and globalized world, in which the networks created by the new technologies are uncertain and unpredictable. In this setting, it is required to acknowledge that the new organizational forms require new ways of facing the surrounding world (Kenny, 2008). Like other organizations, universities face new challenges and social, political, economic, and technological demands. Based on these, higher education institutions are working in an new setting generated by different aspects, among others: a) the arrival of a new kind of students; b) facing an unprecedented competition; c) generation of new and aggressive demands on the universities' responsibilities; d) the need to operate in a globalized setting; e) the obligation to maintain an efficient administration with responsible strategies while preserving their academic mission, their focus and their values (Segall and Freedman, 2007).

This new reality faced by the university -a reality with a greater struggle for survival, more demanding students and scarce resources- makes it look for mechanisms that allow it to operate more efficiently (Heck, Johnsrud and Rosser, 2000). How can a university face these challenges? In this sense, Schein (2004) asserts that the organizational culture is a mechanism that contributes for the organization to solve its internal problems of survival and adaptation to the environment; it also facilitates the integration of its internal processes to assure its adaptation and survival capabilities. Now, if the organizational culture is made up of a set of shared values, beliefs and interpretations and according to Cameron (1988b), the definition of effectiveness as well as an organization's effectiveness indicators are based on the values and preferences of the members of each organization, understanding an organization's culture becomes significant since it is the mechanism by which the members of the organization understand what effectiveness means and how by means of their values, they work to achieve it.

LITERATURE REVIEW

The literature provides multiple definitions of organizational culture. In this paper, organizational culture is understood as a set of shared values, beliefs and interpretations of the members of an organization which guide their responses in a situation of change or uncertainty. Cultural studies are based on the definition or understanding of the word *culture* the researcher has. Martin (2002) sustains that the studies on culture can be done from three perspectives: integration, differentiation and fragmentation.

The integrative perspective focuses on those cultural manifestations that are consistent with one another. Culture is considered a "monolithic" phenomenon (Martin and Sielh, 1983), which most people can see in the same way, regardless of the angle from which it is observed (Martin, 2002). According to Sielh and Martin (1990), the integrative models are characterized by their consistency, the broad consensus within the organization, and the denial for ambiguity.

The differentiation perspective focuses on the inconsistency among the interpretations that the members of the organization give. The consensus of the interpretations exists but at lower levels of analysis called "subcultures" (Martin 2002). Within each subculture there is clarity even when the intersection between one subculture and another is ambiguous. The organization must be seen as a multicultural entity in which different subgroups (occupation, division, ethnic groups) interact, each one with its own meanings and sense of priority (Gregory, 1983).

The fragmentation perspective focuses on attending what is unclear, what is inconsistent, and what is unshared. It is an acknowledgement of the existence of ambiguity in the organizations. Complexity and lack of clarity are the key issues in the fragmentation perspective (Meyerson and Martin, 1987). This perspective includes the ambiguity coming from ignorance and confusion; it encompasses tension, irony, paradoxes and contradictions (Martin, 2002). Different meanings and beliefs arise from fragmented, contradictory, and unclear ideologies and interests. Ambiguities stem from values, beliefs, interests and structures of an organization or occupation, and these ambiguities are fundamentally cultural (Meyerson, 1991b).

Culture is a mechanism by which the members of an organization and the organization itself face uncertainty. As an entity that groups people, each institution has a culture that distinguishes it and makes it different from other institutions. Due to their own nature, higher education institutions can be made up of multiple subcultures (Kuh and Whitt, 1988; Tierny, 1988). Arising subcultures within an organization depends on its complexity, size, structure, mission, origin, and history.

The groups within institutions have shared values, but they are also contradictory; they live harmonious situations, but also conflict; and even though within an organization there is a set of shared values, there are also differences in their interpretation. An institution may have a clear mission, as well as defined goals, objectives and principles. However, these could be interpreted differently by its members because they are influenced by matters such as academic background, experience, the institution's history, the leaders' performance and the inconsistencies between what is said and what is acknowledged. Thus, an institution's culture lies within its history, in what counts for it, in the way in which the offices are arranged, in the working atmosphere, in the relationships among people, and in how things should be done. It is also the manifestation and relationship among different groups, sometimes in harmony, others in conflict, and some others in ambiguity and contradiction (Martin, 2002).

