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# **M**onographic Dossier

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# The paradigms of development and their evolution: From the economic to the multidisciplinary approach

## Los paradigmas del desarrollo y su evolución: Del enfoque económico al multidisciplinario

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### Abstract

*This article presents the evolution of the concept of development, whose origin comes from the emergence of Economics as a science, presenting concisely the theories with more recognition for their contributions; and revealing, through bibliographic research, the milestones that marked significant advances in the knowledge about this social phenomenon. Four stages were observed: the first that confused development with growth guiding policies to increase GDP; the other is the incorporation of the social dimension from the economic approach by adding the (re) distribution of income as a variable, which was overcome with the contribution of other sciences such as Sociology, Politics and Law, creating multidisciplinary approaches that include the environmental dimension contemplating perspectives of hard sciences such as Physics and Biology, developing a new conception whose approach most accepted now is that of sustainable human development proposed by the UNDP, which incorporates Sen's approach to capabilities and sustainability principles, facilitating the agreement embodied in the 2030 Agenda that set out seventeen disaggregated objectives in one hundred and sixty-nine goals in the economic, social and environmental spheres; this is perhaps the greatest challenge in the creation of an environmental culture that promotes new values, and in other cases, regain ancestral values, where awareness, the product of an improved educational scheme complemented by a political apparatus adjusted to socio-environmental demands are key elements in the process.*

### Resumen

El presente artículo expone la evolución del concepto de desarrollo, cuyo germen antecede al surgimiento de la Economía como ciencia, presentando de forma resumida las teorías que tuvieron mayor reconocimiento por sus contribuciones, revelándose, a través de la investigación bibliográfica, los hitos que marcaron avances significativos en el conocimiento sobre este fenómeno social, hallándose cuatro estadios: el primero que confundió al desarrollo con crecimiento, orientando las políticas al incremento del PIB, seguido de la incorporación de la dimensión social desde el enfoque económico agregando la (re)distribución de la renta como variable, que fue superado con el aporte de otras ciencias como la Sociología, la Política y el Derecho, creando enfoques multidisciplinarios que hoy incluyen a la dimensión ambiental, gestando una nueva concepción cuyo enfoque más aceptado actualmente es el «Desarrollo Humano Sostenible» propuesto por el PNUD, que incorpora el enfoque de capacidades de Sen y principios de sostenibilidad, facilitando el acuerdo plasmado en la Agenda 2030 que planteó diecisiete objetivos desagregados en ciento sesenta y nueve metas en las esferas económica, social y ambiental, siendo tal vez el mayor reto la creación de una cultura ambiental que promueva nuevos valores, y en otros casos retome valores ancestrales, donde la concienciación, producto de un esquema educativo mejorado complementado con un aparato político ajustado a las demandas socio-ambientales, resultan claves.

### Keywords | palabras clave

*Development theory, economic growth, capabilities, economic and social development, human development, sustainable development.*

Teoría del desarrollo, crecimiento económico, capacidades, desarrollo económico y social, desarrollo humano, desarrollo sustentable.

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## 1. Introduction

The reasons that explain the progress of economies and the backlog of other economies, as well as the reasons that explain why a significant number of people live under poverty conditions, the most effective means of closing the gap between rich and poor, among many other questions relevant to the prosperity of the human being require the understanding of the characteristics and components of concepts such as richness, inequality, poverty and development, becoming the starting point to formulate theories, models, methodologies and policies that try to improve the quality of life of the population. These theories will maintain their validity as long as they explain the reality with an acceptable degree of success, and until new theories present arguments of greater conviction and completeness, giving way to the accumulation of knowledge and the advancement of science.

The study of development was formalized with the emergence of the “Development Theory” as a branch of the Economy, which initially took macroeconomics, microeconomics and Political Economy elements for its analysis, creating a bias towards the economic dimension that when insufficient, it required the support of other sciences, creating multidisciplinary approaches that continue in evolution, situation presented in this article based on the bibliographical analysis that aims to present in a concise way the recognized theories for their contributions to the comprehension of the development, pointing out the most important milestones that marked an impact in the knowledge about this social phenomenon.

## 2. Theoretical review

There are reflections throughout the history of mankind on how to improve the living standard and the achievement of happiness, among which stands out the Aristotelian thought that associated dignified life with production and consumption, including the importance of work and leisure in welfare (Martínez-Echevarría & Crespo, 2011), idea that was supported with the contributions of the classical school that marked the origin of the Economy as science, pointing out that the richness is the production, but not the precious metals or the money as assumed by the mercantilists, being priority to increase the productivity of capital and work to increase it, and thus, to achieve the development of the nation, proposing the free market as the most efficient mechanism for this purpose.

The hegemony of the classical thesis lasted up to 1929 when its theories and policies were insufficient to explain the “Great Depression” and remove the countries from the crisis, emerging the Keynesian school that proposed stimulating aggregate demand using fiscal and monetary policies to revive GDP and generate employment, conceiving the State as moderator of economic cycles, but continuing with the idea that the most important purpose is growth.

During the post-war period in which the United States positioned itself as the dominant power and implemented the “Marshall Plan” to rebuild Western Europe while strengthened its relations with regions where the “phantom” of communism of the extinct Union Soviet wanted to be reborn, the inequalities between developed and underdeveloped countries expanded, becoming in the subject of academic

research addressed from the “Development Theory”, which was consolidated as an economic discipline.

Following are the lines of thought that were most accepted at the time of its diffusion, allowing to observe the evolution of development from the economic position to the multidisciplinary one.

### **2.1. Modernization theory**

This theory states that in order to achieve development, it is necessary to overcome several stages already achieved by the great powers, whose steps were to be imitated by the underdeveloped countries, requiring that western values replace the traditional, because they mistakenly assumed them incompatible. The relevant models of this aspect are:

- Arthur Lewis’ dual-sector model: Conceives development as sustained per capita growth that transforms a traditional economy, characterized by stagnation and subsistence, into a modern economy, centered on capitalist expansion, considering the increase of industrial productivity by implementing technologies, which increases the demand for labor; and thus, the salaries of the sector, motivating the migration of the countryside to the city. The shortage of labor in the field causes the rise in salaries in the primary sector by pressuring landowners to implement technologies that increase the productivity of the agricultural worker, leaving behind the traditional economy and joining the modernity (Lewis, 1958).
- Because of the belief that only capitalists’ profits were able to finance investment, since middle-class incomes and low-class wages were insufficient to achieve a significant level of savings, it was stated that the importance was in the growth and not in the distribution of the income, because this one was to be biased in favor of the bourgeois (Gutierrez, 2007).
- Model of the development stages of W. Rostow: It assumes the development as the highest link between five progressive stages listed below:
  - i. Traditional Society: The production is rustic, agricultural and intended for the consumption rather than trading, being a subsistence economy with little capital accumulation.
  - ii. Pre-takeoff conditions: The State promotes modernity, facilitating the importation of capital goods and creating the necessary infrastructure.
  - iii. Take-off: Local industry implements new technologies experiencing rapid growth. It requires that the investment rate exceeds the population growth by relying on external savings.
  - iv. Maturity: Technological advances have been implemented effectively, increasing labor productivity, wages and national income. Economies are projected outward. It has an estimated duration of sixty years.
  - v. High mass consumption: production has grown significantly and has diversified to the service sector. The State is able to implement social policies and the country has international presence (Aguilar, 2017).

## **2.2. *Structuralist theory***

It originated in Latin America marking its beginning in the Havana Conference of 1947 with the speech of Raúl Prebisch, who opposed the idea that underdevelopment is a stage of development and questioned the effectiveness of neoliberal policies indicating that the periphery countries are inserted into international trade by exporting cheap raw materials to developed countries and importing capital and consumer goods with high added value, situation that deteriorates its terms of exchange and makes difficult the effective implementation of new technologies in its productive processes, lagging behind the benefits of progress (Rapoport & Guiñazú, 2016).

With a Keynesian ideal promoted by the Economic Commission for Latin America and the Caribbean (ECLAC), the import substitution industrialization (ISI) was proposed, which required the active participation of the State as a planner and director of the economic activities, using tax exemptions, subsidies, elimination of tariffs on capital goods, among other initiatives to encourage investment in new industries, but also by applying entry barriers to the goods from the rest of the world that could be rival in the local market with the products offered by the national industry (Ariel, 2015).

In this way, the development would be initially endogenous, depending on the internal consumption, while the implementation of the technological advances progressively increased the productivity of the industrial sector lowering its costs, until reaching the time when their competitiveness would be equated with those of developed-country industries. Thus, value-added products would be exported and barriers to imports would be eliminated, allowing the country to enter into international trade under fairer conditions.

However, in most of the Latin American countries that adopted this model, local industries did not improve their competitiveness because they were created by national power groups associated with transnational corporations that took advantage of the absence of competition and captive demand for extraordinary benefits, requiring “State paternalism” for sustainability, generating inflation and fiscal deficits and balance of payments explaining the failure of the model (Polo, 2016).

## **2.3. *Dependence theory***

It was born in the 1950s, gaining strength in the two subsequent decades. Taking lines of Neomarxism and Weberian thought, it advocates the idea that there are national power groups interested that Latin America continues being primary-exporting, subjecting nation-States to a relationship where their development depends on the progress of the hegemonic countries (Vergara & Ortiz, 2016).

The “Peripheral countries”, despite the deterioration of the trade terms, maintained their export offer by achieving competitiveness through labor exploitation, which caused domestic demand, while importing goods with added value and obsolete technology that did not allow them to increase their productivity to the levels of the “center” countries, perpetuating internal and external imbalances, and consolidating a dual model where development and underdevelopment are opposite faces of the same coin (Gutierrez, 2007).

This theory differentiates the concept of ‘growth’ from ‘economic development’ by arguing that the growth is not a product of the implementation of new technologies, therefore, it does not contribute to leaving the dependency structure, while economic development does. It also proposed to maintain the “ISI model” but with a moderate protectionist policy applied on previously prioritized activities (Hunt, 1989).

#### ***2.4. Neoclassical institutional theory***

The Institutionalist School was founded in the United States by Thorstein Veblen and John R. Commons, whose studies were based in the role of institutions in development, considered an evolutionary process that is based on behaviors associated with activities that emerge as technological progress is implemented, which they called “universal values” aligned with efficiency and economic benefit, finding as resistance the “cultural values” associated with the ethics, the moral and the opinion of the community, revealing the dual character of the people who are finally those that promote the change (Macagnan, 2013).

This school, unlike classical thought, believes that tastes and preferences vary and that rationality is limited since there is a learning process circumscribed to culture, norms and institutions, which links economic behavior to law because the laws regulate transactions, thus, development should be considered in addition to the economic, social and political dimension (Commons, 1931).

#### ***2.5. Marxist theory of global systems***

Immanuel Wallerstein, the main theorist of the system-world analysis, acknowledged that studying the nation-State isolated without considering global conditions is insufficient, suggesting a holistic view that includes the dynamics of the systems of Global communication, international financial systems, knowledge transformation, trade evolution, and even military linkages, for which the Economy should rely on Sociology, adapting to the new logic of the capitalist system that ignored the frontiers in search of profits in an increasingly integrated world to the global market, generating different stages of development that allowed to categorize the countries in peripherals, semi-peripheral and the center, being the center countries the biggest beneficiaries of the unequal distribution of wealth (González, 2004).

#### ***2.6. Neoliberal model and globalization***

In the context of the interconnection intensification between distant and diverse communities that changed their cultures and strengthened their economic, social and political linkages as a result of advances in information and communication technologies (ICT) during the seventies and eighties, and the external debt crisis that hatched in Latin America, the “School of Chicago” conceived this model, accusing protectionism as the causality of the crisis, prioritizing the dismantling of the “Welfare State” through the implementation of reform packages suggested by the International Monetary Fund, the World Bank and the United States Department of the Treasury, to which John Williamson called the “Consensus of Washington», which began with the signing of a letter of intent where the government pledged to contract

public spending, above all social expenditure, to non-intervention in the money market to have an interest rate and exchange rate governed by competition to eliminate tariff and non-tariff barriers to international trade, to open to foreign capitals, to privatize public enterprises, to respect property rights, and in general, to deregulate markets, in exchange for access to loans granted by multilateral agencies (Castañeda & Díaz-Bautista, 2017).

The implementation of these policies, initially called “austerity” and later “structural adjustment”, led to the deterioration of demand and aggregate supply that reduced efficiency and increased inequality and poverty, adversely affecting Development of those who adopted them (Casas, 2017).

## 2.7. Theories of sustainable development

During the 1940s, civil movements and academic studies appeared that warned about the possible environmental crisis consequence of the models of development that promoted the industrial production and the consumption in masses without contemplating the degradation and the restrictions they impose on the current and future quality of life.

At the beginning of the seventies, the United Nations recognized the environment as a dimension of development, a situation complemented by the creation of the “Club of Rome” (Gutierrez, 2007), motivating the debate in different committees and reports, being important the Brundtland report of the World Commission on the Environment and Development, which questioned the model based on the assumption of an unlimited possibility of growth and developed the definition of “Sustainable Development”, understood as the one that allows to meet the needs of the current generation without compromising the capacity of future generations to satisfy their own (CMMAD, 1988), promoting the diffusion of new development theories, including:

### 2.7.1. Degrowth theory

In 1972, after the publication of the report of the “Club of Rome” called *The limits of the growth* whose main author was Donella Meadows; Herman Daly, influenced by the thought of John Stuart Mill, proposed the “steady-state theory of dynamic equilibrium” in which the system, through conscious political action, is composed of a constant stock of capital and population that is maintained by natural resources, being imbalances when the natural budgetary restriction is exceeded, limited by the solar and mineral sources, overexploiting scarcity absolute resources to meet relative and trivial needs (Daly, 1991).

Georgescu-Roegen (1976) refused Daly’s proposal (*ob. cit*), stating that stagnation nullifies the possibilities of improving the quality of life of poor countries and that growth is measured by the increase of the real product without contemplating the contradictions in the depletion rate of natural resources, causing the slowness of their depredation, when what the necessary action is to convert them (Naredo, 2011), and since man is unable to create and destroy matter or energy, man is only able to transform it, and that by the law of the entropy there is energy that dissipates in each

process, the sustainable would be to reduce the indiscriminate extraction to extend the existence of humanity (Zaar, 2018).

Latouche (2009), recognizing the unsustainable system, proposed to perform a planned degrowth that eliminated the existing asymmetries that overvalue the monetary flows while undervaluing the physical and human costs, quantifying the extraction costs and omitting the replenishment of natural resources, supported by an institutional framework skewed towards capital resulting in social and environmental detriment (Naredo, 2010), this would aim to ensure that people live “within the limits” in the biospheric sense (Riechmann, 2004), and it is a priority to consolidate a new “political culture” (Morin, 2011).

### 2.7.2. *Human scale growth theory*

Max-Neef, Elizalde and Hopenhayn (1986) proposed the “Theory of fundamental human needs” composed of three subsystems that allow an understanding of development that exceeds the economic perspective, these are:

- Needs: that are part of the human interiority, and therefore immutable, existing nine of equal importance: subsistence, protection, affection, understanding, creation, participation, leisure, identity and freedom. The lack of a need below a pre-systemic minimum threshold causes poverty.
- Satisfiers: these are the bridge that connect the needs with the goods, and these are affected by the culture and the historical context.
- Goods: which are materials and, therefore, limited to the biosphere. Its use powers the satisfiers attending the needs.

Therefore, while the needs and goods are finite, the satisfiers are unlimited, and to reach a sustainable society, the awareness of the population must be increased by transforming the culture towards an ecological vision, where devices are at the service of life, and not the other way around (Elizalde, 2000).

### 2.7.3. *UNDP's sustainable human development*

The United Nations Development Program (UNDP) formulated a multidimensional proposal to address the concept of development that contemplates the human system from the economic and social dimension, and the natural system from the environmental dimension; pretending that economic growth will be achieved simultaneously with the eradication of poverty, the promotion of equity, the increase of human capacities and freedoms, without violating the environment to guarantee the extension of the existence of humanity.

While the predecessor theories focused on the promotion of production from productivity, in some cases considering their distribution, the sustainable human development adopted the approach of Amartya Sen, who proposed as a measure the abilities people have to achieve valuable functions that give them the freedom to choose the living standard to value, so that there is a positive correlation between the abilities, which are translated into freedoms and human development (Iturralde, 2018).

Thus, the core of the analysis was moved from the economic activities to the abilities of people, understood as the set of basic and specialized, physical, legal and intellectual functions that they possess to achieve their well-being. Thus, the amount of assets determines the potential well-being as they increase abilities, which depend on the state of the individual, since two individuals may have the same resources, but their enjoyment may differ according to their condition (Urquijo, 2014).

In this sense, access to monetary resources is important for the development, but it is not the only point of interest, because the purpose is to create an environment of achievable opportunities that improve the life level of the population, for which must be included The 'social dimension' comprising elements such as: health, education, leisure and recreation, dignity, political rights, community participation, among others (Sen, 2000).

By placing the human being as the ultimate goal of development, the need arose to incorporate the environmental dimension into the concept, with the first debates on the importance of ecological heritage at the Stockholm Conference on the Human Environment in 1972 promoted by UNDP, which subsequently continued at the Rio Conference on Environment and Development in 1992, among other important interventions and conventions that enriched the concept of sustainable development that is now widely accepted by the scientific community.

UNDP also formulated a new instrument that best fits the vision of Sustainable Human Development, called the "Human Development Index" (HDI) resulting from the three-dimensional arithmetic mean (see Table 1).

**Table 1. HDI Measurement Components and variables**

Component	Measure variable
Richness	GDP per capita
Education	Expected education Literacy rate in adults Gross rate of enrollment
Health	Life expectation

Source: UNDP, 2016

According to the score obtained, the HDI categorizes the countries as follows:

- Very high development: 0.80 or more points
- High development: Between 0.70 and 0.79 points
- Medium development: Between 0.55 and 0.69 points
- Low development: 0.54 points or less

From this approach, at the United Nations Conference on Sustainable Development held in Rio de Janeiro in 2012, seventeen "Sustainable Development Goals" (ODS) were raised to address the actions of participating countries towards eradication of poverty, the care of the planet and the creation of an environment of peace and prosperity, replacing the 'Millennium Development Goals' (MDGS), and

coinciding with the Paris Agreement, adopted at the Conference on Climate Change (UNDP, 2016).

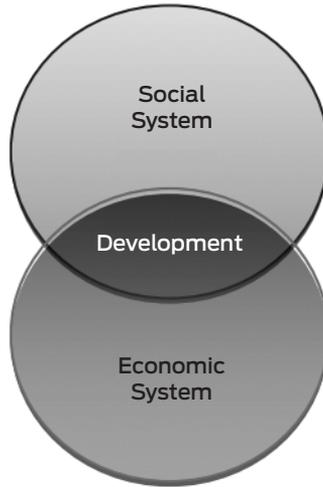
### 3. Towards an integrative understanding of the paradigms

Until the post-war period when the “Development Theory” was constituted as a discipline of the Economy, being one of its forerunners the theory of modernization that studied the steps that allowed the powers to develop with the desire that the countries with less development imitate them, it was assumed to grow as a synonym for development, directing the debate towards how to produce more, using as a key indicator the GDP per capita, which although relevant, suffers from several deficiencies among them: being an average that does not present data on the dispersion and hiding information on the distribution of wealth, in addition that its calculation omits data from the submerged economy (illegal and informal) and activities that have value but are not remunerated as domestic work, volunteering, among others, to which it is to be added that it does not reflect neither the quality of the goods nor the negative externalities that causes its production and consumption. For example, Brazil’s GDP would grow if the Amazon was deforested but the quality of a countless number of environmental services that are determinants of well-being is reduced, restricting future progress and worsening the development conditions.

With the theory of dependency, which included elements of the structuralism theory, the first clear distinction between growth and development emerged, pointing out that the application of technologies that cause changes in the productive structure derives in development; otherwise, if the economy expands without structural changes there is only growth, prevailing schumpeterian neoclassical idea to analyze the problem exclusively from the economic dimension (Jahan, Mahmud, & Papageorgiou, 2014).

Although attempts to increase well-being, measured by increased product and mass consumption, resulted in problems of increasing inequality and social exclusion pointed out by the dependent Cepal and structuralists, it was not until the institutional theory was propagated, which exceeded the one-dimensional economic perspective by adding the social dimension, emphasizing the importance of human behaviors to understand development and requiring the contribution of other sciences. The theories of global systems and globalization, in addition to accepting the economic and social dimensions of development, broadened the scope that was restricted to the nation-State by contemplating the effects of the global context and its subsystems.

As a result, development is conceived as the capacity of countries to create wealth and promote social welfare in the framework of globalization, recognizing that the quantitative accumulation of capital and the measurement of development with a single variable (GDP) and a single dimension (economic), were insufficient, so it was necessary to add the qualitative leaps that progress provokes in society (Chirinos, Meriño, Martínez & Pérez, 2018), however not yet incorporated the environmental system, as seen in Figure 1.

**Figure 1. Economic and social Development**

The exclusion of the environmental system implies the assumption that growth can be unlimited, representing the supply curve with a positive slope that grows infinitely as prices increase, restricting basically by the quantity and productivity of labor and capital that provoke production possibilities that can be expanded with demographic growth and technological progress, focusing the discussion on the most effective mechanisms to increase the marginal productivity of factors as well as the most efficient way for wealth to be distributed equitably.

This capitalist logic propelled consumerism and individualism, establishing models that seek exponential growth ignoring the “Law of Entropy” (Rifkin, 2014), deteriorating natural capital and allowing a living standard present due to the well-being of future generations (Sempere & Tello, 2007), since the market is the ideal mechanism for determining production and distribution, because to suppose the market as the ideal mechanism to determine the production and distribution is not to know the functioning of the social and natural systems whose interrelation leads to changes that can have unexpected magnitudes at different times that, by rapidly and significantly deteriorating the environment of the human being it puts at risk the prolongation of its existence (Bermejo, 2008), as mentioned by various reports, including the Live Planet Report of 2016 which revealed that the 2012 natural resources and environmental services consumed by humans demanded the biocapacity of 1.6 planets, so the supply was carried out by extracting resources and returning waste at a rate higher than that of its regeneration, in addition to the population of vertebrate animals contracted in 58% between 1970 and the referenced *ut supra* year (WWF, 2016).

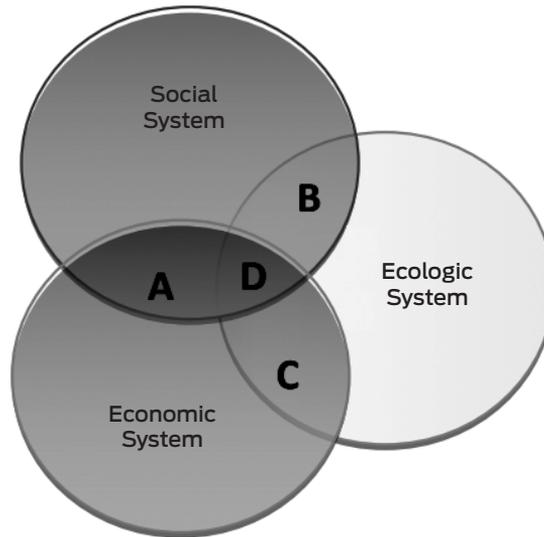
Surpassing predatory capitalism is imperative, and according to Gorz (2008), it will occur in an uncivilized way through catastrophes or through programs based on new sustainable models, a situation that according to Martínez Alier (2008) has motivated to initiate a subtle declination process, more than GDP of the use of resources and emissions, which must be intensified with the use of renewable energies, the

construction of a framework that strengthened green concepts, and the transfer of new knowledge that empower the citizenship with these processes (Barcena, 2011).

The most widely accepted proposal is the “sustainable human development” of UNDP, which presents two fundamental advances that mark the concept of development:

- The strengthening of the social dimension using Sen’s capabilities approach rather than focusing on the (re)distribution of wealth, modifying the perspective of equity and social justice. Traditionally, it was assumed that two agents with equal income had the same welfare which is false if, for example, one of them suffers blindness. In the same way, it happens if it is measured by the assets, because a woman due to religious and/or cultural beliefs is prevented to study or to vote, although she has access to clothing, housing or jewels, satisfying her motor and health needs, the political needs, community life and self-realization are not, because the lack of equal rights, preventing her from properly development.
- The Explicit incorporation of the environmental dimension, recognizing that non-renewable resources are finite and renewables have a production and reproduction cycle that does not necessarily correspond to the market demand, deriving in their overexploitation to finally return to a deteriorated natural system; and although there is Kuznets’s hypothesis of the environmental curve that indicates that the environmental damage grows as the country develops until reaching a point where the situation becomes an inverse relationship where a higher degree of development translates to lower volume of emissions, the empirical evidence is rather poor and even contradictory, so it cannot be assumed as tautological (Suárez, 2011; Mendaza, 2015; Falconí, Burbano & Cango, 2016).

In this way, the organic and multidisciplinary interconnection are accepted recognizing the current and future importance of the well-being that was embodied in the Brundtland Commission in 1991 (Carro-Suárez, Sarmiento & Rosano, 2017), generating a model that encompasses at least the three dimensions presented in Figure 2, where point A symbolizes development proposals that seek growth and social welfare but damage the ecosystems; the development model B that seeks social benefit and environmental care but is not sustainable because it lacks the economic perspective; model C where the environment is cared for but the benefits of economic progress are concentrated in few people because it does not tend to the equity or social justice; and Point D where the three dimensions converge, i.e., the sustainable development understood as “the design of human and industrial system that ensure that the use that makes humanity of the natural resources does not diminish the quality of life by the impact in the social conditions, the human health and the environment” (Mihelcic & Zimmerman, 2012, p. 4).

**Figure 2. Sustainable human Development.**

Source: own elaboration from information based on Salcedo, Reboloso and Barber (2010, p. 26)

Each dimension has goals whose aggregation results in a level of sustainable human development, the HDI being an effort to measure the overall outcome of the model. However, there are different variables of interest that are studied with specific indicators for each dimension, as exemplified in Table 2, creating an interconnected system where the variation of a component affects others, as could be the case of an increase in the years of schooling (of the social dimension) that derives in the increase of the production (of the economic dimension) and in more environmental awareness (environmental dimension), or deterioration of water quality that impacts negatively on the child morbidity and on the productivity of a territory.

**Table 2. Example of variables and indicators by development dimension**

Dimension	Variables	Indicators
Economic	<ul style="list-style-type: none"> <li>• Economic growth</li> <li>• Unemployment</li> <li>• Inflation</li> <li>• Balance of payment</li> </ul>	<ul style="list-style-type: none"> <li>• Variation rate of the real GDP per capita.</li> <li>• Unemployment rate, underemployment and full occupancy.</li> <li>• Consumer and producer price index.</li> <li>• Balance of payment rates and commercial balance.</li> </ul>
Social	<ul style="list-style-type: none"> <li>• Education</li> <li>• Health</li> <li>• Poverty</li> <li>• Unequality</li> </ul>	<ul style="list-style-type: none"> <li>• Schooling years, illiteracy rate.</li> <li>• Death and malnutrition rate.</li> <li>• Poverty, poverty gap per consumption, poverty per NBI.</li> <li>• Gini coefficient, income distributio by decil.</li> </ul>

Dimension	Variables	Indicators
Ecologic	<ul style="list-style-type: none"> <li>• Air quality</li> <li>• Emission to the atmosphere</li> <li>• Quality of water</li> <li>• Quality of the soil</li> <li>• Environment</li> <li>• Green economy</li> </ul>	<ul style="list-style-type: none"> <li>• Year mean concentration of NO<sub>2</sub> and O<sub>3</sub>.</li> <li>• Gas emission of greengouse effect, particles emission</li> <li>• Quantity of water used per day, level of ground water, purification of residual water</li> <li>• Soil lost by erosion</li> <li>• Concentration of pollutants in the tissues of alive organisms, diversity of wild species.</li> <li>• Energetic intensity of the economy, ecologic impact, national consumption of the materials.</li> </ul>

Source: Own elaboration based on SICES (2018); MAPAMA (2016) and BCE (2018)

It pointed out that the different aspects of thought agree on the fact that the action of companies and consumers is essential, because their interactions affect the level of development; reason for which in the context of sustainability, economic behavior must be overcome by incorporating the environmental dimension into business models and consumption habits, which requires the normative and institutional support of the State (Moreno, 2017).

#### 4. Final considerations

“Sustainable human development” encompasses Sen’s capabilities approach and the sustainability described in Brundtland’s report, whose aggregation and interaction provide a holistic view of the phenomenon from three dimensions: economic, social and environmental; becoming the dominant thesis currently covering the individual with a multidisciplinary perspective that considers, in addition to Economics, other sciences such as Sociology, Biology and Politics.

- The abstract concept of development that governs today responds to an evolution of thought that presents the following ideas:
- Development was treated as a synonym for economic growth and studied only from the economic dimension considering GDP as a key indicator. Later, Sen revealed that there are food-producing countries that suffer from famines, and that, by increasing its production, it is exported to countries with greater purchasing power, preventing the local food crisis from overcoming, showing that production without distribution does not necessarily produce development.
- The “economic dimension”, even dominant, was added to the “social dimension”, contemplating the production and distribution of wealth and its impact on the well-being of the population measured through utility, understood as the satisfaction of consuming, and the distribution of the income to be governed by Pareto improvements, i.e., using policies that increase the position of less favored agents without reducing the other agents (Pindyck & Rubinfeld, 2018).

- The “social dimension” was consolidated by changing the monetary approach to Sen’s capabilities, which by collecting the concepts of equity and social justice focused its attention on the generation of opportunities and on the capacity to seize them, requiring the creation and strengthening of functions that allow people to achieve the living standard they value.
- The “environmental dimension” was added to the “economic” and “social” dimensions, by explicitly adding the relevance of the environment for the development, incorporating the right of future generations to meet their needs, ensuring the conservation and extension of human life, and consolidating the multidimensional perspective that requires the support of social and natural sciences, definitively surpassing the economic vision.

This concept of development centered on people with an intergenerational perspective, rather than the institutions or the market, constitutes a significant theoretical advance that incorporated Sen’s approach, warning that the freedom to reach the living standard valued by the agents is based on their capacities and the real opportunities, being the object-value the “set of material and immaterial goods that undergo an evaluation process to prioritize them in terms of individual utility, this is pleasure, happiness or satisfaction of desires” (Arteaga & Solis, 2005, p. 39).

The ‘agency role’, understood as what people are free to do and achieve, as well as the responsibilities of their actions and omissions that are subjected to values, requires the role of social cohesion as it can multiply the individual effort in addition to directing their actions through the institutionality of the state or communal behavior.

Thus, the exercise of individual freedom is framed in a dynamic and interconnected global social environment that provides information in the form of culture and values, affecting the behavior of the agents, who under the consumerist logic of the prevailing capitalism, aim to maximize benefits and expenses subscribed to an ideology that rewards the selfishness and the economic efficiency, encourage to maintain an untenable stance that imposes the future quality of life at the expense of a superfluous current benefit, to which Max-Neef *et al* (1986) called a “stupid way of living”, as they develop capacities whose incorrect application deteriorates basic functions, limiting their future freedoms and attacking their own quality of life to the point that “much of the scientific and technological effort is directly or indirectly directed towards securing the possibilities of destroying the entire human species” (Max-Neef, Elizalde & Hopenhayn, 1986, p. 145).

Although the “environmental culture” is discursively accepted, it is factually little applied, making it necessary to cultivate new values, and in other cases to retake ancestral values, providing information that create awareness on the latent social and environmental reality, allowing to reorder the objects-value in a hierarchy that promotes the solidarity and environmental care, being education the right and transcendental vehicle of the process that requires the accompaniment of a new political vision, as well as the effort of the academy to finish the construction of the concept of development that presents theoretical and instrumental voids. Although they have been improved, they fail to synthesize the complex theme of development and its

interaction between dimensions that contemplates quantitative but also subjective qualitative variables such as the concept and level of happiness.

To characterize man's balanced coexistence with nature as a utopia and as an unattainable dream that is worthy, is to disparage the adaptive and rationality capacity of humanity, condemning it to extinction. When Social and environmental awareness is clarified, our species will know, want and would be able to coexist harmoniously with the environment, consolidating an environmental culture that will govern on the daily, individual and social action, and in all the dimensions and variables of the development.

