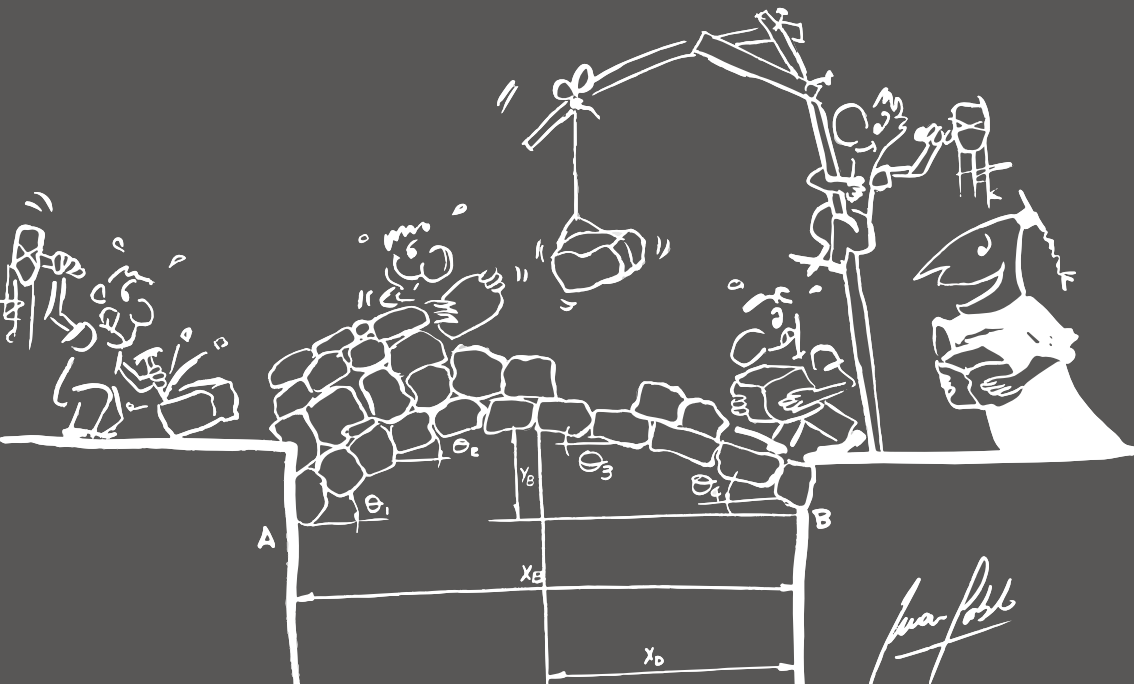Javier Herrán / Juan Pablo Salgado / José Juncosa,
Paola Carrera / Ángel Torres / Luis M. Romero / Bernardo Salgado

Fernando Solórzano
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# The university as a
# common pool resource

A set of resources, moral and cultural values from the Academic
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# THE UNIVERSITY AS A COMMON POOL RESOURCE

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ABYA YALA | UNIVERSIDAD POLITÉCNICA SALESIANA

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# Índice

# Preface

This book contains information from Universidad Politecnica Salesiana's Commons Research Group, created in 2016 to deepen as well as identify the implication and the possibilities of imagining the university as a "common pool resource"[1]. This alternative must be explained because the connection of the use of commons – as explained by Elinor Ostrom in her book *Governing the Commons. The evolution of institutions for Collective Action* (2011) – with the possibility of reconsidering the university in all areas is not immediate nor casual and, at first, such connection seems odd in a time when we value belonging based on evidence accessible at first sight.

In fact, what does a proposal which analyzes community and local government decision making methods regarding common resources have to do with university life? The aim of this preface is to answer this question and explain the connection that encourages and gives meaning to several contributions of this book. Each contribution deepens its derivations in the field of management, decision making and knowledge production.

Having chosen Ostrom, Nobel Prize winner in Economics in 2009 for her analysis of the economic governance of "commons" within a world context that threatens the main natural resources for

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1   The Commons Research Group was created after the resolution given by the Superior Council on September 20, 2017. It is coordinated by Fernando Solórzano and is made up by the University President, Javier Herran Gomez, Juan Pablo Salgado, Luis Tobar, Fernando Pesántez, José Juncosa, Germán Parra, Jeffrey Zúñiga, Bernardo Salgado, Santiago Serrano, Ángel Torres, Paola Carrera, Fausto Sáenz.

survival, does not only respond to previous theoretical or conceptual preferences. She was chosen due to very specific historical circumstances that provide Universidad Politecnica Salesiana (UPS) vitality and became the existential horizon where Ostrom's contribution gained relevance. We have always believed that these are the circumstances that provide our university the opportunity to look at itself from the outside, from other collective experiences and beyond its stakeholders and immediate referential frameworks.

The first circumstance to consider is the broad experience of the Salesian Mission in Ecuador regarding development in Andean communities, where the most relevant matter is the recognition of the community as a key agent of endogenous development and par excellence a place of legitimacy when deciding about common resources[2]. The experience of Andean community development is contiguous and is extended in the concern for local governments which also complemented teaching and research in our university regarding organizational and political challenges of governing with social and environmental sustainability.

The second relevant circumstance is the task of educating in Andean and Amazonian indigenous territories[3], where the most significant experience is that knowledge constitutes a common good of

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2     For an analysis of the history of the Andean Salesian mission in Ecuador see the section of Contribution to development and salesian inclusion, by José Enrique Juncosa, Lola Vázquez, Juan Fernando Regalado, Blas Garzón, Víctor Hugo Torres (coords.). 2014. La presencia salesiana en Ecuador. Perspectivas históricas y sociales (Ediciones Abya Yala/UPS, pp. 39-198).

3     Among other studies, for a more detailed historical vision of the contribution of the salesian mission to intercultural education see the section titled "Missions, indigenous communities and interculturality by Jose Enrique Juncosa, Lola Vázquez, Juan Fernando Regalado, Blas Garzón, Víctor Hugo Torres (coords.). 2014. The presence of salesians in Ecuador. Historical and social perspectives (Ediciones Abya Yala/UPS, pp. 557-718).

communities and nationalities as long as it helps generate participatory capabilities used for autonomy and self-government. Intercultural education permeates a big part of our university's academic life and has enabled the assessment of the value of the community as a benchmark of belonging as well as agreements and accountabilities. We have learned that education is not a self-directed and regulated offer from who offers it, but it is in relation with the community because something of "its property" is at stake: collective existence based on knowledge.

We believe these experiences explain our empathy with Ostrom's view of economic policy (or economic politics), whose contribution we have clearly differentiated from other possible theoretical frameworks. Both scenarios, development and intercultural education, invite the university to recognize itself as a community, a group who belong to each other and ascribe themselves territorialities and belongings of several types (geography, symbolic, epistemic…); endowed with the capacity to establish networks of joint responsibility regarding resources of common use that it creates, re-creates, takes care of and cultivates. The commons, which are provided and appropriated, generate a double image of members of a community, as appropriators and suppliers of resources.

Thus, contributions open the possibility of specifying and replacing Ostrom's generic analytical category, institutions of collective action, for *community,* which is still problematic because it deals with two discontinuous and heterogeneous sociological instances. In fact, the institution does not cover or explain everything that happens in the community, nor does everything that happens in the institution comply with community logic. But we are sure that the community is a more determining reality and a deeper reference to consider the forms of university collective action. This specification offers a rich and suggestive line of thought but, beyond the pending task. It suggests routes of analysis of the provision circuits and appropriation regarding the

use of common pool resources beyond the contractual and procedural games between stakeholders, a perspective in which the author situates herself either to make it more complex or to transcend it (Ostrom 2011, p. 97-98). Therefore, while it is true that our articles take Ostrom's contribution as a starting point, they do not seek to be a critical or illustrative comment of her assumptions, nor does Ostrom´s contribution limit the articles to exploring and discussing with other views fed by the intuition provided by the circumstances mentioned above.

Our preference for community should also be explained distinctively with respect to others that use the term *common* or *the commons* to mean a citizenship perspective that demands a government's political system capable of ensuring access to knowledge for citizens as a common pool resource from higher education. This other perspective, presented in Rene Ramirez's book (2014), has to do with the public policy of transforming the university system so it can be at the service of a non-capitalist economy based on cognitive bio politics. Nevertheless, it is a contextual benchmark that should be taken into account despite the recent political reorientation in the field of higher education.

Public policies have generated an emptiness regarding the ownership of the university when it is not public, in other words when it is private. The questions regarding this issue explain, in part, the approximation to Ostrom's perspective which is considered relevant not only to imagine the university in relation to the use of its common resources but also to regard itself as a common good, from the sense of belonging of the university community. This explains the explanatory nature and the concentration of elements in the subtitle at the risk of appearing excessive. We rather chose to leave aside the conciseness so as to not blur the central intuition of the book because, in effect, when we refer to the university as a common, we clearly refer to the *set of resources, moral and cultural values that belong to the Academic Community of Universidad Politecnica Salesiana(UPS).*

Another contextual element where the joint work has taken place is the business that the Salesian Society has recently begun and which seeks a worldwide connection of its higher education institutions through academic, financial and global management policies according to a preferential approach towards the poorest people, considering the differences in type, size, complexity and scope of the institutions that can be found in almost all continents. This emerging reality has a special impact on Latin America, where Salesian universities are relatively newer, more numerous and larger in scale. In this context, there is greater awareness about the fact that Salesian universities do not regard themselves as companies nor as public institutions, but as Catholic institutions. Therefore, this book traces clues to search for ways of collective action based on joint responsibility and participation, two characteristic features of Salesian style decision-making, without obscuring the differentiated roles

The first article, "The Catholic University: a resource of common use. Implications for management, governance and university autonomy ", written Javier Herrán Gómez, encompasses reflection regarding the central argument and presents the catholic university as a resource of common use by relating and contrasting the terms "public good" and "common good". Both terms are diverse and independent realities when it comes to management and the perception of stakeholders. Catholic universities –and therefore Universidad Politecnica Salesiana– are addressed as a good or a set of resources of common ownership that respond to the interests of a specific community in a renewable and sustainable circuit of appropriation and provision. Its position is critical regarding the co-government regulations established by the Organic Law of Higher Education (2010) and establishes the limits of co-government because it does not have an external authority that guarantees credible commitments in decision-making. Therefore, it advocates an external authority that regulates, together with the forms of co-government, the private interests at stake in

terms of the identity and institutional mission of catholic universities. Its position is also critical regarding the excessive power of the State in making decisions that decrease the autonomy to self-regulate the institutional mission. The second part of the article is on university autonomy, it warns about its complexity and it must be understood in such a way that it does not blur or distort the foundational act nor the constitutive aims of the university while the different entities contribute collaboratively to sustain them and supply them.

The second article, "Bases for the organization of the university-common good", written by Juan Pablo Salgado and José Enrique Juncosa, presents the organizational features of the university-common good by combining Ostrom's view with the vision of the ecosystem organization inspired in Morin's theory of complexity. It describes the organizational guidelines of Universidad Politénica Salesiana according to a system that proceeds from the bottom up, according to which the norm (the order) expresses a posteriori life and decisions discussed in a continuous and unfinished cycle chaos-order. Both authors agree with the communicative theory of Habermas based on the relationship between the lifeworld and the system, questioning the formality of the consensus based on an ideal and abstract subject. Finally, the article contrastively describes the general theory of Luhmann's systems, which inspires the organizational language and that of public policies based on the articulation of systems and subsystems, proposing the opposite organizational model, from top to bottom, that denies the dynamics of life and based on communication as a limitation.

The third article, "Knowledge as the common good in Universidad Politécnica Salesiana", by Juan Pablo Salgado, Fernando Solórzano and Paola Carrera Hidalgo, describes the features of a knowledge and information society that requires a culture of innovation, research and considers citizens as learning partners. It develops two dynamics from the Salesian perspective: production of knowledge from an aca-

demic community that conducts research; and civic education, which includes research into the growth processes of the critical, reflective and committed attitude. Knowledge as a common good does not end in discussions about open access; it also implies understanding it as a result of the collectively oriented effort: we produce knowledge that is related not only to what society requires but also to what the University requires in terms of its mission and identity.

The fourth and final article, "Adapting the Common Good matrix indicators to the university context", by Ángel Torres Toukoumidis, Juan Pablo Salgado, Luis Miguel Romero and Bernardo Salgado, is an exploratory analysis of seventeen indicators of a matrix that expresses the direction of institutions towards the common good and apply it to the reality of Universidad Politécnica Salesiana (UPS). Some of the indicators where UPS did best are transparency and participatory nature in decision-making, solidarity, social orientation of services and community engagement.

To conclude this preface, we claim that this book is not, by far, the last word regarding the reflection of Universidad Politecnica Salesiana – common good, from the salesian option. It is only the first of many pending reflections and, perhaps, there lies its value: opening the path to discussion and quest in a moment of openness and transformation that forces us to consider the possibility of a university, Universidad Politecnica Salesiana, to be different, even if it is from the emptiness of public policies, from the insufficient character of our decision making practices, or from the quest of new ways that better express the academic community.

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# Catholic universities: a resource of common use. Definitions and implications for autonomy and shared decision making

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## Introduction

Our concern for the topic under study emerged from changes in Higher Education in Ecuador brought about with the Organic Law of Higher Education (LOES, 2010) and regulations and reforms further this Law. The Organic Law of Higher Education regulates both state and private universities, but the state manages private universities in such a way that makes it difficult to consider them private since the application of traditional private rights are out of order. In this regard, the questions of how to define and what concept should be applied to catholic universities that respond to the mission of the church and have no other interests other than the university's objectives arises.

Ostrom's studies (2015) on common goods present the multiple and diverse reality with successes and failures, but always human, possible and unpredictable. It opens expectations and challenges that enable a private university to be considered a common good. Fo-

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1    President of Universidad Politécnica Salesiana del Ecuador. Educator and PhD by Universidad Politécnica de Madrid. Expert in the development of Andean communities.

llowing the path traced by Ostrom, the first part of this article refers to Catholic Universities which are considered a common good of citizens that make up the university community and its implications.

From the perspective of catholic university-common good, the second part reflects on and deepens the relationship between university autonomy and objectives of the university demanded by the external creating body; that way the scope of the co-government is restructured. Without ignoring the effort of designing the 2035 Agenda for Higher Education in Ecuador, it is necessary to investigate university management models that respond to the challenges of the Ecuadorian private university created with the sponsorship and promotion of the Diocesan Church or of Religious Orders, universities that respond to a Christian vision of the world and with social responsibility.

The original relationship of these private universities with their promoter institutions has been marginalized by the Organic Law of Higher Education approved in 2010. To agree on a future agenda, it is necessary to reflect on the present conditions and what mechanisms are viable to ensure the permanence of the original relationship.

The Organic Law of Higher Education presents the criteria of governance of both public and private universities, in the application of mechanisms to select officials under the criteria of representative democracy and balance of groups. The Law indicates the model of university governance and does not consider the practice of autonomy so that universities are able to apply their own government model which corresponds to their institutional culture and creates the conditions necessary to fulfill its mission and vision.

# Universidad Politecnica Salesiana as a Common Pool Resource (CPR)

## Goods and resources of common use

To apply the concept of common good to catholic universities it is necessary to specify the unique sense this expression is used in. Therefore, it is appropriate to contrast it with other common concepts given to the term common good and which is not identified with the public good.

In ordinary expression, the terms *public good* and *common good* are usually applied interchangeably. So when referring to a good that is clearly not private or cooperative, it can be identified as a public good or a common good. The following information is intended to explain that they are two different concepts that respond to different realities and are managed independently.

## Public good

A public good, from a legal point of view, is one that belongs to or is provided by the State at any level through all the bodies that are part of the public sector. In economics a definition that corresponds to the generally accepted sense of public good is that of a good that is available to all and where use by one person does not reduce the availability to others (Ostrom, 2015). That is, a good that is produced is available to everyone if all the requirements demanded by the institution that provides the service are met. A public good is non-exclusive when it is not possible to prevent someone who has not paid for it to consume it, and exclusive when an individual can be prevented from consuming the good if he or she has not paid for it.

## Common good

The term common good is used to describe a good which a community has access to and is looked after with certain normativity and organization.

The talk on commons, after all, is a talk about a better quality of life. […] That is to say, it is not only about rights, but also about responsibilities and social relations of giving and taking (Helfrich, 2008, p. 23).

For Ulrich (2008), *commons* has ceased to be a term that homogenizes "the common" to show the commonplace points of what "is intended to be strengthened or created" (p. 303).

Therefore, it is important to claim that these resources can only be used in a way that makes sense to society, if access to them remains open. Responsible management of social goods is aimed at ensuring the existence, stability and resilience of resources and systems, as well as to ensure fair access, use and distribution for all human beings (Ulrich, 2008, p. 304).

## Common pool resource (CPR)

Ostrom is considered one of the most prominent scholars in the area of shared resources or commons, with respect to how human beings interact in order to maintain long-term production levels of common resources, such as forests, hydrological resources, including fishing and irrigation systems, grassland areas, etc.

Ostrom (2015) has studied how different societies have developed institutional forms in which communities have instituted communal practices that have enabled the preservation of common resources and avoided the degradation of the environment.

The plural of a common good (common goods) is also known as *common property resources* or *common goods* that include not only material goods (land, mines, forests, etc.) but also systems –for example, a system of irrigation or computer network– that make it difficult but not impossible to exclude users (real or potential) from using them or benefiting from their use.

In her work Ostrom demonstrates the strength of the economics of the common good –Common Pool Resource– (CPR), when it is managed with rules that promote positive results. Because of the negative image given to the economy of the common good by traditional economy (Hardin, 2005), Ostrom prefers to call it the Common Pool Resource (CPR), so the distinction with the public good and the common good is more evident.

Therefore, the distinction between public good and a CPR is not trivial. A person who supplies a pure public good does not really care who else uses it, or when and where, as long as a sufficient number of other individuals share the cost of the supply. A person who supplies a CPR cares much more how many people use it, when and where, even if others contribute to its supply (Ostrom, 2015, p. 81).

Ostrom's experience in multiple case studies allows her to give an institutional perspective for self-organization and self-government in the cases of a common good.

## Catholic Universities as a common pool resource (CPR)

Catholic universities today do not respond to the traditional practice of university institutions conceptualized as private. Giving a creative identity to catholic universities, in homogenizing legal contexts and also those that impose logics of the State, requires opting for innovative concepts that have given successful answers in other areas of society identified as common goods.