Culture is a force that provides stability and a sense of continuity in a social system like that in higher education (Masland, 1985). The challenge for an educational institution is to be more effective; therefore, its leaders should acknowledge that in order to achieve it, it is necessary to understand the organizational culture, and if needed, to reconfigure it. When university culture is addressed, it is necessary to bear in mind that universities have a multidimensional composite of assumptions, beliefs, attitudes and perspectives which are the outcome of the existence of several cultural subgroups (Locke and Guglielmino, 2006). A university's policies, procedures, and decisions as well as the institutional results are impregnated of its culture; and thus, its effectiveness (or lack of it) is in function of its members' values and beliefs (Denison and Spreitzer, 1991).

Several models, typologies and cultural dimensions, along with varied criteria of effectiveness have been used in research to link organizational culture and effectiveness. Researchers such as Deal and Kennedy (1982), Denison, Haaland and Goelzer (2004); Denison and Mishra (1995); Wilkins and Ouchi (1983) and Yilmaz and Ergun (2008) have tried to establish the relationship between culture and organizational effectiveness. In the educational field, this relationship has been researched by Cameron and Freeman (1991); Fjortoft and Smart (1994); Smart and John (1996); Smart, Kuh and Tierney (1997); and Smart (2003) among others.

Considering that culture is related to an institution's effectiveness, culture should be linked to the definition of the effectiveness indicators of an educational institution as well as to the interpretation its members give. In other words, since an institution's effectiveness is related to its culture, the definition of effectiveness indicators will be influenced by the cultural load of

the person or group of people that define the indicator; moreover, the interpretation of the indicator will be influenced by the culture of the organization's members working to achieve it. Therefore, an educational institution's effectiveness will be influenced to a certain extent by the culture and subcultures within the organization.

However, provided that educational institutions are integrated by subcultures with characteristics of their own that make them different from one another, a cultural diagnosis of the subcultures will show the differences and similarities among them, making evident those differentiated subcultures. Given this differentiation, each subculture could have a similar or different interpretation of the institution's effectiveness indicators according to what this subculture values as important as shown in Figure 1 (Appendix).

Because of its own nature, each subculture has different values; thus each cultural group within the institution will pose greater or lesser importance to each one of the set of effectiveness indicators. In other words, for the group of administrators, the indicator "student growth" will have a different meaning than that given by the promotion department or by the academic departments. There will be subcultures that will give greater importance to the indicators that deal with internal processes, while others will give greater importance to the external matters. These cultural differences at the inside of the organization lead to internal contradictions that impact the definition and interpretation of effectiveness indicators as well as their effectiveness. Sometimes, this impact will be positive; others, negative, depending on the cultural balance the organization gets as a result of the mix of different subcultures. As long as an organization is able to keep a balance among its subcultures which allows it to resolve the internal contradictions, the organization as a whole will be functional in terms of the effectiveness of its outcomes.

The study of organizational culture and its effectiveness are topics that have primarily been addressed by profitable organizations. However, even though there is research in educational institutions, this is scarce and has mainly been conducted in English speaking countries from an integrative perspective as shown by the works by Cameron and Freeman (1991), Smart (2003); Smart and John (1996); and Smart et al (1997). The studies done from this perspective consider that the culture in an educational institution is clear, consistent, and most of its members share values, beliefs and interpretations. However, universities are organizations made up of multiple subcultures that lead them to have values, beliefs and interpretations different from the various groups comprised. These differences among groups suggest that there could be different interpretations to the institution's effectiveness indicators as well as what it means that the university is effective. This research seeks studying the organizational culture of a private higher education institution in Latin America from the differentiation perspective. The differentiation perspective allows deepening in the study of inconsistencies, conflict and harmonious relationships among subcultures. Based on the above is that the following research question arises:

How are effectiveness indicators interpreted in an educational institution with differentiated culture?