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# The Sustainable Development Goals as a base for the action and social and environmental intervention

## Los Objetivos de Desarrollo Sostenible como marco para la acción y la intervención social y ambiental

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### Abstract

*Climate change has emerged as one of the most important risks for citizenships and especially for the human being, who is known as the main cause of this change. The aim of this research is to analyze the role of sustainable development objectives for the action and social and environmental intervention and the role that environmental educommunication has with the challenge of climate change, as one of the phenomena that, by its urgency, is on the environmental, social, economic and political agenda of organizations. Thus, a bibliographical review of the main investigations in the area was carried out in which it was observed that climate change and the objectives of sustainable development, defined by supranational entities, are not present in environmental education, and only special interest is paid to the catastrophes and extreme situations in environmental communication. In times of social networking and false information, the recovery of critical and ideological approaches to media education is necessary for the development of media education and digital competence to be able to create new narratives through digital media for new forms of ecocitizenship capable of causing a necessary change and transforming the system.*

### Resumen

El cambio climático se ha erigido como uno de los mayores riesgos para la vida de todas las especies en la tierra, especialmente para el ser humano quien, a su vez, es su principal causante. La presente investigación busca analizar el papel de los Objetivos de Desarrollo Sostenible (ODS) de las Naciones Unidas para la acción y la intervención social y ambiental y el papel que la educomunicación ambiental tiene ante el reto del cambio climático, como uno de los fenómenos que, por su urgencia, está en la agenda ambiental, social, económica y política. Para ello se ha realizado una revisión bibliográfica actual de las principales investigaciones en el área. A lo largo de este trabajo se ha observado que el cambio climático y los ODS, definidos por entidades supranacionales, no están presentes en la educación ambiental y que el ámbito de la comunicación ambiental se centra, especialmente, en las catástrofes y situaciones extremas. En el actual entorno digital, donde la inmediatez de las redes sociales ha favorecido la difusión de informaciones falsas, es necesario la recuperación de enfoques críticos e ideológicos de la educación para los medios, para el desarrollo de la educación mediática y de la competencia digital con el fin de promover una ciudadanía con capacidad para construir nuevas narrativas a través de los medios digitales, para con ello facilitar nuevas formas de «ecociudadanía» capaces de provocar un cambio necesario y transformador en el sistema.

### Keywords | palabras clave

*Climate change, sustainable development goals, digital ecosystem, social networks, educommunication, ecocitizenship.*  
Cambio climático, objetivos de desarrollo sostenible, redes sociales, educomunicación, ecociudadanía.

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## 1. Sustainable Development Goals (SDG)

The United Nations approved the Sustainable Development Goals (SDG) in 2015, following the decade of Unesco-led Sustainable Development Education (2004-2015) and the Millennium Development Goals (2005-2015). These are the 17 Goals of Sustainable Development: 1 Poverty, 2) Zero Hunger; Health Welfare; 4) Education; 5) Gender equality; 6) Water; 7) Affordable and pollution-friendly energy; 8) Decent work; 9) Industry, innovation and infrastructure; 10) Reduction of inequalities; 11) Sustainable cities and communities; 12) Responsible consumption; 13) Climate Action (climate change); Marine life; 15) Terrestrial ecosystems; 16. Solid peace, justice and institutions; 17. Alliances (United Nations Development Programme, 2016). These objectives of Sustainable Development allow having a reference foundation for the action and social and environmental intervention, despite an evident lack of integration of social variables (Allen, Metternicht & Wiedmann, 2016).

Figure 1. Sustainable Development Goals



Source: United Nations (2017)

There are certain goals for the 2030 from SDG, such as ending poverty and improving access to education, employment and information, improving health and housing and reducing inequalities as moving towards consumption and production of a food Sustainable Nation. In the same way, it considers it necessary to ensure water safety, a universal clean energy, healthy and productive ecosystems and governance for sustainable society (Griggs, 2013).

“Sustainable development” consists of a practice that includes the impulse of social movements, the organization of institutions, the elaboration of science and technology, and the negotiation of commitments between those who care about the environment, economy and social aspects (Robert, Parris & Leiserowitz, 2005).

In this sense, it is necessary that the “environmental educommunication” goes towards sustainable development to reach SDG. Environmental education and envi-

ronmental communication must be aligned with the aim of pointing out the relevance of the quality of awareness campaigns or environmental education in communication developed by associations and institutions. It must be avoided to fall into topics and improvisations and to base the messages and the methodological design in the scientific information (Picó, 2017a).

This review carried out a selection of papers published in the Web of Science® and Scopus® databases of recent years, based on the search criteria on “Sustainable Development Goals” and taking into account that they are the main and most prestigious scientific databases at international level, ensuring the quality of the indexed works.

In order to carry out the analysis of the content proposed in this study, and taking into account the logical phases in this type of approximations, a procedure is established based on the objectives stated. In the first phase of literature search and review, the term “Sustainable Development Goals” and “Objectives of Sustainability” (with Boolean algorithms in quotation marks and with asterisks) were selected in the period 2011-2018, in order to narrow down those emerging works that only made reference to the Objectives of Sustainable Development. Subsequently, the data obtained according to the type of document were refined, selecting only the articles and excluding chapters of books, reviews or reviews, the conference proceedings and the articles in press, in order to reduce the number of documents (Table 1).

**Table 1. Emerging Documents per year by search criteria in WoS® and**

Year	SDG*	ODS**
2011	31	
2012	27	
2013	44	
2014	47	
2015	88	
2016	154	2
2017	258	3
2018	359	8
TOTAL	1008	13

\*SDG = Sustainable Development Goals; \*\* ODS= Objetivos de Desarrollo Sostenible

## 2. Environmental Educommunication

Tools are needed to allow “environmental literacy”, as well as an educommunication capable of developing critical capacity and the empowerment of eco-citizenship, understood as the one that serves to “reinforce freedom, autonomy and participation of citizens on political, social, economic, ecological and intercultural issues based on the good use of media and communicative technology” (Gozálvez and Contreras-Pulido, 2014:130). There is a need for collaboration in the search for responses to

mitigation and adaptation to climate change, so it is necessary the involvement in the participation of different actors in the transformation (Sarmiento, 2013).

Environmental Educommunication should be understood as a training for action and characterized by its intentionality, by the involvement of society, explaining the reasons as well as the mechanisms and causes from science. This requires the search for solutions, the democratic participation and the vision of a utopian future in which human health, social conflicts or equity must be very prominent and for that reason it has made emphasis on action (Rodrigo-Cano & Machuca-De-La-Rosa, 2018).

Beyond the Educommunication as dialogic and emancipatory reflection proposed by Paulo Freire for the collaborative construction of knowledge, aimed at the empowerment and exercise of citizenship, and by extension of the ecocitizenship, it is necessary a process that favors the development of competencies in the perception and interpretation of the messages, favored by emerging digital technologies (smartphones, tablets and phablets) (Nagamini & Aguaded, 2018), and in which educommunication is characterized by a relational factor in the digital ecosystem through digital communication, interactions, psychosocial skills of citizenship in social, leisure and recreational environments and critical awareness (Marta-Lazo & Gabelles, 2016) which are normally developed through digital tools and the media (Villalonga & Marta-Lazo, 2015).

Due to the ongoing climate change in which the only variable that can explain it is human interference in the atmosphere (IPCC, 2013), experts claim that “limiting warming to 1.5 °C requires a systemic transforming change” (IPCC, 2018). Therefore, it is urgent to seek viable, realistic solutions from all disciplines, that would become a political commitment to the people.

The impacts already identified by the experts go through the decrease of the glaciers altering the hydrologic cycle, increasing the temperatures, altering the terrestrial and aquatic ecosystems (extinction), increasing the droughts and the risk of fire, increasing the sea level, heat stress, extreme rainfall, flooding, drought, increasing aridity and water shortage, negative evolution of the yields of certain crops, among many other effects that require the attention.

But, the greatest effects of global warming will occur over the human species. Its consequences will change the patterns of diseases transmitted by mosquitoes and ticks or increase diseases caused by water due to warmer conditions and changes in rainfall and runoff. Moreover, from impacts on social systems, it will also affect aspects such as food security, work capacity, mental health, population displacement and other effects on the health care systems (Ministry of Agriculture, Food and Environment [Spain], 2014). In Short, if humanity continues the current rate of greenhouse emissions, the consequences of climate change can be catastrophic for humanity and especially for the most vulnerable societies and groups (Vervoort & Gupta, 2018).

To address climate change, government organizations and social and civic organizations state adaptive strategies to reduce risks to climate change through improved access to education and information, nutrition, health services, energy, safe housing and settlement and social support structures, as well as improved access and control of local resources. Access to technology and decision-making forums is also essential, leading to more capacity for consensus and social agreements. In the

same way, it is necessary to assist to technological, ecosystem, economic and service options through laws and regulations with national and governmental policies and programs, evidently from a lower gender inequality to other forms of marginalization (Ministry of Agriculture, Food and Environment [Spain], 2014).

En este proceso de transformación encontramos a los medios de comunicación que, como indica Meira (2017, p. 98), aún son:

In this transformation process, according to Meira (2017, p. 98), it is observed that the media is still:

[The] main source of information on climate change that citizens have, reason for which there is a considerable social responsibility, although it is also necessary to note in its disposition its structural difficulties, in an irreversible process of change towards digital formats and the information that users generate and distribute in social networks, in addition to the limitations resulting from the political and media swings of each moment.

However, experts warn that the media focus on the importance of the consequences of climate change in:

[...] habitat, fauna, flora and living beings, where the news is circumscribed in the change of the natural cycles of the animals and the vegetation, the rise of the temperatures and its consequences for the natural cycles and the health, the waves of adverse climatological actions and lack of rainfall and its effects, but always from a pessimistic point of view, given that only the negative and devastating consequences that this produces are reported (Zaragoza, 2018, p. 42).

These communication formulas on climate change have direct effects on the action, reaction and formation of the social reality, since the way in which these topics are managed in the media can have implications of scope in the research climate science, as well as perceptions, the comprehension of the problem and potential involvement of political and citizen leaders (Boykoff & Smith, 2010). Given the situation in which communication professionals, whose unemployment rate in Spain recorded among journalists in 2016 is 74% higher than 2008 (Asociación de la Prensa de Madrid, 2016), the post-truth is strongly positioned from the social networks towards the pseudoscience and hides the scientific contents, like the denial of the climatic change, being the technology in the nature-society axis as the solution.

This fragility in the environmental information in general, and on the climate change in particular, is observed in the relations of political-economic power with the media (Reig & Labio, 2017; Caves & Mora, 2016). On the other hand, "The good news is not news" (Picó, 2017b), while the media focus on risks and environmental disasters (Jiménez & Martín-Sosa, 2018; Fernandez-Reyes, 2018).

However, there is a proliferation of falsified news (fake news), greenwashing and communication full of algorithms and bigdata, supported by mass media and its advertisers, who intend to sell "green" products as a means to solve the situation, when its real purpose is not to engage with the environment (neither environmental, social nor cultural) (Delmas & Burbano, 2011), it is about making consumers perceive that the products are ecologically friendly (Megías-Delgado, Baldallo-González & Maraver-López, 2018).

### 3. New narratives for environmental educommunication

In this context, new narratives appear to promote a social change towards a new paradigm (Teso, 2016). According to Naomi Klein (2015) climate change is the most powerful narrative against the current economic and political system. Although climate change has been displaced from the social debate precisely by economic and political considerations (quoted by Leon & Bourk, 2018).

The new forms of communication have erupted with the use of the Internet, and these are currently characterized by decentralization in the issuance of messages, the relationship between peers that maintain the interlocutors and, at the same time, by being subject to the communication they emit (Emirecs) (Aparici & García-Marín, 2018). This occurs in a digital ecosystem, characterized by the relationship between communication activity, content and the subjects of communications (Alonso, 2005) that establish logics, processes and communicative dynamics that allow a communicative flow of digital media through a transmedia narrative (Carrera *et al.*, 2013).

This digital ecosystem and, more generically, scientific dissemination, require the creation of new content related to climate change for the issuance of periodic form and the development of new formats of informative content, supported by fictional contents with the intention of influencing changes in attitudes, lifestyles and behaviors (Teso Alonso *et al.*, 2018).

In addition, transmedia narratives have appeared through social networks (Ojeda-Barceló, Gutiérrez-Pérez, & Perales-Palacios, 2011), a good example is the Educomunicator movement that emerged in the year 2014 with the idea of launching Environmental Education in social networks, and it consists primarily of a monthly meeting through Twitter, following the hashtag #EA26, which discusses relevant issues to the EE. It is an open meeting point for exchange, collaboration and enrichment (empowerment) referring to the sector in the network (Gutiérrez Bastida, 2018; Toboso, De-Casas-Moreno & Rodrigo-Cano, 2018; Benayas *et al.*, 2017).

Digital video, with Youtube as a model, has become an essential tool for scientific communication and climate change (León & Bourk, 2018). Video games are also a new form of social action that allows young people to learn to protect the planet, learning topics and motivating action in the face of climate change (Ouariachi, Olvera & Gutiérrez, 2017).

In the face of the media silence on climate change (Mancinas, 2012), environmental and sustainable journalism is necessary, capable of providing truthful journalistic coverage on this subject (Fernández-Reyes, 2004; Fernández-Reyes, Piñuel-Raigada, & Vicente-Mariño, 2015) where the media play an important role in the interpretation of events, exercising both as witnesses and as actors. From this function of creating the social reality, the “theory of the amplification of risk” was used, which links the social experience of risk to the volume of coverage in the press (Fernández-Reyes, 2018).

### 4. Ecocitizenship

The current panorama is located in sectors of education and communication that impose hegemonic and instrumental speeches. A traditional educational system,

structured on mercantilist and neoliberal ideologies and politicized educational institutions (Badillo & Martínez-Roa, 2014). In addition, the curricular treatment of climate change in the training plans is invisible and contaminated with prejudices and stereotypes (Serantes, 2017).

From the Environmental Education sector is being claimed a climate emergency curriculum (Meira-Cartes *et al.*, 2018; Resclima, 2018), the development of digital and technological skills capable of establishing links between society and technology that allow participation in participatory processes in which people incorporate sustainability criteria, feminisms and global justice in the decisions made (Machuca & Rodrigo-Cano, 2018), in order to achieve a culture of climate awareness (Heras, 2016) that goes through establishing lines of work with excluded population as women and girls (Lemon & Solis, 2014).

Environmental education calls for an “eco-citizenship” (Sauvé & Asselin, 2017) that is characterized by: an educational project that invites to clarify the vision of the world, to have a critical look at ecological realities, to redefine the economy and to develop a can-do to rebuild the bonds between society and nature, and that would also include social justice (Murga-Menoyo, 2018) from feminism (Herrero, 2014).

An excellent example of eco-citizenship and environmental educommunication is the so-called “Confint”, a pedagogical campaign that attracts the dimension of environmental policy towards education. It is a constructive process that mobilizes and engages the young and the educational community in which people meet at different organizational levels, and deliberate on the environmental crisis widely understood (ecological, social, cultural, economic, policy...), and assume responsibility, pose and execute transforming actions towards sustainable societies and elect representatives who lead to the “Confint” of successive levels such as regional, national or international.

The “Confint” is a process: 1) pedagogical, which delves into concepts and values on eco-citizenship, environment, democracy and participation; 2) environmental education, which seeks the commitment and responsibility of girls and boys in the face of the environmental crisis that our planet suffers; 3) Interactive among young people of different ages and from different regions, countries or continents that learn and act together and have a common purpose: to take care of the planet; that approximates the dimension of the environmental policy towards the formal education (Gutiérrez Bastida, 2014).

## 5. Discussion and conclusions

Throughout this scientific literature review of the emerging environmental educommunication in relation to climate change, the inexorable convergence between education and communication is evident, understanding it as the learning of the resources offered by the information and communication media from the technologies. In addition, concepts of environmental education must be recovered, such as the generation of attitudes and skills to achieve balances between the human being and the environment, to participate in the integration of the educommunication and the political, social, economic, environmental and ethical solutions with the intention of preventing them, minimizing or normalizing them, and mitigation and adaptation

in relation to the climate change, and from science and research the management of problems related with the environment and human beings (Meira *et al.*, 2018).

Moreover, environmental Educommunication nowadays does not develop many of these objectives of sustainable development, leaving clear the environmental dimension on the social aspect and, of course, leaving aside the economic dimension. However, as seen in this research, the objectives of Sustainable Development constitute an ethical framework for the common good (Fernandez-Reyes & Águlla-Coghlan, 2017).

However, it is true that environmental education and environmental communication have been dealing more in an economic crisis that was practically dismantled by the sector, punished with layoffs, closures and loss of knowledge (Benayas *et al.*, 2017; Meira, Barba, & Castiñeiras, 2017).

The design of messages, awareness campaigns, environmental education and environmental communication should be based on scientific research on the basis of data, bibliographies and research repositories, as well the group of specialists, communities of practice and learning and the main scientific events (Peña-López & Padró-Solanet, 2017). It is the media that must be the adequate channels for presenting the situation, leaving aside the informative bias that only report catastrophes and bad news (Zaragoza, 2018).

In any case, environmental educommunication must assume a profile based on the acquisition of basic knowledge and the learning of relevant information. This will allow the improvement of environmental phenomena and problems for the proper decision making, the search for resolution of real problems, the development of intellectual capacities that enable the formulation and operation of solutions with the intention of promoting developments for a critical vision, able to emphasize on the perception processes and encourage the development of educational competencies of subjects for the education and formation of individuals to promote changes in attitudes, values, practices and behaviors (Rodrigo-Cano & Machuca-De-La-Rosa, 2018).

In addition, critical and ideological approaches to media education need to be recovered for the development of media education and digital competition (Aparici & Tyner, 2012). In the advancement of the digital paradigm and the use of mobile technology in exponential growth, new roles, new formats and new narratives are required and that are proposed by the new digital media of communication and environmental education in the face of this diverse communicative reality characterized by the emirecs.

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# Use of ICT and the relationship with the goals of Sustainable Development in Ecuador

## Uso de las TIC y su relación con los Objetivos de Desarrollo Sostenible en Ecuador

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### Abstract

*In the United Nations in 2015, the 17 Sustainable Development Goals (SDGs) were approved. The objective of this research is to know the current status and perspectives of the Information Society (IS) in relation to the achievement of the goals of the SDGs, through the analysis of historical information and projections of IS indicators, and actions of research, development and innovation (R&D+i) in Ecuador. The research methodology has a quantitative, non-experimental and longitudinal approach. Secondary information sources were used as national and foreign reports, which once converted into time series allowed to analyze projections and determine the future trend of those indicators. As results, it was found that the behavior of indicators of ICT use and R&D+i indicators are directly or indirectly related to the fulfillment of the goals of the fourth, fifth, eighth and ninth SDGs. On the one hand, it was concluded that the trend of five SI indicators is in relation with the achievement of the SDG goals, while three other indicators require a strong impulse to change the trend and achieve its associated goal; on the other hand, the need for the different actors of Ecuadorian society to commit to work based on the potential of the use of ICT and R&D+i activities in order to achieve the SDGs.*

### Resumen

En 2015, en la Organización de las Naciones Unidas se aprobaron los 17 Objetivos de Desarrollo Sostenible (ODS). El objetivo de esta investigación es conocer el estado actual y perspectivas de la Sociedad de la Información (SI) en relación con el logro de las metas de los ODS, mediante el análisis de la información histórica y pronósticos de los indicadores SI, y actuaciones de investigación, desarrollo e innovación (I+D+i) en Ecuador. La metodología de investigación tiene un enfoque cuantitativo, no experimental y longitudinal. Se utilizaron fuentes de información secundarias como reportes nacionales y extranjeros, que convertidos en series de tiempo permitieron analizar pronósticos y determinar la tendencia futura de esos indicadores. Como resultados se encontró que el comportamiento de indicadores de uso de las TIC e indicadores de I+D+i están relacionados en forma directa o indirecta con el cumplimiento de las metas de los ODS. Se concluye que, por un lado, la tendencia de cinco indicadores de la SI sintonizan con el logro de las metas de los ODS, mientras que otros tres indicadores requieren un fuerte impulso para cambiar la tendencia y lograr su meta asociada; y, por otro lado, la necesidad de que los diferentes actores de la sociedad ecuatoriana se comprometan a trabajar a partir de las potencialidades del uso de las TIC y actuaciones en I+D+i con el fin de lograr los ODS.

### Keywords | palabras clave

*Ecuador, development and innovation, gender, sustainable development objectives, projections, information and communication technologies.*

Ecuador, desarrollo e innovación, género, objetivos de desarrollo sostenible, pronóstico, tecnologías de la información y la comunicación.

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## 1. Introduction and state-of-the-art

We live in a society marked by the exchange of information flows and an accelerated use of knowledge as a platform for the development of almost all human activities in a globalized world. This new way of doing things has increasingly required the input of Information and Communication Technologies (ICT), which has made authors such as Area *et al.* (2012) to suggest a new model of collective participation called “Information Society”, the one that has allowed a deep interconnection between human beings and machines, with important effects in the political, social and economic fields at the global level.

The contribution of the use of ICTS has transcended some social impacts such as improving the quality of education, ensuring healthy lives, strengthening economic growth and/or generating quality jobs. However, in the perspective of a sustainable world, there is the need to use these technologies in solving problems such as poverty, exclusion, economic and social development, climate change, among others, by associating them with the rational use of resources provided by the nature (Ziemba, 2017).

The concern to eradicate poverty made the representatives of the countries of the United Nations (UN) to propose, at the beginning of this century, eight Millennium Development Goals (MDGS) that served as a framework for the Global development up to 2015, as summarized in the report of the United Nations Organization (2015). This report recognizes important global, regional, national and local efforts that have been implemented in the member countries to eliminate human inequality, to save millions of lives and to improve conditions for many more.

Recognizing that the work to alleviate poverty and achieve sustainable economic progress must be a global effort, at the Rio+20 Summit in Rio de Janeiro, Brazil, UN representatives renewed the political commitment to sustainable development and the promotion of an institutional framework to promote an economic, social and environmentally sustainable future for our planet and for the present and future generations (United Nations Organization, 2012).

Years later, the UN by recognizing that work to reduce poverty and close gaps in inequality between poor and rich countries should have continued, it proposed new strategies. In September 2015, representatives from 193 countries adopted a resolution at this global forum that included 17 Sustainable Development Goals (SDG) and 169 targets for 2030 (United Nations, 2015). These objectives – shown in Table 1 – are part of the Agenda 2030 for Sustainable Development (United Nations Organization, 2016), and comprise aspects ranging from environmental preservation to governance.

Section 15 of the agenda 2030 states that the expansion of ICT and global interconnection have great potential to overcome the digital gap between the poor and the rich, and to develop knowledge and scientific societies and technological innovation (United Nations, 2015); idea that that is shared by the International Telecommunication Union (ITU) and the Global e-Sustainability Initiative (GeSI), when agreeing that ICT and its associated digital solutions could directly contribute to covering more than half of the 169 goals collected in SDG, since it is possible to contribute to a sustainable future through a responsible transformation based on Collaboration of ICT companies and organizations around the world (GeSI, 2016; ITU, 2018).

**Table 1. Sustainable Development Goals**

ODS	Description
1	To end poverty in all its forms all over the world.
2	To end hunger, to achieve food security and to improve nutrition, and to promote sustainable agriculture.
3	To ensure a healthy life and to promote wellbeing for all people in all ages.
4	To guarantee inclusive, equitable and quality education and to promote lifelong learning opportunities for all.
5	To achieve gender equality and empower all women and girls.
6	Ensure the availability of water and its sustainable management, and sanitation for all.
7	To ensure access to affordable, safe, sustainable and modern energy for all.
8	To promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
9	To build resilient infrastructures, to promote inclusive and sustainable industrialization, and to promote innovation.
10	To reduce inequality in and between countries.
11	To guarantee that cities and human settlements are inclusive, safe, resilient and sustainable.
12	To guarantee sustainable consumption and production modalities.
13	To take urgent action to combat climate change and its effects.
14	Conservation and sustainable use of oceans, seas and marine resources for sustainable development.
15	To promote the sustainable use of terrestrial ecosystems, to combat desertification, to stop and reverse land degradation and to reduce the loss of biological diversity.
16	To promote peaceful and inclusive societies for sustainable development, to facilitate access to justice for all and to create effective, responsible and inclusive institutions at all levels.
17	To strengthen the means of implementation and improve the Global Alliance for Sustainable Development.

Source: United Nations Organization (2016).

According to Pintér *et al.* (2017), observation, measurement and evaluation are integral parts of strategic management and governance to recognize, understand and address sustainability-related issues. Therefore, this study emphasizes the contribution of ICT and actions of Research, Development and innovation (R+D+i), and its relationship with the achievement of the goals of four SDG (4, 5, 8 and 9) shown in Table 2. For this purpose, the indicators of the SI and the actions carried out by the different public and private actors of the Ecuadorian Society from 2008 to 2018 are taken into account. The following is a summary analysis of the relationship between ICT and SDG involved in this research.

According to the ITU website (2018), when referring to SDG 4, ICTS are driving a revolution in online training that has turned these technologies into one of the world's fastest growing industries. Mobile devices allow students to access learning resources at any place and time, while teachers use wireless devices for interactive training and mentoring. In the report developed by the United Nations (2016) and for Tawil *et al.* (2016), this objective is divided into seven goals and three means of implementation; and according to Salvia *et al.* (2019), this objective is the third in importance addressed by experts from Latin America and the Caribbean (LAC), due to its relationship with the main problems and local challenges of each country in the region.

Regarding SDG 5, and according to the ITU (2018) there are up to 250 million women less than men on the internet, reason for which ICTS can offer great opportunities to eliminate gender gap, enabling everyone to have access to the same resources and opportunities on-line. The expected impact would be to achieve broad participation of women in their community, in government and at the global level, through economic empowerment and the creation of job and business opportunities.

SDG 8 has also been taken into account, according to the ITU (2018), skills in ICT management have become a prerequisite for almost all jobs; therefore, the development of the capacity to use these technologies in the strategies of youth employment and entrepreneurship of all countries should be prioritized. It is not simply that most jobs and businesses now need ICT skills, but that these technologies are transforming the way to do business everywhere and creating new job opportunities.

With regard to SDG 9 for the ITU (2018), digital infrastructure is essential given its potential in industry and innovation in its different forms. An enabling factor for innovation is investment in research and development (R+D), as it has economic consequences in countries' inhabitants. In this regard, the global framework has shown that there is a very high positive correlation between this investment and income per capita (ECLAC, 2016), and according to the OECD (2016) through R+D, it is possible to develop products and technologies in relation to sustainability, and create value chains that beyond their social and environmental value also contribute to increasing efficiency and benefits.

This study analyses a set of indicators on ICT use and R+D+i actions, relating with the goals corresponding to SDG 4, 5, 8 and 9. This examines the historical behavior of these indicators, makes projections for the next four years and sets trends to demonstrate the probable fulfillment of the goals established in the four SDG chosen. The results will be a reference point in order that the actors involved in the fulfillment of the objectives can plan actions that go in direction of the achievement of the sustainability goals; therefore, it justifies the development of this research and its contribution to the theory (Whetten, 1989).

**Table 2. SDG goals analyzed for Ecuador**

Objective	Goal	Description of the goal
SDG 4	4.a	To build and adapt educational facilities that take into account the needs of children and people with disabilities and gender differences, and that would provide safe, non-violent, inclusive and effective learning environments for all.
SDG 5	5.b	To Improve the use of instrumental technology, specially information and communication technology in order to promote women's empowerment.
SDG 8	8.2	To achieve higher levels of economic productivity through diversification, technological modernization and innovation, inter alia focusing on high-value-added sectors and labor-intensive use.
	8.3	To promote development-oriented policies that support productive activities, the creation of decent jobs, entrepreneurship, creativity and innovation, and encourage the formalization and growth of microenterprise and small and medium-sized enterprises, even with access to financial services.
SDG 9	9.5	To increase scientific research and improve the technological capacity of industrial sectors in all countries, in particular developing countries, by encouraging innovation and considerably increasing, from now to 2030, the number of people who work in research and development per million inhabitants and the costs of the public and private sectors in research and development.
	9.b	To support the development of national technologies, research and innovation in developing countries, by ensuring a normative environment conducive to industrial diversification and the addition of value to commodities, among other things.
	9.c	To increase the access to information and communication technology and strive to provide universal and affordable access to the Internet in the least developed countries, from now to 2020.

Source: United Nations Organization (2016).

## 2. Materials and methods

This exploratory and descriptive study uses a quantitative methodology to analyze the probability of meeting SDG goals from the SI indicators and the actions carried out in the field of R+D+i in public and private institutions of Ecuador. Table 3 shows the indicators related to the goals of the four SDG considered, the information that was obtained from sources such as the National Institute of Statistics and Censuses (INEC), and the Ministry of Higher Education, Science, Technology and Innovation, World Economic Forum (FEM), World Economic Forum (WEF), International Telecommunication Union (ITU), among others.

**Table 3. ICT Indicators and R+D+i analyzed for Ecuador**

Objective	Goal	Indicator
SDG 4	4.a	<ul style="list-style-type: none"> <li>Number of national information centers.</li> </ul>
SDG 5	5.b	<ul style="list-style-type: none"> <li>Percentage of people who use the computer.</li> <li>Percentage of people who have activated cell phone.</li> <li>Percentage of people who use Internet.</li> </ul>
SDG 8	8.2 8.3	<ul style="list-style-type: none"> <li>Percentage of people who use internet for educational and learning purposes.</li> <li>Percentage of people who use internet for working activities.</li> </ul>
SDG 9	9.5	<ul style="list-style-type: none"> <li>Real investment and diagnose of science, technology and innovation activities (ACTI) in relation to the gross domestic product (GNP).</li> <li>Number of researchers per 1000 members of economically active population (EAP).</li> </ul>
	9.b	<ul style="list-style-type: none"> <li>Legal norms of the State to promote R+D+i in the public and private areas.</li> </ul>
	9.c	Networked Readiness Index (NRI) and its areas <ol style="list-style-type: none"> <li>Regulatory political environment.</li> <li>Innovation and business.</li> <li>Infrastructure and digital content.</li> <li>Resources.</li> <li>Skills and abilities.</li> <li>Individual use.</li> <li>Business use.</li> <li>Government use.</li> <li>Economic impact.</li> <li>Social impact.</li> </ol>

This study was divided into two stages. In the first stage, statistical data were obtained of the indicators of the Ecuadorian SI, corresponding to the period between 2008 and 2017, in order to estimate the future value of the indicators of the SI in Ecuador projected to 2021. In a second phase, data from R+D+i indicators from 2009 to 2014 was used since they are the last ones published by the Ecuadorian public institutions involved, and projections to estimate their behavior in the next four years were done by using the information.

The definition of projection used states that it is a process of estimating a future event by means of the data projection of the past; i.e., the systematic combination of data that allows an estimation of future events (Guerrero, 2003; Lind, Marchal & Wathen, 2012). The projection model was done by analyzing time-series indicators with data recorded annually. The behavior was projected by decomposing historical information in reference elements such as trend and seasonality.

The most widely used technique was the double exponential smoothing, since after doing a first analysis of the predicted data, the data series presented trend

but not seasonality (Guerrero, 2003; Webster, 2001). Double exponential smoothing requires calculating projected data through equations 1 and 2.

$$S_i = \alpha x_i + (1-\alpha)(S_{i-1} + T_{i-1}) \quad \text{Eq. 1}$$

$$T_i = \beta(S_i - S_{i-1}) + (1-\beta)T_{i-1} \quad \text{Eq. 2}$$

$$F_{i+1} = S_i + T_i \quad \text{Eq. 3}$$

Where

$S_i$  = exponentially smoothed average of the series in the period  $i$ ,

$T_i$  = exponentially smoothed average of the trend in the period  $i$ ,

$\alpha$  = smoothing parameter for the average, with a value between 0 and 1.

$\beta$  = smoothing parameter for the trend, with a value between 0 and 1.

$F_{i+1}$  = projection for the period  $i+1$ .