A Catholic University is defined as a "disinterested form of service that *proclaims the meaning of truth*, a fundamental value need to maintain freedom, justice and dignity of man" (John Paul II, 1990, num. 4). In the Apostolic Constitution Ex corde Ecclesiae, it is stated that the catholic university is the concern of "[...] an academic community, which in a rigorous and critical manner, contributes to the protection and development of human dignity [...]" (num. 12).

A Catholic university is a good that responds to the interest of a specific community, the university community, and can be included as a common good in the category of systems with the power to exclude users and determine how many use it, when and where, and how they contribute to their supply (Ostrom, 2015). Catholic Universities are not a public good, nor a common good of general and non-exclusive use, but an exclusive good that users respond to under certain rules and conditions. Nor is it a good that is freely available to those who at some historical moment make up the university community, since "it is linked to the Church or through the formal or statutory link, or under an institutional commitment assumed by its leaders" (John Paul II, 1990, article 2 lit. 2). This connection gives rise to special characteristics that are specified in the aforementioned Apostolic Constitution:

> Affirming itself as a University, every catholic university maintains a connection with the Church which is essential for its institutional identity. As such, it participates more directly in the life of the particular Church where it is located, but at the same time, –as it is incorporated as an academic institution into the international community of knowledge and research– it participates and contributes to the life of the universal Church, therefore, it assumes a particular bond with the Holy See for the service of unity, which it is called to fulfill in favor of the whole Church. The result of this close relationship with the Church is the fidelity of the University, as an *institution*, to the Christian message, and the recognition and adherence to the Magisterial Authority of the Church in matters of faith and morals.

Catholic members of the university community are also called to have a personal fidelity to the Church, and everything it encompasses. Respect to the Catholic nature of the institution where they render their service is expected from non-Catholic members, while the University, in turn, must respect their religious freedom (John Paul II, 1990, num. 27).

The works of Ostrom and her emphasis on the multivariate nature of the interaction between humans and a given Common Pool Resource (CPR) as well as search to create a general formal system that allows us to identify and study the elements or variables that influence the possibility of self-organization, self-government and sustainability of a CPR, lead to indicate that a certain university can be considered a CPR since it responds to the university community with rules that formalize the satisfaction of the interests of the members of the university community and of third parties related to the university, as is the case of the Church in the sense of the previous citation.

*The university community is made up of appropriators and suppliers of the CPR catholic university*

The 21st century university moves in very different terms to those of the last century, it is a reality that requires a conceptual innovation of its understanding (Mayorga, 1999). In this university, governance emerges as a consequence of a clear distribution of power in collegiate bodies and individual authorities. Each university will achieve governance with means that are appropriate to its reality. The form a public university is structured can be the worst way to achieve governance in a private university, or the form of structuring collegiate bodies in a small university does not respond to the organizational needs of a large university.

In this regard, catholic universities need to innovate its management model and move from the emphasis on a private proper-

ty model, since its creation, to a social model that recognizes the original connection and the interest of the university community. Catholic universities are a complex reality, but they have become more complex than necessary for trying to endow it a democratic, participatory and collegial government which is independent from the parties that intervened in its creation. On this subject, a university government system similar to that of a community that manages a CPR ensures representative democracy in a catholic university and strengthens its institutional identity with self-government and capacity for self-organization based on the group of appropriators-providers that make up the university community.

All members of the university community have an interest in using something offered by the university: a degree, salary, prestige, knowledge, profession, etc. And everyone must also provide something for the university to sustain itself: economic resources, work, etc.

Therefore, the university as a CPR considers that the appropriators-providers are all the members of the university community because they all have interests in the university and interact in order to maintain the long-term quality levels of the university. For this reason, the university community assumes practices that allow the preservation and improvement of the university as a CPR.

Ostrom (2015) recognizes that: "The organization of appropriators for collective action is, in general, an uncertain and complex task" (p. 82). She emphasizes the knowledge that appropriators should have about the institution in order to strengthen it: "The decisions and actions of the appropriators [...] depend on the way in which they know, consider and evaluate the costs and benefits of their actions, as well as their perception of this linkage"(p. 82).

Describing the entire process with objective, observable variables, is the responsibility of the regulations the university creates and the culture of governance.

## *The CPR catholic university is renewable and sustainable*

One of the strongest arguments to affirm the end of the common good is to consider that the interests of the appropriators are exclusionary and therefore the war of interests will end up destroying the common good in favor of individual property.

Hardin (2005) declares the end of common goods because he considers that they are not capable of renewing and that they fail because they do not respond to the individual interest which is the driving force of production and the economy.

But if the CPR catholic university is managed under normal ethical conditions and with agreed administrative criteria, the usufruct of many resources of the university is extended indefinitely, since a positive feedback system is established in the academic quality that summons students and students ensure the interests of professors, administrators and service staff. The university manages to be a common pool resource that becomes a renewable resource. In addition, the incentive system for collective results and assessment of individual actions in a Catholic University can be analyzed from this perspective. As Ostrom (2015, p. 91) says: "The change of positive and negative incentives associated with particular actions and results, together with the levels and the type of information available, can also stimulate the coordination of activities".

The interest of each member of the university community is to appropriate what the university offers and responds to their interest, and therefore they agree to supply the university for its sustainability and renewal; maintaining the interest of the members of the community is essential to ensure the sustainability and renewal capacity of the university; the threat of prioritizing individual interests over the common weakens the balance between appropriation and provision and opens the way to the privatization of use.

*The external authority and its function of ensuring the sustainability of the CPR catholic university*

Catholic universities have a reference framework that places it among institutions of the private sector. However, the co-government, as regulated by the Organic Law of Higher Education, calls into question the possibility of exercising external authority that ensures institutional identification and the fulfillment of its mission and vision.

In the university, as a common good, it is the existence of the authority which is external to the group of appropriators and suppliers that ensures the fulfillment of the mission and vision. Ostrom has found the task of monitoring and assurance in the management of numerous CPR under the structure of Boards, Delegates of Local Organisms, etc. (Ostrom, 2015). Self-regulation that ensures the sustainability and fulfillment of the mission statement requires standards previously accepted by the appropriators and the suppliers, compliance is supervised by the external authority. "Without monitoring there are no credible commitments; without credible commitments there is no reason to propose new rules "(Ostrom, 2015, p. 100).

> We should not speak of a *rule* unless most people, whose strategies are affected, know of its existence and assume that others supervise their behavior and sanction noncompliance. [...] the rules in force are common knowledge, they are monitored and applied (Ostrom, 2015, p. 109).

The external authority acts as a regulator of private interests in the face of the management of the common. The collective appropriator of the common good requires the development of satisfactory agreements and regulations to cover individual interests in the management of the common, the external authority intervenes to regulate these individual interests without affecting the CPR.

In catholic universities, managed as a CPR, the external authority is formed in the connection with the founding institution, be it Religious Congregation, Episcopal Conference or Diocese.

## Catholic universities and their management as a CPR

The reason for suggesting certain structures and management processes of catholic universities is because of the capability of this university to satisfy the university community within the referential frame stated by the Law.

Ecuadorian catholic universities feel the excessive intervention of the State, which regulates the management of universities under co-government, and leaves aside the responsibilities that arise from the foundational link between the university and the founding institution. The legal marginalization of the founding institution of a university, creates dissatisfaction and places catholic universities in an atypical situation. The proposal of managing catholic universities following the model applied in the common use goods creates conditions of sustainability and assurance of the institutional identity and its mission.

At the government level, a catholic university that is managed as a CPR is regulated by an academic authority, formed with a self-government and the external authority of the founding institution that evaluates the self-government within the framework of the institutional identity and mission. The statute of Catholic universities must include both the connection and the agreements of rights and obligations between the academic community and the founding institution.

The governance of a common pool resource (CPR) requires a participatory and responsible culture of all the community members; in a catholic university participation is achieved through representation by election and participation by nomination of office. With the participation of the university community, operating standards are formulated which then receive the acceptance and consensus of the community, thus establishing mechanisms that subordinate individual and diverse interests to the identical interest of the people who

make up the group that appropriates the common good. The external authority controls that the individual interest does not privatize the common interest. It has the capacity to intervene in favor of the common interest of the university.

## University autonomy and university government

### *University autonomy*

Public universities, and to a lesser extent private ones, have made "university autonomy" the fundamental pillar of the university. However, the agents of university life explain in a different manner what is meant by autonomy and its scope in university government. UNESCO[2] affirms that higher education establishments should "enjoy full academic freedom and autonomy, conceived as a set of rights and obligations, and at the same time are fully responsible with society by rendering accounts". Truth is there is no consensus in enumerating that set of rights and duties which consist of academic freedom and university autonomy.

As Ferrada said (2001):

It seems there is no discussion about the importance of university autonomy for the development of higher education in any political system, considering it as a fundamental principle that explains the subsistence of the university institution along almost nine centuries (p. 60). Hoareau, Ritzen & Marconi (2012, cited by Cardiel & Gómez, 2014), analyzed the relationship between university policies, the performance of universities and, later, the country's economy. They concluded that: The results of their study indicate that university autonomy is a determinant of educational quality, more influential than public fun-

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2    UNESCO, World Declaration on Higher Education for the XXI Century: Vision y Action 1998.

ding. This suggests that quality education is not only achievable by countries that make a significant effort in the financing of higher education. In particular, the study reveals that university autonomy translates into relatively high levels of graduation and employment. Likewise, management capacity and autonomy influence the productivity of research (p. 20).

## Historical references on university autonomy

Authors present university autonomy in different ways as a result of various historical and social contingencies. The numerous meanings of university autonomy means it is concept that is socially constructed (Ferrada, 2001). A brief review of its historical structure facilitates its current understanding and contextualization.

The first universities emerged surrounded by privileges and concessions that gave the university institution a character of autonomy with respect to the obligations of other citizens. Civil and ecclesiastical authorities endowed the members of the university corporation with a unique status, so as Ferrada (2001) says: "If we look for the origin of university autonomy, we will come to the conclusion that it arises, in broad terms, with the foundation of the first universities "(p. 64). This model of university autonomy was developed in Latin American universities in the time of the Colony, they were created following the model of Salamanca with royal as well as the Pope's protection.

At the beginning of the new American republics the university gives way to its State character and assumes the Napoleonic model. Professors are assured complete freedom to express opinions or doctrines about the subject they teach. However, the economic dependence of the State is deepened. There was a rupture with the medieval model and the State assumed preeminence in university decisions. Politics and university autonomy failed to add wills:

From the university movement of the Reform of 1918 until the mid-1990s, successive democratic and de facto governments failed to deepen the relationship between the university and the state in terms of autonomy, nor were they able to establish distinctions within this complex attribute. [...] Rather, autonomy was always a condition observed by the university and sometimes subjugated by political power (Plencovich et al., 2015, p. 77)

Transformations of the 20th century driven by the phenomena of the university's massiveness and the consequent financial problems affected quality and autonomy, "the period of an institutional autonomy conditioned by the level of academic performance of the different university missions began" (Plencovich et al., 2015, p. 75).

New contexts seem to require models of university autonomy based on recognizing the university as a "public corporation" endowed with full legal capacity, as well as the university as a "community of culture" with professors and students that complement their efforts for the good of the nation, where the State must recognize the university's right to organize itself freely.

*Scope of the concept of university autonomy*

There is no single way of understanding the concept of autonomy, but reference is always made to the university's right to govern itself in accordance to its own statutes. It is here that university autonomy is specified and understood in its regularization of academy and administration. There is still the original thought of autonomy as the enjoyment of privileges that exonerated the university from ordinary legislation for society, today this tradition is limited to anything that does not violate the national legal order.

Palma (1983 cited by Ferrada, 2001) defines autonomy in relation to the aim of the university and therefore describes it "as a

formula foreseen by the constituent as a guarantee of the freedom of education" (p. 63).

The concept of university autonomy is diverse even in countries with similar traditions. Plencovich et al. (2015) have studied this concept in Argentina, Brazil and Mexico and conclude that:

> There are basic coincidences in the analyzed indicators which leads to believe that there are some essential elements of university autonomy that are resilient to relocations and constitute the hard core of the concept: a relatively autonomous government, a discreet freedom of teaching, a certain democratization of the right to learn (p. 84).

Public universities in Latin America have come a long way in what for some is a conquest of autonomy and for others a condition of vulnerability subject to the vagaries of politics, but always seeking the democratization of higher education and achieving objective goals, although with different applications of university autonomy.

The consensus of university autonomy refers to a condition of the university government to guarantee the freedom of education, a necessary condition for the proper exercise of its functions; but also the connection between university autonomy and regulatory power of government gives way to key elements that make up university self-government that in addition to academic freedom and critical freedom, seeks institutional relations without coercion, especially from the government. Ferrada (2001) contributes, through his legal thought, to typify autonomy according to the powers that the university achieves to concretize its government, if it implies an independent exercise of power or is a normative capacity for its own function, in any case there is the reminder of " as long as it does not violate the legal norms and regulations in force "(p. 77).

Hence, university autonomy is presented as the guardianship of academic freedom and constitutes a necessary condition for the

appropriate performance of its functions. The exercise of university autonomy is concretized in independence with respect to the economic, political, religious and union powers. University autonomy is a condition for universities to serve society in the form of scientific criticism and non-mediated analysis of what happens in it, and the deontology of the use of scientific and technological knowledge.

The Ecuadorian Organic Law of Higher Education (LOES for its acronym in Spanish) introduces the term *responsible autonomy* that should rather be read as responsible university government in the exercise of university autonomy, but in this case as in many others, it is the same law that marks the scope of autonomy.

In the face of this tendency to interpret and regulate university autonomy from the law, which leaves aside a whole history of privileges and self-regulation of universities, it is the academic community that is constituted as the creator of a new model of university autonomy understood as academic freedom to seek the truth and self-government as a consensus of coexistence and common will to create the university's identity.

## *University government*

The complex and diverse application of university autonomy has been concretized in the forms of government that have controlled universities. In Latin America, the search for formulas for university government has been marked by proposals for democratization in order to achieve greater participation of students and professors. The origin dates back to 1918 in the University of Cordova which "at that time [...] it had very elitist characteristics with strong religious influence, which was opposed, according to the students' opinion, to the new times" (Cifuentes, 2014, p. 5). This rupture occurs in the face of dissatisfaction with the medieval university, which as Plencovich et al. (2015) said:

[...] it emerged as a form of collegiate self-government, controlled by lifetime professors or by students, according to their foundational matrix. It constituted a system of horizontal, heterogeneous and decentralized organization, which was based on the suitability of the faculty.

This autonomy was translated into the ability of being governed by professors.

This political and social autonomy was encouraged by economic self-sufficiency, since the resources that were generated derived from tuition payments, graduation waivers and *collectae*, sums students were required to provide once or twice a year to pay the beadles, proctors and professors, and to cover certain ordinary expenses of the university. The university operated through private charity and was linked to the Church, although it did not strictly belong to it (p. 73).

By introducing the model of political democracy in the university, the State assumed the role of legislating the university. The power of medieval self-government of university professors as well as the involvement of professors with the institutions that created the universities disappeared.

## The State as the agent that determines the university government

The university is a complex reality, but it has become even more complex than necessary for trying to give it a supposedly democratic, participatory and collegiate government. In this regard, the temptation of a government system almost of a political community can ensure representative democracy, but the university is more than a political entity; there is no less temptation to give it a business government (Arocena & Sutz, 2001, Kehm, 2012), it would surely make it more efficient, but the university is more than a commercial enterprise, in any case it would be a company of knowledge.

The university government has unipersonal and collegiate bodies, some are formed by choice and others by right. How many, how and with what rights and obligations the university bodies operate with, is a fundamental task of the statute. It is in this normative body where the university identifies and organizes itself to fulfill its mission. At present, the statute responds to new laws of higher education that understand autonomy as an expression of self-government under general norms that articulate the State's development policies with universities. The constitutional normative structure defines and guarantees the academic, administrative, financial and organic autonomy of universities. This new style of legislation looks strongly and clearly at the dynamics of the control of power and seeks to create a university government regulated by the State.

University autonomy stops being an exceptional, distinct and privileged form of self-government of groups that work together [collectively] such as professors and students, to become a special form of institutional government under the rule and regulation of the State (Arocena & Sutz, 2001; Kehm, 2012). In Ecuador, the Organic Law of Higher Education (LOES for its acronym in Spanish) reduces the importance and the historical sense of the university and simply considers it an institution of public service similar to others created by the State.

### Institutions that created universities

When creating the first universities, there was the presence of a structure that recognized, validated, supported, and set the physical and administrative conditions for a group of people who had been acting in society as teachers and who have a group of followers or students to whom they teach their doctrines, they are open to the confrontation that is generated in the search for truth. In this regard, over the years kings and bishops granted universities a whole series

of privileges so they could be free from the limitations applied by power in any of its expressions. In return, they should serve society by illuminating its path, solving its physical problems and teaching youth the doctrine of good and perfect man (Arocena & Sutz, 2001).

The external forces that have contributed to giving numerous universities life throughout history, have been influencing their government one way or another, but in recent times they have been replaced by the regulatory and controlling role of state agencies. The structure of these institutions has had more or less representation in the various collegiate bodies of the universities that they have helped to create. The structure of the university board has been present in many universities and for many years in the configuration of the unipersonal bodies of the sponsored universities.

According to Cifuentes (2014): "The University Board is a collegial authority, made up of people who are external to the university policy, called employers" (p. 2). This structure contributes to fulfilling the aims of the university by providing support and services to officials and university offices for their adequate administrative, financial and accounting operations as well as the proper management of their human and material resources, and the proper use of the movable and immovable assets. It can be organized freely, as long as it is not contrary to what is stated in the law, but granting freedom for its integration. The university board, as a promoter, recovers the founding act and helps complete the legal identity of private universities which are first founded (board, promoter) and then created by the State.

In recent times, sponsoring institutions and promoters of universities have experienced many changes in the process of democratization of their governments and the intervention and regulatory nature that states have been exercising in Latin American universities. However, in the United States large and small universities are supervised by boards or entities of similar legal status; they are non-

profit institutions that act to guide and supervise the management of the university, which they have generally created. They are similar to North American boards of directors and have a similar hierarchical structure with the same legal status (Hermalin & Weisbach, 2001).

The presence of sponsoring institutions and subsequent boards in North American and European universities, as well as the efficiency and quality of the universities that carry out this model of government that support the university, demonstrates the success of the model.