This research means to contribute to the knowledge of organizational culture in higher education institutions in three spheres: 1) broaden the knowledge of the relationship between culture and organizational culture in a Latin American country, with a cultural set up different from those in Europe or in the United States (Hofstede, 2001) which is where most of the research has been conducted; 2) increase the knowledge of the relationship between culture and organizational effectiveness in educational institutions, which naturally have "flexible structures"

(Weick, 1976) and lack concrete effectiveness indicators, a matter that makes effectiveness more complicated to evaluate; 3) contribute to the understanding of organizational culture and its relationship with effectiveness from the differentiation perspective.

RESEARCH DESIGN

The research methodology used was ethnographic since it is the most appropriate when it is necessary to know a group's culture and to describe their beliefs, language and behavior (Creswell, 2007). Specifically, an organizational ethnography was done because it focuses on discovering and explaining the ways in which people working under certain conditions understand, respond to, act and handle their everyday situations (Van Maanen, 1979).

The research was done over a period of twelve months in a Latin American higher education institution. The University attends over 12 thousand graduate students a year and has around seven hundred full-timers in staff (faculty, directors, and administrative staff among others) and over three hundred part-timers.

To select the informants it was necessary to first prove the existence of the subcultures within the institution. Therefore, all the members of the institution were invited to anonymously and electronically answer the Inventory of Educational Organizational Culture (ICOE) (Marcone and Martin del Buey, 2003). There was 33% of participation and the data were analyzed with the function of hierarchical clustering analysis of the SPSS program. This function allows to generate groups based on finding similar responses between one individual and another, which gives the opportunity to discover homogenous groups called clusters. To visualize the resulting groups of the analysis of conglomerates, a dendogram, -the graphic observation of clustering of individuals according to the similarity of their answers- was done. As shown in Figure 2 (Appendix), the University has a differentiated culture, appreciated because of the existence of two large groups or subcultures. Each group or subculture is integrated by two or more subcultures.

The clustering of individuals according to their similarity of responses allowed to identify the demographic and organizational characteristics of each subcultural group. Based on this information, members that met these characteristics were chosen to participate as informants of each one of the four most important cultural subgroups (Groups A, B, F, and S, as observed in the dendogram of Figure 2 (Appendix)). The importance of the cultural subgroup was determined by the number of members it comprised; the greater the number of members, the greater the importance. The criteria for choosing the informants were the following: activity they did most of their time, seniority in the institution, age, and academic background.

Seventeen people participated: four in each of Groups A, B and F and five people in Group S. Once the informants had been interviewed, and the interviews were transcribed and analyzed, it was possible to observe that the greatest differentiation among subcultures arose when the informants were grouped according to the activity or function they did most of the time. Since most of the members of the selected subcultures (A, B, F, and S) devoted most of their time to developing learning environments, teaching and tutoring students, and developing administrative processes, it was determined that the analysis would continue considering the subcultures according to function. These subcultures were denominated: Administrative, Faculty, and Learning Environments. To balance the number of informants by functional subculture, it was determined to interview more informants. In the second stage, six more people were interviewed, giving a total of 23 informants (seven in the Learning Environments Subculture, eight in the Faculty Subculture and eight in the Administrative Subculture).

Interviews: In the first stage, seventeen informants were interviewed, and six in the second stage. The interviews lasted between 25 and 45 minutes. Initially, the invitation to participate in the interview was done via email; however, because of lack of response, it was determined to invite them by phone. The interviews took place in a meeting room close to the place where the informant worked. It is worthwhile to mention that the interviewees were in different buildings or different stories of the same building. All interviews were recorded and later transcribed using pseudonyms to preserve confidentiality. In each session, the informants were explained the purpose of the research; they were asked for their authorization to be recorded, and they were assured about the confidentiality of the information provided.