Additionally, as a result of the projection, an error measure was determined, demonstrating the goodness of the adjustment method to obtain the projection. This measure was the root of the mean quadratic error (Root Mean Squared Error, RMSE, for its acronym in English). According to Chai and Draxler (2014), RMSE is the most popular measure of error, also known as "quadratic loss function". On the same measure of error, Lakshmirarahan *et al.* (2017) and Shcherbakov *et al.* (2013) define the RMSE as the average between absolute values of projected errors, and is used as a selection criterion for the best fit of time series models. Its calculation form is made from equation 4.

$$RMSE = \sqrt{\frac{1}{n} \sum_{i=1}^n (R_i - F_i)^2} \quad \text{Eq. 4}$$

Note: Where  $R_i$  corresponds to the current period data  $i$ ,  $F_i$  represents the predicted data for period  $i$ , and  $n$  represents the number of periods that have real value and a predicted value.

The quantitative analysis of the indicators was carried out by applying time forecasting series to the historical data obtained from the secondary sources. The Risk Simulator 2016® software was used to perform the forecasts (Software-Shop, 2017). This software allowed to automate the calculations described in equations 1, 2, 3 and 4, and applies the best forecasting method that fits the data series with the lowest RMSE. As a result, at the end of the adjustment, the software provides a table and graph showing the actual data, projections, and trend to four years from next. According to Lind *et al.* (2012), these trends may be secular trend, cyclic variation, seasonal variation, or irregular variation.

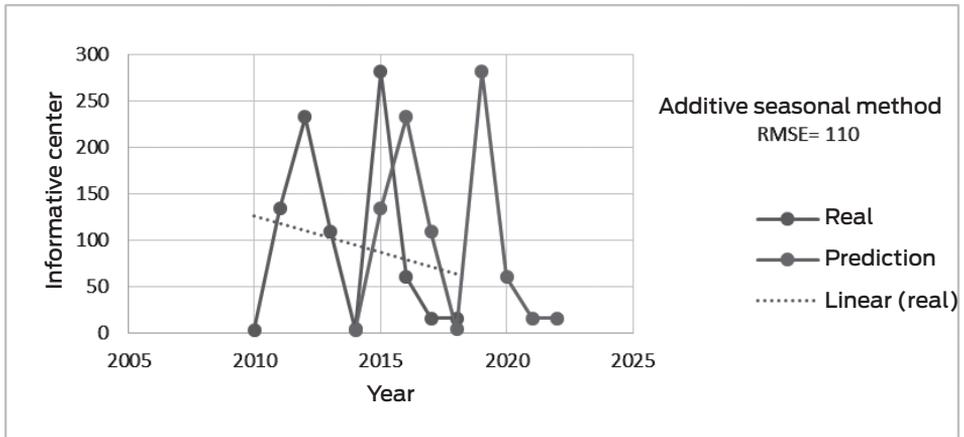
### 3. Analysis and Results

To compare the use of ICT and R+D+I action with the goals of SDG 4, 5, 8 and 9, the projections of the indicators are analyzed, considering the last available statistical data, and determining whether the trend of these indicators fulfill those goals.

### 3.1. Projection and trend of SDG 4-related indicators

In order to analyze the progress of the fulfillment of the goal 4. a. the amount of information centers implemented by the MINTEL in Ecuador is considered. The information centers are public areas for accessing Internet and digital information services that mainly operate in rural communities nationally. At the end of 2018, there were a total of 857 located in the 23 provinces of Ecuador (MINTEL, 2018b). Figure 1 illustrates the number of information centers installed from 2010 to October 2018. Next to this curve is also shown the forecast of implementation until the year 2022, assuming that the same government policies are maintained in the historical period analyzed.

Figure 1. Implementation behavior of the information centers



### 3.2. Forecast and trend of SDG 5-related indicators

To analyze goal fulfillment 5.b. the percentages of men and women over five years of age using computer, cell phone and access to the Internet were taken as reference. Figures 2, 3 and 4 have been elaborated with the data obtained from INEC (2013, 2017b), which expose the curves of the historical values of these indicators by gender; their tendency and projection until the year 2021.

**Figure 2. Real percentages and projection of computer use by gender**

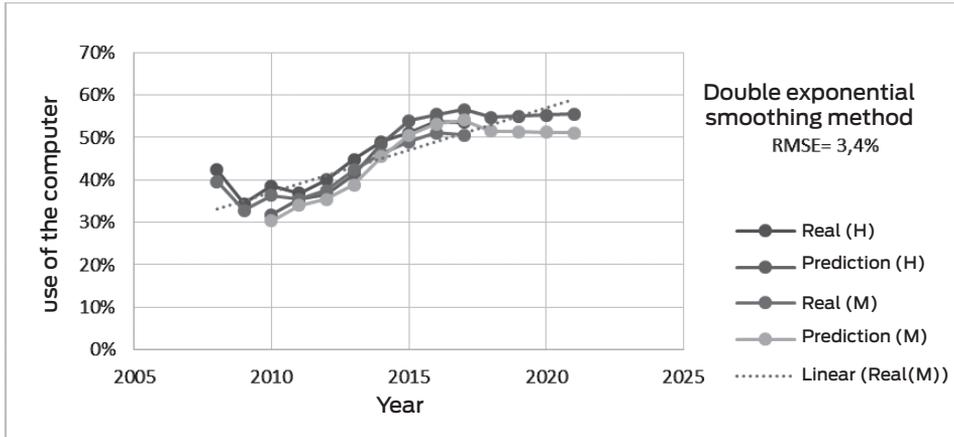
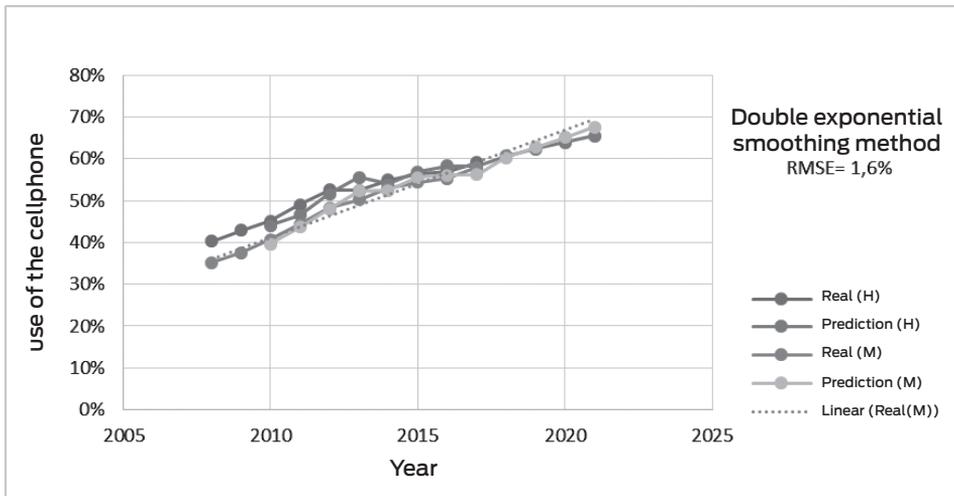


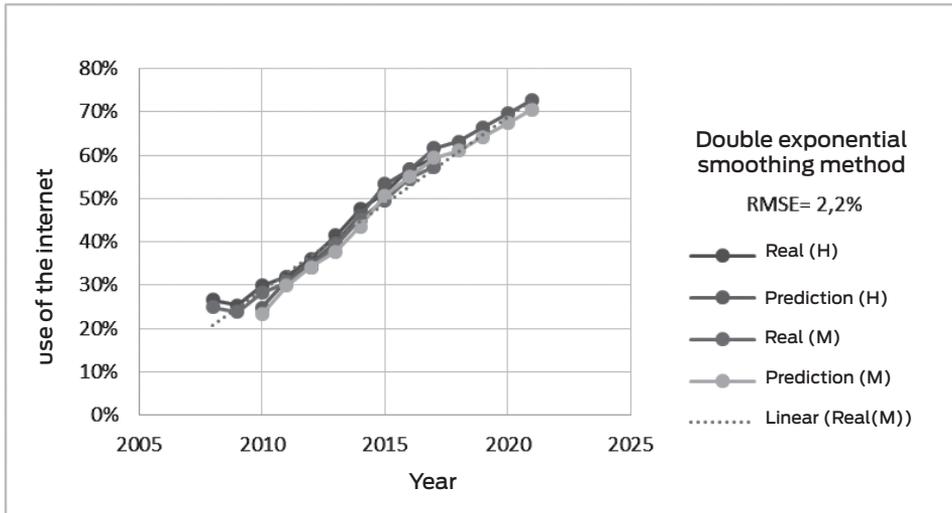
Figure 2 shows that the behavior of computer use in men (H) and women (M) in recent years has been almost similar, and at the end of 2017 it was around 55%, with a tendency to increase to 2021. Figure 3 shows the projection and growing trend of cell phone use according to gender up to 2021.

**Figure 3. Real percentages and projections of cell phone use by gender**



Regarding the use of the Internet by gender, Figure 4 indicates that there is a rather similar behavior. The indicator is around 60% in both men and women. In addition, it is forecast that its use will increase up to 2021.

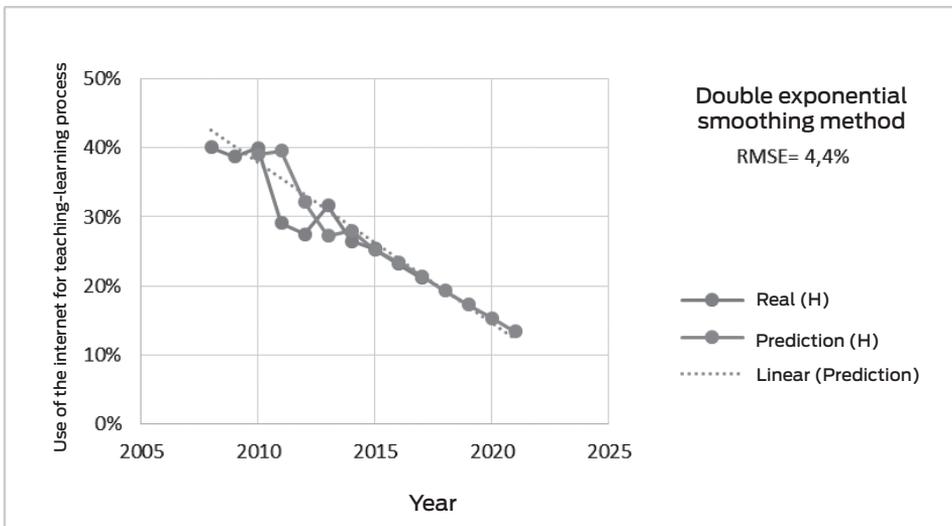
Figure 4. Real percentages and projection of Internet use by gender



### 3.3. Projection and trend of SDG 8-related indicators

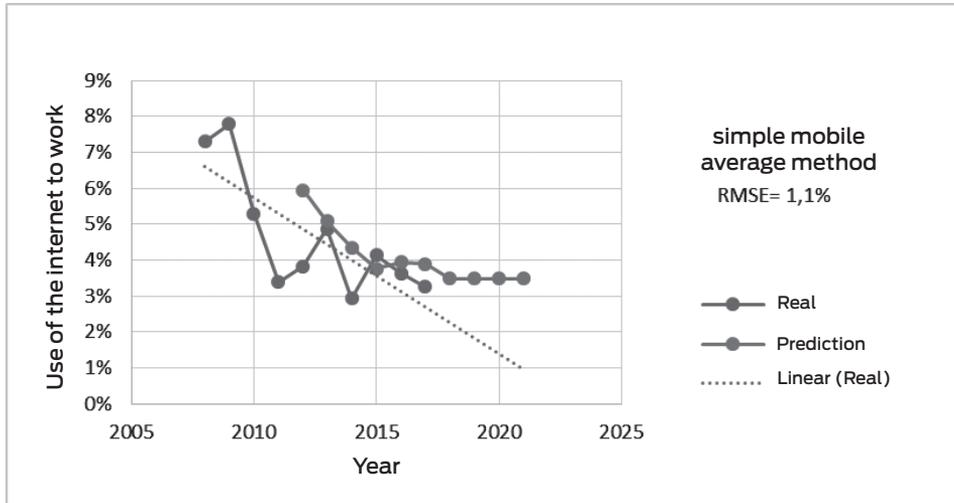
To know the progress of compliance with goals 8.2 and 8.3, the data published by the INEC (2013, 2017b) were used. With respect to goal 8.2 and according to Figure 5, from 2010 onwards, the use of Internet for educational and learning purposes has been declining from 40% to 21% in 2017. In addition, there is a declining trend if the indicator is projected up to 2021.

Figure 5. Real percentages and Internet use forecast for education and learning



On goal 8.3, and observing the results of Figure 6, it is evident that since 2009 the use of Internet has reduced for working activities, from 8% to 3% in 2017. In addition, according to the forecast, the trend is to gradually decrease.

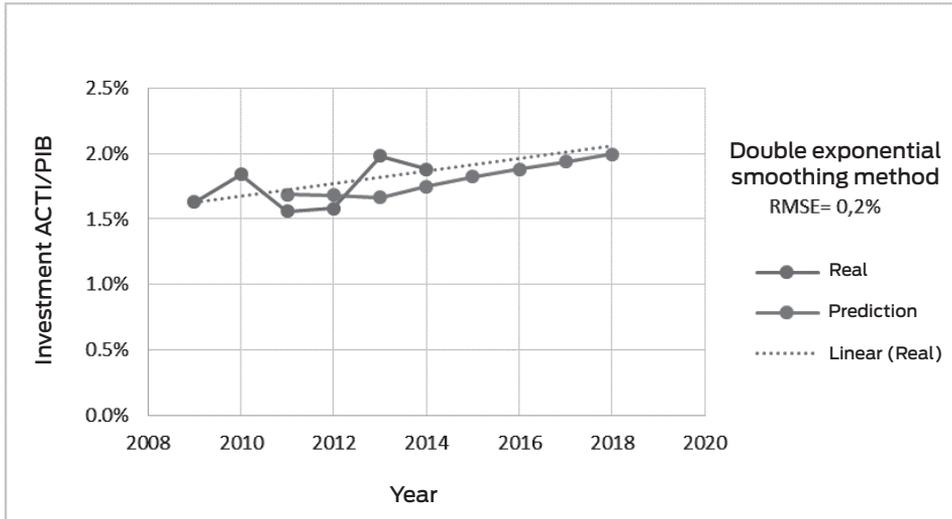
**Figure 6. Real percentages and Internet use forecast for working activities**



### 3.4. Forecast and trend of SDG-related indicators

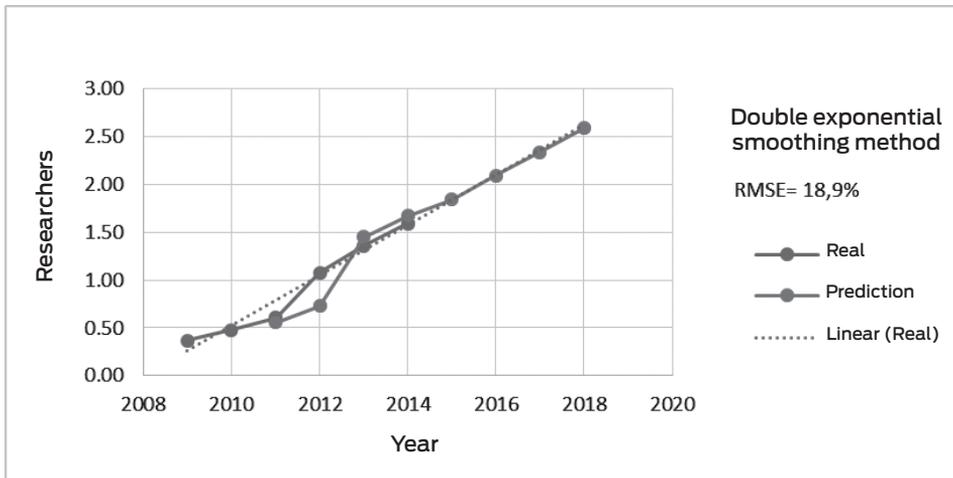
To know the probable fulfillment of the goal 9.5, the economic indicator that measures the investments in Activities of Science, Technology and Innovation (ACTI) with respect to the Gross Domestic Product (GDP) is taken into account in institutions like universities, governmental and non-governmental institutions. As shown in Figure 7, from 2009 to 2014 with the latest official data, the percentage of ACTI with respect to GDP represented an increase of 1.63% to 1.88% (SENESCYT-INEC, 2015). Moreover, the investment in these activities has been increasing and it is predicted that this indicator will maintain a growing trend.

**Figure 7. Real and forecasted investment of ACTI with respect to GDP in Ecuador**



To predict the future of goal 9.5, the number of researchers per 1000 members of the Economically Active Population (EAP) is used as an indicator – see Figure 8 –. As can be seen, this indicator has been growing until the last year when there was official data obtained from SENESCYT-INEC (2015). In Addition, it is predicted that the number of researchers (researchers with fourth level of academic training and doctoral fellows) will grow in 2018 to an estimated 2.5 researchers per 1,000 members of the EAP.

**Figure 8. Number of researchers per 1,000 members of the EAP**

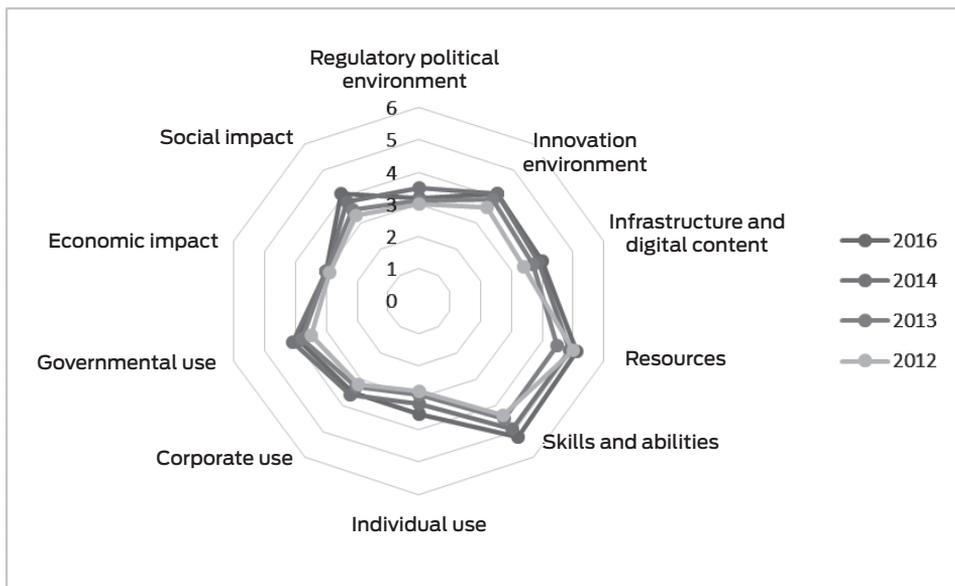


To predict the state of goal 9.b, it can be said that there are efforts in Ecuador presented in public policy such as the “Ingenious Code” (National Assembly of Ecuador, 2016), which promotes the development of the Information Society and the Knowledge as a main principle for the increase of productivity in the factors of production and working activities. Another legal legislation enacted is the “Industrial Policy of Ecuador”, issued by the Ministry of Industry and Productivity (MIPRO, 2016), which details the policy guidelines to facilitate compliance with the role of the industry from the perspective to contribute to the impulse of innovation and entrepreneurship.

In order to know the compliance status of Goal 9.c, the Networked Readiness Index (NRI) indicator is used, which measures the preparation degree of a nation to participate in the benefits of ICT developments (Baller, Dutta, & Lanvin, 2016). This indicator is created annually by the World Economic Forum, from the analysis of 139 economies of the world and a set of 53 variables grouped into four sub-indexes and ten pillars, related to the political framework, Infrastructure, ICT use and ICT-related impact (Baller *et al.*, 2016).

Figure 9 shows the behavior of each pillar of the NRI according to Table 3, whose scale ranges from 0 to 7 (maximum value). The last four reports have been considered (Baller *et al.*, 2016; Bilbao-Osorio, Dutta & Lanvin, 2013, 2014; Dutta & Bilbao-Osorio, 2012). In the report of 2015, information of Ecuador is not present, since according to Dutta, Geiger, & Lavin (2015) the information was not available at the time of the edition of the report, reason for which the forecast calculation could not be made for 2020 of each of the ten pillars of this indicator.

**Figure 9. NRI indicator pillar behavior for Ecuador**



As shown in Figure 9, it is the skills, skills and resources that contribute to the growth of the indicator, while the pillars pertaining to infrastructure and digital content are lagging, and individual use and economic impact. The evolution of NRI for Ecuador in recent years has been as follows: In 2008 ranked 116 of 134 countries (Dutta & Mia, 2009), for 2016 was ranked 82 in 139 countries (Baller, Dutta, & Lanvin, 2016); it is, he went up 35 positions. In Addition, for the same year, it was found in ninth place above the average of the Latin American and Caribbean region (LAC).

#### 4. Discussion and conclusions

Forecasting the indicators of the use of ICT and actions of R+D+i and comparing with the goals of SDG 4, 5, 8 and 9 has allowed to know the current situation and to observe the trend of the SI. There is a seasonal fluctuation from 2010 onwards, with a declining trend when examining public policy that encourages the use of ICT in the informative center; situation that could explain the reason for the slow progress of the literacy digital process in Ecuador. According to INEC (2017b), digital illiteracy is 10.5%, and it falls by approximately 1% each year, i.e., if the policies of access of the population to ICT are not improved, the partial fulfillment of objective 4 will require important public and private efforts to comply with it before 2030.

With regard to the use of ICT by gender, it is concluded that there is sustained growth in the use of the cell phone, computer and the Internet in men and women older than five years old. Moreover, it is observed that the digital gender gap is gradually being eliminated in terms of the use of ICT analyzed. To continue this growing trend, the generation of equal educational and employment opportunities could be strengthened, and could promote the empowerment of women in different economic activities.

By analyzing the use of the Internet, it is evident that it will increase more than the use of the computer and cell phone. This situation would ensure that the services offered by the network, such as communication, information search and education and work opportunities would continue to increase to 2021. To this end, the Government should promote policies that eliminate gender barriers to access to ICTS, as according to Oña *et al.* (2016), the use of these technologies has generated a deep gap in the educational, social, cultural and productive aspects at the local, regional and global levels.

Throughout this study, it has been shown that the production of statistical information of gender in Ecuador is still very little, so the Government, motivated by working on the indicators of the Agenda 2030, is executing the Plan of the Development Statistics for SDG (INEC, 2017a, 2018). This lack of statistical information is consistent with what was stated at the UN World Data Conference, in which it has been ratified that only 13% of the countries of the world have a specific budget for gender statistics, an assertion that agrees with what is stated at that conference by Courey (2018), who has expressed that women generally are not part of the official statistics, and, even more critically, that when they are present they are considered by numbers that represent them as more dependent and less productive people than they are.

Another worrying conclusion is that the use of Internet for education, learning and working activities has reduced since 2009, and a declining trend for 2021 is fore-

casted. Unfortunately, these results are reflected in the position of the country in the ranking of the human capital index, since according to the World Economic Forum (2017), Ecuador is in the position 76 of 130 countries, and although it is about the world average, it is just ahead of some countries in the LAC region. Consequently, the compliance of goals 8.2 and 8.3 is difficult.

With regard to innovation, an investment of about 2% of GDP in ACTI is forecasted for the year 2018 and there is a small growth trend. According to the ranking Global Innovation Index 2018, Ecuador barely reaches a score of 26.8 out of 100 in innovation, which places it in the place 97 of 126 economies in the world, five posts lower than in the year 2017 (Dutta, Lanvin, & Wunsch-Vincent, 2018). This unfortunate position is also evident in the LAC region, where it occupies the 14th place of 18 tabulated economies; this being one of the reasons why it becomes necessary and urgent to work on proposals to improve the innovation processes in the different areas of the economy.

At the end of the second decade, the Ecuadorian society will have to work with perseverance in the approach of policies and structural plans that broaden the ICT infrastructure and strengthen its use to develop digital skills in all citizens, as proposed by authors such as Moreno-Navarro *et al.* (2014) and documented the MINTEL (2018a) in his *Libro Blanco*. In addition, it is important to deep into lines of research related to the rest of SDG in which issues such as governance, influence and interests of political and economic actors are included, which according to O'Neil (2017), it is necessary to consider them to understand the complexity of achieving the goals that lead to sustainable development.

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# The role of citizen participation in the socio-ecological transition of the city

## El papel de la participación en la transición socio-ecológica de la ciudad

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### Abstract

*Despite the growing sensitivity about the effects of climate change, its marked consequences show the risk of continuing with the unilateral imperative of economic growth, characterized by a «consumer intoxication» that has driven this society to the current situation of global chronic lack of resources. In this context, the new approach cannot be reduced to a mere cosmetic repair of a paradigm in crisis" but it needs a change of paradigm to advance towards environmental sustainability and social equity. Therefore, it is important to focus on the fact that a population that is actively involved is a key element in order to activate a change in the way occidental society has to understand nature, and to build real alternatives to the current model of territory occupation based on the ecological paradigm. The approach of this article has its theoretical bases on the Social Production and Management of Habitat (henceforth PGSH), understanding by Social Transformation of Habitat those processes that tend to transform the existing habitat in which citizen initiative has an active role in the decision making. Thus, it is concluded that participation cannot only help transforming the material conditions of the ecological transition of the city, but, from a profound work that requires great efforts by all stakeholder groups involved, it allows to generate a process in which citizens, politicians and technicians grow up and mature collectively.*

### Resumen

Pese a la creciente sensibilización a los efectos del cambio climático, sus cada vez más acusadas consecuencias demuestran el peligro que supone el seguir con el imperativo unilateral del crecimiento económico, caracterizado por una «intoxicación consumista» que nos ha llevado a esta situación de carestía crónica global de recursos. En este contexto, el nuevo enfoque no puede reducirse a mero arreglo cosmético de un paradigma en crisis, sino que requiere también un cambio de paradigma para avanzar hacia la sostenibilidad ambiental y la equidad social. Para ello se quiere incidir en el hecho de que la involucración activa de la población resulta elemento clave para activar un cambio en la forma que la sociedad occidental tiene de entender la naturaleza y para construir alternativas reales al actual modelo de ocupación del territorio, que estén basadas en el paradigma ecológico. Así, el planteamiento de esta investigación encuentra sus bases teóricas en la Producción y Gestión Social del Hábitat (en adelante PGSH), entendiendo por Transformación Social del Hábitat el conjunto de procesos tendientes a la transformación del hábitat existente en los cuales la iniciativa ciudadana tiene un papel activo en la toma de decisiones. A través de esta revisión se concluye que la participación no sólo puede ayudar a la transformación de las condiciones materiales de la transición ecológica de la ciudad, sino que, a partir de un trabajo profundo que requiere grandes esfuerzos por parte de todos los grupos de actores involucrados, permite generar un proceso en el que ciudadanos, políticos y técnicos maduren colectivamente.

### Keywords | palabras clave

*Social participation, social research, urban planning, socio-ecological transition, par.*  
Participación social, investigación social, urbanismo, transición socio-ecológica, iap.

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## 1. Introduction

Assuming the definition of architecture as “a set of modifications and alterations introduced in earth in accordance with the human needs, except only in the desert” (Morris 1981 in Benevolo, 1979, p. 15), the concept of architecture is in the field between nature and culture, and finds its foundation in the human needs. Thus, architecture as such, and therefore urbanism, cannot only be considered “things of architects” but it enters a larger dimension: The Social Habitat.

Pelli (2010; 2007) defines the Social Habitat as the system of physical, social, economic, legal, political, environmental and symbolic situations among which, applying the concepts of the “Theory of Complexity” of Morin (1994), are recursive and complementary relations (Manuel Jerez, 2010). In this sense “any act of production, elimination or conservation of a part or component of the habitat modifies the equilibrium, functioning and quality of the whole and affects those of other existing or future components “ (Pelli, 2010, p. 41).

But the Social Habitat is only a subsystem of the planetary ecosystem to which it interacts and transforms: «The rules of the dominant economic/financial game» (Naredo, 2000), characterized by an obsession with growth and based on the progressive exploitation and massive use of natural resources, which have provoked an ever greater territorial deterioration and show that we have already overflowed the regeneration limits of the planet (Emmott, 2013; Meadows, Randers, & Meadows, 2006).

In this context, the accused social inequalities and the increasingly alarming ecological crisis show the failure of the western model and put in crisis the same postulate of growth, proving that it is necessary to activate a deconstruction of the economic imperative thought, rethinking the place of the economy to see it as a simple means of life and not as the ultimate goal (Castiblanco, 2008; Common & Stagl, 2008; Georgescu-Roegen, 1971; Naredo, 2011) and revising the current urban and territorial models to move towards social equity and the recovery of natural and territorial balances, by means of the fair reduction of wastefulness, overproduction and over-consumption, while guaranteeing the increase of social welfare (Caravaca Llamas, 2012; Latouche, 2009; Marcellesi, 2010; Taibo, 2009).

Any social and cultural guideline, from the private issues of each being to the political-economic organization of a society, has a direct or indirect impact on the environment. Therefore, it is essential to work with the cultural dimension of sustainability because it is the culture that makes us act in the territory in one way or another, helping to build a model based on resource deterioration or fostering sustainable living patterns under an ecointegrative approach.

In this sense, participation becomes a key element in order to activate the socio-ecological transition of our cities and territories (García Montes, 2018): If we do not rethink the forms of consumption in our day to day, as citizens, professionals, companies, societies, etc., the new facilities and technological solutions – often seen as the solution to any kind of problem – these will lead us to increasingly foolish wastes (Paradox of Jevons). Thus, “we need an ethical system in which the natural world has a value not only as useful for human well-being, but for itself,” because we are part of it (Lovelock, 2006, p. 214).

All this implies the generation of more consistent policies with the government of the territory, as well as the need to propose new ways of planning that are much more flexible and dynamic, so that they can adapt to the rhythm of the intense transformations due to the use of soil, and induced by socio-economic factors. But at the same time, it is necessary to promote strategies oriented to the change in the thought and the habits of life and consumption of the society to replace the current individualistic and cumulative values, but considering at the same time that people are active agents of that change.

Any attempt to impose projects based on new schemes developed exogenously generates feelings and rejection attitudes by the population (Díaz Rodríguez & Rodríguez Darías, 2012) and will be destined for the failure. On the contrary, there are numerous social initiatives that require a leading role in the decision-making on the habitat, particularly against conventional planned and regulated urbanism (up-down). In recent years, movements have proliferated, claiming their right to participate “from below” in urban transformation to improve the surrounding environment that affects the development of everyday life and that develops from the self-organization between citizens and the professional groups (Freire, 2009; González-Arriero, 2017).

With this dichotomy between the planned models of traditional urbanism and the increasing citizen initiatives that demand their protagonism and autonomy in the decision-making, the aim is to demonstrate the need to:

[...] To construct knowledge tools and action strategies that allow to understand and to act with complex problems, [...] that escape to the fragmentation of the knowledge in stagnant disciplines. And tools that insert the technical knowledge in transforming processes that recover the POLIS, the participation spaces of the citizens in the decision making (Cambil Medina *et al.*, 2006, p. 1).

## 2. Local Responses to global phenomena: towards a new urbanism

Western societies have faced radical transformations over the last century, characterized by a constant and increasingly technological innovation. This innovation has given way to a deep globalization that continues to generate great impacts, inducing progressive changes (positive and negative, and of material and symbolic order) in its political, economic, cultural and territorial structure. In particular, the current technological paradigm has generated a growing segmentation and decentralization of production to take advantage of the different potentials offered by the different territories. In this way, there has been a growing competition between companies, sectors and territories following different types of processes that have been shaping and articulating societies in a global system.

Power relations are redefined and the economic dimension is prioritized to improve competitiveness, following a development model based on the “Chimera of Growth” (Folch, 2011). The same concept of wellbeing has been reduced only to its material sense, leaving aside its most authentic meaning related to quality of life or “good living” (Acosta, 2013; Hessel & Morin, 2012).

In this way, the logics of the global market have been affecting the territorial processes, generating social and environmental imbalances at different scales: the territories occupy an economic role and a position in the global market, so that the pro-

duction and capital tend to be located in some areas and leave others; thus, generating a strong dependence on transportation (Fernandez Durán & González Reyes, 2014).

But this social and economic polarization does not occur only between territories, but is also reflected in the urban sphere, between the rich areas and the central neighborhoods and marginal areas, physically disconnected or isolated, turning cities into 'disputed areas'. In the same way, this inequality is evident on a global scale among the rich countries, where wealth accumulates, and the rest of the world suffers more and more a precariousness of its living conditions (Del Moral Ituarte, 2014; Naredo, 2004).