This model of corporation or board of directors is a successful model in large universities such as Harvard and Yale which have the oldest boards of directors (Hermalin & Weisbach, 2001). It is a model that over time has been subject to evaluations which consider the performance indicators of the board as a set of interrelated dimensions where a change in one dimension affects others; performance problems of the board are diagnosed and then adequate improvement plans are proposed (Sajadi et al., 2014). In Europe: "New models of government redistribute responsibilities and the power to make decisions between external and internal agents" (García & Aller, 2014, p. 21). The same authors state that:

> [...] the advice of supervisors or "administration councils" mainly made up by "lay members" (external people with prestige in the community) are increasingly frequent. These supervisory councils have the task of making the general public more aware of the institutional processes (p. 23).

### University governance and autonomy

What strongly emerges in the 21st century University is the achievement of constructive governance as a result of a clear distribution of power in collegiate bodies and individual officials; for the 21st century university, the construction of a culture of responsibilities is more important than the distribution of executive functions;

culture occurs in a specific community (Kehm, 2012). Each university will achieve governance with means that are appropriate to its reality; the way a public university is structured may be the worst way to achieve governance in a private university, or the way of structuring collegiate bodies in a small university does not respond to the organizational needs of a large university. Arocena & Sutz (2001) talk about "ascending stratification of coordinating bodies, oriented to forming a systemic governance that feeds on the interests of the base of university configuration" (pg. 142).

In recent years there have been many experiences of governance being applied in recognized private and public universities where governance is not achieved with the criteria of balance of power and negotiation of interests, but from the mission and vision of the university (García & Aller, 2014).

The university of the future that seeks change, manages to create a governance environment that involves the entire university community to support research and innovation processes and mark the dynamics capable of creating a cooperative learning ecosystem (Salgado, 2016) in order to:

- Respond to social demands and raise new problems that question their way of acting.
- Understand the university as a place where you think about the future of society.
- Be a university where education in competences and the domain of knowing how to create science transcends the communication of learned knowledge.
- Mark its own style of bringing together the efficiency imposed by society with the freedom to think and act differently.
- Develop intelligence and logical thinking from comparing, organizing and explaining knowledge instead of simply learning it.

The governance of the university of the future must have a cooperative learning ecosystem to make sense, mean, understand, invent, create, assume, explain, be able to name, understand, know why we do what we do and integrate content and action.

The model of a university government of a university community that creates, with autonomy, the learning ecosystem environment, directly depends on its ability to consolidate around these three main pillars:

- The student as a person: From this premise, both students and professors, both researchers, will try to question paradigms, escape routines which prevent understanding reality differently and, therefore, will develop a critical reason that allows them to break with the purely instrumental and rationalist meaning of scientific knowledge.
- The scientific community: The university community thinks of itself as a scientific community that rethinks and recreates itself by shaping the process of education-research which cannot be understood separately but in a holistic and complex way, with its own movement, meaning, emotions and self-regulation. This is the common agenda that provides identity and presents the values of the university community based on reciprocity, cooperation and freedom of thought. The university of the future makes a leap from what is learned to what is understood, in a process that involves sharing and producing knowledge to accumulate collective knowledge. This way knowledge does not stagnate and the university accomplishes two reasons for existing, on the one hand, searching for the truth and on the other hand that the scientific community makes sense of the context's reality in order to transform it (Salgado, 2016).
- Communication for change: The convergence between order and chaos is produced by feedback generated from public opi-

nion, that is, the community itself communicates its positive experiences and these experiences focus on common objectives through a communication model with participation that convene an audience. New information technologies offer new possibilities to make participation more effective and enhance interactivity in social communication, this process continuously improves the mechanisms to reinforce good experiences and penalize bad ones in a transparent manner. The university of the future is a university of networks (Cazorla, 2014).

Governance in the university is fed by the dynamics of synergies which occur from complexity and in spaces that we define as *meeting places.* These meeting places are the result of crossings of multiple flows that intervene in research and teaching; it is a kind of free zone of thought, ideas and interests nourished by the academy and the university structure which are turned into specific projects and programs. Therefore, the aim is to have an academic community that investigates, that creates relationships, interacts as an uncontrolled rhizome and undertakes planning from below through action (Salgado, 2016).

Two aspects of university reality are combined in the three pillars described above: the internal institutional and the external significance. These two ways of contemplating reality from the university and from society should be translated into the combination of two types of measures: the first known as "top / down", which is considered the backbone that guides institutional character and thus connects to another type of measure known as "bottom / up", which is based on experience, intuitive and sometimes not very articulated. Knowing what measures should be implemented, in one direction or another, is key to success in university governance.

The university government which is created by following the two aspects indicated above, ensures the participation of society in

the university and eliminates an autarchic government of the university for the university. This system has given way to variations of a *shared government* that has representative collegiate bodies and unipersonal bodies by professional qualification, not subject to the political dynamics of representative democracy.

## Conclusions

The conclusions from the first part of our article are:

- It is necessary to continue carrying out research in order to deepen the management of catholic universities as a Common Pool Resource (CPR).
- Likewise, all frameworks of collective action must respond to interests regarding identity and the mission proposed by institutions of founding churches of catholic universities.
- Consolidate social practices in the university that develop a culture where rules are the consequence of knowledge and are validated in practice.

From the second part of this work, here are some relevant conclusions about university autonomy (Ferrada, 2001):

- University autonomy is a complex legal concept of great relevance to this day, but the content has evolved from the historical circumstances in which it has developed, changing qualitatively in relation to the aims pursued during its construction.
- University autonomy is essentially connected to the aim it is linked to. Currently, this aim cannot be other than academic freedom, the main objective that conditions and bases the university institution and determines its content and limits.
- University autonomy, to be considered as such, requires certain minimum rules that make its exercise within the organization possible. In this sense and regarding such autonomy,

there cannot be rules that lessen academic freedom, individual expression of the institutional autonomy of the organization.

The university government, which is constituted with autonomic competences, must maintain the links that originate in the mission of the university community which it governs:

In the foundational event, links between the created university and the founding institution, also called promoter, are established. These links must have the ability to ensure, over time, that the university government maintains the founding identity and ensures the fulfillment of the mission it was created for.

The university cooperative learning community must organize its university government from models that share the autonomic power of the university in order to:

Create an environment of governance which is the result of the synergy of the complex university dynamics.

Integrate the stakeholders of the university: students, professors, officials, founding institutions, boards and the state.

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# Bases for the organization of the University - Common Good

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Various approaches to Organizational Theory have had a multidisciplinary and diverse character. Each approach has depended on historical circumstances, as well as sociological, administrative and other complex approaches, which have become irreducible to a linear model of interpretation and analysis. In the first part of this article we explore the approaches of Organizational Theory from the relations between organization and knowledge.

The second part is about the core of the proposal of university organization which combines two aspects that question the instrumental reason: the first is inspired by the management of commons according to the contribution of the Nobel Prize Winner in Economics, Elinor Ostrom (2011); the second assumes the organization as an eco-system, based on Morin's complexity theory (1974, 1976), which extrapolates the logic of nature and living systems to understand the relationship of complementarity between system and orga-

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nization. In this regard, an organizational form (self-organization) that comes from knowledge and collective decisions is established, at the same time it precedes and gives the system meaning.

The third part, on the other hand, places the proposal of the eco-systemic organization in interaction with two positions that also refer to the life-system relationship, such as Habermas (1987a, 1987b) and Luhmann (2005), deepening the divergences between forms of organization, forms of communication and decision making. Finally, the management of commons goes beyond consensus, as a generic agreement between the parties and different from organizational communication, as a way of making restrictive decisions that point to the *autopoiesis* of the organization.

## Organizational theory: between knowledge and instrumentalization

The progress of research on organizational theory and the controversies it generated were strongly influenced by socioeconomic and cultural changes of each era[3], but especially due to the relationship between organizational theory and economic theory, between the dilemmas of *rationalization and power*.

In the middle of theoretical complexity, we are able to identify two defined lines; on the one hand, the line that explores the

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3    Frequently, a world accustomed to thinking through totalizing models tries to force concrete reality by pretending to adapt it to postulates. Hirschman invites to consider the cyclical fluctuations with respect to public and private caused by the tensions between power and the search for common welfare in such a way that, depending on the historical moment, it would seem that the value of trespassing on private property or subversion- self-subversion had a fluctuating positive or negative valuation. The author reaches this conclusion by overcoming disciplinary boundaries and moving from one discipline to another in a flexible manner but without laxity (Hirschman, 1983).

consequences of instrumental rationality and bureaucratization as alienation and dehumanization of work and, on the other hand, one that develops the relationship between a person's psychological management and the organization in order to understand how the rules make the introjection of thought and action possible, also favoring depersonalized and dehumanized behavior (Pauchant, 1995).

In the late twentieth century, the *Foucault effect*[4] seemed to converge the visions of the organization –both those based on relations of meaning and relations of production– in a type of space in which material and symbolic relations are produced respectively, between various social agents dependent on a defined structure.

Some propose a proximity between Weber and Foucault (Dreyfus & Rabinow, 2001) based on how they conceive the relationship between *ethics* and *knowledge*, as well as between *discipline* and *power*. Thus, for Weber human life develops in the iron cage of bureaucracy and for Foucault the cage is within the institutional network of imprisonment (Burrell, 1988). It is fundamental to reconstruct the organization in a different way, possibly *going back to the future*, rediscovering the nature of the human condition,[5] renewing our practices of freedom, rethinking our lifestyles so as not to sub-

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4    The Foucault effect is a term referring to the impact the French thinker has had (Barry, Osborne, & Rose, 2013, Burawoy & Serratacó, 1989). As a starting point to rethink the practices of government, Foucault demonstrates that the problem of Governmentality is a problem of organization that goes beyond state action (Michael Foucault, 1991)..

5    For Pope Francis, speculation and the search for financial income tend to ignore all contexts and effects on human dignity and the environment. Thus, the Pope says it is stated that environmental degradation and human and ethical degradation are intimately united, there are those who say that they are not aware of performing immoral actions, because constant distraction takes away the courage to warn of the reality of a limited and finite world. Therefore, today anything that is fragile, like the environment, remains defenseless in the interests of the divinized market, converted into an absolute rule (Papa Francisco, 2015).

missively fall into "the type of individuality that has been imposed on us" (Michel Foucault, 1988).

Organizational Theory has gone from responding to a social eco-system to being a rationalization of how to act in an organized manner. Organizational theorists, by concentrating their effort on building a discipline on the positive science model, created a science that instead of coming from organizational knowledge, has become the result of the efficient maximization of the machine system. Providing scientific rigor to the Organizational Theory leads to the introduction of logical or empirical procedures that promote the "efficiency and success" of its internal functioning since scientific discipline will seek to understand organizations by studying *decisions* and *behavior* (Ibarra Colado, 1999), but their pretensions to control what happens inside them will always leave little space to understand them as a *living whole*.

Then it could be said that the incoherence of Organizational Theory is that it has stopped reflecting on facts, processes and cycles of a human organization dependent on society, in order to become the ideology of an organizational practice. Therefore, when we believe the science of Organizational Theory is being applied, we are actually applying an instrumental policy of Organizational Theory. An organization does not have an economistic reason but a social and political one. The critical objective of an organization lies in combining, with objectivity the individuality, interest and development of people[6] with an interest in the community they depend on and

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6    Constitute a Community among all, that is a producer and product of social inno-
     vation, where trust guarantees a new culture where the person can build meanings
     and interweave relationships with new ethics, an environment in the pure style of
     Don Bosco but according to our times and current poverty. A space characterized
     by the promotion of values where people and especially young people can develop
     their life projects by putting the acquired knowledge into action in a participative
     and collaborative way, where the transformation of the subject is done without

their interactions inside and outside the social group, including the relationship with the *Commons* of which they are also dependent.

To discuss Organizational Theory from a non-positivist paradigm of science, there needs to be a perspective from complexity. Therefore, for example Morin uses the concept of organization to explain the concept of a system that, for him, is a "global unit made up by interrelated elements whose interpretation constitutes an organization"... "it is a combination of different elements that are interdependent (...) it does not identify with the phenomenal object, it is projected onto it "(Morin, 1974, p. 28)

The unique system-organization is developed through relationships, interactions and interdependencies, in *attractors*, in cooperation, but also in repulsions and antagonisms because "if there is no force of repulsion, exclusion or dissociation, everything would be confusion and no system would be conceivable "(Morin, 1976). All this allows the determination of each of the parties taking into account that it is a complex system.

These notions produce an apparent contradiction since in a complex system order and disorder, as well as antagonists, are complementary. For example, by ordering disorder by organizing it systemically, while ordering it, the multiple interactions disrupt the new order according to a movement that associates them. Organization is the paradox between order and disorder, and negotiates the relationship for the maintenance of the systemic equilibrium.

It is about Managing a Common Pool Resource from the *organizational management of the economy* and not from the *economic*

substituting the person, that is, to enhance the humanism of the subject in an individual way, transforming knowledge into works, "accompanying and assisting", educating for life (Bosco, Prellezo, Giraudo, & Moral, 2002

*management of the organization.* This implies recovering the meaning (understood as meaning and direction) by changing mercantilist logics; recovering social, moral and cultural values; regaining the supremacy of the person over capital and society over the market; working from the cultural sustainability, from the determining qualities in the social context, even from economic sustainability, but focused more *being* than in *having.*

## Organization for Common Good

Since the university is a complex organization-system that shares *common resources,* the question is how to understand these resources in the university. Thus, it is advisable to make a distinction between common goods that refer to *resources* and *systems* and common goods that refer to *property right regimes.* The university is a *system of shared resources* that encompass *goods* and *economic* and *production of knowledge regimes,* regardless the rights of private property on the University. In this book we will refer to these resources as *resources.*

*Providing* or *appropriating* a Common Good, even acting from self-organization and determination, does not necessarily imply ownership with respect to the property rights of the University. These rights can be public or private independently. What is clear is that in order for the university to exercise autonomy[7], it must attribute the resources it manages a nature of commons.

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7   University autonomy goes beyond self-determination. It deals with the production of transforming and pertinent knowledge, which lies precisely in the agreement between the critical sense (meaning, questioning and justification) and the transformation of society based on efficiency and rationality, that is to say: instrumental reason. In this sense, the autonomy of the university has a triple complexity: the relations with politics and the political decision-makers, the co-relations with the market logics that operate the society in which it is involved and the way in which it chooses and develops its answer

Therefore, it is possible to envisage two dilemmas regarding the *management of Commons.* On the one hand, the relationship between community action and the groups that own the property (public or private), and on the other hand, the internal logics of self-organization for the management of Commons. These two dilemmas, although they can be conflictive, are fruitful and derive from the way in which the community understands the *use, governance* and *sustainability* of the common pool resource[8] and the characteristics of human behaviors such as competition[9] for use, parasitism and overexploitation.

There is no magic formula to solve these dilemmas, but a continuous spiral of maturation, evolution and sophistication of the organization-system is possible. This requires: 1) *collective action* (Sandler, 1992), result of shared wills; 2) *self-government* mechanisms, result of *knowledge* and *shared wills* combined with *congruent* and *supportive institutional arrangements*; 3) *synergistic networks*, that is, organization and social recognition, reciprocity and public opinion that motivate people to do things *well* and also the *right things* (Beer, Eisenstat, & Foote, 2009); that is, in terms of *optimization* rather than *maximization*[10] that guarantees sustainability.

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8    Ostrom uses the term common pool resource; in this book it will be understood as the set of moral or cultural goods or values that belong to a community (Ostrom, 2011).

9    We are witnessing a modern individual without ties, but full of rights and duties. At the same time, the reification of people and the extreme commercialization of their relationships restrains all possible recognition among them and hinders the conception of values and their valuation. This individualistic competition puts people in a race for the purpose of having more, rather than being more, nothing is further from the eco-systemic logic of nature whose competence is based on strengthening its identity as a species.

10   Ecosystems prefer optimization rather than maximization, which is usually the opposite when it comes to mechanical or linear organizations. The eco-systemic complexity implies a balance between efficiency and equity, it encourages a vision where these are not only opposed but complementary at the same time, optimization entails adaptability to the system's functionalities, recycling information,

### Figure 1
### Appropriation – Provision
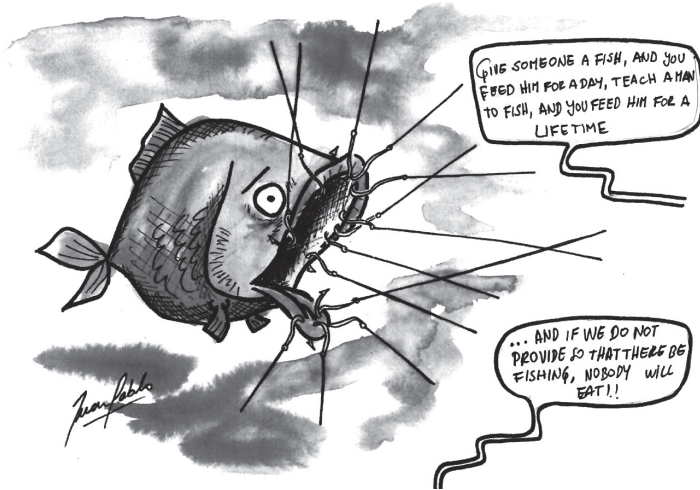


Source: The authors

Some studies try to understand human behavior under conditions of freedom in order to obtain common benefits. For example, the prisoner's dilemma,[11] a non-cooperative game which refers to two suspects who are arrested and separated. The prosecutor is

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processes and materials, as well as tending to multifunction. Maximization alone is only oriented to the result, justifying the means and breaking the interactions and interdependencies of the network (Walker, 2010).