Observation of participants. The identification of the subcultures allowed to focus the observation process on the subcultures themselves and among subcultures. The observation concentrated on knowing the indicators of institutional effectiveness identified by the informants as well as in the interpretation that the subgroups give them. This process took place in meetings and events in which the criteria of institutional effectiveness were shown and discussed as well as in events in which individual achievements were acknowledged. Both the relevant observations and the presentations used in some of the events were codified, analyzed and compared with the interviews and documentary information.

Documentary Information. Institutional documents and the WEB pages showing the institutional names and definitions of the effectiveness indicators were reviewed; the criteria and their evaluation periods as well as the historic record of the results obtained of such indicators were also studied.

Data Analysis: The data were analyzed in three stages: first, to confirm the existence of subcultures, to identify them, and to determine their demographic characteristics; second, to identify the effectiveness indicators recognized by each subculture; and third, to understand the interpretation the members of each subculture give to the institutional effectiveness indicators in order to determine similarities and differences. Throughout the analysis, certain patterns were detected based on which domains were generated; these were the base to find topics. All the analytical process was done with the data analysis software Atlas.ti, following the Spradley methodology (1979, 1980). The data analysis in the qualitative research is a continuous and progressive process; it is not a stage or an event done once (Erlandson, Harris, Skipen and Allen, 1993), which is the reason that the analysis was done over the data recollection and after it.

To confirm the obtained information with the data analysis, several verifying sources were used: triangulation, verification with the informant, validation with pairs and the researcher's reflexive log.

RESULTS

Based on the data analysis, it was possible to observe the following:

- 1) It was confirmed that the University has a differentiated culture, which can be appreciated in the dendogram of the cultural analysis as is presented in Figure 2 (Appendix).
- 2) The greatest differentiation among subcultures appeared when these form by function or activity.
- 3) The analyzed subcultures (Learning Environments, Faculty, and Administrative) identified 22 indicators in six groups: features that distinguish the institution, quality in the institution, evaluation of institution and its people, metrics used in the institution,

institution's prestige, and satisfaction of students, users and clients, as shown in Figure 3 (Appendix).

- 4) It was confirmed that the three analyzed subcultures shared a series of values, beliefs and interpretations, which reflected on the following two aspects: 1) the three subcultures identified 15 of the 22 indicators; and 2) the interpretation of 10 of the 22 indicators is similar in the three subcultures (Table 1 in the Appendix). Table 3 (Appendix) presents some quotations that illustrate the similarity in the interpretation of the indicator "number of students". This indicator refers to the number of new coming and regular students as well as to the growth in number of students the institution has had. As observed, it is from these comments by the three groups that one way of evaluating the institution's effectiveness is through the number of enrolled students and the growth the institution has had.
- 5) It was confirmed that there were underlying values in each cultural subgroup that made them acknowledge or not the institution's effectiveness indicators along with giving them different interpretations (Table 1 in the Appendix). Table 4 (Appendix) shows examples of the quotes that illustrate the difference in the interpretation of the "Quality in Service" indicator. This indicator refers to the service the student receives from the moment she/he enrolls up to graduation. In this, the processes of registration, quality, response time, attention and solution to problems, and availability of platforms and student services are included. By analyzing the comments it was possible to observe that the Faculty Subculture highlighted the orientation to service to students. It was also observed the relevance the Faculty Subculture gave to course design and teaching to provide quality service. In the case of the Administrative Subculture, quality service was one oriented to be supplied continuously. In contrast, for the Learning Environments subculture, service dealt more with the courses and with a product that have to be developed in time and with quality.