The strong environmental impact, social segregation at different scales and the economic inefficiency derived from high energy costs are among the main negative consequences of the dynamics of the global economy, as well as the consequential polarization phenomena of the territories and their fragmentation by the increasing urban expansion that follows a model of diffused, dispersed and disordered city that separates pieces and urban functions (Fariña Tojo & Manuel Naredo, 2010). It is in the cities, and especially in the big metropolitan areas, where the most shocking consumption and unsustainability spaces of the planet are generated and where the real decisions about what happens in their surroundings escape more and more to the capacity of citizens' control (Sassen, 1991; Verdaguer Viana-Cárdenas, 2002b).

But at the same time, cities have an essential role to play in reversing this trend. For this, any process of urban and territorial transformation has to be planned. Planning as a technical discipline of urbanism is a fundamental achievement because it is a legal instrument that, with its tools, methodologies and specific training, offers the basis for a sustainable management of the territory. However, it needs a reformulation to regain its vocation as a tool to serve the citizens. In this sense, it is necessary to reverse the "up-down" decision processes to create forms of "down-up" intervention that rescue citizens from the consumer/user status and return their role as protagonists in the cultural and collective construction of the city (*cf.*: Verdaguer Viana-Cárdenas, 2002a, p. 17).

### **2.1. Responses to the growth logics of territorial cities**

The new territorial city overflows, surpassing the classic rural-urban boundary. The city is no longer synonymous with compactness, mixture of uses and diversity (Monclús, 1998), but it transcends its limits, moving to the field, and deconstructing the systems of its environment and occupying increasingly extensive areas (López Trigal & Relea Fernández, 2001). The current extreme dispersion of uses constitutes one of the main deterioration factors of the environment and of the territory fragmentation. Gradually, the continuous physical space is losing importance to the discontinuous abstract space of the big global networks, supported by an increasingly dense and thick overlapping articulations. The nodes (big cities) have in this model a fundamental importance because of their economic role in the scales of the global market.

The model of the current urban-industrial societies is based on an "open cycle" model, consisting of centralized consumption/production nuclei. In this model, materials and energy are absorbed in an increasingly intense way, surpassing the regeneration capacities of resources by the ecosystems and the natural assimilation

capacities of the waste produced by the human activity (Requejo Liberal, 2011). But the essential element on which this model is based is the enormous amount of “horizontal routes of water, food, electricity and fuel resources, capable of exploiting other distant ecosystems and causing significant territorial imbalances in the planet” (Higueras, 2013, p. 70).

This “open system” model, which has already shown its unsustainability and unfeasibility in the medium term, has been the cause that different authors propose another type of model by means of which each population can seek, order and obtain from its territory the basis of its sustenance in semi-open cycles (*v. gr.* Requejo Liberal, 2011). It is a question of betting on a development model of prevalently endogenous type, based on a productive diversification where the network connections allow the necessary exchange for the systems to be able to complete self-sufficiency. “As long as there is more self-sufficiency in the multiple layers of the management of our habitat, we will have more capacity to decide the type of living space and the life style we want to develop” (Guallart, 2012, p. 21).

To do this, optimization must be sought within the territory of the possibilities of obtaining beneficiaries that meet the real human needs (Max Neef *et al.*, 1994) using the exterior for goods and services that are not sufficient or cannot be obtained with own means; in addition, it is necessary to regain the old balance between territory and man, developing the capacity to integrate human activities into the logics and ecosystem processes (Requejo Liberal, 2011).

Finally, it is necessary to respond to the increasing demands of democratic innovation, giving citizens a leading role in decision-making, surpassing traditional forms of representative democracy (De Manuel Jerez, 2010; Requejo Liberal, 2011; Romero, 2011). In other words, it is a matter of equipping our territories with more resilience in order to achieve a dynamic equilibrium in the moments of crisis (Ojeda Rivera & Villa Díaz, 2008), mainly based on the response capacity and the involvement of communities (in the scale of the territory) and of the neighborhood (on the urban scale) for the ecological transformation of the territory and the city.

In this sense, it is essential to leave aside the conception of the territory as mere physical support of human activity: the territory is a valuable and non-renewable resource, and at the same time complex of history, culture, collective memory, identity. It is a space of tension, where there is a counter position of many diversified interests, and therefore it needs a look that is global, complex, holistic and, specially, shared to recover the different perspectives that help us understand that complexity.

Thus, it is necessary to deepen not only in the processes and ways of planning and management<sup>1</sup>, but also in the construction of the knowledge about the habitat. Our current system of scientific knowledge is in fact fundamentally based on the paradigm of simplicity which, with its separation, reduction and abstraction principles, has made extraordinary developments in different fields of knowledge; even though it has isolated the knowledge between fields of expertise, leaving in shady areas all

1 Not only with the scale change in the planning and management of the territory, but also with the need to overcome the sectoral and fragmentary policies, often incoherent with each other, and that reflect once again the limits of a form of disciplinary knowledge.

the transversal issues to the disciplinary limits, being thus difficult to frame (López Medina, 2012; Morin, 1994).

On the contrary, all the situations faced by the habitat have complex components and unapproachable from a single point of view, so they require that the flow of knowledge is open and subjected to a permanent uncertainty that leaves space for the introduction of new complex relationships (Lucca, 2017, pp. 17-18).

Therefore, it is necessary to reformulate our paradigm of thought by rebuilding it from the paradigm of complexity: if discipline is a parcel unit of knowledge, transdiscipline is a complementary construct of it (Lucca, 2009), which allows to dilute the disciplinary barriers to assume the uncertainty and the impossibility of a complete knowledge and to reconnect the link between subject and object (Morin, 1994). It is necessary to reinstate the subject in the production of knowledge (Ibañez, 1992), which constitutes a sociocultural fact that cannot be considered only as an exclusive patrimony of the technical-institutional sphere: the expert knowledge has a double slope, including the sectorial expert (specialist) and the experiential expert (the direct affected of the situation to study).

For all this, it is necessary that the responsibility to make the main decisions that affect the territorial organization is in the whole of the society, starting from the creation of participation and concertation spaces where it is possible to reach the construction of this expert knowledge, in its double slope. In this sense and as it will be seen later, many authors define the participatory process as a cyclic construction of knowledge, during which there are moments of opening and closing (synthesis or systematization) that are marking their “duration” over the time, according to a spiral scheme.

Thus, the idea is to highlight the importance of the social factor, especially by identifying citizens as the solution to build creatively and collectively new and enriching ways of life, more connected to the community, and by accepting the biological limits of the planet: the transitional goes through the social, it is by active communities that ideas and exchange information are generated in order to build in the territory alternative common projects towards sustainability.

And this becomes even more evident in complex environmental and territorial issues (Villasante, 2006): in contexts of uncertainty and plurality of legitimate perspectives of the different social, economic and institutional actors involved, local actors “can imagine solutions and reformulate problems so that the experts officially accredited do not find them orthodox in their own professional paradigm” (Del Moral Ituarte & Pedregal Mateos, 2002, p. 128).

## **2.2. From users to citizens of the Polis**

Although there are more and more participatory experiences that show that citizen participation is seen today as a democratic requirement, it is observed among the different urban actors involved, a lack of participatory culture that affects the effective scope of participation, either because of a lack of methodological success or because of a low political coherence of the approach (Red CIMAS, 2015). But there are also other motivations related to the cultural dimension that exerts the way of acting of our societies, influencing it and justifying it. Martín Recio (1998) and Alberich (2008)

identify three “social diseases” – interpersonal dependence, permanent compartmentalization and permanent delegation– that provoke a lack of widespread participation in individual societies such as the current societies of the Western world.

On the contrary, it is necessary that the citizen regain his role of protagonist of the public life, of citizen of the πόλις<sup>2</sup>. Even though it is true that in order “to change the course of the world, it is necessary to change the management mechanisms” (De Manuel Jerez, 2006, p. 89), the solution is not in the invisible hand that regulates the markets, neither in the technicians and the professional politicians who alone do not have (n) capacity to formulate transformative policies, inter alia because:

[...] What is at risk is a model of civilization, a way of understanding life that affects everyday behaviors, and this task is not possible to undertake without putting in place processes that involve us all. We have to change values to change policies (ibid.).

However, it is not to nullify the role of professionals and specialists in the learning process and analysis of the reality (Donadei, 2017; Red CIMAS, 2015), nor of considering a society that works without representatives and only by direct participation (Alberich *et al.*, 2009), but of deepening in the democracy moving from a model of representative type, currently in crisis, a new complex formula that allow to generate spaces where the decisions are taken jointly between administrations, technicians and citizens in an equitable way (Encina & Rosa, 2004) and respecting to the ecological principles.

### 2.3. *Participation from the PGSH paradigm*

In the Production and Social Management of the Habitat (PGSH), three groups of actors are identified with dialogical and recursive relations with each other, generally conflicted by having competing interests and different power in the decision making:

1. The political leaders of the public administration at all levels, who are responsible for approving habitat programs and making decisions on different areas (economic, social, cultural, etc.), always ensuring the general interest.
2. Technicians and scientists to the public or private service, responsible for advising and managing habitat programs.
3. Citizens who present their wide diversity of habitat needs.

On the other hand, it is often appropriate to introduce one or more groups of actors by disaggregating the previous groups. Thus, the original triangle can be undermined by disaggregating, for example, the category of citizens in two new actors: the economic sector, constituted by those companies linked to the habitat (developers, builders, supplying companies, etc.) and other organizations and entities that constitute civil society (Figure 1).

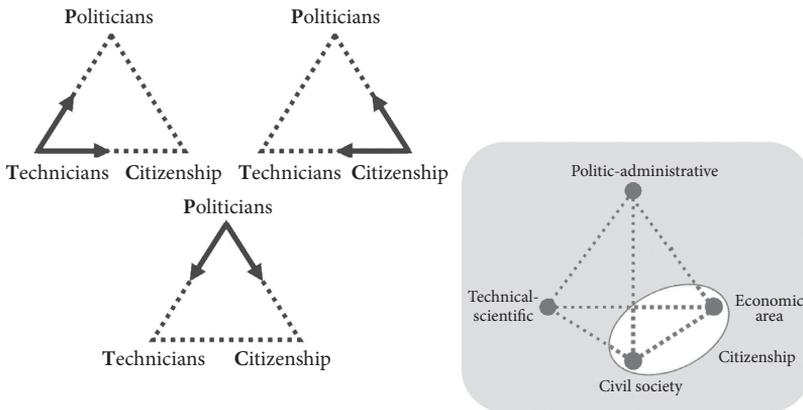
2 Beyond the strong limitations existing in the former democratic Greece on what categories entered the definition of a citizen of fact and of law, every citizen considered as such had the right and duty to participate directly in the life of the city, maybe appointed to occupy public office of a different nature; and those who renounced to take care of public affairs to devote themselves only to their particular interests were called ἰδιώτες (idiots) or useless.

The construction of the city has always been marked by a variable relationship between these large groups of actors: if on the one hand the architect has usually worked for the “prince” and the “merchant”, on the other the town has built the rest of the city by their own (De Manuel Jerez, 2006; Sassen, 2011; Verdaguer Viana-Cárdenas, 2002b).

Thus, participation is understood as the equitable redistribution of the power of decision in all the processes that tend to the social transformation of the social habitat (Encina & Rosa, 2004), so that the sectors targeting the transformation processes are not trapped in their traditional passive role of recipients of change (Pelli, 2007). In this way, the responsibility to make the main decisions affecting the organization of the habitat falls to the whole of the society from the creation of participation and concertation spaces where politicians, technicians and citizens are called to share this desire to initiate a long process of concertation, co-creation and cooperation, through a process of collective learning that will build the “equilateral triangle of social management of the habitat” (De Manuel Jerez, 2010, p. 18).

The equilateral construction of the triangle can start from the initiative of any of these three groups of actors to start building a first side (the base): It can be technical-neighborhood, political-neighbor or technical-political (Figure 1). Once this base is built, it will work to involve the missing vertex: the more actors involved in the formulation of the problem, the greater the real social incidence.

**Figure 1. Activation of changes from the three categories of actors and possible breakdown of socio-economic actors**



Source: Own elaboration based on De Manuel Jerez (2010) and Donadei (2017)

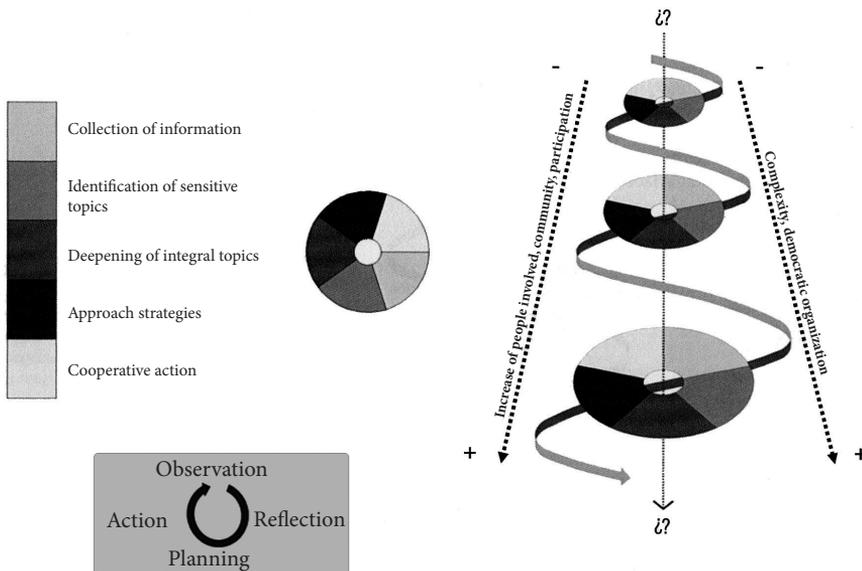
In this context, the use of participatory Action Research (PAR) is defended as a methodological basis to be able to accompany the different groups of people involved in the encouragement of participation processes that allow the collective construction of the knowledge and design in complex strategies of integral intervention that convert neighborhoods, cities and territories into key mobilizing parts of the ecological transition at different scales. The PAR, understood as a process of social research and

at the same time of social intervention – and with a certain dose of social commitment (from the most militant positions to others of affective implication – (Alberich, 2008; Montañes Serrano & Martín Gutierrez, 2017; Villasante & Montañes, 2002), tries to unite the time of the study with the time of the action for the achievement of the results in terms of transformation of a collective situation, stimulating the participation of the citizens in all research-action phases. In the same way, it tries to rescue the validity of the knowledge and popular skills as a result of the interaction with the others, with the environment and with the own culture of belonging and with the institutional sphere.

In this way, the PAR propitiates the dialogue as a mechanism used to create processes, where the affected subjects contribute, after the reflection, with solutions to their problems (Álvarez & Álvarez, 2007). Thus, citizen participation is understood as a process of cyclical and incremental nature, a “space-temporal spiral” of exchange and collective construction of knowledge that begins with the awareness of the need to face a habitat problem on the part of a community. On it, each cycle gains organizational complexity and number of actors (Rosa, Saavedra and Hernández 2008; Rosa & Encina, 2005) to progressively define and implement action strategies, encouraged (and not conducted or directed) by methodological experts (Encina & Ávila, 2010).

Knowledge is built in and for transforming action, in a close collaboration between the people and the technicians who support them, going through successive degrees of reflexivity in the elaboration of the strategy of needs, or in the progressive taking of Decisions (Figure 2).

**Figure 2. Spiral development of participatory methodologies**



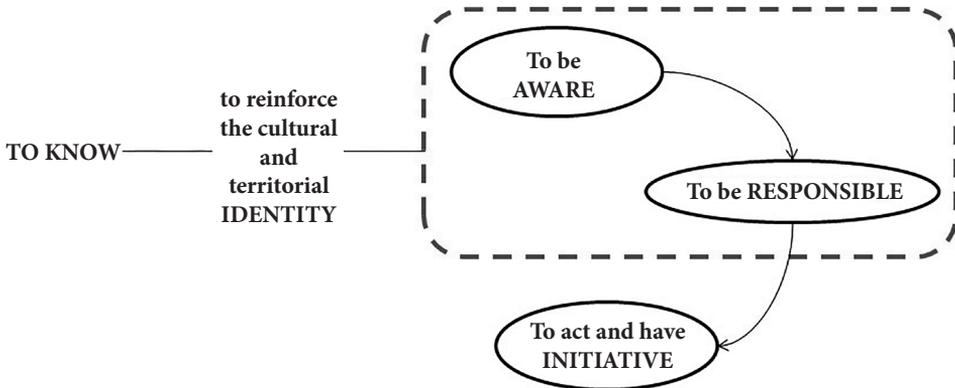
Source: Rosa, Saavedra & Hernández (2008)

There are three prerequisites for the activation of really effective participation processes: the desire, being able to participate, and the knowledge to participate (Encina & Ávila, 2010; Montañés Serrano, 2008):

[A] desire that concerns the motivations, a power relative to the channels and a knowledge related to the skills. But [...] in relation to the paradigm of complexity, not understood as independent premises but as elements linked in the same strategy: a desire more motivated from the existence of channels and skills; more demanded channels from motivation and capacities; and a more encouraged knowledge from the opening of channels and the impulse of motivations (López Medina, 2012, p. 166).

Thus, the “desire to participate” is related to the feeling of belonging that gives the motivations to get involved in the process: for this it is necessary the application of strategies of social identification that arise from the popular culture and that work with the identifications and affection of the social groups involved (Figure 3).

**Figure 3. From user to Citizen**

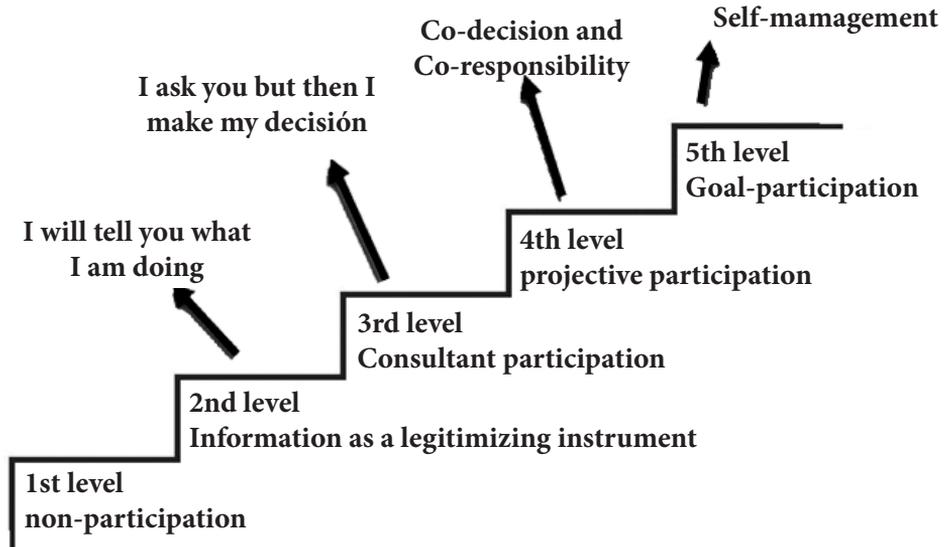


Source: Donadei (2017)

“Knowing how to participate” is related to the awareness of the meaning of “participation”, i.e., that each citizen involved could internalize the fact that the personal interest is before the collective interest (and in respect of the environmental interests). To Activate this transition from individual subjects to collective subjects, it is necessary to work methodologically to provoke not only organizational changes, but also exchanges at symbolic level and in cultural grammar, as well as changes in the system of rules that structure social relations and interactions (Rosa & Encina, 2004).

Finally, ‘being able to participate’ refers to the need for appropriate circumstances for participation to be possible. This requires the adequacy of spaces and times that allow different social actors to get involved when taking part in the process. This implies overcoming the current and convoluted forms and administrative structures, accommodating new and renewed forms of urbanism based on more dynamic and flexible methodologies; but in addition, a real political commitment is required to cede power to the citizen.

Figure 4. The ladder of participation



Source: own elaboration based on López Medina (2012) and CIMAS network (2015)

On the other hand, it should be considered that this is an opening to the involvement of other actors in a process to which they have no access a priori (Arnanz Monreal, 2018; López Medina, 2012). It is therefore necessary to clarify the degree of openness and appropriate involvement to consider that a participatory process is really effective. There are many authors<sup>3</sup> who have proposed the image of a pyramid or ladder to point out the different gradients of participation: in all of them what is evident is that the lowest level is occupied by non-participatory management models until reaching the more emancipatory models, where citizens take an active role in the decision-making, along with technicians and politicians.

All these models can be summed up in a five-step diagram (Figure 4). At the lowest level there would be direct management without participation, where decisions are made in the instances of power that involve a political office or technical role. The second level would include the formulas that provide simple information as a legitimizing instrument: all these models can be summed up in a five-step diagram (Figure 4). At the lowest level, there would be direct management without participation, where decisions are made in the instances of power that involve a political office or technical role. In the second level we would find the formulas that provide simple information as a legitimizing instrument: "However, this cannot be considered participation but a prerequisite [...] so that there may be participation" as "information favors critical awareness, creation of opinion and transparency" (Red CIMAS, 2015, p. 44). A third level is

3 The first author who introduced the metaphorical figure of the stair was Sherry Arnstein, an American social worker.

characterized by the consultation of opinion, very characteristic of many of the writing processes of urban documents of different nature and whose only objective is often to give a certain participative direction to the process, specially by the fact that in most cases the results become mere ratifications of the proposals by means of nuances but without substantial modifications, or are collected in some complementary document which is not binding and whose application only depends on the political voluntarism.

The last two levels have to do with the real involvement of the citizens in the decision making, thus exercising, once it has been informed, consulted and heard, the right to be active subject of the transformation processes of the habitat. If in the fourth level the principle it is assumed as co-decision and co-responsibility principle in which the citizenry shares the management of the transformation processes along with politicians and technicians, it is the last level that really supposes a huge qualitative leap in the understanding of participation, requiring a high degree of maturity on the part of citizens and other groups involved.

At this level, self-organization and self-management are the ones to which organized citizens are responsible for the management of some part of the public life (López Medina, 2012; Red CIMAS, 2015). In this sense, participation acquires a greater degree of complexity as it moves:

[...] The institutionalized processes to the daily life processes of the population as a source of self-management mechanisms to be fed and strengthened from the public. [...] In this sense, the habitat is constructed in a daily basis (López Medina, 2012, p. 168).

### 3. Discussion and conclusions

The ecological crisis shows that it is necessary to restructure the model, going through a cultural revolution that should lead to a refoundation of the political (Latouche, 2009). If a first step towards “coevolution”<sup>4</sup> between human and ecological systems is the convergence between theory and practice in the integration of environmental sustainability principles into the legal policies and instruments of urban planning and management of the territory, the second step would be for ecological principles not to become a new dogma that replaces the collective decision-making capacity of a community (Lucca, 2015; Verdaguer Viana-Cárdenas, 2002b), but that these principles are assimilated by their maturity degree.

In this sense, the citizens turn out to be the active subjects of this change as they are the ones who define the territoriality through their daily practices (Bonora, 2006). As opposed to the dominant attitude of a theoretical participation, which is often concreted in specific events and actions (and driven by the different administrations), it is necessary to bet on a real appropriation by the citizens of the new urban and territorial body, reinforced at the same time with a greater degree of involvement and

4 By co-evolution is understood the process of reciprocal interaction in time between socio-cultural systems and biophysical systems, which maintain a close interaction conditioned by mechanisms of feedback and adaptation (Norgaard, 1984). While societies have benefited from this type of process throughout history, the dominant economic model has broken this balance by pressuring the ecological system beyond its coevolution potential.

responsibility on the part of the communities in the environmental issues that affect its surroundings and its founding landscapes.

Thus, the great long-term challenge is for citizen participation to become a habit, a laboratory of constant experimentation to adapt languages, instruments and methods of the different disciplines to generate complex strategies and collective intervention on the habitat, oriented towards the ecological transition. Understood in this way, participation can not only help the transformation of the material conditions of a particular field, but, from a deep work that requires great efforts on the part of all the groups involved, it allows to generate a process in which citizens, politicians and technicians mature collectively. Thus, active citizenship will be able to take the control of the place they live.

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# From zero to cash: Waste as a main source for an inclusive recycling business in Cuenca (Ecuador)

## De cero a dinero: La basura como fuente principal para un negocio inclusivo de reciclaje en Cuenca (Ecuador)

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### Abstract

*In an inclusive business (NI) context, this manuscript addresses the relationship between income and recycling. Within recycling, recycle workers are considered poor and vulnerable based on the economic pyramid (BDP) due to their annual income. Moreover, they depict the core of a value chain which includes various participants. On one hand, this research determines if the recyclers' association membership directly influences their income level. On the other hand, it sets out to evaluate recycling working conditions to reveal an opportunity to generate profitability as an inclusive business. The methodology applied in this research is a cross-sectional study that follows an inductive approach to analyze quantitative information focused on 150 recycle workers, 27 private centers (intermediaries) and 2 recycling corporative centers. The highlights of the results are the value chain design from the city of Cuenca (Ecuador), the high commercial gross margins from intermediaries and the ensuing weak correlation between recycler's association membership and income level. Hence, the overriding conclusions show that recycling has promising economic advantages conducive to create an inclusive business, considering that intermediaries are the main beneficiaries. Furthermore, recycle workers are limited because of their working conditions, and lastly the recycling association membership does not bring clear advantages regarding income level improvement.*

### Resumen

El presente trabajo se enmarca en la relación existente entre el ingreso y la actividad del reciclaje bajo el contexto de Negocio Inclusivo (NI). Esta población de recicladores definida como pobre y vulnerable por la Base de la Pirámide Económica (BDP) en función de sus ingresos anuales, es el centro de la cadena de valor de reciclaje. Se plantea determinar si la figura de asociación de los recicladores influye directamente en su nivel de ingreso y evaluar las condiciones en las que se realiza la actividad del reciclaje para analizar la oportunidad de generar rentabilidad como NI para estos grupos vulnerables. La metodología empleada, con carácter cuantitativo-inductivo de corte transversal, se centrará en el estudio de 150 recicladores, 27 centros privados (intermediarios) y dos centros corporativos de reciclaje. En los resultados destaca el diseño de la cadena de valor de reciclaje para la ciudad de Cuenca (Ecuador), la débil correlación entre estar asociado y el nivel de ingreso del reciclador; así como el elevado margen bruto comercial de un intermediario. La conclusión principal demuestra que el reciclaje tiene bondades económicas atractivas para crear un NI y los intermediarios son los principales beneficiarios dentro de esta actividad. Los recicladores se ven limitados por sus condiciones de trabajo y la figura de asociación no se considera como una solución imperante para mejorar su nivel de ingreso.

### Keywords | palabras clave

*Income, recycle workers, value chain, inclusive business, solid waste, Cuenca.*  
Ingreso, recicladores, cadena de valor, negocio inclusivo, residuos sólidos, Cuenca.

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## 1. Introduction and state-of-the-art

This research is part of the need to integrate the population of recyclers into the global economic dynamics through the development of Inclusive Business models (IB), which are business initiatives that incorporate the segment of the “Base of the Pyramid » (BOP) in its value chain, contributing to poverty reduction, generating greater access to opportunities and facilitating these communities to be income-generating and exercising the right to economic freedom (Ishikawa Lariú & Strandberg, 2009), in such a way as to promote the scope of certain Sustainable Development Goals (SDG) such as: end of poverty, gender equality, reduction of inequalities, sustainable cities and communities; And specifically objective 12, which refers to the responsible production and consumption in which the importance of recycling and reducing.

### 1.1. Waste generation and recycling

Developed and developing countries face population growth and industrial progress associated with the production of large amounts of solid waste (Akhtar *et al.*, 2017; Oyekale, 2017; Yang *et al.*, 2018) because today's society exploits different materials (Vázquez *et al.*, 2016). Our consumption practices increase the rates of solid waste generation (Vieira & Matheus, 2018) since, according to Ribeiro and Kruglianskas (2015), it continues to dominate the linear economic model of extracting, manufacturing, using and discarding (quoted by Wadhy *et al.*, 2017).

Benton-Short and Short (2013) point out that the generation of waste, along with the problems of collection, disposition and environmental risks, continue to be a challenge for many cities (quoted by Jiménez, 2015), besides the management for the municipalities which is a great difficulty (Abdoli, Rezaei, & Hasanian, 2016; Meylan *et al.*, 2018; Botello *et al.*, 2018). This management of municipalities develops with small pilot projects including the informal recycling sector (Ferronato *et al.*, 2018), considering other major public works (Ross & Rogoff, 2012). It means that the increase in the determination of local authorities to resolve these problems is crucial (Ferreira, Bila, & Ritter, 2017).

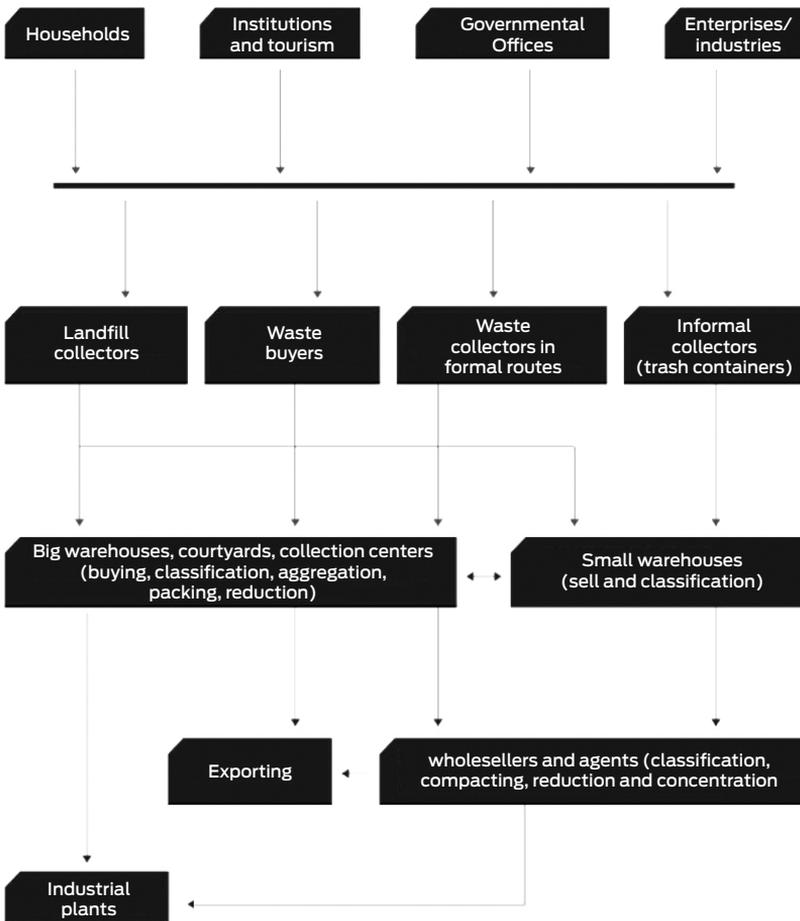
On a global scale, in 2010 a total of 7 to 10 million tons of solid waste was generated (Wilson & Velis, 2015). According to Global Waste Management Outlook (GWMO), nearly two billion tons of Municipal Solid Waste (MSW) per year are produced (quoted by Byamba & Ishikawa, 2017; Sorkun, 2018). Kawai and Tasaki (2016) affirm that in big cities a generation of 2.2 trillion tons is forecast for 2025 (quoted by Gu *et al.*, 2018). Developed countries belonging to the Organization for Economic Co-Operation and Development (OECD) are listed as the countries with the largest amount of waste generated at the global level, such as the United States, Mexico and much of the European Union, among others, generating 62% of waste, followed by East Asia and the Pacific with 21%. For its part, Latin America and the Caribbean (LAC) generate 12% and the remaining 5%, Sub-Saharan Africa (Borrás, 2018).

Hoornweg and Bhada-Tata (2012) mention that the World Bank projects a generation of 220 million tons of urban solid waste for 2025 in LAC (quoted by Hernández *et al.*, 2016). Likewise, in LAC, a 66% increase in waste generation (TN/day) is expected in less than ten years (Padilla & Trujillo, 2018). In fact, in LAC there

are about 0.63 kg/hab/day of solid household waste and 0.93 kg/HAB/day with respect to urban solid waste (Sanmartín, Zhigue, & Alaña, 2017).