11   According to Cunningham, the prisoner's dilemma was developed by the mathematician A. W. Tucker of Stanford University around the 1950s, early in the theory of games (Cunningham, 1967). Taylor argues that in a 2 x 2 game like the prisoner's dilemma the decision of the agents is induced (Taylor & Ward, 1982) since each prisoner must prefer non-cooperation both when the other player cooperates and when not, inferring that it is not profitable to provide the property in any case; the author considers that the real situations (given the dynamics in the decision making) themselves are not dilemmas of the prisoner, he proposes another alternative like the game of the hen

sure that they are guilty of the crime, but does not have the necessary evidence to convict them, he tells each prisoner separately that they can confess or not confess the crime which the police are sure they committed. If neither confesses, then the prosecutor will charge them with false minor charges, so that both will receive a lesser punishment; if both confess, they will be prosecuted, although the prosecutor would recommend lesser sentences; but if one confesses and another does not, then the confessor will receive an indulgent treatment for offering evidence, while the other will be treated with all the rigor of the law. If years are allocated, the strategic problem of the game would be as shown below:

**Figure 2**
**Prisoner's dilemma**
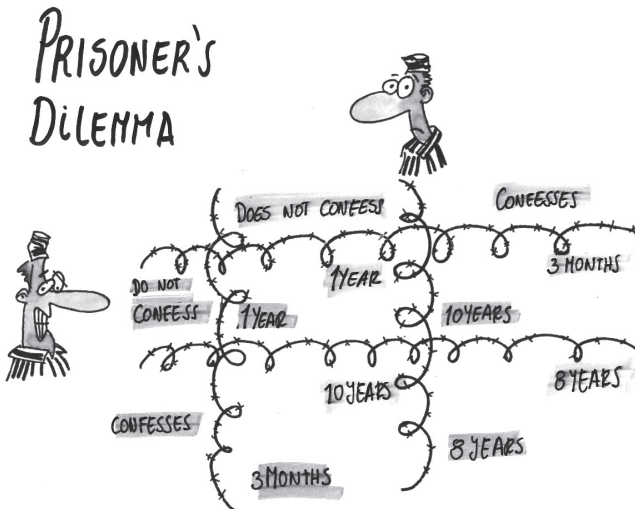


Source: The authors based on Ostrom, 2011

On the other hand, biologist Hardin (1968) suggested a metaphor about overpopulation by analyzing cattle herders sharing common pastures. He described how they, when seeking personal bene-

fits, use the maximum number of livestock possible to graze, which produces a tragedy. Hardin says: "ruin is the destiny to which all men run, when each pursue their own interest... freedom in commons supposes the ruin of all "(Hardin, 1968, p. 1244).

Olson argues that it is necessary to influence decisions so they commit *collective actions* (2002) through a system of incentives[12] that encourages people to contribute to a shared goal. Despite this, he identified a problem: *parasitism*, in which one of the agents obtains the advantages of the commons without contributing to their maintenance.

Although these metaphors and analyses harm the future of humanity, they must be assumed as a challenge since they do not take into account fundamental factors such as: (i) differentiate *open access* from the *management of commons*; (ii) only individualistic behavior is taken into account, but there may also be individuals or groups that work for common benefits and manage common resources when there are appropriate conditions, appropriate rules and conflict resolution mechanisms (Feeny, Berkes, McCay, & Acheson, 1990); (iii) communication in systems; (iv) eliminate relationships, interdependencies and natural synergies in human beings; (v) the possibility of what Polanyi called the *counter movement*[13] is unk-

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12    Considering the development of Organizational Theory, the theories about labor welfare arise jointly with labor psychology; and although initially created in an attempt to reconcile the positions against labor exploitation, they begin to design techniques and programs in order to manage and constitute the identities of the people with respect to the discipline and work practices, in order to facilitate reaching consensus for the organization (Ibarra Colado, 1999).

13    Karl Polany presents the possibility of a counter movement that emerges from society to protect itself against the contradictions presented by the market based only on exchange as a form of social integration, since according to the author a market regulated by invisible hand is utopian, an institution of this kind could not exist for a long time without annihilating the human and natural substance of society. Polany's effort to investigate the economic models of pre-capitalist societies

nown, since Hardin's solutions only go two ways; privatization and statism; (vi) it is confirmed that individualistic action is caused by the imposition of an economic system which many times is against the common will (Felber, 2012).

While any of these approaches is useful to understand aspects of commons, their concepts have been over-exploited as models considered *realistic*, when situations are much more complex and dynamic. Therefore, instead of analyzing why a person is *trapped* and has no way out, it would be better to think about how they themselves can find ways to increase *trust*[14] and self-organize[15] to produce reciprocal agreements. Then, diversity and complexity mean that there are no solutions for all the dilemmas of commons and that they must be developed in community.

Ostrom seeks to understand how a group of agents, in an independent context, can self-organize and self-govern themselves in order to obtain common benefits (2011) even though they are tempted to

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rescued a concept of reciprocity and redistribution with respect to sharing work, thus showing that it was not only possible to find outputs harmonious with the values of society, but also they existed throughout the history of mankind (Polanyi, 2007). In the Ecuadorian context it is not necessary to go back so far in time, the Sumak Kawsay, proposed by the indigenous movement, elevates the relevant values of its social conception: integral humanism, communitarianism, plurinational community democracy, plurinationality, unity in diversity, self-determination, sovereignty, independence and international solidarity. Based on knowledge and community practices, they propose the harmonious relationship between man and nature, establishing the concept of harmony as caused by the imposition of an economic system often against common will (Felber, 2012).

14    The subject can be deepened in the compendium made by Adela Cortina in an article that summons a group of thinkers around ethics and trust (Cortina, 2003).

15    The concept of organization is necessary to explain the concept of system. The system is a "global unit made up by interrelated elements whose interpretation constitutes an organization... it is a combination of different elements that are interdependent... it is not identified with the phenomenal object, it is projected onto it" (Morin, 1974, p. 9)

live at the expense of others or act in an opportunistic manner. This argument suggests that the behavior of the agents depends on how they know, consider and evaluate the costs and benefits of their actions, as well as their perception of the relationship between these actions and the results since the latter also establish a cost –benefit relationship.

The author, when analyzing the behavior of the agents that take part in a "common pool resource" (Ostrom, 2011) which she calls *appropriators* and *suppliers*, argues that when the agents act independently the total benefits are generally lower than those they would have if they had established a joint strategy. This is why they feel bound to establish a mechanism of organization, since a single individual action is not capable of realizing or promoting a common interest or purpose (Olson, 2002).

Now, this does not necessarily imply creating some kind of structure-organization, but rather self-organization based on systemic, interdependent, circumstantial behaviors and applying a certain frequency so they can occur. That is, conjugate and coordinate activities without changing a form of shared culture (Kreps, Milgrom, Roberts, & Wilson, 1982).

Ostrom's approach is particularly important because it suggests addressing the problem of governance of commons not only from classic paradigms such as the *prisoner's dilemma*, but also considers that the problems of managing commons are characterized by collective action and, therefore, because of the problematic related to appropriation-provision. Thus, the approach establishes an initial assumption: the appropriators in situations of common use resources (which can also be considered a set of goods, moral and cultural values which are part of a community).

The congruence between *appropriation* and *provision* implies the constant search for solutions to overcome the imbalances between the appropriation and availability of resources. Likewise, it

implies finding appropriate ways to assign responsibilities to build, restore or maintain the common use resources (Ostrom, 2011). These imbalances occur when too many agents appropriate the common resource[16] or larger amounts of the resource because they have greater capacity to take advantage of it. Therefore, this allocation of the flow of the appropriate resources is given in order to reduce the conflict around the assignment of rights and atomization of resources.

The dependence of agents with the common use resources of limited access, denoted by the ability to access resources according to the rules that are created in the community, as well as compliance monitoring mechanisms, make the University a different structure to the *prisoner's dilemma*. A decompensation of the balance that results from privileging appropriation will lead the agents to survive in any factor of production outside the current rules (Townsend & Wilson, 1990).

Another problem with appropriation has to do with temporary access to resources due to heterogeneity and uncertainty. This can place certain agents in privileged positions with respect to others in such a way that, if the agents perceive that access to resources has an unfair distribution, they can reverse their willingness to take part of activities which contribute to the common use resources.

The problem of appropriation and its regulation have to do with the organization for supervision and control, which implies a modification of the organizational structures and the normalization of the entire university, establishing relations of strategic behavior between appropriators and the monitoring councils[17].

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16   The term common property resources is used in relation to a limited access resource, that is, where a group of appropriators depends jointly on the system to access the resources

17   Gardner defines this interaction as the game between detection and deterrence (Gardner, Ostrom, & Walker, 1990). To establish limits that contribute not to affect

Regarding the aforementioned issue, the different ways of assigning responsibilities to build, restore or maintain the University Ecosystem (common use resources) that provide resources, if agents act independently their efforts will not be as productive as if they acted collectively, therefore the common good will not sustainable.

There is no one single way to solve these problems. The only agreement is that the models used to produce a collective action (Oliver, 1980) imply different assumptions and conclusions. Therefore, the university government must ensure the participation of the community in the university and leave behind an endogamic or autarchic government of the university for the university. Otherwise, a dialogue between instrumental reason and critical sense (direction and reason of being) would not be possible.

Then, it is possible to rethink government systems by combining representative collegiate bodies and gregarious bodies (groups), not subject to the political dynamics of representative democracy. This way, personal interests are regulated by common interests, endowing with positive synergies that call for communication for change in an ecosystem that enhances people's skills (Salgado, De los ríos, & López, 2017) and the community (Salgado & Herrán, 2017).

A representative collegiate body, which we will call the Monitor Council, for example, which comes from the State or the Promoters, both for public and private universities respectively, has the mission of ensuring that shared agreements or constituted norms are complied with. This guarantees not only the university's raison d'être as a product and producer of society, but also the logics of

the resource itself, it is essential to establish the relationship between the choice of an individual strategy and the choices made by the other agents, as well as establishing the dependence between the solution of supply problems and the solutions to the problems of appropriation.

*appropriation-provision* of the agents so that there is a sustainable balanced / non-balanced management of common use resources.

**Figure 3**
**Society, university, environment that enhances skills**
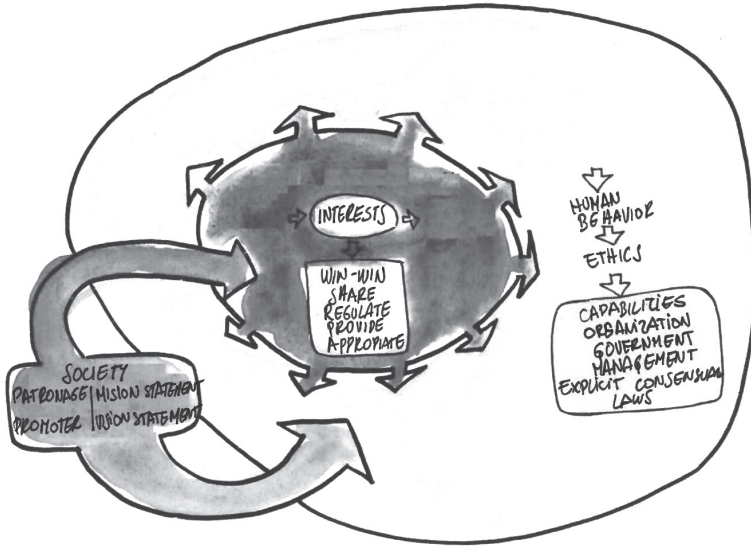


Source: The authors

On the other hand, the Councils of collective action among the agents should guarantee the congruence between *appropria-tion-provision* establishing rules for the use of resources, approved in consensus, where the majority of the agents whose strategies are affected participate and therefore also suppose the knowledge of others about them. That is, accept that the council apply and supervise its compliance.

## Figure 4
## Monitor council and councils of collective action
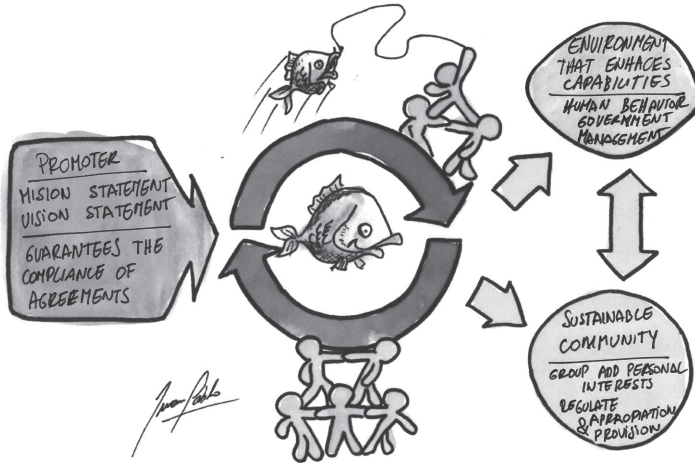


Source: The authors

The main concern regarding the establishment of rules is the dynamic and constant change of the organization of groups and therefore of the University. This also implies flexibility (not laxity) in the rules of the game created in agreement with the agents. In this regard, Ostrom states that changing and flexible organizations, in contrast to restricted and rigid institutions (Ostrom, 2011, p. 101), have the following mechanisms:

- Changes in rules that apply to actions at a certain level are given within a set of rules which are generally "fixed" at a wider level (they can only be modified by the Monitoring Council.) Changes in the rules of higher levels are generally more difficult and expensive to carry out, which increases the stability of mutual expectations among individuals who interact according to a set of rules (these modifications can be carried out by the Collective Action Councils).

## Table 1
## Rules and levels of analysis

| Rules | *Constitutions* Monitoring Council (Promoters) | *Collective Election* Institutional government councils (Government collegiate bodies) | *Operational* Collective action council (Self-organization councils) |
|---|---|---|---|
| Levels of analysis | Constitutionality | Collectivity | Operability |
| Processes | Formulation Management Adjudication Modification Macro monitoring | Design of policies Administration Adjudication | Appropriation Provision Specific monitoring Imposition |

Created based on Ostrom (2011, p. 111)

In this regard, the university can combine the institutional (internal) aspect and the external significance of its presence. The eco-systemic emergency principle sustains the validity of the norms for the community, acting from the "bottom / up" based on intuitive and sometimes not very articulated experience. Once the consensus emerges, the monitoring body guarantees the decrease in value permeating the community "top / down".

This shared ecosystem, which enhances skills, feeds the organization –system of the university as a common use resource. Ostrom's research on commons identified the following design principles characteristic of long-term institutions that are described below[18]:

- The existence of clearly defined boundaries.
- The rules of use are coherent both with local conditions and with the dynamics of appropriation-provision.

18    It can be deepened in "Governing *the Commons*" by Elinor Ostrom (2011, pp. 167–185).

- The individuals who are affected by the rules can participate to modify them, that is, in collective action arrangements.
- The behavior of appropriators and suppliers are accountable to themselves and to external authorities, through monitoring mechanisms and mechanisms to self-monitor the behavior of members.
- A graduated system of sanctions is available.
- There are simple and effective conflict resolution mechanisms.

There is a minimum recognition of the rights of the appropriators to constitute their own self-organized groups without being questioned by external authorities.

- The interdependent tasks of *appropriation-provision*, as well as those of *supervision-sanction*, *conflict resolution* and *government activities*, are organized in multiple levels of activities and in a nested structure.[19]

The governance of the university is produced in what we will call *meeting places*[20] where the multiple flows of research and teaching

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19  The author uses the term nested enterprises to refer to the articulation of multilevel institutions, when the common use resources are broad systems.

20  The meeting places are the product of the crossings of multiple flows that intervene in the creative and research dynamics of the university: professorship, postgraduate and undergraduate theses, research programs, groups, teaching staff, external demands, internal demands, publications, dissemination of results, linkage of research, technology transfer, innovation and development, entrepreneurship, etc. The planning from the base that deals with problems of each node (Research Groups and study programs) and their teaching-research interactions with the multiple meeting places. These places form a base structure on which central integral planning is needed, which deals with long-term generic problems, negotiated and agreed upon by the same groups through a socially disseminated university network. The integral approach should favor meeting places, dynamic, flexible and horizontal places, where the rules and practices of research can be reinvented. The outbreaks of the groups can be multiple, the more, the better, and they are created or disseminated according to their practical use. It is necessary to recognize them as a network based on multiple meeting places that do not follow a hierarchical order because they belong to the order of creativity that produces outbreaks from any point

functions intervene. For this, it is necessary to have a model of university governance bodies that interact in an uncontrolled rhizome and through action can undertake planning from below (Salgado & Herrán, 2017). Thus, the university community will regulate the collective interest as a movement of provision and sustainability of the university, and the individual interest of appropriation of what the university offers.

The eco-systemic organization[21] extrapolates the logic of nature and living systems to understand Organizational Theory. Without absolute pretensions, it tries to collect some particularities of living organisms as a result of evolution and conjugate them with coincident approaches of notable theorists throughout history. It may leave a sense of *disorder*, but its strength lies precisely in the ability to discover and explain reality from a *different perspective of order*, where no controlled or strict readjustments are needed because there are other elements that facilitate monitoring and management of its projection from knowledge management that the organization itself produces. Hence, order remains elsewhere, hidden in personal and community development that sustain the Common Good.[22]

## The eco-system organization, communicative forms and decision making. Dialogue with other views

The proposal, based on the organization that conceives social forms and institutions as living entities that participate in the same

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21   The proposed eco-systemic organization does not equal the organization's ecology approaches. The first proposes an analogy with nature to understand the organization as a living organism that promotes the development of people; while the second focuses on the processes of creation, change and disappearance of organizations as a result of a natural selection in the middle of the jungle of capital.

22   In Ex Corde Ecclesiae, Pope John Paul II stated that the autonomy of the University is necessary to carry out its functions effectively and guarantee its members academic freedom, safeguarding the rights of the person and the community within the demands of truth and of the common good (Pope John Paul II, 2014).

ecosystem, both agrees with and differs from the interpretation of two thinkers who treat the distinction between life and system differently: Niklas Luhmann and Jürgen Habermas, both controversial Germans. Luhmann is closest to the functionalist positions (from the right wing) and Habermas, one of the last proponents of the Frankfurt school of critical thinking (close to the European left wing).

From our perspective, what is institutionalized –the system– is a subsequent reality that expresses life, and this fundamental characteristic is what differentiates it from Luhmann's point of view, who believes the organization as a social system is an autopoietic and self-referential reality, different from biological systems. For Habermas, the system is confronted in a dialectical reality with respect to life. Both of them offer possibilities to better specify our proposal.

Niklas Luhmann (1927-1998) addresses the theory of society and organization from the general theory of systems, which implies a break with classical European theory and its concepts because it was produced in times of less complexity. In addition, it is not about improving society but about observing and understanding it in order to reduce complexity and act in the midst of it. Unlike Ostrom, Luhmann sees organizations as systems that seek not to regulate access to commons, but to produce themselves taking restrictive decisions regarding their environment in order to minimize their causality as much as possible. Unlike our proposal, his model presents organizations whose communication makes sense to make decisions in order to reduce uncertainty and complexity.

Our brief comment is based on his key writing: *Society and system: the ambition of theory* (Luhmann, 1990) which, although specific types of systems are distinguished, concentrates on the theory of

social systems.[23] Social systems are accessible through a type of contingent problematization that constantly generalizes and re-specifies without looking for essences, substantialities or subjectivities that support social action, such as, for example, social *classes*; substituted notions, as we shall see, for the *self-referential system*.