Based on the information presented in Table 1 (Appendix), it is possible to conclude that there are similarities and differences in the interpretation of indicators in the University. It is observed in Table 2 (Appendix) that the interpretation of 10 indicators is similar in three subcultures and 12 indicators present differences. From these indicators, seven are somewhat related to the institution's students (academic quality and service, admission requirements, drops and desertion, retention, follow up to the student over study period, and student satisfaction in regards to attention and service). It is also relevant that the two indicators related to the institution's economic matters (effective use of resources and income) present differences in interpretation. There is no consensus in the interpretation of the indicator Institutional and Departmental Goals and Objectives even when these indicators guide the institutions' actions. In regards to performance acknowledgement, it outstands that two subcultures recognize that an indicator to evaluate institutional effectiveness should be Acknowledgement to People's Performance; however, there was no consensus in the interpretation. Last, concerning the indicator of Statistics of Course Production, this is an indicator only recognized by the subculture of Learning Environments.

DISCUSSION

The results of the analysis highlight the following matters:

It is possible that the composition of the subcultures (A, B, F, and S) initially used might have been affected because the construction of the dendogram was done from the members of the organization that answered the cultural questionnaire (ICOE). The invitation to answer the questionnaire was sent to all the members of the institution (there was no sample selection) and 33% answered, which stood for an adequate percentage in terms of the selection of participants: however, it was not a representative sample. Besides, taking into account that those who answered had not been previously chosen, the sample might have been skewed, and thus the confirmation of the subcultures, too.

This research has empirically proven that in an organization with a differentiated culture the effectiveness indicators are interpreted in different ways by different subcultures. Taking into account that the educational institution was founded over 20 years ago, it is reasonable to consider that there are similarities because it is throughout time that the individuals acquire the values and behaviors that allow them to interpret in a similar way some indicators. However, even though the similarities that three subcultures proved to have, there is a series of indicators in which the groups present differences in both the identification of the indicators and in their interpretation. These results are in agreement with what Locke and Guglielmino (2006) found when studying the influence of subcultures in a planned change in a community college. They demonstrated that culture is the main factor for success in a change program. This is because each one of the cultural subgroups experiment and respond differently to a planned change. If the subcultures are recognized, it is possible to do a diagnosis of the relationships and conflicts that could exist among them (Martin, 2002).

The fact that there are differences in the interpretation of the effectiveness indicators in differentiated cultures allows to suppose that the way in which each subculture responds to achieve the indicator can be different; and thus, the achievement of the indicator could be affected. In this same sense, it is possible to consider that when a subculture differently interprets an indicator in regards to the rest of the subcultures, then the interpretation of how and which should be its contribution to the achievement of the indicator could not be clear and the work done could be an unexpected one. This becomes relevant in terms of the institution's effectiveness. Each subculture could work on achieving the indicator in function of a different interpretation, which could bring along the non-achievement of the effectiveness indicator at the institutional level. In the particular case of the university, the lack of consensus in the interpretation of the quality indicators (academic and service) could have as a consequence that the institution could be compromised and that would affect not only the quality indicator but also the indicators regarding number of students or the institution's prestige.

Nevertheless, it is possible to assume that in occasions the difference in interpretation of the indicator could affect the institution's effectiveness positively. The fact that the Faculty and the Administrative subcultures interpret the indicator "Quality Service" differently does not necessarily mean that the effectiveness in terms of the achievement of the indicator is affected negatively. It is possible to think that the Faculty subculture perceives that quality service is provided in what the student receives over the course, the follow up, and the attention the student receives from her/his professor. Moreover, the Administrative subculture considers that quality service is provided when the on-line service is ongoing, without interruptions. Consequently, if both groups achieve the indicator in the way they interpret it, then the institution's effectiveness

is affected positively because quality service broadens since both aspects are achieved. On the one hand, the student will receive good attention and follow up on behalf of the professor; on the other hand she/he receives on line services without interruptions. In summary, if all the cultural groups interpreted the indicator in the same way, only one of its aspects would be achieved.

Consequently, that different groups or subcultures worth different things can generate certain level of conflict within the institution. This could be something natural and maybe even convenient, since from conflict can arise solutions that lead an organization to be effective. Lewis, French and Steane (1997) mentioned that conflict is a healthy drive since it allows internal competition and invites organizations to action. However, high levels of conflict could bring along the non-achievement of certain effectiveness indicators.