Based on the above, it is essential to know the flow of the value chain of recycling, stated by the Regional Initiative for Inclusive Recycling (IRR, 2013): “it starts at the moment that the waste is generated and ends with the sale of the materials transformed into the national industry or its export to third countries” (p. 12). Figure 1 reflects the simplified model of the proposed value chain that may vary according to the reality of each country within LAC.

**Figure 1. Recycling Value Chain for Latin America and the Caribbean**

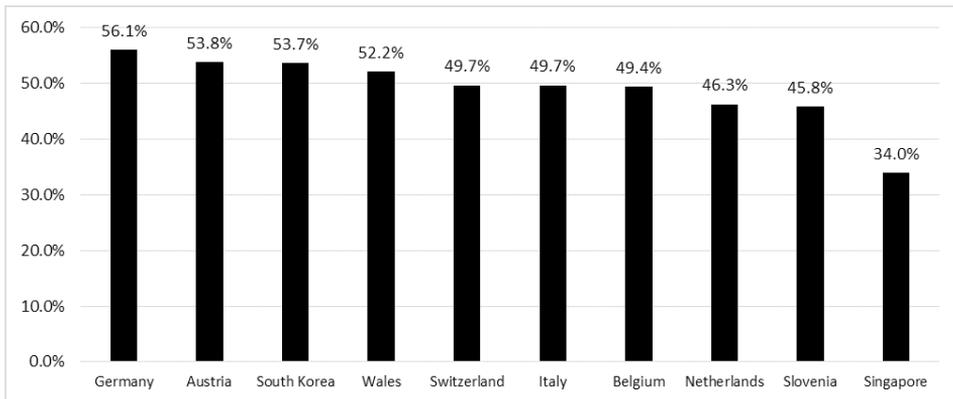


Source: Regional Initiative for Inclusive Recycling (IRR, 2013, p. 12).

According to the IRR (2013) This «Value Chain» of the sector is composed by different actors grouped according to their work with respect to solid waste: the generators are those producers of the different wastes and solid wastes; the collection is provided by the urban solid waste collection service and the base recyclers. The collected material is transferred to collection centers or intermediaries that accumulate and commercialize so that the material is at the disposal of industrial plants or it is exported in the case of not existing a local market (IRR, 2013).

Castells (2012) defines recycling as an operation that allows recovering, transforming and elaborating a material from waste, also notes that “recycling and waste, respond to various activities that can be used from the different waste streams to take advantage of it for the same use or for another” (quoted by Álvarez, 2013, p. 11), reducing costs in the management of landfills, pollution impacts and health problems (Sullivan Sealey & Smith, 2014). According to Gray (2017), of the World Economic Forum (WEF), Germany is a world leader with 56.1% of the MSW recycling rate, as shown in Figure 2; Austria with 53.8%, South Korea with 53.7%, Wales with 52.2% and the rest of countries are located below 50%.

**Figure 2. Top 10 Municipal Solid Waste Recycling Rate 2017**



Source: World Economic Forum (WEF).

### **1.2. Classification of waste in Ecuador**

According to Bravo and Bravo (2012), recycling in Ecuador started with the implantation of a paper factory in the year 1970, requiring recycled material as the main raw materials to produce their products (quoted by Silva *et al.*, 2015). In 2017, the country recycled only between 15 and 25% of the total of one million tons that were recovered (Alarcón, 2017).

According to the National Institute of Statistics and Censuses (INEC, 2017) at national level, 47.47% of Ecuadorian families classified waste, showing a percentage higher than 2015 and 2016 with 39.40% and 41.46%, respectively. Plastic is the most recycled residue nowadays (32.98%), surpassing organic waste, such as paper, cardboard and glass (INEC, 2017).

According to the IRR (2017b) in 2014, 4'100,000 ton of solid waste were generated, of which 1'025.000 are potentially recyclable residues and only 24% of that potential was recovered and recycled. 51% of the 245,000 recycled tons were recovered by base recyclers in the main cities of the country. In 2017, the number of families in Cuenca that classified waste was around 53.37%, ranking above Guayaquil, Machala and Ambato (INEC, 2017).

### **1.3. Cuenca, a city with potential**

Based on the fact that base recyclers are people with low resources that “collect and classify waste in the streets, landfills to open air or other points in the MSW chain looking for materials with potential resale value (...) they tend to belong to the poorest and most vulnerable sectors of society” (The Economist Intelligence Unit, 2017, p. 7); however, the designation of primary recyclers (PR) proposed by the Municipal Public Company for the Cleaning of Cuenca (EMAC-EP, 2018) will be used. It is important to note that the vulnerability of this population must be addressed from a well-recognized priority base for human well-being, including food security, income, water and sanitation, health, education, energy, gender equality, social equity and jobs (Velenturf & Jopson den, 2019).

These people are in the concept of the “Base of the Pyramid” (BOP), developed by Prahalad and Hart (2002), divided in levels according to annual income per capita based on Purchasing Power Parity (PPP), using the graph of a pyramid for representing the income ranges. At Level 4 – called the BOP – “There are 4 billion of people whose income is less than \$1,500.00 dollars a year” (Jimbo, 2016, p. 143).

Given the above conditions, it is obvious that the idea of forming a recycling environment is feasible, according to the contributions of the Lacandon (2013), Prahalad and Hammond (2005), AVINA (2010), who consider the IB as business strategies that “seek economic profitability under the social and environmental perspective, where the first beneficiaries are the people in a situation of poverty and vulnerability, being strategic allies the companies and the state for their achievement” (quoted by Jimbo & Ñauta, 2017, p. 102).

Additionally, there is the potential for the creation of recycling in Cuenca. This statement is supported by the data provided by the EMAC-EP (2018), which ensures that only in 2017, the per capita generation of waste and solid waste in the urban area was 0.54 kg/hab/day, ascending to 9,288 TN/month; of which 25.8% is usable inorganic material and this material is recovering only 19.2%. In general, the inorganic material is perceived with a null monetary value, not so for the PR, since they are considered a resource by the potential to generate profits by means of its recycling (Giovannini & Huybrechts, 2017) causing that on a global scale “15 Millions of people are involved in the informal recycling of waste” (Yang *et al.*, 2016, p. 452). In addition, the efficient management of shared natural resources and the way in which toxic waste is eliminated is the vital livelihood for achieving the objective of responsible production and consumption, in order to create more efficient production and supply chains (UNDP, 2016).

## **2. Materials and method**

In this paper is proposed as a starting hypothesis that the income level of a primary recycler (PR) is not based on its associate status. It aims to answer the following

objectives: i) to determine the relationship between the income and the way of carrying out its activity: associates vs. non-associated; evaluate the conditions under which the recycling activity is carried out in Cuenca (Ecuador) and; analyze whether there is an opportunity to generate profitability in recycling under the context of IB.

This is a quantitative design research, with inductive and cross-sectional approach articulated as a field work. the formula proposed by Murray and Larry (2009) was used to determine the sample, which applies to finite populations: with a confidence level of 95% and a sample margin of +/-5%; the result obtained was a total of 150 observations. According to the official registry of the EMAC-EP, in July 2018 a total of 246 PR were recorded in Cuenca, population that was considered as the sample. The application of surveys to the 150 PR was carried out in calls made by the EMAC-EP, with the purpose of obtaining data concerning the recycling activity. In the same way, technical visits were made to the only two corporate recycling centers in order to obtain information concerning the management of the recovered material and as a measure of validation and control; the filling of Information forms to 27 private recycling centers (intermediaries) identified in the city was also performed.

The design and structuring of surveys and forms are based on instruments used in IRR research (2017a) that were adjusted to comply with the objectives of this research. In the case of PR, the survey consisted of 25 questions categorized in the following dimensions: (i) General Data; Educational Level and; III. Conditions and characteristics of the recycling activity. For intermediaries, the forms consisted of 14 questions. If an intermediary does not provide information, it is excluded by not providing interest data. In addition, they were categorized into two dimensions: General Data and Economic Activity.

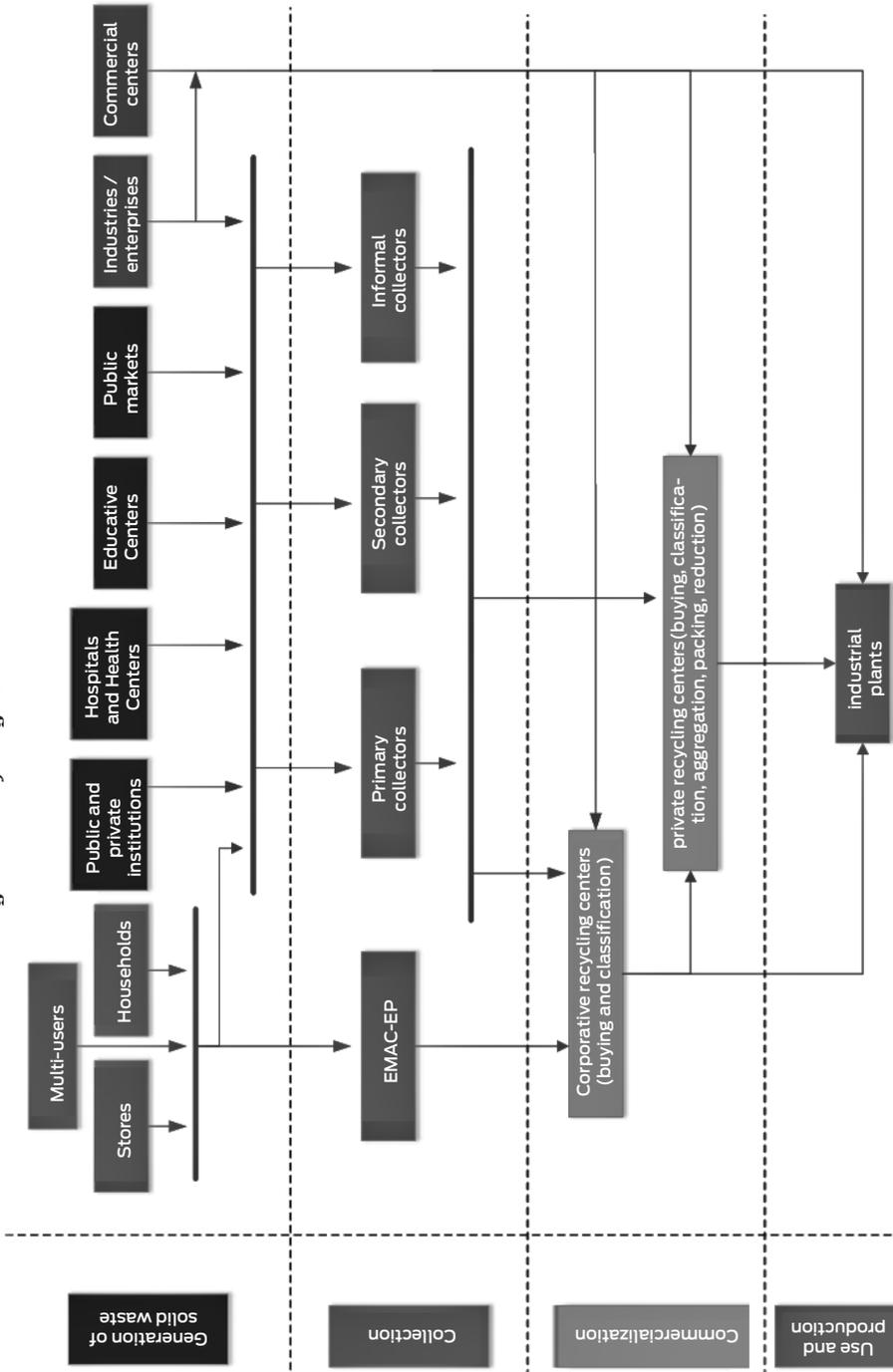
The registration, tabulation and processing of the data obtained were made using the Excel statistical tool for the generation of information. To establish the degree of representativeness among the variables of income and association, a test of hypothesis, correlation analysis and analysis of variances (ANOVA) was employed. The latter proved that the averages of two or more populations are the same, compared to the average income variations of the recyclers that are associated vs the non-associated. Additionally, it was considered necessary to externalize the antagonism degree presented by the entry of an intermediary compared to that perceived by a PR, exposing the gross commercial margin by commercialized material. This is framed by the varied realities presented by the recycling activity at each level of the recycling value chain.

### 3. Analysis and results

#### 3.1. *Recycling value Chain in Cuenca, primary recyclers as a main piece*

The criteria presented by Porter (1986) and Francés (2001), help to conceptualize the value chain as an analysis tool that allows to identify ways of generating value based on making the greatest effort to achieve the fluidity of the productive processes (quoted by Quintero & Sánchez, 2006). Figure 3 shows the recycling value chain designed for Cuenca based on the observation made and the information provided by the EMAC-EP.

Figure 3. Recycling value Chain in Cuenca



According to Figure 3, the generators are the producers of waste and solid waste that correspond to the citizenship in general. According to EMAC-EP (2018), Cuenca has a population of 591,996 inhabitants with 565,476 belonging to the urban part, so their conviction for a correct separation of these residues is necessary (De Feo *et al.*, 2018).

In the second phase, the collection, EMAC-EP and primary (PR), secondary and informal recyclers intervene. The public company transports the material only from one segment of the generators. PR are authorized by the EMAC-EP to collect it using non-motorized means of transport unlike the secondary ones that have a motor vehicle for the transfer of the recovered material. Finally, there are the informal recyclers, whose record is unknown by the EMAC-EP because they recycle without authorization.

Two types of collection centers are displayed: the first called "Corporate Recycling Centers" (CRC), administered by PR associations that retrieve, classify and market the material. The second type are the "Private Recycling Centers" (PRC), commonly recognized as intermediaries and who perform additional work on CRC, such as packaging and/or processing.

The process ends with the industries that supply the recycled material as raw matter for its production, such as Acería del Ecuador C.A. Adelca and Cartopel as the only companies in Cuenca. Scrap, bronze, copper, aluminum, paper, cardboard and duplex are required by the local market, while the rest of the materials are sold outside the municipality, sending to cities such as Guayaquil and Quito.

As shown in Figure 3, PR are fundamental in the value chain and it is important to present the conditions under which they perform the activity. By conforming 76.7% of women and 23.3% of men, it supports what the International Labor Office (ILO) alleges about the greater participation of women in informal employment (quoted by Ogando, Roever, & Rogan, 2017) who have found in the recycling a job opportunity. Its average age is 45 years, with a minimum age of 19 and a maximum of 77 years. 75.7% of the female gender sample received primary or secondary education and the remaining 24.3% never attended formal schools. For their part, 88.6% of males had academic training and only 11.4% received no instruction.

This activity has been done for about 12 years on average, where 77.0% of PR work in the streets looking in the historic center, main avenues, citadels, parks, markets and the industrial park. The collection centers have 10.9% of recyclers; 7.5% obtain in institutions and buildings; 4.6% work in other parts of the city. 53.3% of the recyclers prefer to work alone and 46.3% do it on average in groups of three people, commonly made up by the spouses or members of their family circle, so that the income received at the time of selling the material is distributed among the members of the same family and protect their route of material by problems of organization and invasion of territories.

There are months where more material is observed. In the period of July-August-September, a large number of households discarded school material from the previous academic year. The second period December-January coincides with Christmas and New Year. 14.50% of PR do not consider an opportunity to increase material in these months, as it also increases the number of informal recyclers.

### 3.2. *Recyclers' Income, the real value of the 'garbage' and the association figure*

There are 16 materials identified by the EMAC-EP in Cuenca with an economic value, and that are possibly recoverable, the information is listed in Table 1. It is essential to clarify that priority is given to certain materials at the time of collecting according to the requirements of PRC, CRC and the industry.

**Table 1. Average prices for the material**

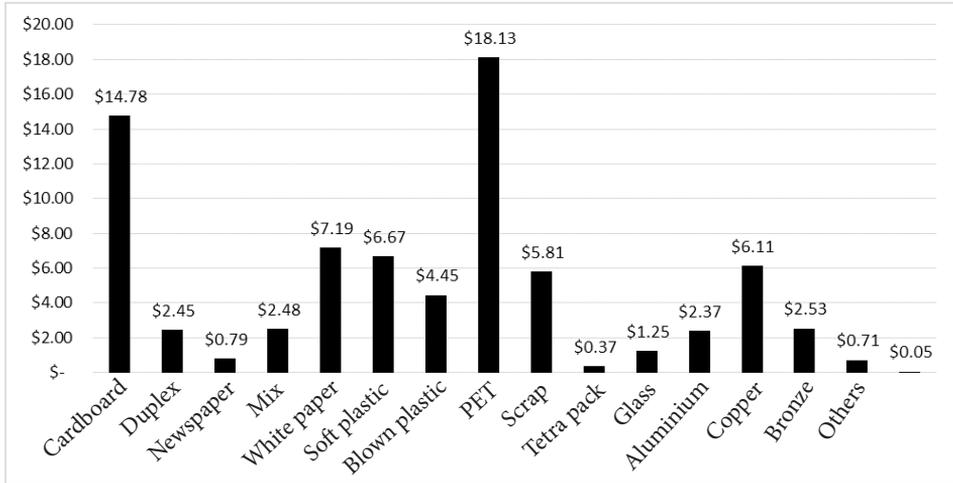
Material	Average price ( US\$/kg)
Cardboard	0,09
Duplex	0,09
Newspaper	0,07
Mix	0,09
White paper	0,13
Soft plastic	0,16
Blown plastic	0,12
PET	0,45
Scrap	0,13
Tetra pack	0,10
Glass	0,02
Aluminium	0,33
Cooper	1,59
Bronze	1,21
Electronic Scrap (RAEE)	0,54
Others	0,03

A total collection of 129.68 TN/month is estimated by PR, being cardboard the most collected material with 32.1% followed by white paper with 10.6%, glass with 10.2%, scrap with 8.6%, soft plastic with 7.7%, PET (containers made with polyethylene terephthalate) with 7.6% and blown plastic with 6.8%. Other materials are not collected in big quantity for reasons of market demand, logistics, appropriate classification and non-representative prices. Although PET is a material that is not available in big quantities, it has a good price.

The Monthly income of a recycler is based on the volume and market price of the material as can be seen in Figure 4. 52.7% of PR received a lower income of US \$100,00 per month; 22.0% between US \$100,00 and US \$150,00; 16.0% between US \$150,00 and US \$200,00. Finally, 9.30% received an income exceeding US \$200,00 for recycling. On average, the monthly income of a recycler is US \$76,16 using approximately 4.19 days/week for 5.50 hours/day. It means that they work around 92.11

hours/month to collect about 527.16 kilograms of material. It is important to clarify at this point that the monthly minimum wage in Ecuador is US \$394.00.

**Figure 4. Average monthly income by material**



For 33.0% of PR, income collected in recycling is insufficient, forcing them to work in addition to informal sells, cleaning, domestic work and agricultural activities. The Association figure originated just as an alternative to overcome low income. There are seven associations registered in the EMAC-EP: Corporación ARUC, Corporación AREV, Asociación Solidaria del Sur Feria Libre, Asociación San Alfonso-Centro Histórico, Organización Pichacay, Asociación El Chorro y Asociación Cristo Rey. They show difficulties regarding the organization, registration of new partners, lack of infrastructure, itinerant meetings and conflict of interest, being only 41.3% of recyclers in the condition of associates (AR), and 58.7% of non-associated recyclers (NAR) Who do not assume the association as an advantage or a priority for bad perception, lack of knowledge and little availability of time to fulfill obligations of the associates.

There is a little significant difference regarding the income between AR and NAR: AR obtain an average monthly income of US \$80,85 and the NAR of US \$70,90, revealing that the AR gets 14.0% more income, even 14.5% of AR have exceeded the US \$200,00 and only 5.7% of NAR reached that figure. This difference can be attributed to the working day, since the AR work on average 114.07 hours/month, as opposed to the 78.00 hours/month worked by the NAR.

Once the PR income was determined, a correlation analysis was carried out to determine the dependence level of the "association" variable. A correlation coefficient ( $r$ ) of 0.68% was obtained as shown in Table 2, which implies that there is a positive but negligible statistical relation, i.e., the association is not an explanatory and influential variable in the level of income. This is because five of the seven existing associations are limited to organizational areas and register new partners, without considering the productive issue.

**Table 2. Statistical relationship**

Statistical relationship	Valor
Correlation coefficient r	0.116224714
Determination coefficient R <sup>2</sup>	0.013508184
Adjusted R <sup>2</sup>	0.006842699
P Value (two-tailed)	0.173596059
Alpha	0.05

Given the P-value of the F-Statistic calculated in Table 3, and the level of significance of +/-5%, the information provided by the explanatory variables is not significantly better than that which would provide a basic mean, i.e., the differences in the means of the income between AR and NAR is not significant, accepting the hypothesis that the income level of a PR is not based on its associate condition.

**Table 3. Analysis of variances: ANOVA**

	DF	Sum of the squares	Quadratic mean	F	Pr > F
Model	1	5411.660	5411.660	2.027	0.157
Error	148	395209.173	2670.332		
Adjusted Total	149	400620.833			

In the case of the ARUC Corporation and El Chorro Association, the figure of CRC originates with the minimum infrastructure required for the classification and commercialization of the recovered material. They represent a means of protection and social and economic development, due to changing market conditions such as price fluctuations and volumes, increase of informal recyclers and labor insecurity. The main advantage lies in the negotiating power that they have at the time of the commercialization of the material, demanding higher prices for the considerable quantities that they have, because the companies that buy the material prefer suppliers with capacities of supply according to their production cycles.

### **3.3. The Business is in the volume, the challenge for the IB recycling**

In conjunction with the EMAC-EP, 27 PRC was identified, stressing that there was a degree of resistance to provide private information, and there is no ordinance or legal framework at the moment that fully regulates its economic activity.

Therefore, an intermediary hires seven workers on average in the plant with a working day of 42.99 hours/week. The recyclable materials they sell come from various sources: recyclers, CRC, offices and shopping centers, educational units and industries. The CRC is supplied on a daily, weekly, fortnightly and monthly basis, allowing the collection, classification and packaging operations to be continuously developed. The portfolio of recyclable materials offered by a CRC is varied by oper-

ating an estimated 116.84 TN/month that allows them to obtain an attractive gross commercial margin, shown in Table 4.

**Table 4. Commercial gross margin for the intermediary by type of material**

Material	Sell price (US\$/kg)	Purchase price (US\$/kg)	Difference (US\$)	Gross margin
Cardboard	0,13	0,09	0,05	34,8%
Duplex	0,09	0,09	0,00	5,2%
Newspaper	0,08	0,07	0,01	9,9%
Mix	0,17	0,09	0,08	44,4%
White paper	0,17	0,13	0,04	22,0%
Soft plastic	0,35	0,16	0,19	53,3%
Blown plastic	0,27	0,12	0,15	54,1%
PET	0,61	0,45	0,15	25,4%
Scrap	0,18	0,13	0,06	30,2%
Tetra pack*	-	0,10	-	-
Glass	0,03	0,02	0,01	22,7%
Aluminium	0,66	0,33	0,33	49,5%
Copper	3,85	1,59	2,26	58,7%
Bronze	3,30	1,21	2,09	63,4%
RAEE*	-	0,54	-	-
Others*	-	0,03	-	-

\* information non provided by PRC (intermediaries).

The monthly gross income of an intermediary is estimated to be US \$25,346.73. It is important to mention that the activities of an intermediary do not provide considerable added value, i.e. they accumulate large volumes of material and commercialize it. PRC specific cases perform additional procedures, such as pelletizing the plastic by generating recycled material (pellets) ready for processing in finished product. However, the results obtained can be a reward for the entrepreneurship initiative and the risk assumed when making an investment in this business framed in an environment of informality and instability.

As mentioned, an IB poses strategies that favor the poor and vulnerable population framed at the BOP, fulfilling the PR with this criterion. Consequently, recycling can be seen as an IB because it is made by people of the BOP "articulated with private enterprise and supported by the generation of laws or ordinances issued by the

Ecuadorian State and Municipal Decentralized Autonomous Governments (GADM), which allow this population to have economic resources” (Jimbo, 2016, p. 152).

The company Novacero S.A., in Ecuador dedicated to producing steel materials for the construction, exemplifies the concept of IB by working together with scrap recyclers and qualify them as the basis of their operations, being raw material suppliers for their productive processes. In 2008 it joined the IB program: “We all win”, in which it provided technical training and working capital to the recyclers (Maldonado, 2012). Initially, seven micro-entrepreneurs collaborated; later the number amounted to 27, to finally work with 200 recyclers in 2012, who obtained no less than 260.00 US \$/tonelada of scrap by optimizing their productivity and getting better prices (Maldonado, 2012).

Undoubtedly, the experience of Novacero reinforces the opportunity to create an IB based on the BOP since the price per kilogram of scrap obtained in the program was US \$0,26; higher than US \$0.13 that a recycler receives on average, this is mainly because the intermediary is not considered in the value chain when negotiating directly and on a large scale with the industry.

At the same time, the potential of recycling in Cuenca lies in the volume of recyclable material, since according to the EMAC-EP (2018), a 19.2% of the 2,396 metric tons of recyclables are barely recovering. Thus, the revenues are substantial when considering the important role that the fluctuation of prices of each material plays in relation to the recovered volume.

#### **4. Discussion and conclusions**

The value chain is a necessary and useful tool for evaluating the process undergone by any product or service and, due to its lack of existence at the time of developing this work, it has been essential to develop its design adjusted to the reality of Cuenca (Ecuador), not only to understand the flow of the process of solid waste generated, but also for the approach of strategies related to the application of IB with the people of the BOP. In addition, it is important to note that the value chain designed and presented in Figure 3 has the approval of the technical department of the EMAC-EP.

On the other hand, it was found that under the association figure, PR obtain a little more in income than the NAR. In spite of this, they are not highly representative and as demonstrated, the situation of PR Association is not a total and influential explanatory variable in the income level. In either way, they continue to be part of the BOP. Additionally, it was observed that the working conditions of PR are not conducive or adequate, owing to labor instability, low incomes, unsanitary working conditions, informality and conflicts of interest. It is essential to consider the antagonistic relationship that the recycling activity has, referring to the average age of the recycler with more presence of women relative to the level of physical effort required for development of the activity.

Understanding the conditions in which the recycling work is performed, and once proven that the admission of an AR is slightly higher than the NAR, the association cannot be considered as a solution given the above conditions. They require the inclusion of formality with regard to their legal constitution, organizational structure,

procedures and duly defined responsibilities aimed at improving their productivity and consequently the socio-economic conditions.

Thus, due to the design of the recycling value chain for Cuenca, the measures that EMAC-EP can take to improve the management of solid waste, should be designed to contribute to ODS (UNDP, 2016), which represents a great challenge and a chance to provide better opportunities for recyclers in such management, not only because of the poor consumer practices of citizens (Vieira & Matheus, 2018) and the linear economic model (Ribeiro & Kruglianskas, 2015) but also for the problems detected in the associations and working conditions of the recyclers, in particular by their age condition and the feminization of the activity.

Finally, those who are instantly benefiting economically from recycling are the industry by obtaining cheaper raw materials and the intermediaries with revenues much higher than a PR; justified with the infrastructure, logistics and investment capacity for the treatment of recycled material, concluding in this way that there is an attractive profitability in the activity. Therefore, it is shown that there is the opportunity to generate profitability in recycling for PR. The success on applying a profitable recycling in Cuenca that impact in the income of PR will depend on factors such as the approach of a defined business strategy, strategic alliances with industry, regulations or municipal ordinances that efficiently and effectively regulate waste management in the city throughout the recycling value chain; joint collaboration between control agencies and the recyclers; finally, a CRC management model that fits the reality of PR.

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# Miscellaneous Section

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# Rural and Indigenous women empowerment through productive groups and social microbusinesses in Mexico

## Empoderamiento de la mujer rural e indígena en México a través de grupos productivos y microempresas sociales

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### Abstract

*The organization of indigenous and rural women in productive and micro-enterprise groups aims to be a tool of empowerment, fighting against poverty and gender equity, with the three Sustainable Development Objectives of the 2030 Development Agenda of the United Nations. In Mexico, these objectives are addressed from the National Development Plan (2013-2018), in which gender is also established as a transversal strategy to be applied in the design and implementation of sector policies, programs and budgets. In this sense, it is established as a priority to address the social lag of the population, especially minorities. The objective of this article is to show the relationship between the empowerment of rural and indigenous women through their participation in productive projects and social micro-enterprises. The research is conducted using a descriptive methodology with documentary design, based on a literature review of publications that relate both concepts. As a result of the research, an integrative process is proposed towards the empowerment of rural and indigenous women who participate in productive projects or social micro-enterprises in Mexico. It is concluded that accompaniment, empathy and training are required to create social micro-enterprises that foster transformation, and social value and contribute to the local development.*

### Resumen

La organización de las mujeres indígenas y rurales en grupos productivos y microempresas pretende ser un mecanismo hacia el empoderamiento, el combate a la pobreza y la equidad de género, siendo los tres Objetivos de Desarrollo Sostenible de la Agenda 2030 para el Desarrollo de las Naciones Unidas. En México, dichos objetivos se abordan desde el Plan Nacional de Desarrollo (2013-2018), donde además se establece como estrategia transversal la perspectiva de género para ser aplicada en el diseño e implementación de políticas, programas y presupuestos sectoriales. En este sentido se define como prioridad atender el rezago social de la población, en especial de las minorías. El objetivo del presente artículo es evidenciar la relación del empoderamiento de las mujeres rurales e indígenas a través de su participación en emprendimientos de proyectos productivos y microempresas sociales. La investigación se realiza bajo una metodología de tipo descriptiva con diseño documental, a partir de una revisión de literatura de publicaciones que relacionan ambos conceptos. Como resultado de la investigación se propone un proceso integrador hacia el empoderamiento de mujeres rurales e indígenas que participan en proyectos productivos o microempresas sociales en México. Se concluye que se requiere de acompañamiento, empatía y capacitación para construir microempresas sociales que propicien la transformación, agreguen valor social y aporten al desarrollo local.

### Keywords | palabras clave

*Empowerment, productive groups, social microbusiness, microcredits.*  
Empoderamiento, proyectos productivos, microempresa social, microcréditos.

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## 1. Introducción

Human Development is the process that seeks to expand the same options for all people and not just for a few. The right to education, housing, decent work, health service, and equity (UNDP, 2016), recognition of women's rights, ethnic minorities, and combating gender discrimination, are challenges as difficult as the abolition of slavery and the elimination of colonialism (PNUD, 2014).

In the case of indigenous women, a situation of double discrimination is experienced: by gender and by their ethnic origin, in addition to poverty and social lag (Zarza-Delgado, Serrano-Barquín, 2013; Serrano-Barquín, Palmas-Castrejón, Cruz-Jiménez, 2013; García-Canclini, 2012; Stavenhagen, 2007). The path to empowerment is a political process that should be accompanied by an inclusive philosophy characterized by consciously and voluntarily actions assuming an active role (Coughlin and Thomas, 2002).

In Mexico, in accordance with the United Nations Sustainable Development Goals (SDG), problems such as end of poverty and gender equity (UNDP 2017) are included in the National Development Plan (PND 2013-2017). The Institution responsible for serving the indigenous population is the National Commission for the Development of Indigenous People (CDI), whose mission is to orient, coordinate, promote, monitor and evaluate programs, projects, strategies and public action to this population (DOF, 2018). For Institutions such as the CDI to meet their objective, they need to achieve results in initiatives that address issues such as women's empowerment and poverty reduction.

The purpose of this article is to propose an integrative process towards the empowerment of rural and indigenous women in Mexico, through their participation in social entrepreneurship projects and social micro-enterprises. The process is constructed from 5 components that are: 1) The critical review of cases in the world on women's empowerment from social entrepreneurship, 2) The definition of the concept of 'women's empowerment', 3) The recovery of different cases of empowerment through microcredit, 4) The existing relationship between social micro-enterprises and productive projects and 5) The review of successful cases in the world.

The research is carried out based on a descriptive methodology with documentary design. A review of the literature is made on worldwide studies of the topic. To carry out the literature search, the Web of Science® platform is used in the categories of Administration, Business, and Women's Studies. The focus is on academic articles of indexed journals. Searches are performed in English, and Boolean algorithms are used to drive the results towards the concepts of interest, and publications from 2012 to 2017 are included.