His view offers a non-descriptive point of view in the sense of accounting for the complexity of organizations, but rather operational and as Luhmann advises, "the general theory of systems (...) is formulated in the language of problems and their solutions", In terms of granting "different functional-equivalent solutions" between the systems (Luhmann, 1990, p. 46) harboring a functional perspective and a vision of social systems and of the organization as acting structures. Therefore, he does not speak "of states but of operations" (1990, p. 75) and emphasizes the relationships between elements of the system in terms of opting and deciding, understandable only from "operational possibilities" with their environment (1990, p 47).

Society is a particular form of system endowed with the "ability of establishing relationships with itself, and to differentiate these relationships from the relationships with its environment" (1990, p. 44). The environment and the world are non-systems (1990, p. 67) because –we understand– they are not acting units; at the same time, people are not part of the system but of the environment.[24] The social system is a different self-referential reality and at the same time it structurally orients its environment; that is, "it cannot exist without the environment" (1990, p. 50) and the actions of the system aim to produce a difference with respect to the environment. The point is

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23   It is worth stating that Luhmann unfolds his general theory of systems in a theory of organization in his posthumous work Organization and Decision (2006, 2010), focused on decision making and its forms of communication.

24   As stated by (Melich, 1995, p. 18) "Society is a system, but a system that is not made up of individuals, of man, but of communications. Men are part of society's environment"

not to understand the environment, but to act in relation to it. The relationship with the environment is always confusing and changing and being able to act in relation to it implies observing selectively.

The system acts to gain a difference regarding the environment and in that difference achieve unity with itself in relation to its subsystems:

> ... the unity of the system can be interpreted based on the beginning of the construction of its differentiation. Through differentiation, the system becomes more systematic, and, in addition to its mere identity (in its differentiation from *others*), it gains a second constitution of its unit (in its differentiation *with itself*). The system can reach its unity as the primacy of a certain form of differentiation, for example, as the equality of its subsystems, as a simple series, as a hierarchy, as a difference of function systems. Here, more demanding (unlikely) forms of systemic differentiation represent central evolutionary acquisitions that, if successful, stabilize systems at a higher level of complexity (Luhmann, 1990, p. 55).

Autopoiesis is understood as the ability to control "some and not all the causes that are needed to achieve a certain effect", according to a calculated process of selection and verification. Therefore, the system is as complex as its "operational possibilities of selection" (Luhmann, 1990, p. 82). Thus, systems operate through a continuous process of differentiation with respect to the environment, opening possibilities to select only those options that allow them to differentiate themselves by specifying themselves more and more.

The environment is always open and lacks the capacity for action; while the system is closed (communication is valid only within the system, outside the system there is no communication) but open to the environment. Autopoiesis implies that the system "reproduces actions" (Luhmann, 1990, p. 94). This restates the problem of self-organization in the sense that the problem lies in the "capacity of

connection" that makes autopoietic reproduction possible, which in turn makes it possible to achieve its existential base. There will be more structured answers than others, but they should always guarantee existence in the difference.

Every system implies elements and relationships, therefore in a system "there are no elements without a relational connection, nor relationships without elements" (1990, p. 59), both (elements and relationships) constitute the systemic complexity. The elements acquire meaning when they act together, when they are related to each other to select differentiating options of the system regarding the environment.

Elements are considered such if they are used "from top to bottom" according to autopoiesis (1990, p. 64) where Luhmann differs from Morin, who believes life proceeds "from the bottom up" (see note 22, 1990, p. 65). At this point, the belief based on biomimicry defended in this article distances itself from Luhmann since he proposes that decision-making and institutional norms can and should express those "bottom-up" practices that make the viability of commons possible. The relations between elements are regulated by conditioning, by the "conditions of possibility" that they can carry out, in a constant game of inclusions and exclusions. The more possibilities they can carry out for themselves, the more complex the system is (1990, p. 66).

Complexity and uncertainty are states to be overcome. Because the system is complex, it must select and *reduce* options to reduce complexity and self-produce. At the same time, the complexity of the environment overruns the system and the system reaches the selections through which the environment adapts better to the system (1990, p. 71). Thus, Luhmann transcends the adaptive postures in which institutions and organizations seek to adapt to the environ-

ment to propose the opposite belief: thanks to the selections of the system, it is the environment that ends up adapting to the system.

A second type of complexity "is a measure of indeterminacy or lack of information. In this regard, complexity is the information that a system lacks in order to fully understand and describe its environment [complexity of the environment] or itself [system complexity] "(Luhmann, 1990, p. 76). Thus, complexity is a "horizon of selection" through which systems reintroduce in themselves "the unknown variable and hence the reason why it is effective, as a factor of fear, as a concept of insecurity and risk, as a problem of planning and decision, as an excuse" (1990, p. 77).

Every system is self-referential. In its theory there is no place to suppose subjects of action and election and these are replaced by the concept of a *self-referential* system that acts in its difference "for itself". As explained later, "selection can no longer be conceived as an initiative of a subject, nor analogously to an action. It is a process without a subject, an operation produced by the existence of a difference "(1990, p 86). The concept of a self-referential system… "maintains that unity is something that must be built and does not pre-exist as an individual, as a substance, as an idea of the operation itself" (p. 88).

Self-reference is the "capacity of connection" that makes it possible to overcome the paradox of losing oneself (1990, p. 91). Social systems are *systems of meaning* since they are capable of acting "for themselves" meaning that they perform in external environments, and not "in themselves", they are isolated to the external environment (p. 98). The meaning allows the system to operate with respect to its internal differences and according to the environment.

Self-referentiality of systems result in political and communicational consequences. First of all because the system generates asymmetries that are not always translated into hierarchies and theory

advocates for "the resignation of the possibilities of unilateral control... no part of the system can control others, without falling under control" (1990, p. 96), and suggests control and counter control devices. The problem of control is compensated by self-observation, applying distinctions, especially regarding the system-environment distinction. Control and counter control make sense as long as they allow autopoiesis.

Autopoiesis depends to a great extent on the capacity for structural adaptation of the self-referential system and on the scope of the system's internal communication (Heidegger, 1988). Information is such when it is integrated into a selective process to guide the decision based on the difference, resisting the pressure of the environment. This implies that a self-referential system is such when its decisions are subtracted from an external command to itself.

Communication –conversation– is approached from the multiple constitution of the system because, as a complex unit, it admits divergent complexities. Communication can be *mutualistic*, either to promote the individualization of complex systems as to admit the possibility of various behaviors (Luhmann, 1990, pp. 100-101). But the truth is that in all cases communication will always be mutualistic because "to communicate means to limit (that is, to set limits to oneself and to others)" (p. 102). Thus, Luhmann suggests that agreements and consensus are not possible as equidistant positions, the achievement of arrangements or sum of agreements and balances, since communication produces decisions that involve very specific limits and options, only those that make autopoiesis possible. To communicate is to decide to selectively reduce the surplus of possibilities that are open to decision-making.

Habermas' proposal is different and presents the concepts related to system and lifeworld in the two volumes of *Theory of communicative action* (Habermas, 1987a, 1987b). In general terms, the author in-

tends to provide clues to carry out "true" modernity, which is unknown to instrumental reason which has reduced rationality to technique. Habermas's task is to rectify the unfinished project of the illustration.

To comply with what has been said, he proposes to consider ethics from the contribution of language; in other words, Habermas' ethics is based on the potentiality of language and dialogue, on the idea of the individual that talks "rationally" and supports the constitution of a free and rational subject. From there he suggests discursive ethics in which, through dialogue, the ethical problems of contemporary societies could be resolved. It is through communicative rationality that the consensus that would resolve moral questions of contemporary societies. Therefore, moral is not a pre-established dogma, but the result of the procedure deployed from dialogue and consensus. However, in order to achieve communicative rationality required by Habermas, the existence of a series of symmetry conditions is necessary, in other words, an ideal speech situation based on free, equitable and critical participation.

Regarding the above, language is not a simple "medium" of communication or transmission of meanings. It has a *telos* that is to be communicative rationality, an understanding that allows the constitution of a meaningful world. The paradigm of Habermas is that of intersubjectivity: not relativism or dogmatism. Linguistic understanding is communicative, discursive and argumentative rationality. It allows rational consensus within the lifeworld among interlocutors. Thus, the function of language is communicative intersubjectivity; the lifeworld is produced in it.

The lifeworld is made up of two areas: material and symbolic. The material area is the domain of instrumental operations and technological application to the domestication of nature through work (Díaz Montiel & Márquez Fernández, 2008). In the symbolic area, subjects communicate their needs, interpret the world, negotiate

their action; all this through language. Modernity has produced the division between the system and the lifeworld; and through rationalization, it fractured these two areas of the lifeworld and contrasted them. It is now a matter of integrating the two spheres of interaction.

Communicative interactions are intertwined in the lifeworld, communicative action allows the conditions of validity, the conditions of discursive rationality. The lifeworld refers to the point of view of the subject that acts in society. The system works externally, it contemplates society from the observer, that is, from the "non-involved".

The lifeworld is composed of culture (continuation of valid knowledge, tradition and renewal of cultural knowledge), society (stabilization of group solidarity) and personality (training of agents capable of being accountable for their actions). Each component of the lifeworld is correlated to the system: cultural production, social integration and personality development.

The main problem for Habermas is how to connect the conceptual strategies that imply the lifeworld and the system. He considers that the perspective of social integration is centered on the lifeworld and is achieved through the consensus generated by communication, while the perspective of integrating the system is integrated through external control over individual decisions. The problem is that each perspective ignores what the other contributes. In this regard, it is necessary to integrate the two conceptual strategies and understand societies "simultaneously as a system and as a lifeworld" (1987b, p. 168).

In summary, Luhmann's position is contrary to biomimetics because the organization is not a living system, it is a social one. Thus, this discards the possibility of considering it an eco-system. Its contribution refers to the management of organizations included as autopoietic and self-referential social units, whose elements are connected to each other in function of effective operations for their

specification and differentiation regarding the environment. Therefore, it is not commons that are not at stake, but the effectiveness of differentiation processes based on communication that restricts and reduces complexity. At the same time, it favors social action understood as technology, exercised from top to bottom and as a substitution, giving control an important role.

This is what our model intends to change when suggesting a way to intervene the opacity of systems and subsystems from dialogue and meeting places. From our perspective, systems are groups of people who risk the viability of collectively managed commons in their decisions.

Habermas, on the other hand, refers to a model of society conceived from the imaginary of liberal democracy. From his theory of communicative action, he establishes a tense and dialectical relationship between the lifeworld and the system, which leverages forms of communicative action based on consensus from which the lifeworld seeks to prevail over the system. However, the Habermasian consensus responds to the reality of European democratic societies and is subject to an idealized vision of social subjects presented as immune to the asymmetries of power that, most of the time, determine and condition consensus.

The government's perspective of commons does not appeal to the forms of action and communication of systems nor to that of European cosmopolitan societies, it rather appeals to the institutionalized forms of collective action characteristic of Andean and rural communities, which must act and decide their continuity in its territory, along with the continuity and efficient use of its resources. In this regard, Ostrom's contribution shows its limit by stopping in the conditions of agreements about commons resources –secure the provision-appropriation circuit; the credible commitment; and mutual monitoring (2011, pp. 95 ff.)– without delving into the type

of collective subject that decides: the community whose constitutive fact represents its anchor in the territory over which it exercises jurisdiction. Territoriality is the great absence of Ostrom's contribution.

Community management of collective resources is based on modes of communication that transcend the ethics of control and the programmed organization of processes between systems; they are even beyond the communicative forms that reduce the consensus to the product of an intermediate negotiation between individual or corporate interests. The perspective advocated in this article aims to cultivate forms of communication and collective decision making that are contiguous with the ethics of responsibility, which make the viability of vital resources and common goods possible by considering agents not as units of a system or subsystem but as responsible and deliberative subjects debating from the position of those who assume a common debt, in full possession of what is at stake and the scope and consequences of their decisions.

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# Knowledge as the common at Universidad Politécnica Salesiana

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## Knowledge society

All societies, one way or another, have been knowledge societies, although it was Peter Drucker who used the term for the first time (1969). Defining this concept is not easy, but its importance lies in the fact that knowledge has become a tool for promoting well-being and economic growth by improving quality of life and creating new social structures along with innovation, development and research (Mateo, 2006).

Nowadays, knowledge society integrates two concepts: information society and knowledge economy. The first is derived from the

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emergence of Information and Communication Technologies (ICT); while the second refers to the management of knowledge produced by a society, but in terms of economic growth.

In fact, considering only economic growth, imposed by the market on the production of knowledge, as a paradigm of development causes "science to be in danger, and, therefore, it becomes dangerous" (Bourdieu, 2003). Especially in applied sciences such as biotechnology, technology in military research, genetics, and others, where the products and services that are created are highly profitable.

Currently, many universities devote most of their work to the production of knowledge in research centers which are under controlled by large industrial firms that seek to sustain their commercial performance through patents. This is not convenient for the university because researchers and research groups may be subject to demands for profit. Thus, the problem does not lie in profit, but in subjecting it to ethics and holistic intelligence of human beings.

The challenge of a university of knowledge society lies in building a responsible autonomy, based on its own production of knowledge, on the articulation of a critical and reflective academic community, against the common interests we have as a society; enhancing the dynamics between tacit knowledge and explicit knowledge so that their work is not limited to the transmission of knowledge, but rather becomes the core where critical reason is produced, the understanding of knowledge and their social validation.

For this reason, the university must be able to respond to social demands, to pose new problems and to question itself. Research is not only conditioned to the instrumental reason (resolution of problems and demands of the business sector or the government); it is also the result of critical reason (ability to interrogate). Therefore, in the university it is important to maintain the dynamic relationship

of conflictive but fruitful dialogue between critical reason and instrumental reason.

It should be noted that the production of knowledge creates paradoxes that lead the Academic Community to a number of determinations. This diversity enriches the university and society, placing it in an unsuspected and unprecedented world, where the search for the truth can be recreated, that is, all that contributes to the improvement of the human BEING and the answers it can find for its ontological discovery more than the epistemological.

The university is not limited to the development of competences or the mastery of scientific know-how. Understanding science is accompanied by reflexive, critical capacities and autonomy of judgment construction. Therefore, there is no opposition on what competency-based training postulates, but we must be aware that this is not the aim of the university's activity because the university cannot work based on analytical plans and fragments of knowledge. It is in the light of the truth where unity and meaning are given to knowledge through reflection and synthesis, from a transdisciplinary logic of science.

The university is destined to be an institution that combines critical reason with instrumental reason, while research is the transforming axis in the understanding-production of knowledge. The feedback of the scientific agendas of undergraduate programs drives the university community to create, criticize and transmit knowledge to promote social development. This implies the formation of a culture of innovation, understood as a set of assumptions, values and behaviors that allow carrying out innovations without resistance.

Research is what differentiates university education from any other, since it contributes to the development of intelligence and logical thinking by comparing knowledge, organizing it, explaining it, thinking about it and not simply learning it. Therefore, teaching

is not limited to transmitting knowledge, it develops the ability to understand and explain things. When students are capable of explaining something, they simultaneously develop critical reason, being able to question other ideas and elaborate judgment on it.

The culture of innovation combines key elements for social innovation, promoting a change of the logic of education, the conception of ethics, the structure of a society with a market, the formation of values. It promotes awareness and the development of critical reason, fosters responsible citizenship, always based on trust, discarding doubt about another.

Currently, another great challenge of the university is to be useful in the face of social demands, mainly imposed by governments and the business sector, without becoming instruments of political decision makers, state logic or market forces. University academic and research agendas must always maintain an autonomy to guarantee the scientific nature of their production, the enrichment of knowledge, the constant scientific relationship and a positive link with society.

In this regard, a well-understood knowledge society is one that can innovate and grow from the knowledge it produces; that it can self-govern itself to guarantee its rights, focusing its efforts towards the satisfaction of its needs and enhancing its capabilities. Therefore, the university must contribute to this society, understanding that the classroom is the city and the environment, and that classmates are citizens.

## Knowledge production and formation of citizenship from a salesian perspective

The university must be considered from the formation of an individual responsible for his/her dignity and the path to the transcendence of his/her BEING, fostering an environment where intelligence is nourished and training to develop willingness is also pro-

moted. The strength that comes from the search for the truth has nothing to do with the simple acquisition of professional skills. It is about going beyond, towards a liberating vision of the individual that, as Pope Francis says: "At the center of this ambitious project... there is trust in man, not so much as a citizen or economic individual, but in a man as a person endowed with transcendent dignity"(2014).

A university that is focused on people aims to create a community that is a producer and a product of social innovation; a new culture where people can construct meanings and interweave relationships with new ethics; an environment according to our time and current demands, characterized by the promotion of values; a place where people can develop their life projects. This centrality can be read from the dynamics of knowledge production and the dynamics of citizen education.

## *Dynamics of knowledge production*

Research adds dynamics to university management and marks its style and model. It is capable of combining the efficiency imposed by the environment with the suggested freedom. For this reason, the relationship between research and ethics is a focal point where there is a combination of: the transformation of the world from science and its logic of rationality and efficiency, with the logic of critical behavior of the researcher, faithful to the truth in the production of knowledge.

We envisage an academic community that commits to values of reciprocity and co-responsibility to overcome difficulties and limitations, where the search for truth is a dimension that permeates and is present in all areas of the university. A scientific community is built to the extent that the people who are part of it provide knowledge and efforts from every responsibility and task to favor the common good called university.

An academic community that conducts research becomes aware and recognizes that incidence and dialogical pertinence of research results with society guarantees its nature and reason of being, and it is above university rankings and other systems that measure quality or excellence. However, this does not mean that indicators should not be used since they are necessary to manage the university and are a comparative mechanism with other universities in the world.

### Dynamics of educating citizens

University education is understood around the students' life project. This project is socially responsible of making students BECOME the most involved, capable of putting forward questions and problems along with critical solutions based on ideas and knowledge.

Students' education in the university transcends the acquisition of competences and the transfer of knowledge, it seeks to achieve a mastery of the know-how of science, giving way to the growth of critical and reflective capabilities which provide a basis for scientific development and give a democratic sense of autonomy in building knowledge.

For society (people), in the university students not only learn and replicate knowledge, they discover the dynamics of how knowledge is produced by conducting research of the reasons, circumstances, epistemological resources and the establishment of all the connections that endow it with sense.

Research develops people's critical and creative capacity to establish distance with knowledge, giving rise to the formation of moral judgment which is the basis of free citizenship. The search for the truth plays a vital role in the construction of students' personality and development of skills.

A university for people must combine its work with life. It seeks the truth of life, living decidedly, projecting itself in multiple

ways, without giving up its ability to manage itself in a dynamic, diverse, collective and multiple way by leaving its comfort zone and tending towards new things. A university with an identity of service for people entails a responsible autonomy.