The existence of differences in regards to acknowledgement and interpretation of the effectiveness indicators on the side of the three subcultures can have different explanations. One of them is that by integrating the subculture by the activity to which they devote most of their time, this grouping corresponds or agrees with the organizational area or division in a natural way. The occupation subcultures are generated from the learning of attitudes, norms and values that will eventually become part of the assumptions of all the members of such occupation. This is strengthened in meetings and in the work done by the team of people that does the same activity (Schein, 2004). The fact that the people of the same activity within the organization have formal and informal meetings allows them to learn the way to understand the effectiveness of the functions they do.

CONCLUSIONS

According to the research question -How are effectiveness indicators interpreted in an educational institution with a differentiated culture?- the main findings are as follows: the organizational culture of the University is differentiated; there are similarities and differences in the interpretation of the institution's effectiveness indicators; and there is greater differentiation in the interpretation when the subcultures are considered by function or activity developed by their members.

The fact that it is confirmed that the institution has a differentiated culture means that different groups or subcultures worth different things. Acknowledging these differences will give the educational leaders greater understanding of the values that underlie within the subcultures that make up the institution. This will allow them to define the right strategies and messages for each cultural group to contribute to generate a more effective educational institution. In defining these strategies, it is necessary that the leaders bear in mind that if all the members of the organization worth the same things, it is feasible to have more harmonious organizations; however, not necessarily more effective.

Future research will allow to study more in depth the knowledge of how these different interpretations generate conflict and how this affects or is related to the organizational effectiveness in educational institutions.