The order of this research is presented as follows: it first describes the characteristics of the revised publications and the categories of analysis, then it explains how the concept of "empowerment of women" arises, its characteristics, the inhibitory factors and their manifestation in productive groups supported by microcredits and public policy programs; subsequently, the social sector of the economy to which the productive projects or micro-enterprises belong are defined as well as the concept of "social enterprise", its characteristics, and dynamics. Finally, there is an integrative

process towards the empowerment of rural and indigenous women who consider factors of both revised theories.

## 2. State-of-the-art

The first block of keywords for the search of the “empowerment” variable were: ‘Gender equity’, ‘women’s power and autonomy’, ‘inclusion’, ‘decision-making’, ‘empowerment’, ‘empowerment of women’, ‘indigenous women’, ‘indigenous development’, ‘working indigenous woman’, ‘artisanal woman’, ‘gender empowerment’, ‘home power’ and ‘domestic power’.

A result of 34 emerging publications as obtained in the cited *ut supra* period. The second key-word block used for the “social enterprise” variable was: ‘Indigenous development’, ‘microfinance’, ‘micro-credits’, ‘social enterprise’, ‘social value’, ‘economic value’, ‘micro-enterprise’, ‘indigenous social impact’, ‘quality of life’, ‘sustainable development’, ‘inclusive micro-business’, ‘social solidarity economy’, ‘inclusionary public budget’, ‘social improvement’, ‘NGO’, ‘entrepreneurship’ and ‘women’s empowerment’; search that showed 47 results, for a combined total of 81 items.

A critical review is then carried out (Garcés and Duque, 2007; Diaz, 2012) considering only publications related to the empowerment of rural and indigenous women through productive projects, social micro-enterprises, and social enterprises in different parts of the world. This search provides a total of 32 publications.

Table 1 presents the categories analyzed: coincidence of topics addressed, place of study, universities and years in which the research is carried out, as well as the methodology used. The review and mapping allow to compare results and contribute to the construction of the proposal of the integrative process towards the empowerment of rural and indigenous women, through their participation in social entrepreneurship projects and social micro-enterprises in Mexico.

Most of the researches are conducted in Asia, particularly in India and Bangladesh, where the issue of microcredits is important as a consequence of the creation of the “Yunus Garmeen Bank” founded in 1983. The most studied topic is “social entrepreneurship”, followed by microcredits and empowerment. The applied methodology is predominantly qualitative, but little by little they begin to highlight the studies that use both methodologies (quantum-qualitative). For its part, the results are heterogeneous, since the sociocultural situation of each region differs.

However, the work agrees with the predominance of the patriarchal system as limiting the personal development of women, which allows to identify the introduction of women. It also emphasizes the study of the productive work of the rural and indigenous women as an important thematic of study that seems to be consolidated in the diverse regions. In accordance with the above, it is possible to identify an increasing trend in the subject in recent years.

**Table 1. Description of articles**

Category analyzed	Description	Percentage
Articles	Social entrepreneurship in rural women	41
	Microcredits and empowerment	25
	Social Enterprise and empowerment	15.6
	Cohesive Help Group (SHG)	6.25
	Gender in the business	6.25
	Management of resources and empowerment	3.12
	Negotiation and empowerment	3.12
Journals	Business and economy	72
	Business, economy and social studies	12
	Administration	6
	Sociology	3
	Social Sciences and Economy	3
	Public Administration	3
Place	Asia*	41
	Africa	16
	Europe	25
	America	9
	Australia	9
Authorship	Co-author	84
	Independent authors	16
Place of origin of the universities in which the study was conducted	India	20
	United States	17
	United Kingdom	16
	Australia	15
	Spain	5
	Canada	5
	Sweden	4
	France	4
Ethiopia, Germany, South Africa, China, Rumania, Mauritius Island and Israel	2**	
Years of publication	2012	6
	2013	0
	2014	6
	2015	12.5
	2016	50
	2017	25

Category analyzed	Description	Percentage
Editorial House	Emerald Group	28
	Wiley	13
	Elsevier Science	9
	Springer	9
	Taylor & Francis	9
	Sage P.LTD	6
	Pacific Institute of Management	6
	De Gruyter Open LTD, Indian Journals, GurukulKangri University, University of California, Pontificia Universidade Católica SaoPaulo, Sage India PVT Ltd	20***
Editorial House	Qualitative	44
	Quantitative	22
	Mix	16
	Cases of study	9
	Literature review	9

\*28% are from India \*\*each one \*\*\*Each with a publication.

### 2.1. Origin and definition of the concept of women's empowerment

The UN held the IV World Conference on Women in Beijing in 1995, in which the term Gender Mainstreaming (GM) was introduced as a key mechanism for achieving gender equality and women's empowerment, defined by the United Nations as the gender integration into the design, implementation, monitoring and evaluation of programs in the political, social and economic fields (Tuñón, 2010; Partart, 2014).

The Conference in Beijing presents a strong change in the global agenda for gender equality, originating the 'Beijing Declaration and Platform for Action' establishing a set of strategic objectives and measures for the advancement of women and the achievement of gender equality (UN Women, 2018). Since then, revisions have been made to the document towards the empowerment of women in society to end discrimination and achieve equality in all areas of life, in public and private aspects (ONU Mujeres, 2018).

Empowerment is also defined as the ability to make strategic life decisions in areas where it has previously been denied (Kabeer, 1999); in addition, it is also defined as a process through which women begin to be aware of their own power, their ability to make decisions about their own lives (Longwe, 1995; Rowlands, 1997; Mayoux, 2000; Kabeer, 2001; Malhotra, 2002; Tuñón, 2010; Díaz-Carrión, 2012), coupled with the awareness of the place they occupy at home and in the society. Decision-making implies public and private space in the different dimensions from the personal, family, economic, political, legal and sociocultural (Malohtro, Boender and Schuler, 2002).

On a personal level, it affects the self-esteem, the family, the dynamics at home, i.e., how the power relations are with the domestic group (Rowlands, 1997; Mayoux, 2000; Kabeer, 2001; Malhotra, 2002). Empowerment makes it possible to demand

radical cultural, economic and political changes, it requires renegotiating the patterns of decision-making, resource use, and inclusion of men for the achievement of this process (Haugh and Tawlar, 2016).

Traditionally, women are in charge of taking care, of performing a work learned by inheritance and in pre-established social constructs, leaving themselves in last place at the service of other people (Alberti-Manzanares *et al.*, 2014). By entering into a process of empowerment, they begin to realize their choices and ability to make decisions, they value their time and recognize their autonomy.

Empowerment is multidimensional. It is presented at the micro level in the individual aspect and the family. At the macro level, it is observed in the wider community and spaces (Malhotra, Schuler, Boender, 2002; Gigler, 2014; Mayoux, 1998; Hashemi, Schuler, Riley, 1996). Empowerment starts from the own awareness to an internal level, so it is necessary for the environment to propitiate it by means of information, i.e., that women know their rights and that there are economic and social programs that support them (Mathur, and Agarwal, 2016; Aguilar-Pinto, Tuñón-Pablos and Zapata-Martelo, 2017).

At the public level, empowerment refers to the construction of community relations, support networks, knowledge of their legal rights, the power to express themselves openly about their preferences, interests and decisions. In this sense, collective organizations can be powerful agents of change (Zapata-Martelo and García-Horta, 2012). The empowerment process puts emphasis on people's decision-making, individual empowerment strongly influences the creation of major transformative networks (Foley, 1997), gaining women representation by collectively organizing themselves (Longwe, 1995; Batliwala, 1994).

The public policy programs in Mexico addressed to this vulnerable group recognize the need to reinforce the entrepreneurial-social culture of productive projects and the transverse edges of the gender approach, supporting the fact that by grouping the rural and indigenous women and undertaking a project to carry out productive work, the dynamics of empowerment in the organization are observed and an economic and social impact is produced; they begin to make decisions on how to invest the money, on what to spend, what to buy, and initiate a network among themselves and externally by relating commercially with suppliers and sellers (Zapata-Martelo and García-Horta, 2012; Zapata-Martelo and Mercado 1996; Tuñón, 2010; Meza *et al.*, 2002; Rivas *et al.*, 2015; Banerjee and Jackson, 2017).

## **2.2. Empowerment through microcredits for productive groups**

One of the dimensions of empowerment corresponds to the full participation of women in all areas of the economic life. By organizing to work in productive groups or undertaking social micro-enterprises, women begin to develop relationships within the group and with external people, such as suppliers, government and organizations that provide microcredits. This is the beginning of a construction of networks and opportunities of economic and social benefit (Mair, Marti and Ventresca, 2012; Yunus, 2007).

Therefore, in the decade of 1980 to 1990, there was a boom of micro-financial institutions around the world with the aim of granting credit and capital to the

poorest and most vulnerable. These credits were backed by a policy of support and regulatory framework for micro-finance, which defines microcredit as a provision of savings, credit, services and financial products of small amounts for poor people in rural, urban and semi-urban areas, to help them to raise their income and improve their living standards (Pokhriyal, Rani and Uniyal, 2014). These are easy-to-access loans at low cost that offer less interest than banks that do not care about low-income individuals as “credit subjects” (Bhatia, Rubio and Saadat, 2002)

Micro-financiers give microcredits preferably to women because these are more reliable credit subjects (Yunus, 2007). To apply for microcredit, they should be organized into small “self-contained cohesive groups” formed by 5 to 20 people who voluntarily meet to access a credit and who share the same socio-cultural and economic reality (Sulur Nachimuthu and Gunatharan, 2012; Mathur and Agarwal, 2016).

Group empowerment is collective and depends on the social capital, which are the social resources available and able to provide the actor and particular groups with a number of benefits. It refers to the rules and networks that link groups of poor people with financial institutions (Bhatia, Rubio and Saadat, 2002). Poorly used microcredits can erode the social relations that remain in the group, and these are of great importance in rural communities as subsistence economies characterized by sharing community resources, collective standards, reciprocity and strong kinship relationships essential to their survival. For example, when a woman asks for a credit and fails to pay it on time, she enters a spiral of debt that she hardly manages to leave, leading her families to public shame and specifically women to a “disempowerment” in the public and personal aspect (Banerjee and Jackson, 2017).

There is a challenge between individual empowerment, which relates to the magnitude of personal development that depends on economic, political, social, cultural, and educational factors, decoupled from the group’s collective growth. This can also cause negative factors to some members of the group by creating greater asymmetries and inequalities. For example, when women with power and group leaders use micro-credits for their families, they benefit from new networks and deteriorate the other ones in terms of cooperation, reciprocity and trust (Banerjee and Jackson, 2017).

A micro-credit is not enough to enter into an empowerment process. The different dimensions (personal, family, economic, sociocultural, political), and spheres (public and private) of women’s lives must be taken into account. The economic benefit is only one factor that contributes to initiate the process (Mayoux, 2000; Kabeer, 2003; Sarmah and Rahman, 2016; Mathur and Agarwal, 2016).

Productive work leads women to generate additional income for themselves and their families. Thanks to this, they begin to intervene in the decision making on the expenditure of the household, to transform their family relations and propitiates a growth in different aspects of their life (Mair, Marti and Ventresca, 2012; Mathur and Agarwal, 2016; Yunus, 2007)

The results of the microcredits identified after the evaluation of the literature are heterogeneous, and vary depending on the context, the personal, family and sociocultural conditions of women and the accompaniment of the organization that contributes to the microcredit. The keys to women’s successful empowerment highlight the presence of a strong specialized accompaniment and the consideration of

theoretical and practical tools for empowerment, reason for which it is important to have a general framework that allows social entrepreneurship to be guided and empowered as a positive transversal result. The proposal of the process presented in this article intends to integrate the components that lead to the empowerment of women through their participation in productive groups.

Figure 1 compares “empowerment” and “disempowerment” factors in three different areas: the staff/family, the economic and the organization. Empowerment, as mentioned above, is a positive consequence that allows women or the group to improve their abilities to govern themselves, to make decisions about their own lives and to enforce their interests. Notwithstanding the foregoing, in a negative situation a woman might not enter into a process of empowerment but can have a setback in the living conditions that surround her. Therefore, it establishes the possibility of workload, family problems by the participation in the productive group, problems with her couple by the control of the income, among other factors, generating a lack of financial autonomy; consequently, maintaining the asymmetry between both genders.

**Figure 1. Results of microcredits provided to rural or indigenous women**

		Microcredit		
<b>Empowerment</b>	<b>Personal / familiar</b>	<b>Economic</b>	<b>Organization</b>	
	<ul style="list-style-type: none"> <li>● Self-identification</li> <li>● Change in the power relation within the family</li> <li>● Changes in the relation with other women of the family who propitiate the patriarchal system</li> <li>● Decision-making</li> <li>● Construction of networks broadening of networks</li> <li>● Solidarity among women</li> <li>● Sisterhood</li> <li>● Social recognition</li> </ul>	<ul style="list-style-type: none"> <li>● The woman controls and manages her own income</li> <li>● Investment in the household, health, children, education and housing</li> <li>● Saving</li> </ul>	<ul style="list-style-type: none"> <li>● Access to public spaces</li> <li>● Relations that originate inside and outside the networks</li> <li>● Decision making in the organization</li> <li>● Organized collective work</li> <li>● Access to health, housing and wellness</li> <li>● Development of productive abilities</li> </ul>	
<b>Disempowerment</b>	<b>Personal / familiar</b>	<b>Economic</b>	<b>Organization</b>	
	<ul style="list-style-type: none"> <li>● Family problems due to the productive work</li> <li>● The man controls the income</li> <li>● Power of other women who are family members (mother-in-law, sister-in-laws)</li> <li>● Inequality of gender in the family</li> <li>● Double or triple working day of care, production or communitary work</li> </ul>	<ul style="list-style-type: none"> <li>● Debt of the women</li> <li>● The woman does not get to end poverty</li> <li>● The man decides on the income</li> </ul>	<ul style="list-style-type: none"> <li>● Leader women have more power and benefits</li> <li>● Management of the Enterprise by lack of experience</li> </ul>	

Source: own elaboration based on different authors.

On the other hand, the benefits of empowerment for women are the power to make decisions, the construction or consolidation of networks, the transformation towards equity in their family relationships, the obtaining of social recognition, as well as the management of their own income.

The design of gender-focused public policy programs should be a joint effort with microfinance to consider women’s sociocultural reality (Bhatia, Rubio and Saadat, 2002).

**2.3. Social micro-enterprises and productive projects**

The Productive and micro-social projects that integrate rural and indigenous women are part of the “Social Sector of the Economy”, from which four trends are distinguished: Social Economy, Third Sector, Solidarity Economy and Social Solidarity Economy (Conde, 2016; Lara and Maldonado 2014).

**Table 2. Trends in the social sector of the economy**

<p><b>Social economy or Third Area</b> Lara and Maldonado 2014 Defourny, Nyssens 2012 Defourny 2014</p>	<p><b>Social area of the Economy</b> Conde, 2016</p>	<p><b>Solidarity Economy</b> Lara and Maldonado 2014 EMES 2017</p>	<p><b>Social Solidarity Economy</b> Lara and Maldonado 2014 Fonceca and Marcuello 2012 Giovannini 2012 EMES 2017</p>
<p>It originates from the civil society to work against poverty; it appeals to a morally-focused economy. It defines the private non-profit sector, its resources come from donations and these are philanthropic.</p> <p>It is grouped into three categories according to their legal approach: cooperatives, societies and mutual aid organizations, associations.</p>	<p>These are economic activities of the social sector: workers’ organizations, cooperatives, enterprises of communities, mainly workers, all forms for the production, distribution and consumption of necessary social goods and services (CPEUM, 2016).</p>	<p>It is a democratic and egalitarian form of organization of different economic activities. Democracy is its center, everyone has the same decision in the economy, people who are representatives have to be elected through the vote.</p>	<p>It seeks the common good, its basis is solidarity, its center is the benefit of people and their communities. It is an instrument towards social inclusion and the reduction of poverty</p> <p>from the alliance of government, society and social partners, who play an essential role in creating a more inclusive society.</p>

All forms of organization in this sector are characterized by democratic decision-making and consensus in the public or private area. They can also establish alliances with governments and other civil society organizations, seeking poverty reduction and social inclusion that encompass purely material benefits, considering the socio-cultural, political and environmental dimensions (Conde, 2016; Defourny

and Nyssens, 2012; Defourny, 2014; EMES, 2017; Fonceca and Marcuello, 2012; Giovannini, 2012; Lara and Maldonado, 2014). Table 2 illustrates this information.

In Mexico, Conde (2016) categorizes and identifies that more than 40 terms are used to designate associative figures that could be considered social enterprises: networks, communities, workers' organizations, cooperative societies, social groups, companies that are exclusive or mostly of workers, and all forms of social organization for the production, distribution and consumption of socially necessary goods and services (LESS, 2015). These are organizations whose primary objective is to solve the needs of the non-profit population (Conde, *ob cit.*; Girardo and Mochi, 2012).

The social enterprise is inserted in the "Social Solidarity Economy" (Lara and Maldonado, 2014; Corragio, 2014; Conde, 2016), whose main objective is to solve social problems. This is managed as the lucrative company, but it has as a center the social benefit; it has low costs to make processes efficient, it meets social needs and generates economic benefit. Additionally, it must have an intrinsic social objective in its mission. The social enterprise distinguishes from the capital companies mainly in which the decision making does not depend on the capital but on the individual and on the autonomous vote of each person who is freely associated (Peredo and Chrisman, 2006; Yunus, 2007; Hurtado, 2014; Defourny, 2014; Lara and Maldonado, 2014).

The productive organizations that make up rural and indigenous women supported by microcredits or government subsidies are defined as "social micro-enterprises" because they identify with the dynamics of the "social enterprise" (Zapata-Martelo and Mercado, 1996; Mair, Martí and Ventresca, 2012; Defourny and Nyssen, 2012; Haugh and Talwar, 2014; Lamaitre and Helsing, 2012). Zapata-Martelo and Mercado (1996) mention that in addition to seeking economic profitability and social benefit, these organizations achieve the creation of spaces for the generation of women's empowerment, in which the work of women is valued, and open spaces of participation and cohesion of group are created. In most of the cases studied, the social benefit transcends the economic. For women, it represents the struggle from the economic spaces to achieve access to health, education, childcare, disability by maternity, housing, access to their rights and decision-making in the public and private areas. The organization allows them to leave the domestic space, occupy public offices, demand their rights and create networks. The change in the social system is not a byproduct, but the very essence of its efforts. Each social enterprise is different and must be judged from its own context (Nicholls, 2008), while the sociocultural reality directly influences the empowerment process that women live.

### 3. Models and results in rural and indigenous social micro-enterprises

The management of the Social Enterprise is presented in different dimensions: environmental, economic, social, cultural and political (Hurtado, 2014; Fonseca *et al.*, 2012; Lemaitre and Helmising, 2012; Haugh and Talwar, 2014).

The productive organization is studied from three perspectives: i) the achievements, ii) the economic relations and, III) the internal relations. The achievements refer to the contribution to local development in 4 dimensions: a) The economic dimension corresponds to the activity of producing goods and/or services in a finan-

cially sustainable way; b). The social dimension refers to relations in the community, social cohesion, reduction of gender inequality, creation of employment and working conditions; c). The environmental dimension are aspects that relate to the preservation of environmental diversity in order to produce ecological benefit, for example by reducing waste and integrating sustainable activities to the production process, d) the political dimension is related to workers' empowerment issues and the common good, it is the company's ability to take action in the public area (Lemaitre and Helsing, 2012).

Economic relations are divided into non-monetary and monetary. The first assigns a value to activities that do not generate economic income but have a value in the market because they constitute a cost to the organization, such as volunteering, reciprocity, work at home and the link with public policies. On the other hand, the currency relation has to do with the market, i.e., income by sale of products or services.

Empowerment is observed through social micro-enterprises in India, where changes and transformations are manifested in the economic, social, personal, political and cultural areas. In the social area, women see differently the value of their work, the family respect the work of women, and there is equity and there are changes in gender discrimination, women are aware of their own disempowered situation and their potential in their personal growth (Haugh and Talwar, 2014), it is possible to empower up (from institutions) down, since there is an enabling environment. However, it is necessary to deploy multidimensional strategies that include men in the process, as it is the way to generate changes in the patriarchal system (Mathur and Agarwal, 2016; Haugh and Talwar, 2014).

An example of this is the rural women's groups in Palestine, who produce handicrafts from their home for micro-enterprises that sell their products, and they are supported by Non-Governmental Organizations (NGOS), and there is a link between entities for a social benefit, which also generates economic benefit. It is an innovative productive process as it adapts to the reality of women who are subordinate to a patriarchal system, in which going out to work to be inserted into the productive economy is not well seen, so working from their homes represents an option for a paid work without breaking with their traditions, although the labor division by gender is preserved. This is an example of the incorporation of elements related to localized sociocultural practices (Al-Dajani *et al.*, 2015).

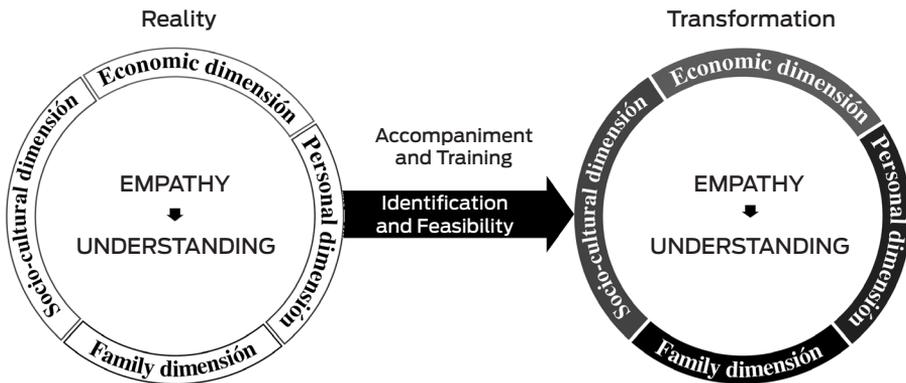
#### **4. Proposal for an integrative process towards the empowerment of rural and indigenous women through social micro-enterprise**

Women's participation in the productive work from a social organization with a non-lucrative or lucrative approach aimed at social inclusion and poverty reduction can offer conditions for their empowerment. However, the documentary evaluation allows to demonstrate the importance of the sociocultural reality of the participants, but specially the understanding of the dynamics and their daily life, which primarily involves identifying their own possibilities, in addition to the needs of the location in order to determine the feasibility of the project to be developed.

In order for the productive group to be characterized by the impulse of democratic, egalitarian and horizontal relations, strengthening alliances with other organizations and social networks, the accompaniment of women is necessary in the development of their productive activities, the training and advice on a personal level and the management of its productive project or social micro-enterprise.

Accompaniment requires focusing on empathy, constant training and balanced achievement in the dimensions considered in empowerment: economic, personal, family and sociocultural, in the public and private area. Because of the latter, a process proposal is presented (Figure 2) to help promote changes in the lives of rural and indigenous entrepreneur women.

**Figure 2. Proposal for an integrative process towards the empowerment of rural and indigenous women through productive projects or social micro-enterprises**



The elements are explained as follows:

1. Empathy: a personal/group/collective listening work is done on expectations as a result of entrepreneurship and women as protagonists. As documented, the emancipation proposal can be applied "from up" or "from down". "From up" means that an organized collectivity seeks to accompany a group of women in conditions of vulnerability and non-empowerment through entrepreneurship to achieve their empowerment. "From down" is considered when a group of women seek their own empowerment through the micro social enterprise.
2. Diagnosis: It is intended to evidence a baseline of the 4 dimensions in which the woman is at the starting point.
3. Identification: The productive project to be carried out according to the skills of women is identified, and the economic, personal, family and sociocultural factors of the context are recognized.
4. Feasibility: The skills with the market needs are contrasted.

Accompaniment and training in four dimensions:

- a. Economic: It provides accompaniment and training for the development of productive activity. Set of technical know-how in economic terms.
  - b. Staff: Accompaniment and training for the empowerment of women in the aspect of self-identification and social identity.
  - c. Family: Accompaniment and training for the empowerment of women in the determination and recognition of their social identity.
  - d. Sociocultural: Accompaniment and training in terms of the empowerment of women in the public space (collective, community).
5. Evaluation: Before, during and after the process to measure the transformation level.

The accompaniment and training of the four *ut supra* dimensions explained, consider a certain degree of progress in terms of the following elements contained in each dimension (Table 3):

**Table 3. Factors to consider in each dimension**

Dimension	Determining factors
Economic dimension	Access and control to the resources. Income. Satisfaction of basic needs.
Personal dimension	Personal decision-making. Mobility. Satisfaction by their work. Self-confidence.
Family dimension	Equity. Family decision-making. House work.
Socio-cultural dimension	Collective decision-making. Mobility by the productive work. Equity in the community. Networks based on the group.

It is proposed to review the determinant factors to recognize advances, changes or lags before, during and after the process in each of the dimensions. Empowerment is made up of progress in all dimensions, not with the same degree of compliance, but with some degree of improvement or transformation.

## 5. Conclusion

The development of productive organizations that arise in the beginning by an economic support or subsidy to alleviate of poverty generates a social value, in some cases even higher than the economic one. The social enterprise represents the mon-

etary and non-monetary interest, highlighting the social benefit and propitiating the beginning of an empowerment process of women. Women's empowerment is part of the dynamics expected to be observed in productive organizations.

Considering the context of women, their sociocultural, personal, family and economic realities, requires including factors that should be taken into account by microcredit companies, public policy programs, institutions and non-governmental organizations (NGOS) to achieve projects that lead to transformation.

It is essential to listen the women members, who from their own needs can propose the requirements to be included in the programs. The latter can be through the application of qualitative tools such as focus groups, interviews, workshops and debates that promote awareness and communication.

Empathy, training and accompaniment are necessary to create social and economic value. Empathy is the main factor that allows the understanding of the sociocultural situation and guides the process. It is important to create new integrative proposals that will promote development and inclusion that serve the interests of the parties.

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# Rational or emotional posts on Facebook brand communities – The Mexico Starbucks Case

## Publicaciones racionales o emocionales en comunidades de marca en Facebook - El caso «Starbucks México»

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### Abstract

*The aim of this article is to demonstrate that emotions are essential elements of participation between members of a brand community in a social networking site. Emotional expressions were studied within an online brand community through a mixed method approach based on a content analysis with two coders of the same cultural origin. 77 posts and 13,043 comments were analyzed from members of the brand community “Starbucks Mexico” on Facebook, reported between January and June 2014. It was found that people participate more in the presence of happiness related emotions such as love, passion, and desire. This paper is interested in positive and negative emotions expressed in a Brand Community on Facebook. Additionally, the level of participation that emotions generate is presented, as well as the distinction of emotional elements applied in the communication between a company and the members of a brand community. This paper contributes to the literature by pointing out that more than the expression of emotions, it is the combination of emotional and promotional elements from the brand page that triggers more communication volume.*

### Resumen

El propósito de este artículo es demostrar que las emociones son elementos esenciales en la participación entre los miembros de una comunidad de marca en un sitio de redes sociales. Estudiamos las expresiones emocionales dentro de una comunidad de marca en línea con una metodología mixta basada en un análisis de contenido con dos codificadores de la misma cultura de origen. Analizamos 77 publicaciones y 13 043 comentarios de miembros de la comunidad de la marca «Starbucks México» en Facebook, publicados entre enero y junio de 2014. Se descubrió que las personas participan más a través de emociones relacionadas con la felicidad, como el amor, pasión y deseo. Este documento incluye el estudio de emociones positivas y negativas expresadas en una comunidad de marca en Facebook. Además, se expone el nivel de participación que generan las emociones, así como la distinción de los elementos emocionales aplicados en la comunicación entre una empresa y los miembros de una comunidad de marca. Categorizamos las publicaciones de la marca teniendo en cuenta las dimensiones emocionales y racionales-promocionales. En definitiva, este trabajo contribuye a la literatura al señalar que más que la expresión de emociones por sí sola, es la combinación de elementos emocionales y promocionales de la página de marca lo que desencadena el volumen de comunicación.

### Keywords | palabras clave

Emociones, comunicación promocional, comunidad de marca, participación, Facebook.  
*Emotions, promotional communication, brand community, participation, Facebook.*

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## 1. Introduction

The evolution of society in our daily life includes the development of social networks on the Internet, as well as the construction of brand communities. The introduction of internet in Mexico is one of the highest in Latin America and continues to grow: 53 million users (2014), 65.8 million (2015), 70 million (2016) and 79.1 (2017), representing 67% of the population of people over 6 years in 2017 (Asociación de internet. MX, 2018). In Addition, in Mexico, Facebook remains being the main social network with a reach of 98% of users((Asociación de internet.MX, 2018).

In the social networks, the interaction is reinforced among the members of these communities directly promoting the emotions (Hollebeek, Juric, & Tang, 2017; Shankar, Elliott, & Fitchett, 2009). In a brand community, affiliates are an important source of information (Firat & Venkatesh, 1995). This means that the content generated by its members can represent an important advantage for the companies, because their comments shed information on the success and acceptance of specific products or services that improve the relations with the consumers (Weiger, Hammerschmidt, & Wetzal, 2018).

In the case of social networks, other research suggests that they have become a “phase” (Cordelier & Turcin, 2005) where users express emotions on a daily basis (Barroso Morales, 2011). This emotional narrative of the “I” in the form of texts and images allows users to create their virtual space, where they express their emotions and maintain close contact with the stories of other members, based on technological mediation. Emotions favor a social development (Evans, 2002; Plutchik, 1994; Yu, 2014) which may benefit from branding strategies (Roberts, 2005; Yu, 2014).

Therefore, the aim of this research is not so much to directly relate economic benefits with the participation of the Internet, but rather to focus on the type of communications that generate more participation, to verify that the communication is more important and to propose a categorization of the brand's publications. In other words, it aims to detect the positive or negative emotions expressed on Facebook, as well as relate them to the level of participation generated by the type or style of communication.

We have been interested in Starbucks for being an important lovemark, according to the expression popularized by the advertising Kevin Roberts (2005), who in a short time dominated the cafeteria market in Mexico<sup>1</sup> and is among the most important on Facebook with more than 4 million of likes.

After a literature review on online brand emotions and communities, we present our content-analysis-based methodology before analyzing and discussing the most interesting publication categories to generate participation.

## 2. Emotions and online brand communities

### 2.1. Theory of emotions

There are several theoretical perspectives on emotions such as psychological, psychosocial, philosophical or anthropological (*v. gr.* Evans, 2002; Huang, 2001; Illouz,

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1 In September 2002 he opened his first branch in Mexico city. At the end of the 2016, it had a participation in the sector, by number of units, of 39%, followed by Italian Coffee Company with 11% and Café Punta del Cielo with 10%, according to data of Euromonitor (Expansion, 2017).

2007; Le Breton, 2012). This research is based mainly on the basic emotions of Robert Plutchik (1994, 2001).

The author (*ob. cit*) identified four basic emotions, which he integrated into opposite pairs: joy vs sadness; confidence vs. dissatisfaction; fear vs anger and anticipation vs surprise. According to Plutchik (*ob. cit*), these “basic” emotions are biologically primitive. He also describes them as basic adaptations that all organisms need in the struggle for individual survival. Therefore, emotions have a close relationship with adaptive biological processes. His theory of emotion suggests that they are not only elements, but also circumstances that begin with a stimulus that provokes feelings, psychological changes, actions and a behavior oriented towards some objective (Plutchik, 2001).

Emotions play an important role in the human decision making. The tone and content used in communication on social networks have a significant impact on people, as positive campaigns reach a greater number of clients. Human expressive behavior that communicates emotion acquires certain fixed properties that can be recognized independently of culture and learning, despite certain differences in their interpretation (Buck, 2006; Burgoon, Guerrero, & Floyd, 2010; Plutchik, 2001).

Other studies show that emotions are related to evolutionary processes that have kept humans safe for centuries. For example, anger and fear are very primitive in human behavior and their function is to be prepared to pay attention (Hochschild, 1979; Plutchik, 1994, 2001). Our emotions are also biologically linked to the meaning, they help to understand our relationship with others and are essential for socialization (Hochschild, 1979).