## Salesian perspective

Currently, the search for economic success has made modern man think in himself and poverty is increasingly evident not only in material terms. Selfishness causes deeper poverty: loneliness or desolation. However, prevention from responsibility demands us to believe in people, in their potential and their ability to free themselves from what oppresses them. Human beings are not naturally bad, it is not about being more selfish than before, it is that market society makes selfishness necessary for survival.

Nowadays, it is common to hear that in order be successful it is necessary to compete with each other, since the logic of the market leads people to sell themselves as expensive as possible and to buy others as cheaply as possible. This results in ethics that govern social relations based on a win-lose situation instead of a win-win situation. Therefore, the selfishness isolation of individuals results in a di-society where ruptures of relationships are violent and in turn generate more violence.

In this regard, the system faces a global crisis and education has adjusted towards the transmission of information and not to the understanding of the knowledge being taught. Education prepares people for exams and not to think for themselves. An exam does not measure the ability to understand but the ability to repeat. Therefore, education must also be concerned about emotional aspects and consciousness, which give life meaning.

From Don Bosco's experience, the Oratory and the Preventive System, rather than being structures or institutions, are ways of life, ways of relating with each other, of responding to life, they are deep attitudes of each person, they are fundamental choices of life, "it is the perspective that compromises all the criteria, the style, the resources and training content" (Peraza, 2011, p. 4).

However, prevention from responsibility faces a greater challenge than a hundred years ago. People in this time have double individualism; they not only face selfishness of society that seeks to impose its individual self over a group's well-being, but market society has formed a new type of selfishness that seeks to impose "myself over others", making alterity secondary and even affecting coexistence.

If we consider the context in which UPS operates today, probably like Don Bosco in his time, it is responding to the need of young people with a new way of conducting an Oratory. An Oratory understood as a way of life, of relating with others, of responding to life. This system of encounters of personal interests that become commons, of academic and pedagogical reciprocity is called University-Ecosystem. Undoubtedly the most important legacy of Don Bosco is to have an educational relationship that creates fraternity, filiation, one that inspires and arouses family.

From this perspective, the objective is to promote personal, professional, socioeconomic, local and regional development, carried out in a framework where leadership is shared. This is how Salesian accompaniment for education is built, with a Preventive System from responsibility.

In this regard, the Oratory led to an educational model, which is why UPS seeks to privilege meeting places for Teaching-Research. These places constitute a meeting place in a new dimension of the University Oratory in the search for truth and the sense of what su-

rrounds us, this is what the academic community that researches or scientific community is based on.

Teaching, research and community engagement represent an opportunity for the university to contribute meaning and relevance to society so that people can recover their identity built from recognition and mutual identification, where in everyday life we are able to explore love as the most basic form of recognition and that diversity is not a reality that must be "tolerated" or something we should break free from, but a source of enrichment.

This indivisible relationship of Teaching-Research leads to the transcendence of developing competencies, which are often protective or for assistance and move to the promotion of people's skills to act and function in their life; in the latter lies Don Bosco's preventive system. The legacy and approach of our founder on the Preventive System is based on the confidence in our potential to be good so that we can create a life project that does not go astray or even if it does, so we can return to it.

Therefore, the university must act in real life and use elements such as innate and learnt talent, as well as collaboration as a guarantee of a culture of multidisciplinary innovation that enables the fulfillment of objectives.

## Creation of a common good called knowledge

The digital age in knowledge society has promoted the incorporation of various technological tools that facilitate the dissemination and expansion of information and knowledge. Additionally, its access is a right recognized worldwide (Pablos Pons, 2010) and a tendency that addresses it from the perspective of common goods, as a shared resource, has emerged (Ostrom & Hess, 2016).

Nonaka-Takeuchi defines knowledge as a "real justified belief" (1995) that creates from information and acquires significance through meaning and interpretation (Kriwet, 1997). Unlike information that is descriptive, knowledge is reflexive and can be explicit or tacit. If knowledge is a belief, it must somehow be intelligible; and if it is created through the significance that is given to information, then it is original news that modifies the beliefs of the recipient.

For instance, knowledge is produced after discovering original news generated by information caused by hearing the following phrase: "Did you know that a straw has only one hole?" The habit of observing the hole from both ends created a belief of a double-hole in the mind of someone who received the information. After receiving the information signal, the original news causes that belief to be questioned before moving on to another justified belief which can be assumed as being true.

The previous example shows a field of knowledge of something that was possibly known, but something of which there was no awareness; as if that knowledge were in the Universe, but it is not known about until it is discovered and goes beyond what was previously known (Anderson, 2014). That is, we know more than what is said, later the authors will present the differences between tacit and explicit knowledge, confirming not only the definition of knowledge of Nonaka-Takeuchi, but the original news is what generates that initial spark that gives rise to the production of knowledge.

The original news does not occur only with respect to something that happened in the past, but also with new things that are generated regarding the intelligible (Hausman, 1996). Peirce (1998) defines *abduction* as the process by which the recipient, through his own logic which is unique, builds his own hypothesis to explain what he has perceived as original news. This process begins simply by receiving the signal of some data that entails original news that needs

explanation. In search of this explanation, the person generates, classifies, selects and connects information to give a new belief meaning, all this from the surprise caused by some news.

Simon (1977) states that the production of knowledge has an empirical component related to psychological and sociological processes, and a formal component that, in turn, is related to the definition and logical nature of the knowledge produced and that therefore is related to the rationalization of knowledge.

The new knowledge-belief is not included in what is already known, it emerges as an illumination, as intuition. While it is true that an intuition is fallible, the truth is that conjectures and hypotheses were not in the mind of the receiver before. The explicit and tacit knowledge suggested by Nonaka-Takeuchi (1995) implies a spiral model of knowledge production based on the interaction between tacit and explicit knowledge.

It has four phases that enable the understanding of the possible knowledge management processes:

- Internationalization: is an individual process of assimilation of tacit and explicit knowledge, it is a continuous process of "learning to learn by doing" and an integrated process to the systemic structure of the knowledge of the organization or if necessary it can also restructure tacit knowledge.
- Socialization: its basis is the transfer of tacit knowledge, which according to agents is personal, it starts from the individual experience involving intangibles such as beliefs, values and perspectives, depends on the context and the field of meanings that are shared and created through specific interactions (Ichijo & Nonanka, 2007).
- Outsourcing: involves transforming tacit knowledge to an explicit one, so that it can be transferred, disseminated and, the-

refore, can be made explicit in languages such as grammatical statements, mathematical models, and others.

- Combination: it is the result of creating structures or systemically integrating individual explicit knowledge to the organization, that is, it is a social process based on the communication of knowledge.

To understand the relationship between organization and knowledge, based on the spiral model, it is important to consider that: (i) the proposed coding of knowledge implies tacit and explicit knowledge; (ii) the epistemological dimension describes the transformations in the continuous transformation of tacit-explicit knowledge and vice versa; (iii) the ontological dimension details the transformation of knowledge from individual knowledge to group knowledge and, finally, to organizational.

Ostrom and Hess (2016) state that knowledge is the understanding of received information that is obtained through experience or study. Its dual nature, as merchandise and social force, makes it a complex resource and although considering it as a common good is a relatively new subject, it has allowed us to understand it better in the digital age.

As mentioned above, thanks to technological development information is distributed throughout the world and, therefore, knowledge has gained strength as a resource. However, it can be a double-edged sword and since it is of common nature, there are many conflicting interests. On the one hand, companies promote patents and copyrights, on the other hand, groups of scientists, researchers and people work in favor of free access to information.

UPS is at a balance point since common good is not synonym of open access. On the one hand, patents and publications are a relevant indicator for the national and local context, and on the other, it must have digital repositories and the promotion of free access.

The collective work carried out within the University-Ecosystem (research groups, educational innovation groups, entrepreneurship groups, etc.) allows us to understand what a common good is, because they all join efforts to reach a goal.

Therefore, every moment of the university's institutional life is an opportunity to innovate and undertake new proposals to creatively manage, in the style of Don Bosco, a public good such as higher education (Herrán, Sánchez, Zhingre, Solórzano, & Parra, 2016). Community engagement is essential at UPS so it can fulfil its goal of being recognized as a university that conducts research, contributes to society and promotes innovative projects to solve environmental, technical or social inclusion problems.

For this reason, it is necessary to create institutional strategies to strengthen the connection of university-industry-society. Thus, community engagement can become an effective instrument to promote the university by establishing an interaction of mutual knowledge with several sectors, so that the perception of its image can be in accordance with its reality (Alcántar & Arcos, 2004).

Good management of knowledge as a common good lies in having clear rules, generating an environment with the right conditions for the development of its members and enhancing their capabilities. Now the question is how to manage knowledge that is produced in this environment.

## Knowledge as a common good at UPS

The university must recover the sense of *management, production and application of knowledge.*

The production of knowledge must be considered as the first heritage for both the academic community and society. What hap-

pens after knowledge is produced? How to understand ownership on the production of knowledge?

From a general perspective, *knowledge management* has been limited to issues of intellectual property rights related to trade. The university has lost the capacity to develop social and economic innovation systems, internally and externally. For this reason, the university should focus its efforts on educating citizens that are able to produce knowledge, capable of developing a moral judgment that distinguishes critical distance from knowledge that is taught and explained.

Thus, in 2015 in its book titled "Rethinking education: Towards a global common good?" the United Nations Educational, Scientific and Cultural Organization (UNESCO) published a chapter specially dedicated to the analysis of new ways of relating among human groups worldwide. In the last few years new forms of cultural and artistic expression have emerged, which are the result of acculturation driven by the increase of connectivity and cultural exchange in the whole world.

There is a particular relationship between the diversity of societies, both in the north and the south of the planet, this particular cultural diversity is the greatest source of creativity and wealth. Therefore, there will be diverse and alternative ways of solving problems inherent to this new digital era, we must examine alternatives to the dominant model of management, production and application of knowledge, it is necessary to recognize alternative knowledge systems.

Thus, it is of common interest to have a more humanistic management, production and application of knowledge, always related to the interest of people, to achieve a full and holistic development in diverse, changing and uncertain contexts.

The type of society we aspire must consider cultural, social, economic, ethical and civic factors, but we must go beyond the strictly

utilitarian vision of knowledge as a means to only achieve economic well-being of a society, the approach of human capital that characterizes to a large extent the international discourse of development.

Understanding that ethical issues are fundamental in the process of management, production and application of the predominant knowledge, can be considered a speech contrary to the current discourse of dominant development. That way people and current societies can have a meaningful and dignified life, according to the alternative of Amartya Sen's concept of development (2001).

The entire world education system, especially universities, must think of new ways of managing, producing and applying knowledge, although it is true that the aim of formal educational processes is to have learning methods to acquire, interpret and understand knowledge in a traditional way, that mainly responds to particular interests and minimally to common or public interests.

Knowledge is the common heritage of humanity and, therefore, should be considered a global common good. If knowledge is considered merely a public good, its access will often be limited. The current trend towards the privatization of production, reproduction and dissemination of knowledge is a matter of serious concern. Knowledge is gradually being privatized by law, and more specifically by the Intellectual Property Rights regime, which dominates the production of knowledge. The progressive privatization of production and reproduction of knowledge is evident in the work of universities, research centers, consulting firms and publishers.

In the current context, it is essential to foster a more relevant and more explicit role of civil society in the management, production and application of knowledge.

This new discussion, driven by a fundamental concern for sustainable human and social development, highlights the trends,

tensions and contradictions that are observed in global social transformation, as well as the new horizons open to knowledge. The importance of considering alternative approaches to human wellbeing and the diversity of world views and knowledge systems, as well as the need to sustain them, is emphasized.

Currently, the challenge is to structure knowledge and define it as a shared resource, taking into account particular contexts and realities where it is generated. The challenge is even greater, considering the economic, legal, technological, political, social and psychological fields which make up this global common good.

Now that new technologies are advancing at a very fast pace, new information technologies have redefined knowledge communities. As these are interrelated or connected, the traditional world of users and information providers has been transformed, from a unidirectional process to a multidirectional process, leaving many of the existing norms, rules and laws obsolete, and causing unpredictable results, which are increasingly reconstituted and organized with different logics, leaving previously disseminated information obsolete and with a very brief useful life.

It is an institutional responsibility, especially for universities, to respond to this new logic and design new university institutions that favor management, production and use of knowledge as a common good. Therefore, collective action, successful self-management behaviors, trust and reciprocity and the design and permanent evolution of correct standards is required.

Ostrom and Hess (2007) point out that commons usually involve sharing resources among multiple users. Successful management of commons requires an active community and evolving norms that are understood and applied correctly (Dietz, Ostrom and Stern, 2003).

The university as a whole represents an active non-profit private community, which can vary its rules and structure with the aim of protecting or promoting the management, production and application of knowledge as a common good.

In the context of analyzing the common good of knowledge, Hess and Ostrom (2007) suggested a theoretical framework that has been used by many multidisciplinary academic researchers in recent decades for the diagnosis and study of certain common goods or resources, called Institutional Analysis and Development (IAD), which is used to investigate the area in which people repeatedly interact with each other, within the framework of laws or regulations which guide the selection of strategies and behaviors that offer alternatives different from the practices that are still in force and which do not produce effective solutions in current contexts, where new technologies advance at a fast pace and restructure the management, production and application of knowledge very quickly and rethink new knowledge communities interconnected through the web.

Therefore, it is imperative to think, design and implement new institutions that favor the management, production and application of knowledge, in our case, think about new ways of organizing the university by requiring collective actions and self-managed behaviors of quality, efficiency and excellence that will lead to successful results; as well as environments of trust and reciprocity but above all the design and / or permanent evolution of new convenient standards.

We have learned that successfully managing common goods requires an active community and evolving norms that are understood and applied correctly (Dietz, Ostrom & Stern, 2003).

In the IAD framework, three broad groups of variables are proposed as underlying basic factors that condition both the insti-

tutional design and the interaction models that take place in the respective fields of action.

The first group, regarding the characteristics of the resource, which explains the characteristics of the physical and material world of the community that produces and uses a resource, in this case management, production and use of knowledge; and the current procedures that determine the decisions of the participants.

The elements that make up this first group are:

*Biophysical-technical characteristics*: The physical properties of a resource always play a fundamental role in the configuration of the respective community and the physical nature and available technology determine the limitations and possibilities of a particular common good. These characteristics include elements such as size, the situation, the borders, the capacity and the abundance of the resource. Most of the typical characteristics of a common good such as knowledge as it is currently conceived, has emerged as a result of new technologies.

Characteristics of the community: Made up especially by users, those who use knowledge at any time and place, suppliers that can be large and diverse groups that offer general or particular knowledge, and regulators that are voluntary and self-governed groups that initiate the acquisition of knowledge.

*Rules in force*: These are shared regulatory frameworks that establish what an agent in a given position should, should not or cannot do in a particular situation, and are backed up by at least a minimum sanctioning capacity in case of non-compliance (Crawford and Ostrom, 2005). These norms can be generated from three spheres or scales: operational, collective option and constitutional.

The second group, regarding the field of action, which is made up by participants who make decisions within a situation mediated by

physical, community and institutional characteristics, and which will result in different patterns of interactions and results (Ostrom, 2005).

The elements that make up this second group are:

*Situations of action*: It is the way people cooperate or not with each other under different circumstances. The analysis requires identifying the specific participants and the roles they play in a specific situation. It examines the actions taken, potential actions or future actions and how they affect the results.

Agents: Represented by the participating community (faculty and researchers).

The third group, regarding the interaction patterns, the results and the evaluation criteria. Each one will be briefly explained below:

The interaction patterns are closely linked to situations of action, which can be very conflictive, especially if there is a significant change in knowledge management.

The results of the planning processes in search of a final and common goal, usually have two types of behaviors, good results and poor results.

The evaluation criteria make it possible to assess the obtained results as well as the ones obtained as a group, which would generate certain actions or alternative institutional rules. The evaluation criteria can be applied both to results and to the interactions between the participants that produce results.

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# Adapting the Common Good matrix indicators to the university context. Case study

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## Introduction

In the globalized educational environment where higher education is seen as an internationally marketed product, in other words, an industry of knowledge where the discourse of community, justice and equality is destroyed (Giroux, 2011), the perspective of common

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good is presented as an alternative within the education management system to protect the values of civil society, culture and intellectual independence (Albatch, 2015), in other words, it contributes to the socialization of responsible, critical and constructive citizens, encouraging the development of a capacity for reflection and a willingness to review and renew ideas, policies and practices based on a commitment with common good, thus enhancing the progress of society (Filmer, 1997, Singh, 2001). Actions for the common good within the context of higher education are less interested in understanding science and technology and more interested in making science and technology accountable for the interests of society (Bencze & Carter, 2011).

On the other hand, it is also important to emphasize that the fundamental pillar of higher education is the production and transfer of knowledge (Jacobson, Butterill & Goering, 2004, Ozga & Jones, 2004, Sam, & Van Der Sijde, 2014). While knowledge in higher education has been organized propositionally or explicit and implicitly (Polanyi, 1958), the former referring to how to do something and the latter to mental models, beliefs and perspectives implanted in participants (Zeng, Xie, & Tam, 2010). In this research, knowledge is taken as a single construct without distinctions, which is used under the premise of constant transmission through various media and spaces, omitting its isolation originated by commercial interests (Felber, 2015).

In this context, the idea is to deepen the economy of the common good from the university management system by applying multiple indicators of common good such as the ones presented by Felber (2015); Gonçalves (2015); Koller (2009); Lieberherr, Klinke and Finger (2012); López et al., (2014); Windhoff-Héritier (2002). The first author exhibits two differentiating elements from the rest. First, the matrix assesses how favorable the environment is for the development of common resources. Secondly, the indicators provided in

this matrix contain specific cases of their application in European universities such as the University of Burgenland in Austria, the University of Kiel in Germany and the universities of Valencia and Barcelona in Spain. Therefore, by applying it at Universidad Politécnica Salesiana in Ecuador we will have the case of a Latin American higher education institution where the common good matriz suggested by Felber (2015) will be applied.

For this, the methodological design of the grounded theory (Sampieri, Collado & Lucio, 2014) and the case study (Eisenhardt, 1989) was applied. In grounded theory, also known as an extension of the state of the art, documentation was used as a method of systematic collection of information addressed to the criteria of Felber's 17 indicators (2015): ethical supply management, ethical financial management, workplace quality and affirmative action, just distribution of labor, promotion of environmentally friendly behavior of employees, just income distribution, corporate democracy and transparency, ethical customer relations, cooperation with business in the same field, ecological design of products and services, socially oriented design of products and services, raising social and ecological standards, value and social impact of products and services, contribution to the local community, reduction of environmental impact, investing profits for the common good, social transparency and co-determination.