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APPENDIX

Figure 1. Effect of culture in the interpretation of effectiveness indicators

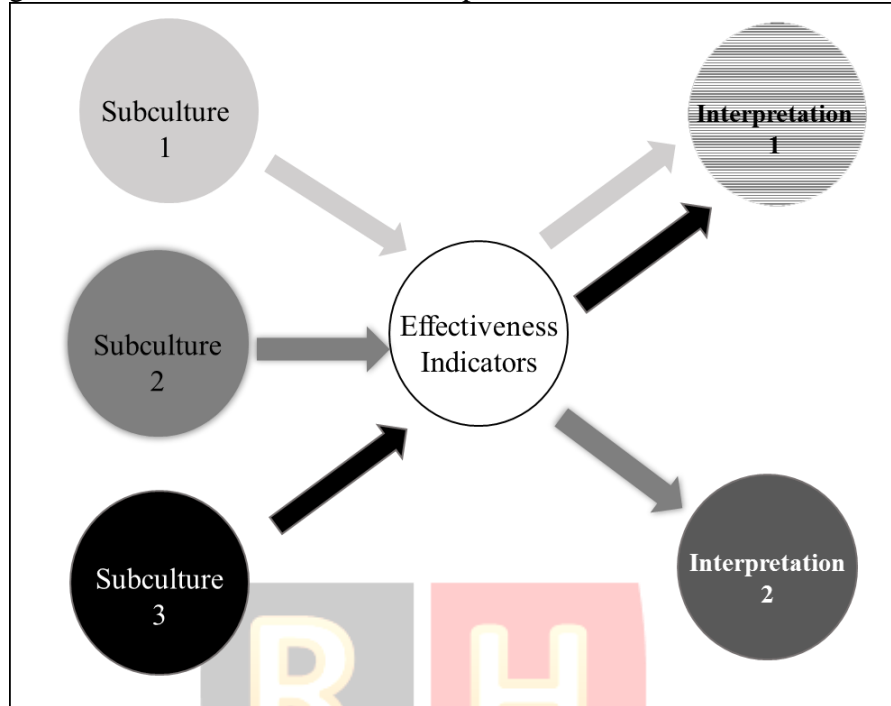


Figure 2. Dendrogram of the Cultural Analysis of the University

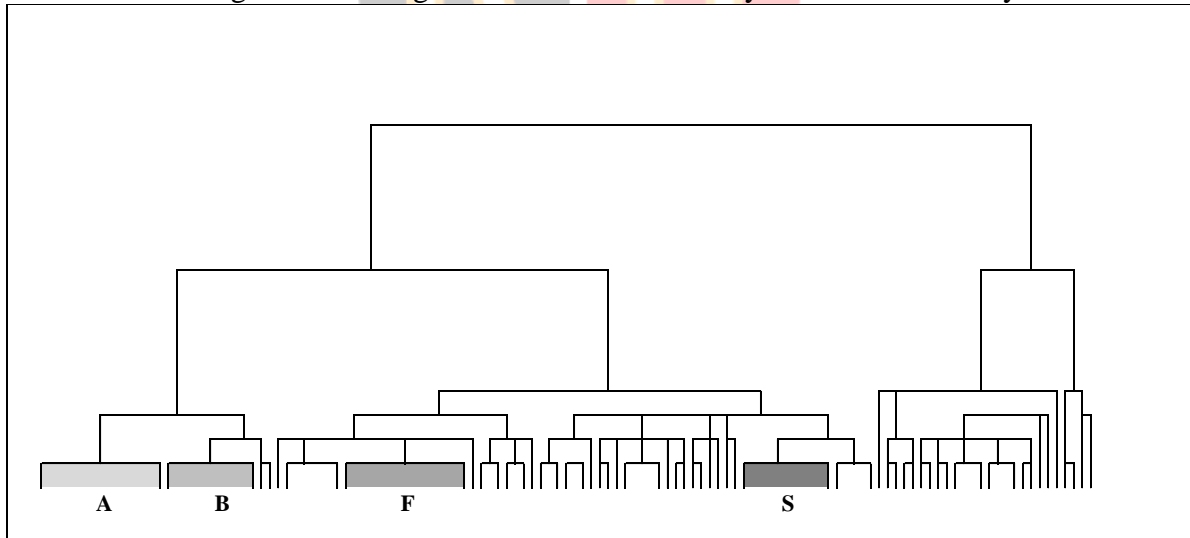


Figure 3. Effectiveness indicators identified by informants

Effectiveness Indicators	Institution's distinctive features	Innovation and Creativity
		Use of technology in education
	Institutional Quality	Academic quality
		Quality Service
		Compliance with admission requirements
	Evaluation of Institution and its people	Organizational Climate
		Definition and evaluation of personal objectives
		Institutional and departmental objectives and goals
		Acknowledgement of performance
	Metrics	Dropouts and desertion
		Retention
		Number of students
		Statistics of course production
		Efficient use of resources
		Income
	Institution's Presence and Acknowledgement	Certifications and accreditations
		Institution's experience
		Institution's prestige in the country and abroad
	Satisfaction of students, users and clients	Student satisfaction in regards to the service provided by faculty
		Student satisfaction in regard to attention and service
Student follow-up of over the period of studies		
Easiness to study in the University model.		

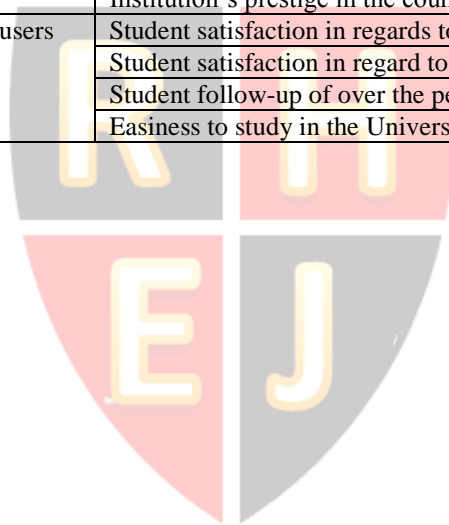


Table 1. Similarities and differences in the interpretation of indicators among cultural groups