On the other hand, we also study the secondary emotions in order to achieve a broader data scale. These are composed by combining the primaries. Here are some examples, but there are many more: irritability, hostility, pain, melancholy, loneliness, anxiety, fear, panic, enjoyment, happiness, trust, kindness, affection, love, shock, amazement, aversion, disgust, guilt, shame, repentance (Buck, 2006; Evans, 2002; Frederickson, 2017; Plutchik, 2001).

Emotions can be divided into positive and negative. Positives, such as happiness, increase physical, social and intellectual resources, build emotional reserves to face challenges. Negative emotions such as fear, sadness and anger are natural defenses against external threats (Buck, 2006; Plutchik, 2001). Therefore, emotions govern the patterns of human thought, beliefs, behaviors, attitudes and responses to life’s experiences being also critical in the process of socialization (Le Breton, 2012).

## **2.2. *Emotion, marketing and social networks***

Emotions, in marketing and advertising, contribute to the development of messages and communication strategies. Advertising professionals also develop a wide interest in the performance of emotions and their social potential. According to the publicist Kevin Roberts (2005, p. 44), influenced by the work of Dylan Evans (*v. gr.* Evans, 2002):

For me, the really amazing thing about secondary emotions is how social they are and how important they are. You can feel primary emotions when you are alone. But to develop a secondary emotion you need to be with someone else.

Emotions play an important role in understanding a message and are essential elements of interaction, as they generate participation in the brand communities in social networks. However, there is a lack of research on the subject in connection with persuasive communication and the media, including the Internet and the online brand communities (Hollebeek *et al.*, 2017; Nabi, 2017). In the words of Nabi (2017, S.P.):

While the history of the study of persuasion in the media is long and robust, the examination of emotion in such processes is more limited. However, attention is still being paid to the role of many emotions, including fear, guilt and humour, in the process of persuasive messages in the media. Although less focused on emotions, recent trends in research on persuasive narratives and viral messages suggest that emotion can play a key role in media-based persuasion.

In relation to the advantages of the study of emotions, it was found that by generating messages that agree with positive emotions, companies can establish and improve their connection with their target audience or consumers ((Codina, Rodríguez, & Cadena, 2017; Guerreiro, Rita, & Trigueiros, 2015; Khuong & Tram, 2015; Weiger *et al.*, 2018) since consumers are more encouraged by social-type publications (Yu, 2014). The economic benefits are also based on a reinforcement of the social links that occur and that Manchanda, Packard and Pattabhiramaiah (2015) “social dollars”.

Although gaps can continue to go on (Nabi, 2017), the topic of emotions is gaining popularity among scholars and an important number of articles related to this topic can be found. For example, studies show that within the brand communities, field of scientific interest, individuals create linkages of identification with companies and with other members of communities through emotional interactions (Goulding, 2013; Hudson, Roth, Madden, & Hudson, 2015; Thompson, Rindfleisch, & Arsel, 2006; Vincent & Fortunati, 2009).

They also show that consumers are organized in these communities to share experiences of a brand (Muñiz & O’Guinn, 2001; Schembri & Latimer, 2016). Other studies suggest that the interaction between members and companies is promoted in the online brand communities, which in turn favors the participation of its members (Schau, Muñiz, & Arnould, 2009). According to Ashforth and Mael (1989) to interact, members must identify with each other, which is possible through a socialization process that contributes to the elaboration process of the brand culture (Schembri & Latimer, 2016), being the emotion an important element in the motivation of the members (Dessart, Veloutsou, & Morgan-Thomas, 2015).

On the other hand, universal emotions can be applied in different cultures. The ease and efficiency of its application are compared to verbal emotions with a different degree of intensity, which results in secondary emotions like desire and passion among many others. For example, certain authors refer to desire as part of human nature, which is one of the forces that trigger a behavior (Buck, 2006; Pell, Monetta, Paulmann, & Kotz, 2009; Plutchik, 2001). Desire is a reason to satisfy needs or feelings (Baun & Gröppel-Klein, 2003; Belk, Ger, & Askegaard, 2003). It is often found in advertising and marketing, as it is an action engine that expresses a need through language and generates interest and participation (Goulding, Shankar, Elliott, &

Canniford, 2009). By activating a desire, the brand generates closeness with consumers and achieves a personal experience with the product; it is a necessity at first, but it becomes a desire when people think about a particular product (Belk *et al.*, 2003).

Other studies on emotions suggest that happiness is contagious and spreads faster on social networks (Kramer, Guillory, & Hancock, 2014). They also argue that happy people have more followers on social networks and other social groups. Emotional states can be transferred to others through emotional contagion, which leads people to unconsciously experience the same emotions (Berger & Milkman, 2012; Coviello *et al.*, 2014; Fowler & Christakis, 2008). In addition, the emotions expressed in digital networks influence our own feelings and are evidence of an emotional contagion on a larger scale through social media (Brady, Wills, Jost, Tucker, & Van Bavel, 2017; Cohen, 2014). Emotional contagion occurs through textual communication mediated by computer devices and even remains a few days after a publication (Kramer *et al.*, 2014).

In addition, with the arrival of social networks, consumers share online content and its transmission influences the purchase of products, giving collective results especially when there is a positive emotion in the message (Berger & Milkman, 2012; Fu, Wu, & Cho, 2017).

In social networks, emotions are identified on a non-verbal level, and emotional elements can be analyzed in consumer comments, such as the presence of onomatopoeic expressions, punctuation, intersections, photographic images and emoticons (Carvalho, Sarmiento, Silva, & de Oliveira, 2009). The distinction between “verbal” and “non-verbal” is more complex in written communication than in social networks. In addition, the triggering of emotions is related to the speed at which we receive and respond to information (Coviello *et al.*, 2014; Scolari, 2013). Depending on the situation, users directly influence access information, producing continuous participation, resulting in more content production and reproduction, causing interests in the development of marketing communication, as emotion participates in the involvement of consumers through one of the mechanisms of the economy of care (Aguado-Guadalupe, 2017; Auladell, 2016; Ribes, Monclús, Gutiérrez García, & Martí, 2017; Segarra-Saavedra & Tur-Viñes, 2017).

### 3. Materials and methods

This research aims to detect the positive or negative emotions expressed on Facebook and relate them to the level of participation generated by their type or style of communication. To achieve this, this research tries to answer the following research questions:

RQ1. -What kind of emotional expressions are seen in an online community?

RQ2. -Does the expression of positive emotions help to generate a higher volume of communication than the negative ones and the most rational messages?

#### 3.1. Sampling

Qualitative data were collected in a first phase to probe the emotional typology (Buck, 2006; Hupp, Gröppel-Klein, Dieckmann, Broeckelmann, & Walter, 2008; Plutchik,

2001) and evaluate its relevance to analyze the emotional comments of the community members of the brand. The analysis focused on comments expressed by members of the “Starbucks” brand community with emotional content.

Starbucks’ social media strategy could be characterized as quite proactive and positive. The company, rather than participating, generates conversations through its publications on its Facebook page (Fan page). In total, 77 publications of the brand Community Starbucks Mexico were analyzed on Facebook as well as 13,043 comments generated by its members between January and June 2014. The period was chosen to include different important commercial periods in Mexican society. In this interval, different categories of information were observed as well as emotional elements expressed by consumers. The data analyzed include events prone to emotional expression, in which stand out January (New Year and Kings), February (Valentine’s Day) and May (Mother’s Day).

### **3.2. Content analysis**

This study analyses the reactions of Internet users to the publications of a Facebook page through a content analysis. This type of methodology collects many methods in itself, allowing to categorize the content of the communications in a standard and systematic way (Berelson, 1952; Kassarian, 1977; Kolbe & Albanese, 1997; Neuendorf, 2017).

It has been used by researchers interested in examining communications such as advertising, media stories and websites (Neuendorf, 2017). This method helps to achieve a systematic and objective categorization of emotions following the taxonomy of Plutchik (2001) and its possible influence in the communication flows. After this step, a lexical analysis was done defining the emotional sense expressed in the words of the comments, mainly focused on adjectives and verbs.

Likewise, the method of feeling analysis was used, also called “mining of opinions”, which analyzes the opinions, feelings, evaluations, attitudes and emotions of people with respect to products, services, organizations, individuals, problems and events (Yadollahi, Shahraki, & Zaiane, 2017). With the growth of social networks (for example, revisions, discussions in forums, blogs, microblogs and social networking sites) the content is used in these media as generators of decision making and communication. The most important indicators of feelings are words commonly used to express positive or negative feelings. For example, “good”, “wonderful” and “incredible” are the words of positive feelings, and on the other hand “bad”, “poor” and “terrible” are clearly words of negative feelings (Liu, 2012).

The expressions were assessed according to basic and secondary emotions based on the primary and secondary emotions of Plutchick (2001). Then, a typology of emotional expressions was created with meaningful words expressed in Spanish (Table 1), for example adjectives, nouns, verbs based on the Dictionary of the Royal Academy of the Spanish Language, in its online version.



To distinguish and measure the emotions expressed by the members of the brand community, they were divided into positive and negative according to the categories that emerged in the literature review. The most common positive words found in the comments, according to our typology and the results of NVivo were: let's go, I want, rich, delicious, moment, love, better, craving.

The negative words found were: price, expensive and horrible. In addition, certain adverbs were identified when people expressed a negative comment. It should be noted that these words arise more in relation to rational elements focused on service, price, health and quality.

Then, the variables were selected based on universal emotions such as happiness, sadness, surprise and anger (Buck, 2006; Plutchik, 2001). As a result, some of the secondary emotions were integrated to better identify emotional expressions such as joy, love, passion, desire, frustration and disgust (Buck, 2006).

**Table 2. Basic and secondary emotions**

Basic emotions	Secondary emotions
Happiness	Love, passion, desire, happiness
Sadness	Anxiety, longing
Surprise	Astonishment
Anger	Frustration, disgust

Source: ow elaboration based on universal and secondary emotions of Plutchick (2001) and Buck (2006).

With the help of the NVivo analysis program, it was possible to study each publication and comment to classify the content according to the emotions.

### 3.3. Reliability

A double codification was carried out with the aim of verifying the interpretation relevance of the words and the emoticons with emotional predominant content in the investigation. These were consistent with the cultural characteristics of the first encoder.

The second codification was carried out in 10% of the sample by a person who shares the Mexican nationality, the mother tongue (Spanish), the ethnic origin, the education, the traditions and the cultural patterns practiced by the main investigator and the members of the brand community. Reliability was verified through Cohen Kappa ( $k$ ) coefficient test (Table 3), a statistical analysis that also takes into account the level of agreement that could be expected at random (Fleiss and Cohen, 1973; Landis and Kosh, 1977). This is reflected in the results calculated with the reliability of the NVivo Kappa ( $k$ ) coefficient (Table 4).

**Table 3. Double-Encoding Concordance Level**

	Kappa Coefficient	Concordance
Positive comments	0.62	0.40 – 0.75/ Good
Egative comments	0.69	0.40 – 0.75/ Good
Rational comments	0.57	0.40 – 0.75/ Good

**Table 4. Cohen's Kappa coefficient by feeling pattern**

	Kappa Coefficient	Concordance
Desire	0.6	0.40 – 0.75/ Good
Love	0.59	0.40 – 0.75/ Good
Happiness	0.32	< 0.40/ Poor
Pleasure	0.65	0.40 – 0.75/ Good
Dislike	0.69	0.40 – 0.75/ Good
Anger	0.64	0.40 – 0.75/ Good
Sadness	0.58	0.40 – 0.75/ Good

By codifying the results, it is confirmed that the emotional elements were present in the comments expressed by the members of the brand community. The emotional elements agreed with 60% of the information analyzed by the encoders.

## 4. Analysis and Results

### 4.1. Positive Emotions

It was observed that positive emotions are present in the interaction between members of the brand community with a strong inclination towards happiness, expressed through secondary emotions such as desire, passion, love, surprise and joy.

This points to a clear inclination towards desire and passion. Positive feedback also includes product recommendations and brand advocacy against complaints from other consumers. In addition, it was detected that the desire promotes an action. It was also observed that expressions of desire are followed by verbs indicating an action, for example: I want one (desire), let's try it (action).

In addition, passion encourages people to do things impulsively and relevant to the current moment; it is often expressed through adjectives, for example: I love (passion), I am happy (passion), I love those moments (love, happiness, passion).

Desire and passion are the most recurrent code families found in the data, followed by joy, love and surprise (Table 5).

**Table 5. Common positive secondary emotions**

Emotion	Percentage
Happiness	21,10%
Desire	32,70%
Pleasure	30,70%
Love	11,00%
Surprise	4,50%

#### 4.2. Negative emotions

The negative emotions observed in the study were expressed through frustration, disgust and longing (Table 6). However, these elements also trigger interaction and participation in the brand communities. In addition, it was observed that some of the negative expressions were formulated on rational issues such as price, health, diet and quality.

Table 6. Common negative secondary emotions

Emotion	Percentage
Frustration	29,25%
Anger	60,00%
Longing	10,75%

#### 4.3. Comments by publication category

At the beginning of the investigation, the aim was to identify the presence of the product, as well as the existence of promotional activity and the presence of informative elements called "rational".

Then, the publications made by the brand were distributed in the following categories of messages:

- **Promotional with emotional elements:** The brand publishes a message that includes a promotion, using phrases or emotional images. For example: "Try the new Hazelnut Macchiato and discover the perfection of its flavor": Desire, happiness
- **Emotional with Product:** The brand publishes a message with emotional elements and shows or mentions the product. For example: "Cappuccino, perfect to do it just the way you like it. How do you like it?": Happiness.
- **Emotional without product:** A publication with emotional elements but does not show or mention the product. For example: "The perfect combination of aroma and flavor #pasiónporelcafé": Passion.
- **Launching with emotional elements:** when there is a new product and the published message is purely emotional. For example: "The best side for your coffee is here! New #donuts": Happiness.
- **Rational: Those publications that show rational elements such as price, environment or health. For example:** "Remember that you can bring your own glass or reusable glass to take care of the environment #mesdelatierra": Environment
- **Promotional with rational elements:** when the brand publishes a promotional message that speaks directly about the price. For example: "Remember that from 1 to 5 PM our refreshers are at half price, take advantage and re-energize yourself!": Price.

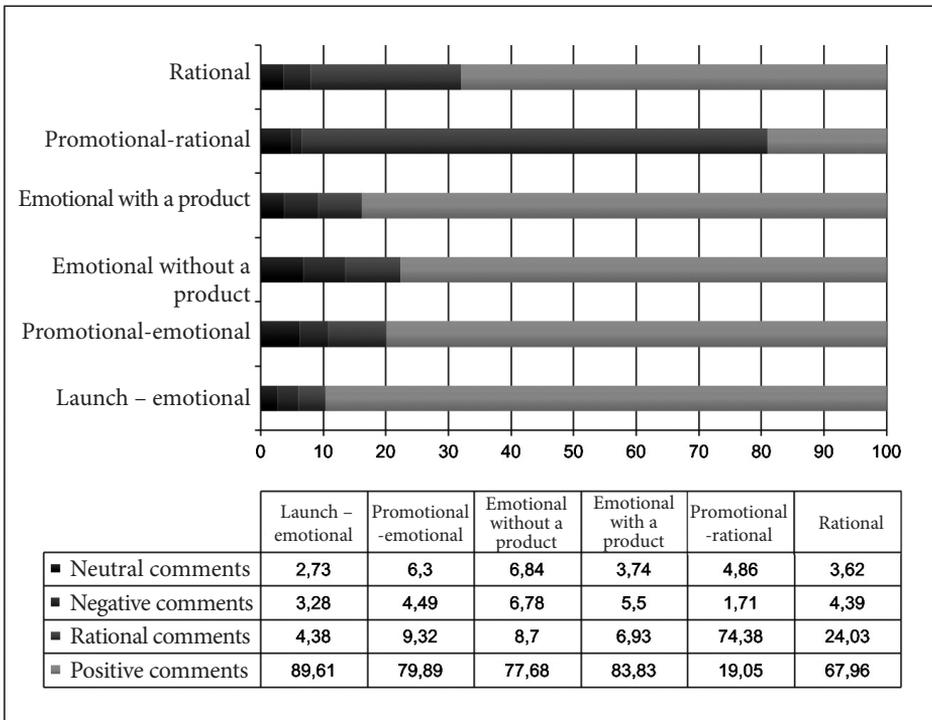
After identifying the categories, the positive and negative, rational and neutral comments (those that were not related to the brand where people comment on other

topics) for each category were separated. Among the positive comments, were identified that people express desire through the use of verbs.

On the contrary, comments that express passion and love do so through the use of adverbs. These expressions are part of secondary positive emotions, which are consecutively part of the primary emotion of happiness. From the negative comments, it can be observed expressions related to secondary emotions such as anger, often associated with rational issues (price, quality, health, promotions, social responsibility). Some rational comments were also found that emphasize problems of price, promotion, health and social responsibility.

Table 7 contains the percentage of comments that emerged from each category. It was observed that positive comments have the highest percentage in each category, especially in releases with emotional elements. The negative comments are hardly exposed, while the rational ones hardly exist, except when the brand publishes a promotional message with rational elements, such as price.

**Table 7. Distribution of comments by publication category**



The study indicates that the brand (Starbucks) uses primarily happiness-centric emotional elements to communicate its promotions. It was also found that categories that include promotions and launches with an emotional element produce the greatest number of emotional expressions, while rational publications generate the least amount of total comments.

It was confirmed that emotional elements generate greater participation among members of a brand community, especially when there is a positive emotion expressed through secondary emotions, such as desire, pleasure, love and joy. In addition, it was analyzed that negative emotions are an important way of interaction in a brand community, expressed mainly through longing, anger and frustration, especially when there is a complaint.

The analysis indicates that an emotional message, despite being a product promotion or launching, develops a greater number of positive comments.

This study explained that emotional elements develop participation and generate more interest in a given topic, promoting communication in a brand community in social networks. It also confirms that positive emotions extend more easily through Facebook during holiday periods and weekends and during special times such as Valentine's Day, spring break and summer.

Out of the 13 043 comments analyzed, the emotional elements represented 85.26% of the total sample. Within the observed emotional elements, it was found that 84.62% are positive emotions, while only 15.38% were negative. For its part, 14.74% of the comments were rational elements and only 4.84% were neutral or subjects not related to the brand.

## 5. Discussion and conclusions

### 5.1. Findings and contributions

In order to identify the messages published by the brand that produce more volume of communication, as well as the variation of emotions expressed by consumers to interact with other members, the purpose of this study was to observe the most representative emotion elements present in the messages. In this project, expression of emotions was explored, developed in an online brand community (Starbucks Mexico on Facebook). Through the analysis of comments, it was observed that emotions promoted participation and recommendation, i.e., emotions generate more participation and volume of communication in an online brand community.

The research includes the most frequent emotions expressed by its members and the issues published by the company. It was observed that members also showed their emotions through linguistic elements, such as adjectives, verbs, emoticons and images (Carvalho *et al.*, 2009; Pell *et al.*, 2009). Paralinguistic elements such as onomatopoeia and punctuation were often observed, giving greater emphasis and meaning to emotions.

Emotions are important tools that companies use in the communication process. One of the advantages of emotional messaging is that through online brand communities, companies can easily interact with consumers who share their experiences on social media products or services. This represents a great opportunity to recognize consumers' desires and preferences, as well as to identify the causes of their disgust and complain in a shorter period of time.

Taking this into consideration, brands can highlight the values of products or services based on emotional aspects to increase the chances of being chosen by the consumer.

Therefore, we propose that emotional strategies are more effective when communication is oriented to positive emotions; they are even more influential when they focus on happiness. In this way, this study provides clues for the creation of alternative communication strategies, which become more and more complex, since companies must adapt to changes in consumer habits and behaviors.

The study of emotions in an online brand community can be extracted to get ideas about how companies influence some purchasing patterns, which can be exploited in many ways.

This article focused on what makes people happy and how customers are surprised. It was confirmed that members of online communities prefer emotional elements that activate conversations. This research supports the expression of emotions as a key element for online social networks. The study of emotional expressions in a brand community is especially important for companies and other organizations to maintain the link with their consumers with a more social than economic purpose. In addition, companies can discover negative elements to consider, provide support and have a feedback to their customers.

In this research, it was also confirmed the dominance of positive emotions. It was seen that the ones that generate more volume of communication are desire, passion, joy and love. We support the idea that passion and desire are the secondary emotions that generate more participation. We also say that positive messages tend to be sent by more people, as happiness is contagious in a brand community. In addition, it was observed that negative emotions generate less interaction with the consumer and were mainly exposed through frustration and disgust. It was established that negative comments focus more on the disgust for some products. In addition, dislike and frustration can be positively exploited as they are important sources of information and participation. Therefore, participation and comments provide clues to understand some brand weaknesses.

However, longing as part of negative emotions, leads to a positive experience through memories. We also established that rational publications generated fewer comments and presented a considerable number of rational elements than other publications. Rational comments focus mainly on quality of service, price and health problems. It was observed that an emotional message published by the brand along with a rational element produces more volume of communication.

This study, consistent with the literature analyzed, allowed to emphasize the need to favor communication with strong emotional elements. The rational communication, whose promotional character stands out the commercial purpose explicitly, generates less interest. Communication in social networks, as is the case of Facebook, should be interested in the fairly social character of the relationship with consumers. The strategies used by Starbucks, or the types of communication that best worked to keep the attention of their fans got a balance between the presence of the product or promotion and the emotional character. If the idea is to develop the social relationship with the consumers, it is recommended to favor the strategies of

the emotional launching and emotional with the product, since with this strategy, a balance between the presence of products of the brand and reinforcement of positive relationship with the fans is achieved.

### **5.2. Limitations**

Some limitations detected in this study led us find some difficulty to distinguish whether textual communication was enough to analyze the consumer or whether the use of images published by the brand is also necessary.

Another perceived restriction was that certain elements such as punctuation marks and onomatopoeic words and jargon are not clear enough to distinguish emotion. To understand the meaning of the previous elements, it was necessary to know the context and understand the cultural repertoire used in the messages (which we believe have been achieved, since both codifiers were native of Mexico).

Similarly, irony was not specifically codified. Without explicit instructions on the subject, irony and ambiguity were directly classified into the pre-established categories in revise of the understanding of the encoders. The two encoding people, being Mexican, thought that there would be no problems of understanding due to a cultural difference. However, it might be interesting to do an investigation taking into account irony, ambiguity and trolling.

One more constraint was the complexity in differentiating rational and negative comments, since consumers showed their negative emotions when a rational problem appeared such as price, quality, and service.

Finally, another of the significant constraints encountered occurred when conducting the double-encoding (KAPPA). The results showed a significant difference between the encoders in the emotion of joy. One possible reason for this phenomenon could be the similarity in the way people express their passion and desire. Since these emotions contain a positive connotation, people take them as synonym of joy or happiness.

### **5.3. Future Research**

In general, it would be interesting to deepen certain points: to analyze the emotions separately since it was observed that each one produces a different participation level and volume of communication but the intensity of those was not studied; to deepen the analysis of joy as its codification was less convergent than the others; to deepen the study of longing because if it is codified as a negative emotion, the feeling and the effects that it has generated seem to be positive; to conduct interviews or focus groups to understand why rational elements generate less participation; to study the published images to relate them to emotions; to extend the investigation taking into account irony, ambiguity and trolling.

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# Methodological proposal for the emergence of touristic projects of the local community

## Propuesta metodológica para la generación de productos turísticos a partir de la comunidad local

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### Abstract

*The new social, economic and environmental demands make necessary to design touristic projects where the local community is considered as the foundation for their creation and development. The main objective of this article is to elaborate a methodological proposal to design touristic projects based on the participation and management of this community. In this sense, the literature review is used to develop touristic projects through the local community, since it is the local community that stands out as a forgotten part in the generation and management of touristic projects. Thus, the methodological proposal consists of eight stages: I) Sensitization of the local community, II) Contextualization of the place, III) Design of the tourism product, IV) Identification and analysis of the demand, V) Decision of the price, VI) Commercialization, VII) Market Test and VIII) Implementation of the touristic project and follow-up. Although the generation of touristic projects is a heterogeneous task, and it depends on many intrinsic and extrinsic elements, this document aims to be a general guide which helps to integrate the residents of the destination as managers of tourism activity.*

### Resumen

Las nuevas exigencias sociales, económicas y ambientales hacen necesario el diseño de productos turísticos donde la comunidad local sea considerada como el pilar fundamental para su creación y desarrollo. En este sentido, el objetivo central de la presente investigación es elaborar una propuesta metodológica para el diseño de productos turísticos a partir de la participación y gestión de este actor. En este sentido, la revisión de diferentes propuestas destaca la necesidad de crear una metodología para desarrollar productos turísticos a través de la comunidad local, pues es ella quien resalta como un actor olvidado en la generación y gestión de los productos turísticos. De esta forma, y cubriendo este vacío, la propuesta metodológica se compone de ocho etapas: I) Sensibilización de la comunidad local, II) Contextualización del lugar, III) Diseño del producto turístico, IV) Identificación y análisis de la demanda, V) Decisión del precio, VI) Comercialización, VII) Prueba de Mercado y VIII) Puesta en marcha del producto turístico y seguimiento. Si bien, la generación de productos turísticos es una labor heterogénea, y depende de muchos elementos intrínsecos y extrínsecos; este documento pretende ser una guía general que ayude a la integración de los residentes del destino como gestores de la actividad turística.

### Keywords | palabras clave

*Planning, methodology, tourism products, local community, actor, participation.*  
Planificación, metodología, productos turísticos, comunidad local, actor, participación.

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## 1. Introduction

Tourism is one of the most important economic activities worldwide. Therefore, the creation of tourist products is important, because it would diversify the offer of attractions in the destinations and, therefore, satisfy the needs of the tourists. Thus, authors such as Bote (1990), Boullón (1994), Acerenza (1998), Godfrey and Clarke (2000), Gunn (2002), Zamorano (2002), Ivars (2003) and even the World Tourism Organization (1999), have been generating tourism planning models.

Despite the foregoing, the planning and creation of tourism products applied to developing countries continue to manage resources in a “traditional” way, in which macroeconomic coverage prevails, leaving social and environmental aspects (Ivars, 2003). Also, even though sustainability became the guiding principle of tourist planning, only the perspective towards an economic-environmental aspect has changed (Osorio, 2006).

Thus, few tourist destinations are addressed to integrate the local community, although this is one of the actors that can detonate local development (Aref, Gill, & Farshid, 2010; Sebele, 2010). Therefore, the term “community based tourism” has emerged, which generally refers to the generation and management of tourism as a result of the same community or local actors in the destinations.

Thus, Beeton (2006) proposes to generate planning models and more inclusive and effective management proposals from community-based tourism. For this reason, the objective of this work is to propose a methodology that integrates the local community in the generation of tourism products, not only as attractive for the natural and cultural resources that it has, but as a participatory actor who propose, develop and carry out such products.

For this reason, this article conducts a review of different methodologies or proposals for planning tourism products, retaking some information of the academia, consultancies and government agencies, among which are an incipient participation and integration of the local community as a principal actor. Thus, this work is organized in six parts: 1) Community tourism, II) local community and its integration in the generation of tourism products, III) tourist product, IV) methodology used, V) analysis of the different ways of making a tourism product, and finally, VI) the methodological proposal.

### 1.1. *Community tourism*

According to Goodwin & Santilli (2009) and Beeton (2006), the “community based tourism” begins to be used at the end of the XX century, and arises from the need to manage alternative tourism through a sustainable way. In this way, this management takes from sustainability its three main dimensions: environmental, economic and social (García, Figueiró, & Silva, 2013).

Although it has delved into the approach of Community tourism, the literature concludes that this is polysemic and often refers to projects related to local communities (Rodrigues, Corbari, Cioce, & Juremma, 2014). There have also been other terms that hinder their conceptualization, such as ‘Community Management’ (Ávila, 2002; Mehedi, Mohammed, Nassani, & Nurul, 2017) “community-based enterprises”

(Monyara & Jones, 2007; Senyana & Moren, 2011) or “community rural tourism” (Montoya, 2013). However, these terms do not clarify their scope, implications or theoretical sustenance, causing difficulties to define it (Ernawati, Sudarmini, & Sukmawati, 2018).

Nevertheless, some proposals have emerged from the academy to define ‘community tourism’. One of them is elaborated by Dernoï (1988, quoted in Pearce, 1992), who mentions that it is a set of services offered by the local community, with the aim of establishing a direct interaction with visitors, emerging a mutual understanding between hosts and guests. It should be emphasized that this definition generates some gaps; however, the author points out a core element, which is that the local community is the one that has to generate the offer of services (accommodation, food, recreational activities, among others). This agrees with what was mentioned by Torres (2015, p. 70) by saying “it must be the same community who manages the resources that it has. They give meaning to these in a permanent process in which they are involved”.

It is also possible to find some other definitions that mention specific elements, visualizing community tourism as a strategy to value historical elements (Sampaio, Alves, & Falk, 2008; Hiwasaki, 2006); While others make emphasis on local-visitor interaction and their experiences (Jamal & Getz, 1995; Nyaupane, Morais, & Dowler, 2006; Sampaio, Alves, & Falk, 2008). Some others focus more on the form of participation (active and passive) of the local community in the management of natural and cultural resources (v.gr. Hiwasaki, 2006; Okazaki, 2008; López-Guzmán & Sánchez, 2009; Sebele, 2010).

Although it is possible to find different definitions of “community tourism”, features can be identified as single one:

- There Is direct interaction between local community and visitors.
- Cultural and economic exchange between local community and visitors.
- “Authentic” experiences from the daily life of the locals.
- The local community is the main beneficiary.
- Conservation and preservation of cultural and natural heritage.
- The community is in charge of the management of the resources and tourist services.
- Community tourism is possible “only” at the local level<sup>1</sup>.
- The local community is influenced by the tourist activity in its social, environmental and cultural dimension.

These aforementioned *ut supra* characteristics contextualize community tourism, which has been used to legitimize the tourism industry, given empowerment to communities (Blackstock, 2005). Fernandez (2011) argues that the way to promote the process of collective empowerment in tourism is the community participation of

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1 While community tourism is intended to be a new position for addressing social problems (poverty, inequality, development, among others); its action is linked to the local scope (Cfr. Blackstock, 2005; Beeton, 2006).

the people who live in the area. This is the situation that distinguishes community tourism, in which the participation of the local community is essential to carry out the tourist activity.

In this sense, community tourism is not established as a new type of tourism, but a way of planning and managing the tourism activity through the actors related to it, giving priority to the local community.

### ***1.2. The community and its participation in tourism products***

According to Singh, Timothy & Dowling (2003) and Monterrubio (2009), it is possible to recognize two clear tendencies to define the community. The first is the geographical perspective, which refers to the space where a group of individuals converge, delimiting their forms of lives and economic activities. The second trend is social and anthropological, where the community goes beyond the geographical space and the inhabitants, taking into account relationships, customs, traditions, values, among others.

In this context, it should be mentioned that the term 'community' includes elements such as geographic space, traditions, customs, beliefs, language, among others. It is also recognized the capacity of the members of the community to interact in the different social, economic and cultural processes, and therefore in tourism (Boyd & Singh, 2003). However, many of the models of tourism development predispose the economic benefit to the social, causing that the participation of the communities to be almost null (Blackstock, 2005; Sánchez, 2009).

Ruhanen (2009) reaffirms that the local community has not been taken into account in the planning of tourist destinations, despite the fact that the literature suggests its effective participation for the development of tourism. In fact, when the community is integrated into the decision-making, its intervention is many times limited, because only opinions regarding tourism are taken into account, or only know the possible economic benefits and some costs that this economic activity causes (Blackstock, 2005). For this reason, Sánchez (2009) emphasizes that despite the generation of jobs, there are no other social benefits for the local community.

Therefore, it recognizes the importance of incorporating the local community in the management and development of the tourist activity, in order to avoid situations of inconformity, dissatisfaction or indifference of the residents. Thus, Boonratana (2010), through the analysis of literature, recognizes the advantages of taking into account the local community for the development and management of tourism products:

- Communities preserve a traditional way of life and culture;
- Tourism in communities is planned, developed and managed with their consent;
- Communities are actively involved in the planning, development and management of tourism activities;
- The process of planning, development and management of tourism helps to unify, empower and instill pride in communities;
- Communities are empowered to plan, develop and manage tourism complementary to their lifestyle;

- All residents of the communities have the same opportunities to obtain benefits;
- Income generated is an additional or alternative source, or it is used to alleviate poverty;
- Part of the tourist income is reserved for projects that collectively benefit the communities;
- Tourism fosters the preservation/conservation of the cultural and natural heritage of communities;
- Tourism stakeholders are aware of the negative impacts of tourism and have measures to mitigate them;
- Visitors are informed of the social and cultural norms of the communities before or after their arrival, thus encouraging responsible behavior;
- Exchanges between visitors and communities foster tolerance, the understanding and the intercultural learning; and
- The actors of tourism are obliged to avoid the commodification of rituals and ceremonies (especially sacred and/or religious).