On the other hand, Universidad Politécnica Salesiana (UPS), in Ecuador, was selected for the case study through non-probability convenience sampling as a representative of higher education in Latin America. We have collected information through participant observation, access to official documents such as the Annual Report given by the university president, UPS in figures, Institutional Regulations, SNA (the national academic system), Utopia magazine, NotiUPS newsletter, Archive of Agreements and Projects with So-

ciety, Notebooks of University Reflection, Code of conduct, Strategic Planning and the annual operational plan of each year extracted from the library's repository –Dspace–, web page and Ministry of Communication and Culture, as well as interviews with the university president.

Thus, by gathering information from scientific literature combined with the case study of Universidad Politécnica Salesiana on each of these criteria of common good indicators, it is possible to determine a set of guidelines for the application of the criteria of the common good in higher education institutions in Latin American and assess their level of adaptation towards a favorable environment for the transformation of the common good.

## Indicator 1: A1 Ethical supply management

According to Felber (2012), this indicator focuses on ethical responsibility for the distribution of supplies taking into account working conditions, ecological aspects, social effects to other contact groups and the availability of social and ethical alternatives of greater influence on the environment. In the management of a higher education system, the flow of knowledge can be understood as a supply chain propitiated by human beings accompanied by technological innovations (Dixon, 1997). Therefore, it is essential that in addition to tangible assets, professors and academics also be recognized as the distributors of supplies which in this context is knowledge. Accordingly, there are 3 criteria that support the ethical management of supplies:

- Consideration of regional, ecological and social aspects: Institutions of higher education have two types of supplies. The first is represented by those products, services, spaces and tangible goods that are necessary for professional development such as laboratories, online platforms, recreation areas, sports

fields, libraries, etc. The second is the intangible supply par excellence represented by the knowledge taught in classrooms.

a. Regarding tangible supplies, there is no evidence of a diversified range of products and services in the market so that higher education institutions can make decisions to obtain alternatives that minimize social and ecological risks. In fact, **Universidad Politécnica Salesiana** has recognized these weaknesses and leads specific projects that reduce the risk of current basic products and services through the promotion of research groups oriented to the optimization of renewable energies, integration of vulnerable populations, development of transport systems, and so on.

b. Regarding the intangible supply, the aim is to mark the same line of imparting knowledge no matter the subject being taught. That is, the knowledge being transmitted must cause an impact in students' lives taking into account regional, ecological and social aspects, promoting the transformation of the society it operates in. In this regard, **Universidad Politécnica Salesiana** proposes the consolidation of an institutional identity where the knowledge that is imparted must be based on the fulfillment of pastoral education, educating "honest citizens and good Christians" with academic and research skills, as well as the promotion of social and cultural impact through academic activity and contribution to the knowledge of social reality and its transformation, especially in aspects that predispose the lives of young people, human rights, environmental protection, intercultural relations and ecumenical and interreligious dialogue. (Salesian Institutions of Higher Education, 2016).

• Active consideration of the risks of acquired products and services and protection processes: As in the previous criterion, supplies are observed under two perspectives:

a. Regarding tangible supplies, products and services are limited, as well as the providers of these services. In other words, the university is restricted to working with suppliers who are in their constituency regardless if they incorporate social and ecological aspects in their code of conduct.

b. On the other hand, when it comes to intangible goods, suppliers are represented by professors who are responsible for teaching and transmitting knowledge. In this case, **Universidad Politécnica Salesiana** assumes mechanisms to maintain the same mission, vision and raison d'être of its educators through introductory lectures on salesian preventive pedagogical tradition, meetings to strengthen Salesian identity, and others, where education instills a code of ethics to its teachers.

· Structural framework for a fair price: the estimated price for the acquisition of supplies, which in this area is represented by the transmission of knowledge, derives from inflation or deflation results published by the Central Bank, salary increases, capital investments, scholarships, trade union demands, new research projects, infrastructure, etc. UPS explains the fair price of its fees as a consequence of the continuous evaluation of the services it provides, institutional efficiency and the fluctuations of supply and demand in the market, along with the subsequent approval of its union leaders. Currently, the referential price per semester depends on the socioeconomic profile of students which goes from quintile 1 –extreme poverty– to quintile 5 - population with the highest income. For quintile 1 the price per period is 1,765 USD, while for quintile 5 it is 2 432 USD.

## Indicator 2: B1 Ethical financial management

Despite the fact that in the financial system we can see common resource units that differ from those used by the university ma-

nagement system, according to Felber (2012) the financial services in force act as a signal in direction towards sustainability. In effect, accepting education as a future investment to improve employability opportunities, Williams (2006) considers that students spend more time in personal finances than actually studying. They issue applications for grants and loans, ask for financial help from their parents or find a part-time job to alleviate their educations costs.

From the perspective of the university management system, higher education institutions have increased their concern regarding their survival in the academic world where resources are lower and competition is fierce thereby undermining the autonomy of the university and its academics (Guzmán-Valenzuela & Barnett, 2013). Therefore, admitting that financial restrictions and increasing difficulties to coordinate all university activities have increased uncertainty, the dynamism of change and the inherent costs in the university sector (Valderrama & Sánchez, 2006). The financial sector begins to play an important role in the administration of the common good. The criteria that determine its application are:

- Social and ecological quality of financial services.
- Deposit oriented to the Common Good.
- Financing oriented to the Common Good.

No banking institution in Ecuador responds to exemplary behaviors within the criteria of common good, that is, there is no bank specializing in ethical-ecological services, nor is there a partial or total relinquishment of interests of deposits aimed at ecological ethical projects, nor do they provide a special condition for the issuance of credits, nor does it show an exclusive support from shareholders towards the investment on common good. Universidad Politécnica Salesiana keeps its capital flow in a bank rated AAA- (Bank Watch Ratings, 2017), this means that according to the analysis of factors such as credit risk, operational management, quality and independence of

the administration, strategies and controls, positioning in the market, quality and origin of the guarantee, priority of payment, macroeconomic environment, quality and integrity of information, the bank maintains an outstanding track record of profitability, good reputation, good access to its markets and clear prospects of stability. After all, banking institutions will remain with the same evaluation criteria as long as there are no changes in the ratings, in addition to an explicit, formal and collective request from educational institutions to banking institutions in order to integrate common good criteria.

## Indicator 3: C1 workplace quality and affirmative action

Satisfaction of employees influences both performance in the organization and customer satisfaction (Baruah & Barthakur, 2012). In fact, employees are the internal customers of the business and therefore their behavior affects the work environment and the fulfilment of the company's objectives (Chen, Yang, Shiau & Wang, 2006). In the university context, professors are the main suppliers of quality service; they fulfill three main functions: teaching, research and administration or management, although Narimawati (2007) excludes administrative tasks and incorporates community service. Regardless of how the teaching staff distributes their work hours, when measuring quality it is important to consider equality as the main key performance indicator in audits by considering data on the percentage and location of women professors and leaders. Additionally, the achievements regarding gender equality should be included in international recognition and reputation of universities in classification tables (Morley, 2014). To complement equality, quality in such environment is represented by multiple variables, including wages, support received by colleagues, satisfaction of administration, enjoyment of student interaction and perceived stress levels (Hagedorn, 1994). Taking into account both quality and equality, Felber (2012) considers the following criteria:

- Work schedule (voluntary and chosen personally, not enforced by the company): In Universidad Politécnica Salesiana, the schedule is decided according to the guidelines imposed by legislation, as well as the reports issued by talent management experts, planning and labor unions.
- Arrangement of the job position: Work areas are ergonomic and suitable for the disabled, there are even additional spaces for relaxation and movement.
- Physical health and safety: The university offers preventive talks for improving health, routine check-ups, freedom in medical check ups, free advice and sports activities for its professors and administrative staff. However, there is neglect regarding the importance of ecological cooking and care of their diet.
- Mental health: The university has exemplary actions on this matter. It has a pastoral department and the psychology undergraduate program which provide ongoing training workshops on social skills and personal development which facilitate internal coexistence.
- Self-organization, satisfaction in the workplace: The university seeks to maintain certain transversality in work organization by promoting equitable work and the elimination of hierarchies by having directors of undergraduate programs. There is no deanship, no secretaries for each undergraduate program, faculties and other bureaucratic positions.
- Equality and equal treatment for men and women: The university applies the unified basic remuneration (RBU for its acronym in Spanish) thus demonstrating equality of salaries. Additionally, the university president's annual report shows that 30% to 70% of directors and professors working at the university are women.
- The Disadvantaged (people with disabilities, migrants, unemployed): The university guarantees equal opportunities in

access, permanence, mobility and graduation without discrimination of ethnic groups, culture, socioeconomic status or disability. In fact, data of the university president's annual report shows that since 2013 it exceeds the 2% legal quota.

## Indicator 4: C2 just distribution of labor

Conrad & Blackburn (1985) describe a high correlation between the workload and excellence in the performance of higher education. In this regard, when professors feel their teaching workload is appropriate and have some control over what is taught, the result is student-centered teaching. Instead, when professors feel that there is no real commitment to student learning, even when they do not value the number of hours taught and they have no control over what is being taught, they are more likely to adopt an information transmission approach (Trigwell & Prosser, 2004). Therefore, Rahman & Avan (2016) state that distribution of work in teaching is a gradual process and in the preliminary stage of education less workload (teaching and not teaching) should be provided so they can spend more time researching and training, while, in the middle or higher stage, a moderate workload could be given considering maturity and administrative experience. To sum up, ensuring the effectiveness and sustainability of higher education involves creating favorable conditions in the place where university teaching is carried out. It is also important to know how to measure professors' dedication so there can be a subsequent recognition (Coll-Salvador, Rochera-Villach, Butler -Saíz & Naranjo Llanos, 2007).

- The teaching-research combination must place the person at the center of their full and creative existence, developing their potential towards a life endowed with meaning to light of human dignity (Rodas & Salgado, 2016). In Felber's (2012) idea of commons, the use of overtime (extra hours) affects the for-

thcoming of future jobs, therefore, the exemplary level of the criteria of this indicator suggests the reduction of additional work thus avoiding appropriation of other people's work:

- Reduction of normal working hours: Although the university presidents' 2016 report shows an expense of 179 710.92 USD regarding overtime and supplementary hours of the teaching staff, at present, the university is in the process of suppressing extra hours and only complying with the working hours indicated in the contract.
- Increase of the part-time work model (with full pay): As stated by Felber (2012), it is not possible to achieve such a projection in Ecuador's current socio-economic situation. However, professors' working hours is forty hours a week, but when calculating the average with respect to administrative work carried out by professors, number of students and research hours, the average is around 27 hours per week which practically represents 66% of the workday. This is very close to what Felber (2012) stated but without reducing to part-time work.

## Indicator 5: C3 promotion of environmentally friendly behavior of employees

De Campos & Pol (2009) define ecological behavior as the transformations that people have exercised through their actions in the environment. Among the main characteristics of this behavior, there are actions that cause visible changes in the environment, the search for solutions to an environmental problem or responding to a stimulus, deriving from attitudes, personal motivations and also from social norms. For Pato (2004) the change towards ecological behavior is intentional, although also circumstantial, random or even forced actions can affect the way to proceed. Thus, universities play a critical role in the transition towards a more sustainable socie-

ty (Sedlacek, 2013). This is not only achieved through adjustments of study programs (Pappas, Pierrakos & Nagel, 2013), but also by the model behavior of professors and administrative staff members (Lukman, Lozano, Vamberger & Krajnc, 2013), which leads to the criteria of this indicator presented by Felber (2012):

- Kitchen / canteen of the company / food during the working day: The case study does not show an empirical reaffirmation of an intervention in the balanced diet of professors and administrative staff. Despite this, measures are being taken by research groups so they plant organic food in urbanized areas, thus promoting sustainable models of food.
- Mobility to the workplace: incentive system / real behavior: Sustainable mobility has not been considered a priority, but officials say they will soon announce this measure.
- Organizational culture, awareness and internal processes of companies: Research groups oriented to the valuation of biodiversity and environmental modeling as well as innovating processes, such as the recent inauguration of the ancestral pharmacy and the celebration of Inti Raymi. There are courses, workshops and seminars for teachers, administrative staff and students in order to create awareness about the importance of ecological issues.
- Ecological carbon footprint in workers: Currently it is not taken into account and is not a short or medium term priority. In a way, it should be an initiative of research groups so it can be development and applied.

## Indicator 6: C4 just income distribution

Professors' salaries and promotion conditions are fundamental for the well-being of the academic profession and its contributions to the university (Caplow & McGee, 1958; Sutherland, 2017),

making it clear that when the idea of contribution to the university is discussed, emphasis is placed on research capacity, publication registration and national reputation, as factors that most influenced salary and promotion decisions, complicating the ultimate goal of professors in higher education, which is nothing more than quality teaching to higher education students (Katz, 1973). Besides these divergences, according to Altbach & Pacheco (2015) some countries such as Canada, the United Kingdom, Australia, and to some extent South Africa and the United States, offer reasonable salaries and safe and transparent career structures for professors. In other countries, including Russia and countries of the former Soviet Union, China and Latin America (except Brazil), wages are still considered low and contracts often lack transparency. A revolution emerges from this indicator, highlighting criteria that praise the work of professors with respect to other workers of the university:

- Difference of internal salaries in the company: According to data of 2017, the difference between the minimum full-time salary (565 USD) at Universidad Politécnica Salesiana was practically 10 times lower than the university president's salary and 7 times lower than the general academic vice president.
- Institutionalization: There is full transparency of the minimum wage. However, since 2016 the salaries of the president, general academic vice president and vice presidents of each campus have not been disclosed.
- Minimum salary: The minimum full-time salary at Universidad Politécnica Salesiana (565 USD) is 50% higher than the unified basic salary (375 USD).
- Maximum salary: Maximum salary is 10 times higher than the minimum wage in Ecuador.

## Indicator 7: C5 corporate democracy and transparency

Transparency and internal democracy is a tool that provides citizens with elements to demand their constitutional rights by having knowledge of the actions and decisions of institutions, promoting control and supervision by citizens, as well as denouncing cases of irregularities (Posada & Echavarría, 2012). This assertion recognizes that the university, besides being a place dedicated to research and the development of knowledge, also seeks to develop participatory democracy, where common knowledge is shared and there are discrepancies. A place where a shared responsibility is exercised, where the common, cooperation, transparency, integration and legality are respected (Innerarity, 2006).

First of all, internal democracy tends to involve the university community through the creation of regulations, educating people on political debate and increasing spaces for discussion (Casillas-Alvarado, Badillo-Guzmán & Valencia-González Romero, 2007). In addition, transparency does not only imply providing information, it also involves the quality and access to information through multiple mechanisms that effectively facilitate the apprehension of its activities by the community. In summary, the simple disclosure of data does not stimulate social participation, in fact, the use of different means must be fostered to promote social participation in internal policies (De Azevedo, Lyrio, Lunkes & Alberton, 2016).

The criteria that make up this indicator are:

- Degree of transparency: As of 2012, Universidad Politécnica Salesiana has free access to its data on self-assessment, remuneration, rendering accounts, financial transparency and management of figures. The university maintains an exemplary level in this indicator, allowing anyone to have access to this information.

- Legitimization of directors / executives: In its entirety, 60% of the directors are freely chosen, while the remaining 40% is decided by other means.
- Co-management for basic / operational decisions: More than 50% of decisions are consensual.
- Co-management to have a share or workers' earnings: Not applicable.
- Co-ownership of independent workers / foundations: Not applicable.

## Indicator 8: D1 ethical customer relations

The mission of universities is to create, preserve and transfer knowledge to students and society (Mayorga, 1999). Hence, the supply or service that is offered not only refers to tangible goods such as infrastructure (laboratories, recreation areas) but also to intellectual capital. By admitting the existing heterogeneous variety of institutions of higher education, the added value that can stand out compared to other organizations is connected by two factors: effectiveness in teaching knowledge for its later use in the workplace and the presence of an integrating element that ensures the learning transition (Bratianu & Orzea, 2013).

Beyond the competitive advantage that the universities could have with respect to its intellectual capital in order to increase the number of enrollments and keep current ones, it is worth mentioning that technology transfer, especially licenses, patents and spin-offs, are also assumed as a product intended for sale that is generated in the university (Vinig & Lips, 2015).

The criteria that correspond to this indicator are:

- Institutionalization (a link in the company): Universidad Politécnica Salesiana began in 1994; from its foundation to present

it has maintained the same guidelines: educate an integral, scientific, practical, human, moral and ethical professional, connect the university with society, consider science and technology as part of an integrating world of education and estimate research towards the solution of major social problems. In sum, the university has 23 years of experience applying promotion strategies directed towards the same objectives.

- Scope of ethical marketing: Less than 10% of the budget goes to marketing.
- Formations for ethical sales / marketing: There is no training exclusively channeled to sales or marketing of the Universidad Politécnica Salesiana "brand".
- Alternative bonuses of sales / marketing alternatives: Does not apply in this context.
- Scope of participation in the client's decision: More than 50% of demands and suggestions made by clients (students) are taken into account by the Superior Council for the university's development and improvement.
- Transparency of the product: The annual data of the university is exhibited since 2012. The progressive incorporation of a report of the Balance of the Common Good is being considered.
- Cooperation with consumer protection: Through strategies such as anonymity and free access to officials that run the university, students are guaranteed that their grades and environment will not be affected by expressing their point of view.
- Claims process, independent place of complaints, positive measures of service: The student is expected to evaluate both teaching and the university in general before, during and after the completion of each semester. The system applied at Universidad Politécnica Salesiana is considered proactive and successful since its beginnings.

## Indicator 9: D2 cooperation with business in the same field

In the context of higher education, Interuniversity Agreements, also known as a framework agreement, emerged as the legal instrument designed to achieve common objectives. The agreements establish joint work plans, concrete actions, academic exchanges, and goals to be achieved in certain periods of time. But above all, these agreements establish cooperation based on international and intercultural integration. These documents determine the relations between institutions and also their international scope (Teba, Onieva, Jiménez & Muñuzuri, 2014).

In Latin America, due to the growing supply of specific grants, management groups dedicated to agreements were professionalized; bilateral, rather than multilateral, relations are established as a priority as a result of organizational difficulties of the combination of several partners in cooperation programs; and finally, the growing value of international affairs as a result of globalization and the development of information and communication technologies is exploited (López, 2015).