Effectiveness Indicators	Subcultures by activity of function		
	Faculty	Administrative	Learning Environments
Institution's distinctive features			
Innovation and Creativity	C	C	C
Use of technology in education	C	C	C
Institutional Quality			
Academic quality	NC	NC	NC
Quality Service	NC	NC	NC
Compliance with admission requirements	NC	NI	NC
Evaluation of Institution and its people			
Organizational Climate	C	C	C
Definition and evaluation of personal objectives	C	C	C
Institutional and departmental objectives and goals	NC	NC	NC
Acknowledgement of performance	NC	NI	NC
Metrics			
Dropouts and desertion	NC	NC	NI
Retention	NC	NC	NI
Number of students	C	C	C
Statistics of course production	NI	NI	NC
Efficient use of resources	NC	NC	NC
Income	C	C	NI
Institution's Presence and Acknowledgement			
Certifications and accreditations	C	C	C
Institution's experience	C*	C*	C*
Institution's prestige in the country and abroad	C	C	C
Satisfaction of students, users and clients			
Student satisfaction in regards to the service provided by faculty	C	C	C
Student satisfaction in regards to attention and service	NC	NC	NC
Student follow-up over period of studies	C	C	NI
Easiness to study in the University model.	C	C	C

Note: C= Similar interpretation; NC= No consensus in interpretation; N = No consensus within the group; NI = No identification of indicator; * Consensus with small differences

Table 2. Indicators of effectiveness grouped by similarities and differences

Similarities	Differences
Innovation and Creativity	Academic quality
Use of technology in education	Quality Service
Organizational Climate	Compliance with admission requirements
Definition and evaluation of personal objectives	Institutional and departmental objectives and goals
Number of students	Acknowledgement of performance
Certifications and accreditations	Dropouts and desertion
Institution's experience	Retention
Institution's prestige in the country and abroad	Statistics of course production
Student satisfaction in regards to the service provided by faculty	Efficient use of resources
Easiness to study in the model	Income
	Student follow up of over the period of studies
	Student satisfaction in regards to attention and service

Table 3. Example of quotes that illustrate the similarity in interpretation of the indicator "Number of students"

Subculture	Illustrative Quotes
Faculty	Shakira: "To me, something that can somewhat measure effectiveness could be, for example, to see an <i>increase in students attended</i> ... the departmental meetings as well as the vice presidency office meetings include the figures of the department, of the university where the graduate studies are and the <i>growth</i> of graduate studies..."
Administrative	Angelica: "...in first place the important index is the <i>number of students we attend</i> ..."
Learning Environments	Sofia: "I understand that we have the institutional indicators of the University such as the quantitative, number of students..."

Table 4. Example of the quotes illustrating the differences in interpretation of the indicator “Quality Service”

Quality Service	
Subculture	Illustrative Quotes
Faculty	Irma: “Over the courses ... we can talk about the process of teaching and about the details which are taken care of until the end of the course, not only in the commitment shown by <i>professors</i> but also by the <i>designers</i> ... anything required to have a <i>good course</i> . In short...the quality with which one works and <i>reflects on what the student receives</i> or in the <i>service</i> provided to a client, and this is measured by means of opinion surveys, the service surveys administered by RNT. We also keep communication with the students twice during the quarter. The students are asked what they think of the subject, the professor... It is then when they talk about their perceptions, at the beginning [of the term]; and on week 7 or 8 we survey them again.”
Administrative	Sergio: “There is an annual percentage handled by IT (information technologies) about <i>availability</i> , for example.... an international standard that means that the <i>on line service is kept</i> , without interruptions and the margin of error is of 2%, which is also managed with suppliers. In fact the <i>service availability is an objective</i> we have... For example, the availability of servers, attending emergencies 24 hours, etc. Above all, it is to maintain the best possible service.
Learning Environments	Silvia: “We call those who require the projects we do for the area, see the <i>delivery time and quality in the delivery</i> ,... that it is what they required, that the initial need was met. And if we talk about <i>on line courses</i> that the <i>content was all covered</i> , that it works correctly without errors.