In line with Felber's vision (2012), this indicator is based on the principles of solidarity economy which prioritizes associationism over capital and the increase of performance through cooperation. Accordingly, we present the following criteria:

- Disclosure of information + transmission of technologies: Universidad Politécnica Salesiana contains more than 25 framework agreements with Ecuadorian and international universities, each agreement has its own specificities and maintains transparency.
- Agreements allowing professors and university staff to render services at other institutions, assignments, joint participation in the market: The University has not formalized agreements

concerning these issues.

- Cooperative Marketing: Universidad Politécnica Salesiana is located in three Ecuadorian cities: Quito, Guayaquil and Cuenca. Therefore, there is both potential collaboration between the different branch campuses and cooperative development with other universities in these cities.

## Indicator 10: D3 ecological design of products and services

When analyzing the ecological conception within the university environment, knowledge transfer is the service par excellence, the intangible good of higher education used to implement environmental awareness, which can be defined as the assessment of environmental issues and the means to solve them, as well as the skills to implement these means; development of positive attitudes, personal environmental attitudes and environmental sensitivity; and fostering personal responsibility for the environment, reflected in activities (Arnon, Orion & Carmi, 2015). In addition, there is a theoretical and practical debate between those who propose environmental education as a specific topic of study and those who believe that it should be incorporated in all disciplines (Orr, 1991). In summary, accepting that the current supply and demand of products and services exceed the available resources, environmental knowledge should be formalized as a priority in terms of financing, activation of programs and support of the needs of communities. Therefore, the criteria presented by Felber (2012) seek to particularly concentrate on the "greening" of the common good.

- Efficiency and consistency. Products and services in ecological terms are equal to competitors or with equivalent alternatives of use: Universidad Politécnica Salesiana offers four undergraduate programs, along with their respective research groups, linked to the promotion of an ecological vision and the solu-

tion of environmental problems: environmental engineering, management for local sustainable development, biotechnology and veterinary medicine. Therefore, when comparing this university with other institutions of higher education, there are a considerable number of alternatives oriented towards the vision of ecological conception in knowledge transfer.

- Proficiency. Active organization for ecological use and sufficient consumption: The aim is to extend appropriate ecological behavior through recycling campaigns, urban gardens, natural pharmacies, optimization of irrigation systems, etc., with the participation of students from several undergraduate programs.
- Communication. Active communication of ecological aspects with the client: The intention is to increase the number of variables related to the measurement of ecological aspects in the short term, thus knowing the standards, the demands and sectorial challenges in order to project a level of stability in policies accompanied by the formalization of the participation of students and the community.

## Indicator 11: D4 socially oriented design of products and services

Access to higher education is increasingly frequent for students who come from economically disadvantaged backgrounds (Haskins & Rouse, 2013). These specific conditions (age, family and work responsibilities, disabilities, coming from different ethnic, cultural or economic backgrounds) can mean a disadvantage in terms of academic progress in the university. Thus, higher education institutions must guarantee all the necessary measures to promote inclusive education, equity and social cohesion, while avoiding dropout rates of students who need support to fulfill their educational potential due

to disadvantages caused by personal, social, cultural or economic circumstances. Felber's indicators (2012) facilitate the identification of the services offered to consolidate their full integration in academic and social life, and in fact, to the common good:

- Consideration of economic barriers of clients: Through its student welfare department Universidad Politécnica Salesiana manages the subsidy system for its students by considering students' high school of origin and their socioeconomic situation, which means students pay different education costs. This granted 6,631 total and partial scholarships in 2016 for the amount of 12 966 610 USD.
- Conception of open products and services; 4 dimensions: physical, visual, language and intellectual: The aim is to distribute aid, scholarships and subsidies for the 4 dimensions, thus enhancing the integration of all profiles into the university context.
- Processes and measures regarding ethical risks and social aspects of clients: The university has institutionalized the incorporation of social aspects through the 23 articles that make up the General Regulations of Student Welfare.

## Indicator 12: D5 raising social and ecological standards

Higher education has encouraged the creation of several methods and tools to measure, rate and monitor the performance and results of academic functions and management activities of institutions by developing universal standards.

Among the most common evaluation approaches, the comparative format has been used to compare achievements with the obtained results, confirming the increase in the effect and the extension of use in the international spectrum of rankings and leaderboards (Montané-López, Beltrán- Llavador & Teodoro, 2017). In short, in-

ternational standards in core subjects have reinforced the international dimension of training programs, promoting the development of abilities and skills in project-based learning from experiences towards the construction of knowledge (Salgado, 2014). It should be noted that there is no single ranking and not one that evaluates social and ecological indicators, rankings explain with some objectivity a specific aspect of university activity (Tomàs-Folch, Feixas, Bernabeu & Ruíz, 2015). However, the gradual use of rankings is also seen as a threat to university autonomy since it conditions its interests and objectives, even more so when the results of these rankings have been used without accompanying them with certain pedagogy that favors their understanding and limits the possibilities of wrong interpretation or of malicious use (Martínez, 2014).

The criteria chosen for this indicator seek to respond not only to the rankings, but also to the obligations issued by the public administration that pertain to higher education institutions:

- Concurrent cooperation and partners in the production chain: an open and mandatory process for complying with the requirements established by the Secretariat of Higher Education, Science, Technology and Innovation (Senescyt for its acronym in Spanish) and by rankings of greater international influence.
- Active contribution for the increase of legal standards: Direct commitment by both officials and professors for the fulfillment of the issued standards.
- Scope, extent of content and depth: Although international standards seek to measure the quality of teaching, research, involvement with industry, international vision, etc., Universidad Politécnica Salesiana considers it favorable to incorporate socio-ecological aspects both in rankings and in requirements of Public Administration.

## Indicator 13: E1 value and social impact of products and services

Universities are the core for knowledge transfer, they foster professional competences and facilitate the insertion of students to the socio-labor market (Jiménez, 2009). When theoretically extrapolating this idea there are two models that explain the usefulness of higher education institutions in society. The first model responds to the combination university– job market presented by Medina and Encomienda (2012), which includes the association between the university, the selected undergraduate program and stereotypes of alumni, it also assesses the significant influence of gender in socio-professional insertion, it also shows that if students work while they study, they have a different perception of professors, the class being taught and the job market. On the other hand, the triple helix model university –industry– government presented by Etzkowitz, Webster, Gebhardt & Terra (2000) provides a structure directed towards entrepreneurship and innovation systems. In this model, the role of the university can be summarized in teaching, research and production of knowledge, it receives support in patent policies, government funds and sponsorship of the industry. The industry, besides its specific objectives, receives incentives from the government for national development while the university provides the industry with knowledge and innovation. Finally, the aim of the government is to strengthen the economy by stimulating the interaction between the university and the industry. The *input* of the industry is to identify new market niches; the contribution of the university is formalized with technological innovation and ethical education. Felber's vision (2012) focuses on the valuation of direct and indirect satisfaction of basic needs, that is, the university besides providing knowledge – a direct need, must also provide maximum performance and quality knowledge –indirect need–. Similarly, he believes that within the cri-

teria there should also be alternatives regarding the effect the service will have regarding its social, cultural and ecological compatibility.

- Internal processes in the company. What positive uses or negative effects derive directly or indirectly from our products and services?: By order of the Council for the Evaluation, Accreditation and Quality Assurance of Higher Education, CEAACES (for its acronym in Spanish), along with what is stated by the Constitution of the Republic of Ecuador and the Organic Law of Higher Education, the university must comply with certain parameters assigned for the accreditation and quality assurance of institutions, careers and programs. On the other hand, the university also encourages the participation of students to evaluate professors, undergraduate program directors and contribute to the improvement of teaching methods, it maintains updated information for the design and development of internal and external training programs, it promotes professors according to the university's regulations and identifies professors with better performance.

- Cultural compatibility. How are social aspects valued in the production chain process compared to alternatives with similar purposes ?: Basically Universidad Politécnica Salesiana assesses the new enrollment rate, student dropout rate, repetition rate, graduation, average time to obtain a degree, average time for graduation and the average investment rate per student in infrastructure and equipment. It also analyzes the rate of professors' fourth level education, phd and master's degrees, average age of teachers, average experience, students –full time professors rate, enrollment per academic program and professor / student rate. In short, the university measures social aspects that are related to both students and professors and therefore is able to take measures that promote sustainability in later years.

- Natural compatibility, proficiency / moderation. How are the ecological aspects of our products and services valued, compared to products and services with a similar purpose?: In general, there is no comparison between universities regarding ecological aspects. However, a proposal with its respective dimensions and indicators that enable the measurement of the ecological effect of the university must be presented.

## Indicator 14: E2 contribution to the local community

In essence, a community goes beyond a group of people located in a specific place. In fact, it can be defined as a mentality, a way of thinking, a goal and a set of shared purposes (McMillon, 2017). University-community collaborations offer important opportunities for traditionally segregated groups to work together and build bridges through a learning environment (Miller & Hafner, 2008). In fact, professors who take part in community initiatives serve their students by developing relationships with work groups and acquiring knowledge and skills necessary for this type of instruction (Cherry & Shefner, 2004). The effectiveness of this action depends on the nature and extent of social capital in the community, which is evident through trustworthy norms and social relations between residents and volunteers. This social capital is strengthened through collaborative work, which is why the university seeks to strengthen ties with civil society by contributing and motivating solutions of technical and social problems (Gronski & Pigg, 2000). For Felber (2012) contribution to communities must be voluntary and non-profit, it should cover the deficits of society and improve their quality of life. The criteria he suggests are:

- Performance: The Salesian nature of this university is demonstrated in its altruism and its continuous willingness to help communities. In this regard, the university proposes interns-

hips, training and updating (continuing education, academic and scientific events), specialized services (consultancies, provision of services and research), social extensions (cultural, pastoral, projects), and cooperation networks, so that communities and vulnerable sectors benefit directly from this type of initiatives.

- Effect: The effect is evident in multiple fields. Specifically, transformations are denoted both at the infrastructure level and in the apprehension of knowledge. By 2016, Universidad Politécnica Salesiana had 205 consolidated projects with a total of 35 843 beneficiaries nationwide.
- Additional factor: The University assumes specific responsibilities and sustainable commitment, it has over ten years in formal and continuous projects with society.

## Indicator 15: E3 reduction of environmental impact

Higher education is not exempt from the ecological footprint, the activity of thousands of people in the university generates an environmental impact, such as energy expenditure, water pollution, maintenance of green areas, use of fuel, and especially the use of laboratories, where there are cases of microbiological (Yamamoto et al., 2001) and radiological contamination (Duisings & Beentjes, 1984). For Felber (2012) the reduction of ecological effects must be a priority for institutions considered a common resource, an active role that documents its direct and indirect effects on the environment means a recognition of the problems and consequently a continuous reduction of the harm being caused, thus enhancing its sustainability over time.

- Absolute effects: At Universidad Politécnica Salesiana, beyond following the protocols for the proper use of laboratories, there is no set of indicators that enable the assessment of the absolute ecological effects of its activity.

- Relative effects compared to sectors where the company is located: There is no general assessment on ecological aspects in the sector. This means that the position of Universidad Politécnica Salesiana on the reduction of ecological pollution compared to other universities is unknown.
- Management and strategy (with increase in size, relevance and requirements with high ecological effects): It is suggested that there be a section in the annual reports that analyzes the ecological effects: $CO_2$ emission, water consumption and specific resources of the sector.

## Indicator 16: E4 investing profits for the common good

According to Bok (2003), the need to adapt to legislative requirements and the attainment of comparative advantages over other universities has caused officials and trustees to seek agreements between institutions of the private sector and post-secondary institutions within their regions.

Such partnerships more often involve different degrees of corporate access to faculties, students, laboratories and intellectual capital of the university, gradually affecting the institution's *know-how*. The legal structure has been modified, causing an imbalance in income, which, contrary to being linked to the performance of work, is subject to the decisions of shareholders, directly affecting the use of the common use resource. Felber (2012) presents only one criterion for this indicator:

- Decline in the distribution of external dividends: Universidad Politécnica Salesiana does not have shareholders to distribute dividends to. It is worth noting that the Salesian Inspectorate of Ecuador nor any Salesian institution receives economic benefits from the university.

## Indicator 17:E5 Social transparency and co - determination

Torres (2001) considers consultation, transparency and participation in decision-making in management an indispensable condition to sustain, develop and transform education in the desired directions. Specifically, transparency is defined as a process that arises when organizations encourage visible decision making, there is openness to public contributions, it provides the public with the maximum choice and facilitates cooperation with other organizations in order to achieve greater benefits for the common good (Moreno & Molina, 2014). Currently, universities are involved in profound changes with the aim of increasing efficiency in transparency (Castiglia & Turi, 2011), among the elements that cannot be left out in this study are: university activities, social objectives and objectives; intellectual capital distributed in human, structural and relational capital; and finally, processes established in the performance agreement, including the impact of its services (Sánchez & Elena, 2006).

Regarding participation in decision-making, according to Vroom (1974) participation describes involvement in the organization, providing an opportunity for employees to achieve their goals, propose ideas and delegate responsibilities. Thus, by enhancing decision-making, employees' satisfaction and commitment are increased, supporting a proactive climate in the organization. Therefore, decision-making in higher education became an established feature of university governance, not only in the governance of student affairs, but also in certain aspects of teaching and learning, as well as for strategy and planning at an institutional level (Luescher-Mamashela, 2013).

This is the only indicator that subdivides the proposed criteria, separating transparency from participation in decision-making (Felber, 2012):

*a) Transparency*

- Extension of the content: In indicator C5, corporate democracy and transparency, the degree of transparency of the content is elaborated in detail, verifying that since 2012 the information referring to self-evaluation, remuneration, rendering of accounts and financial transparency are reported annually. This means that Universidad Politécnica Salesiana meets most of the critical data, except for those related to ecological aspects.
- Scope of contact groups: The university applies an active transparency, since in addition to providing free access to data, it carries out an open presentation to the public, where professors, students and administrative staff can participate and clarify their doubts about any issues that have been published and is being presented.
- Scope of the sites: The university has three branch campuses or locations: Quito, Cuenca and Guayaquil, each with its own representatives and officials, who are in charge of the organization and logistics including the immediate response to the group's needs. These representatives are fully available to provide data on transparency.
- Companies with <100 employees: Does not apply.
- Company with> 100 employees: According to information from Felber (2012), those entities that exceed a hundred employees need to apply the Global Reporting Initiative (GRI) to identify the variables that could respond to the common good. However, knowing that at least in Ecuador, the process is still maintained based on an exploratory approach, the common good matrix serves to have a general view of the University's positioning.
- Verification > 100 employees: There is no external audit to certify if the data issued by the multiple annual reports are close to the current situation. It is simply an internal process delegated to the administrative staff.

*b) Participation in decision making*

- Type of participation in decision making + documentation: Active and directed to consensus.
- Extension of participation in decision-making: Regular dialogue on important issues and weekly meetings of the Superior Council for strategic decisions.
- Extension of involved contact groups: Refer to public and open meetings where students, professors and administrative staff can attend freely.

## Conclusions

The results of applying Felber's (2012) 17 indicators in the context of higher education, specifically in the case of Universidad Politécnica Salesiana in Ecuador, demonstrates that it is a favorable environment for developing common good.

In this regard, 9 indicators are considered exemplary: (A1) decide on the service, supply, intangible good par excellence, determined by higher education institutions, is the transmission of knowledge; (C1) work spaces are ergonomic, suitable for the disabled, there are additional spaces for relaxation and movement, preventive talks for health improvement, routine check-ups, freedom in medical examination, free advice and sports activities for professors and administrative staff, thus maintaining certain transversality in the organization, promoting fair work and the elimination of hierarchies by having undergraduate program directors, with no deanship, program secretariats, faculties and other positions of bureaucracy; (C2) progressive elimination of overtime, no one should be able to appropriate the work of others; (C5) the participation of the university community has been encouraged through the elaboration of regulations, increasing places for access to information, involving the quality of information through multiple mechanisms that effectively

facilitate the apprehension of activities; (D1) 23 years of experience applying promotion strategies aimed at educating integral, scientific, practical, human, moral and ethical professionals; (D2) the university has more than 25 framework agreements with Ecuadorian and international universities, each one with its specificities and all maintaining transparency; (D5) the university has institutionalized the incorporation of social aspects through the 23 articles that make up the General Regulations of Student Welfare; (E2) an example to follow, concrete responsibilities are assumed with sustainable commitment, it has over than ten years in formal and continuous projects with society; (E5): regarding transparency, free access to data is provided, an open presentation is made to the public where professors, students and administrative staff can participate and clarify their doubts about any issue, while participation in decision making is active and consensus-oriented along with regular meetings on important issues, for strategic decisions there are weekly meetings held by the university's superior council.

Another feature included in this study refers to two indicators that the university has no involvement in and even less when it comes to relating it to the idea of a common use resource: (B1) None of the banking institutions in Ecuador respond to exemplary behaviors within the criteria of common good, in other words, there is no bank that specializes in ethical-ecological services, nor is there a partial or total relinquishment of deposit interests aimed at ecological ethical projects, nor do they provide a special condition for the issuance of credits, nor is there evidence of exclusive support from shareholders for the investment of common good; and (E4) the university does not have shareholders for the distribution of dividends, that is, it is a structure that does not correspond to the majority of Ecuadorian universities.

Universidad Politécnica Salesiana has aspects aimed at the common good that need to be established in a priorities agenda for

its early implementation and optimization: (C3) there is no promotion of ecological behavior of employees; (C4) Although the equitable distribution of income is subject to macroeconomic variables, level of preparation and performance, the difference between wages must be equalized; (D3) try to increase the number of variables related to the measurement of ecological aspects, thus knowing the standards, demands and sectorial challenges in order to project a level of stability in policies accompanied by the formalization of students and community participation; (D5) immediate incorporation of socio-ecological aspects both in the rankings and in the requirements of Public Administration; (E1) formalize a proposal with its respective dimensions and indicators that enable the measurement of the university's ecological effect.

To conclude, this first exploratory analysis should be useful for researchers and experts in this field as it is the first case study on common goods in the university management system in Latin America. The recommendation is to improve the six points where Universidad Politécnica Salesiana has deficiencies in order to become a benchmark for being a favorable place for the development of common good. Additionally, a next step would be to compare Universidad Politécnica Salesiana with other universities from Ecuador, Latin America and other countries to learn about the levels of approximation to the development of common good. Finally, we suggest continuing the research by applying GRI indicators on sustainability in order to deepen each indicator.

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