Despite the advantages of involving the local community in planning and developing tourism, the literature recognizes that the local population is commonly a forgotten actor (v.gr. Noia, Avila, & Cartibani, 2009; Waligo, Clarke, & Hawkins, 2013; Jovicic, 2014; Luna, 2014); because in most of the destinations they participate in an incipient or null way as far as the decision making on the tourist development. It is also recognized their difficult incorporation, either by political obstacles (Jaime, Casas, & Soler, 2011; Palomino, Gasca, & López, 2016), indifference towards activity (Ibañez, Ivanova, & Amador, 2010; Teye, Sónmez, & Sirakaya, 2002), as well as the lack of ability of tourism managers to raise awareness and make them participate (Ruiz, Hernández, Coca, Cantero, & Del Campo, 2008).

### ***1.3. The tourist product and its characteristics***

The tourist product is defined from several perspectives. From the economic point of view, it is conceived as the cash flow present in the sale of leaders to facilitate travel (De Borja, Casanovas, & Bosch, 2002). However, other authors generate definitions that try to understand the whole of the tourist product. Crespi & Planells (2006) argue that the tourist product is determined by the goods and services offered for tourists.

Although there are endless number of definitions on tourist products in the literature, Ugarte (2007) delves into its characteristics, which are listed below:

- **Tangible and intangible:** tourism products have tangible components; for example: a hotel bed, amenities, etc. The intangible part, are all those characteristics based on expectations such as motivation, use or experience.
- **Expiration:** It is not possible to store these for their later enjoyment.
- **Addition and substitutability:** No component of the product is indispensable, so one can be replaced or added.
- **Heterogeneity:** No product is equal to another.

- **Subjectivity:** The customer's opinion will be different at the time of consumption.
- **Individuality:** The experiences they produce are individual.
- **Immediacy:** Its consumption is simultaneous to its actual manufacture.
- **Simultaneity of production and consumption:** The product is created, produced and consumed at the same time.

According to the latter, the qualities of tourism products differentiate them from others that originate in other economic sectors. Thus, the product is also composed of elements of sociological and psychological order, because their creation satisfy the human needs or desires. Therefore, Villalva (2011) lists some of these:

1. **Attractions:** Are the things or places that motivate the visit of the tourist.
2. **Access and facilities:** They are the means to obtain the tourist product.
3. **Cultural heritage of people:** It is all related to the culture of a particular social group; which can also become the main motivation for visitors.

The first and last points give an opportunity to recognize the local community as an important factor in the generation of tourism products (Monterrubio, 2009), because the attractions and the cultural heritage belong to this community. In this sense, tourism products should be considered as an opportunity for development and growth, not only economic but also social, so there is a need to involve the local community in the processes of creation and development of tourist products.

## 2. Materials and method

The main objective of this research is to make a proposal methodology for the planning of a tourist product from the local community as principal actor. To achieve this goal, this work was carried out in two major phases: the first included the search, comparison and analysis of different methods for the creation of tourism products, which were designed by academics, public and private sector; while the second phase consisted in the elaboration of a new methodological proposal.

The first phase consisted of two stages: the first, focused on the search for scientific literature in repositories, databases and indexes such as Redalyc, SciELO, Sage Journals, Scencedirect, among others. While the second explored the web to access other works that proposed methodologies for the elaboration of tourism products.

To study the proposals, investigations of Machado and Hernández (2007) were used, since they carried out an analysis of the procedures for a tourist product, which must meet certain requirements, such as: objectives, customer needs, ideas generation, product concept, marketing strategies, business analysis, product development, market testing and product launch. In this regard, the following elements were postulated for this research:

- **Objectives:** aim of the creation of the tourist product.
- **Market study:** analysis of the demand for the product.
- **Offer study:** evaluation of the attractions that the local community has.

- **Product development:** generation of ideas and creation of the “main idea” of the tourism product.
- **Marketing strategies:** actions for the promotion and sale of the product.
- **Market test:** a pilot test is carried out before launching the tourist product to the market.
- **Launching of the product:** activities to launch the tourist product to the market.
- **Follow-up:** activities to follow up on behalf of the managers.
- **Sensitization of the local community:** to make known the community in general, and specially the positive and negative elements that it has with the tourism.
- **Stakeholder mapping:** stakeholder identification for the product management.
- **Type of participation of the local community:** type of participation of the local community, which may be passive, active or null.

In this way, a study of different planning models for tourist products was carried out, in which it was identified if the proposals had the elements that were previously mentioned. It should be said that although many proposals did not have the specific name of the item to be analyzed, they did have a similar section. The methodological proposal was made from the identified weaknesses.

### ***2.1. Review of methodological proposals***

The design of tourist products is an artistic and original work that involves the search for economic, social and environmental benefits (Machado & Hernández, 2007). In this way, the procedures are varied and have different stages, elements, factors and objectives; This is due to the different contexts that people, institutions or organizations that created them.

From the critical analysis of the literature, 15 proposals were found to develop tourism products, in which it was possible to find methodologies based only on supply and demand (v. gr. Machado & Hernández, 2007; Luna & Polo, 2009; Consejo Nacional de Cultura y las Artes y Patrimonia Consultores, 2011; Machado, 2013; Fondo Nacional de Turismo, 2014; Programa de Cooperación al Desarrollo Económico. Secretaría de Estado para Asuntos Económicos SECO. Embajada Suiza en Perú, 2014; Servicio Nacional de Turismo, 2015; Castillo, 2015; Cardet, Palao, & González, 2018), meanwhile, there are proposals that believe in the inclusion of the members to promote the development (v. gr. Fundación CODESPA, 2011; Gómez, 2014; Saravia & Muro, 2016; Paul, 2016; Reyes, Ortega, & Machado, 2017).

Generally, most of the proposals contemplate a null or passive participation of the local community, since being based on the supply and demand (economic approach), the local actors are only limited to provide services and do not participate in the planning of the products, a situation that is not beneficial for the local development (Reyes, Ortega, & Machado, 2017). Additionally, Saravia & Muro (2016) mention that tourism products must be validated by the community.

Table 1. Methodologies analysis

Methodologies/elements	1	2	3	4	5	6	7	8	9	10	11
Machado & Hernández (2007)	X	X	X	X	X	X	X				Null
Luna & Polo (2009)	X	X	X	X	X						Passive
Consejo Nacional de Cultura y las Artes y Patrimonio Consultores (2011)	X	X	X	X	X			X			Passive and Active
Fundación CODESPA (2011)	X	X	X	X	X			X	X	X	Activa
Machado (2013)	X	X	X	X	X			X			Null
Fondo Nacional de Turismo (2014)	X	X	X	X	X		X				Passive
Programa de Cooperación al Desarrollo Económico. Secretaría de Estado para Asuntos Económicos SECO. Embajada Suiza en Perú (2014)	X	X	X	X	X	X					Passive
Gómez (2014)	X	X	X	X	X	X				X	Passive
Servicio Nacional de Turismo (2015)	X	X	X	X	X	X	X	X			Null
Castillo (2015)	X	X	X	X	X						Null
Saravia & Muro (2016)	X	X	X	X	X				X	X	Active
Paul (2016)	X	X	X	X	X		X			X	Passive and Active
Reyes, Ortega, & Machado (2017)	X	X	X	X					X	X	Active
García & Quintero (2018)	X	X	X	X	X						Null
Cardet, Palao, & González (2018)	X	X	X	X	X		X	X			Passive
Elements											
1. Objectives											7. Launching of the product.
2. Market study											8. Follow-up
3. Offer study											9. Sensitization of the local community
4. Product development											10. Stakeholder mapping
5. Marketing strategies											11. Type of participation of the local community
6. Market test											

Source: own elaboration based on the analysis of the authors cited

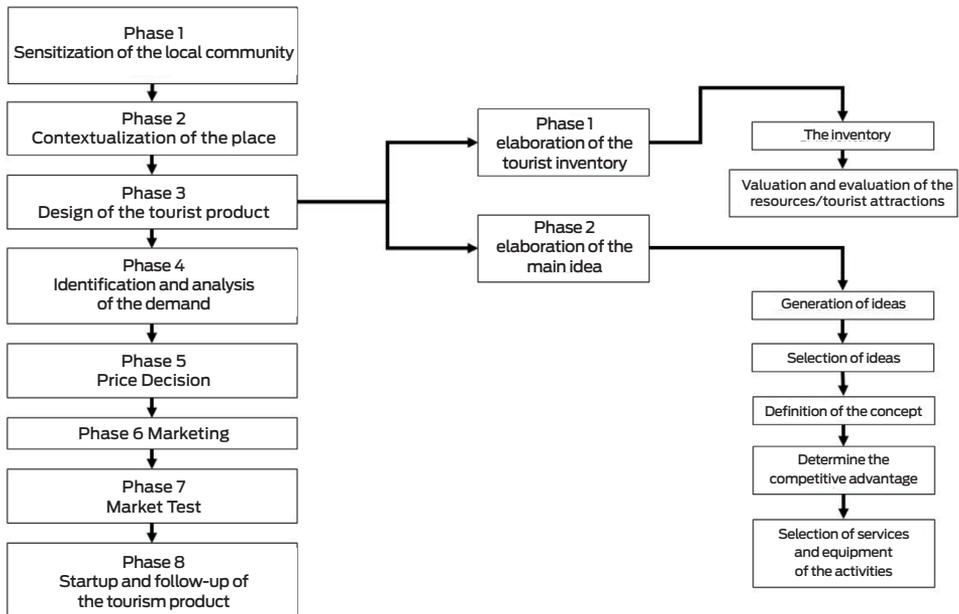
Additionally, Mikery & Pérez-Vázquez (2014, p. 1739) mention that “it is necessary to generate more robust and inclusive methods that would promote the management of touristic; i.e., integrative, participatory approaches and in a multifunctional use process”. Thus, it emphasizes the inclusion in the elaboration of tourist products through the active participation, where the locals generate the ideas and accompany the management, the development, the products and programs (*ob. cit.*).

### 3. Methodological proposal for the generation of tourism products from the local community

There is now a growing responsibility to create tourist products that will benefit the different tourism stakeholders, mainly the local community. In this way, the following methodology is proposed, divided into eight stages for the creation of the tourist product (see Figure 1).

According to previous figure, the following stages are presented: 1) Sensitization of the local community, 2) Contextualization of the place, 3) Design of the tourist product, 4) Identification and analysis of the demand, 5) Price Decision, 6) Marketing, 7) Market Test and 8) Startup and follow-up of the tourism product; Also, it is necessary to fulfil a series of phases and steps to carry out some of these.

**Figure 1. Methodology for the elaboration of the product**



Source: Own elaboration.

### **3.1. Previous phases**

#### *3.1.1. Stage 1: Awareness of the local community*

At this stage, awareness-raising sessions are held with the local community, which aim to evaluate the acceptance of the creation of the tourism product, presenting the benefits and costs that tourism can bring to its community. In case of not being favorable, it is dispensed of the associated tourist product.

If the proposal is accepted, a working group shall be created. This group must contain members of each one of the actors found in the tourist destinations (social, cultural, economic, public and private). According to Saravia & Muro (2016), these actors will depend on the characteristics of the destination. It is also important to mention that incorporating the participation and collaboration of each tourism-related actor will allow them to feel empowered with the project (Sebele, 2010).

#### *3.1.2. Stage 2: Contextualization of the area*

The characterization of the area is done where the new tourist product will be found.

#### *3.1.3. Stage 3: Tourism Product Design*

The product design process comprises two phases: elaboration of the tourist inventory and the creation of the main idea, described below. In this sense, it is important that the working group and the local community evaluate the attractiveness equally, as some authors (v. gr. Cardenas, 2006; Hernández, 2001; Machado & Hernández, 2007; Villalva, 2011; Waligo, Clarke, & Hawkins, 2013) believe that tourist resources must be a tourist attraction through a technical process and different points of view.

To follow these steps, it is advisable to use the focus groups research technique, which is an interview with more than one person, where they address a predetermined subject in the presence of a moderator (Peterson & Barron, 2007; Bryman, 2012). In this way, the local community will participate in the definition of the tourism product and the enterprises shall be the intellectual property of the community.

### **3.2. Planning phases**

#### *3.2.1. Phase 1: Development of the tourism inventory and evaluation*

This phase will be subdivided into two: the first comprises the elaboration of the tourist inventory, while the second refers to the evaluation of the different resources that are on the area for their subsequent use.

##### *The tourist inventory*

A tourist inventory allows the selection of the available attractions of a territory and identifies the places of tourist interest in order to choose those considered priority, in which projects should concentrate (Bote, 1990). In this way, it is suggested to use the criterion of Hernández (2001), who classifies them in two in order to identify the tourist attractions:

- **Natural Attractions:** These are elements created by the nature.
- **Cultural Attractions:** Human manifestations that relate to culture (traditions, customs, handicrafts, among others).

#### *Valuation and evaluation of the resources/tourist attractions*

For the tourist product, it is necessary to qualify the attractions which must be made from its characteristics, and must respond to four basic elements:

- **Quality.** It is the intangible and subjective value inherent in itself, centered on the originality of the attractions, and generating interest in the visit.
- **Accessibility.** It refers to the physical conditions to reach the attractions or places of interest.
- **Security.** Are those operating characteristics that make the attractive functional.
- **Use for tourist activities.** It is the viability of the attraction to assist the tourists.

#### *3.2.2. Phase 2: Creation of the main idea*

In this phase, the aim is to conceptualize the idea of what is wanted in the product. It is divided into seven steps:

1. **Generation of ideas:** the local community contributes to ideas about the tourist activities that can be developed.
2. **Selection of ideas:** to choose ideas that meet the viability criteria (social, environmental, cultural and economic).
3. **Definition of the concept:** the local community conceptualizes the activities to be developed for the product, to define its type.
4. **Determine the competitive advantage:** The community contributes to ideas in order to distinguish the product from similar ones.
5. **Selection of services and equipment of the activities:** identify what elements are necessary for the development of the product, among them the human capital, the material resources, economic, normative, among others.

### **3.3. Implementation phases**

#### *3.3.1. Phase 4: Identification and Analysis of demand*

The objective of this stage is to identify and analyze the possible demand that the tourist product can consume. To undertake a project, it is necessary to verify if there is a market opportunity (Go & Govers, 2000). From this, it is necessary to carry out an analysis of the information related to the current trends of the main issuing markets, their behavior, motivations, among others (Gómez, 2014).

#### *3.3.2. Phase 5: Price Decision*

The price will be fixed by the profit range wanted to obtain, taking into account the production cost and the amount that the consumers could pay.

### 3.3.3. Phase 6: Marketing

In this phase, the distribution channels of the product are chosen based on the result obtained in stage four (3.3.1). In addition, it is proposed the creation of a “brand” that distinguishes the product offered in the place, since it can help to consolidate a tourist product (Kotler, Haider, & Rein, 1993).

### 3.3.4. Phase 7: Market Test

The objective of this stage is to test the product “with a group of tourists belonging to the selected market segment” (Gómez, 2014, p. 165), which consists on adjusting the itineraries, being able to reconsider the processes of the activities.

### 3.3.5. Phase 8: Start-up and follow-up of the tourism product

This phase is the end of the elaboration and management of the tourist product, which will have a solid proposal of activities, services and benefits from a complete tourist experience, which carries a tourist product (Machado & Hernández, 2007). In addition, there should be a gradual follow-up to the actions carried out, since it is possible to implement a continuous improvement from the review of the processes, in order to consolidate, integrate and diversify the supply of services.

## 4. 4. Discussion and conclusions

Currently, tourism activity is viewed as a development tool for people living in the destinations. However, it has tried to include the participation of the local community in tourism with little success (Ruhanen, 2009; Sebele, 2010). Therefore, it is essential to generate an integrative planning process, where the local community is recognized as a fundamental element for the creation and management of tourism products. In this sense, community tourism has its origin, not as a new typology of tourism, but as a way of planning and managing tourism, based on the sustainability paradigm.

Although, there are proposals for the planning and generation of tourism products (*v. gr.* Bote, 1990; Boullón, 1994; Acerenza, 1998; Godfrey & Clarke, 2000; Ivars, 2003; Saravia & Muro, 2016), scientific literature stands out the exclusion of the local community in the planning process local (*v. gr.* Ruhanen, 2009; Sebele, 2010; Waligo, Clarke, & Hawkins, 2013; Saravia & Muro, 2016), particularly because of the political situations, indifference towards the activity or the little sensitization work carried out by the tourist managers. Therefore, this research made a proposal of an integrative methodology for the creation of a tourist product, in such a way that it integrates the local community in a participatory way.

Despite generating this proposal, there are two main constraints envisioned in its application: the first, focused on the refusal or resistance to participation by the local community with the creation of tourism product or tourist in general. It is worth mentioning that this depends on the skills of the managers, because in many of the times they do not have the power to interact with the local community (Mair, 2012), representing a challenge to study and discuss in future researches.

The second constraint is that this methodology is not used for planning 'macro' tourism projects, because it is focused on small groups. Therefore, Monterrubio (2009, p. 107) mentions that:

[...] Local-level planning allows greater opportunities for successful tourism development; in addition to ensuring better living conditions in the social, cultural, economic and ecological areas of the receiving community. It is precisely at this level that the incorporation of the local community plays an important role in the planning and successful management of tourism development.

On the other hand, the advantage and difference of this proposal with other methodologies is in the sensitizing process of the local community, because in many cases this actor has little knowledge about what tourism means and the costs and benefits that this provokes (Aref, Gill, & Farshid, 2010). Thus, the members of the community are the ones who propose and define the type of tourist product to be implemented, based on the knowledge they have on the geographic space and of their natural and cultural resources.

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# Migrations in contemporary society: correlation with migration and development

## Migraciones en la sociedad contemporánea: Correlación entre migración y desarrollo

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### Abstract

*Migrations have intensified in contemporary society, due to the process of globalization which deepens the interdependence of economies and strengthens transnational networks, facilitating the labor insertion of qualified people. The popularization of ICT also reinforces the processes of cultural hybridization and shortens distances. However, the speeches of influential politicians and the mass media frame the presence of foreigners as a threat, while these speeches hide the positive effects of migrations, both to the host country and to the origin country. The purpose of this document is to review the relationship between international migration and human development from two points of view: co-development, which involves migrants as promoters of development, and dependency theory, which affirms that migrations reinforce poverty in their territories of origin. In some host countries, there are policies to select migrants with higher education and financial resources, while the entry of low-skilled migrants is not allowed; this entry is attracted by higher wages, as well as by people seeking asylum.*

### Resumen

En la sociedad contemporánea las migraciones se han intensificado debido al proceso de globalización por el cual las economías se vuelven interdependientes y se tejen redes de trabajo transnacionales, que facilitan la inserción laboral de personas cualificadas, aunado a la popularización de las TIC, las cuales se han vuelto omnipresentes, refuerzan procesos de hibridación cultural y permiten «acercar distancias». Sin embargo, la presencia del extranjero se sigue encuadrando como una amenaza en los discursos de políticos influyentes y en los medios masivos de comunicación, quienes desconocen los efectos positivos que las migraciones pueden aportar, desde el punto de vista económico, cultural, educativo y en la promoción del desarrollo humano. En el presente artículo se realiza una revisión crítica de la literatura sobre la correlación entre migraciones internacionales y desarrollo humano, la cual se puede enfocar desde dos puntos de vista: el codesarrollo, que involucra a los migrantes como promotores del desarrollo, o desde la teoría de la dependencia, que afirma que las migraciones refuerzan el círculo vicioso de la pobreza de sus territorios de origen. Se destaca que los países receptores tienen políticas para seleccionar migrantes con estudios superiores y con recursos financieros, mientras que son reacios a recibir migrantes laborales poco cualificados, atraídos por mejores salarios, así como también se obstruye la entrada a personas que solicitan refugio, ante la necesidad de protección de sus Derechos Humanos.

### Keywords | palabras clave

*Immigration, development, migration, co-development, international cooperation, social capital.*  
Inmigración, desarrollo, migración, codesarrollo, cooperación internacional, capital social.

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## 1. Introduction

Migrations are a historical phenomenon of great influence in the life of the societies of origin, of transit and of reception of the populations that decide to migrate or that they are forced to do it. Worldwide, it is estimated that there are 257.7 million of international migrants, equivalent to 3.4% of the world's population, according to the data from the International Organization for Migrations of 2017 (OIM, 2018). This article addresses this phenomenon from a multidimensional approach, beyond a focus on the problems of security and border control, which tend to dominate migrations in the political and media agendas.

Canelón Silva and Almansa Martínez (2018) emphasize the need to manage international migrations from “a holistic approach that favors the human treatment of migrants – regardless their migratory status”, considering the totality of its dimensions and essential aspects as people” (p. 118). This management of migratory movements is a conducive scenario for the international cooperation. The Migration Governance Framework of the International Organization of Migration (IOM) raises three specific objectives:

1. Good governance of migration and related policies should promote the socio-economic well-being of migrants and society.
2. Adequate governance of migration should be based on effective responses to mobility in crisis situations.
3. Migration should be carried out in a safe, orderly and dignified way (OIM, 2015, p. 6-7).

The framework proposed by OIM (2015) highlights the importance of intervening the migration factors of the populations from their countries of origin. “Poverty, instability, lack of access to education and other basic services are just some of the factors that make people emigrate” (p. 6). Therefore, in order to understand the interrelation between migrations and development promotion, a critical literature review is carried out from authors of reference and from recent studies on international migrations in Ibero-America with special emphasis on emerging literature from reference databases such as Scopus® and the Journal Citation Reports® (JCR).

## 2. Characteristics of contemporary migrations

From a global perspective, the causes of international migration highlight the widening gaps between countries of origin and destination in the level of income, quality of life, opportunities and services, and the guarantee of the enjoyment of rights. Although it is said that economic development contributes to reduce migration, and this is even more valid when talking about their desirable voluntary nature, it is observed that when the economic development level increases, attraction to migrate increases as well. This situation varies between and within countries, according to the membership of a given class, since, although the economic development of a country tends to be measured through per capita income, it is distributed unequally between the different classes and within families.

The poorest countries normally generate fewer emigrants than those higher up in the per capita income ladder: (...) Thus, the emigration rates of the really poor countries are very low, while they are much higher in the case of moderately poor countries (Hatton and Williamson, 2004, p. 11).

Migrations from the early XXI century are not available to everyone. Economic resources, information and social relations are required to emigrate. A significant part of the population that migrates belongs to the middle class in their countries of origin, usually from the southern hemisphere (Naïr, 2006), in which they favor the exit of these populations towards the improvement in the access to advanced training and of the expectations of life, which do not find adequate satisfaction in their origin countries because of the lack of opportunities and the increasing precariousness of the labor market, among other factors of expulsion and which threaten some sectors of the population to fall into situations of social exclusion, as well as suffering a decrease in their quality of life.

International migration is facilitated when the person has higher education. Naïr (ob. cit) says that this poses a threat to the countries of origin, but favors the host countries, because having people who have studied increases their competitiveness in the knowledge society. For 2015, 14.7 million of "highly qualified" immigrants lived in the United States, "they have higher degree courses associated with undergraduate or postgraduate studies" (Gaspar, 2017, p. 86).

74.6% of migrants are economically active. Due to their educational level, it is assumed that their integration into the host society is relatively easy, although they must face barriers related to their immigration status, labor law, recognition of titles and language proficiency. Having a foreign population with an investment capacity and better qualified not only represents productive advantages, but also show the capacities of these new inhabitants to be inserted in the host societies.

According to OIM, the migratory flows of people from the countries of the South to the countries of the North are a reflection of the inequality in international relations:

Most of the destination countries tend to occupy a hegemonic position at the world level or compared to the countries of origin from which the migrants come. This is the case for many South-South and South-North migrations. Countries of destination are also often wealthier and often occupy a dominant strategic and military position (OIM, 2018, p. 142).

In this sense, there are several countries that have policies that allow them to select the people who enter their territory, as a way of combating illegality. In the countries of the North, conditions of entry, regularization and family reunification are hardened, while promoting the immigration of people who can favor the productive development of the host country.

Modern States do not treat all migrants equally, but instead they select and differentiate according to their perceived national interests. Selectivity implies to privilege certain people as suitable for income and residence and to reject others, sometimes based on nationality, ethnicity or race. For example, until the 1960s, the United States, Australia, and Canada largely excluded non-Europeans (Castles, 2010, p. 54).

In Spain, between January and October of 2018, 5,876 people obtained a visa under the act of support for entrepreneurs (Law 14/2013 of 27 September), being the country of the European Union with more “gold visas” and a higher income of investments for this concept (Aranda, 2018). Receiving migrants with higher education or investment capacity is a measure that favors the host countries, since the social integration of these people tends to be easier, which according to Nair (2006) “are much more ductile, culturally more permeable and have a totally different relationship with the origin, with the nationality of the country of origin, with the identity belonging; they are more open to more internationalized world culture” (p. 202-203).

However, there are other structural factors that can be a persistent disadvantage: “In the American labor market, being a woman, being a child of immigrants, or not having citizenship, race, ethnic origin and immigration status has implications for Labor integration” (Gaspar, 2017, p. 119).

Currently, there is a strong tendency for clandestine or irregular migration. This condition responds to strong migratory pressure from the South over the North and to the restrictive legislation of the latter. It is difficult to establish the number of migrants in clandestine conditions, a situation in which the vulnerability of their fundamental rights, including life, is reinforced, as is regrettably confirmed in the attempt to cross the Mediterranean towards Europe or the Mexican border to the United States.

According to Castles (2010), one of the characteristics of this phenomenon is the performance of mafia criminal networks that intervene in two cruel and dangerous businesses: smuggling and trafficking. Many people only have the option of hiring networks for the illegal crossing of borders (smuggling) and other people are deceived or forced to migrate in the slave labor and forced prostitution (trafficking).

Irregular migration is the subject of special interest on the part of politicians and the media (Aguaded and Romero-Rodríguez, 2015). “Estimates are often manipulated for political reasons, i.e., blaming irregular migrants to generate social problems has become a practice widely disseminated by populist politicians” (Castles, 2010, p. 52).

Migration in an irregular administrative situation is a global problem. In the United States, about 11 million of immigrants live in clandestine situation. It is estimated that between 10 and 15% of immigrants are in an irregular situation, i.e., they do not comply with the immigration laws of the host country, either because they have defeated the visas to which they entered or because they look for work without legal permission. Not everyone is integrated into the labor market, as some are dependent on their families and others are asylum seekers who have not been approved for such status (Castles, 2010).

Castles (ob. cit) stands out as “call factor” the demand for low-skilled and precarious jobs in the labor markets of Northern countries, as well as the so-called “submerged economy”, as employers require people willing to accepting low wages and operating conditions. Therefore, these people are also in precarious conditions in the host societies, where they can be among the most vulnerable because they lack of civil and labor rights (as a possibility to sue or to join a Union).

Likewise, Castles (ob. cit) explains that migrations for economic reasons are easily explained from globalization, constituted by transnational flows and networks of different nature, especially from the geopolitical gap that exists in the South and the North. Forced migrations also have among its causes economic factors conditioned by globalization. Therefore, the distinction between economic migration and forced migration is blurred, as many migrants and asylum seekers have multiple reasons to migrate and it is impossible to separate the economic motivations from the motivations related to the Human Rights violation. "Failed economies generally also mean weak States, totalitarian practices and Human Rights abuses" (Castles, 2003, p. 17).

Despite the difficulty of identifying the main motivation of many international migrants in an irregular situation and distinguishing whether these are economic or refugee causes, their needs are similar and, above all, what should be guaranteed is the recognition of their dignity and Human Rights so that they are less vulnerable to exploitation.

Migrants, asylum-seekers and refugees must be received as human beings, in full respect for their dignity and human rights, regardless their immigration status. While each State has the right to manage and control its borders, migrants and refugees must be received in accordance with the obligations applicable under international law (The Vatican, 2017, p. 127).

One of the most serious forms of irregular migration is the forced type (Castles, 2003). Forced migrations include problems such as shelter, political asylum, internal displacement, displacement induced by development plans or natural disasters, and displacement by people trafficking. Castles (2003) argues that the phenomenon of forced migration must be understood in the broad framework of migrations, from a transnational and interdisciplinary approach. However, the author criticizes that forced migrations are almost always associated with national security issues and border control of nation-States.

Therefore, migration is a sensitive issue in recipient countries where it is seen as one of the main problems and is exploited by some political groups. Polson & Kahle (2010) on the media coverage of migrations in the United States and Europe confirm the prevalence of certain negative representations in the construction of the image of immigrants in the receiving societies, in which the labels on exclusion and words like "Invaders of the Nation" stand out, as well as other negative metaphors related to the siege of the national territory of out-of-control forces such as those of natural disasters such as avalanches or waves. In these negative settings on migrations, the individuals are dehumanized: "Refugees are equated with water, packages, an out-of-control mass, pests or potential invaders, and natural disasters" (p. 253).

Naïr states that in the host countries "the public authorities have no interest in maintaining a clear and frank discourse on the meaning of immigration" (2006, p. 199). One of the reasons is the political costs that it would represent to recognize that immigration is necessary (and has some positive effects), also in connection with the possible "effects called" attributed to it; and because in this way, the person ensures the availability of a reserve army of cheap and vulnerable labor that is ready to respond to the demands of the labor market.

### 3. Challenges posed by international migration to societies of origin and host

Despite the restrictions imposed for entering the countries of the North, migratory flows will continue to occur in the face of the validity and deepening of the complex dynamics that cause them (from local to global dimensions). In this sense, the increase in migratory pressure stands out from the countries of the South to those of the North in recent years, having as main poles of attraction the United States and the Western Europe, both for work motivations and also for humanitarian reasons (OIM, 2018).

Although there is a major focus on migration to the North, there are significant population movements between the same countries in the South. According to Bologna (2010), Argentina is the South American country that receives more migrants and about half come from border countries: Paraguay, Bolivia and Chile. In South America, according to data from the International Organization of Migration (IOM, 2018), 70% of migrations consider countries in the same region, "owing to the economic and labor disparities existing between countries, most migrants from the region are displaced for work purposes" (p. 90). South American migrants traveling outside their region have two predominant destinations: The United States and Spain.

The risks posed by the assimilation that makes diversity invisible and leaves it at risk of social exclusion, as well as the stigmatization of migrants by media speeches and extremist political parties and populists, there is a need for a more complex approach to a phenomenon that is as old as humanity and that demands an active role by the governments and the civil society.

The acceptance of migrants represents an opportunity for new interactions in terms of mutual enrichment, identifying and surpassing, through awareness campaigns, the sources of hostility and social tensions. Not surprisingly, the other 'invisibility' of migrants, which led to neglecting the consideration of their rights, their dignity and their needs, has now given way to sustained attention based on stereotypes, stigmas and general prejudices (Cannelloni Silva and Almansa Martínez, 2018, p. 119).

There are different models for the insertion of the migrant population in the host society from the analysis of international reference cases. Giddens (2002) raises the existence of at least three models: i) "assimilation", which demands to adapt the behaviors to the values and norms of the majorities, ii) "melting pot", in which the traditions of the immigrants mingle with the predominant to form new cultural patterns in continuous evolution and, iii) "cultural pluralism", which consists in "promoting the development of a genuinely plural society, in which the validity is recognized for the different subcultures" (p. 333).

Thus, an integration model is more typical of the models of fusion and dialogue of cultures, although it is still considered as a possible scenario, like utopia to build, in which the integration can be understood as:

The generation of social cohesion and Intercultural coexistence, through processes of mutual adaptation between two juridical and culturally differentiated subjects, where people of foreign origin are incorporated in equal rights, obligations and opportunities to the native population, without losing their own identity and culture; and the society and the receiving State gradually introduce the necessary normative, organizational, budgetary and mental changes (Giménez, 2003, p. 78-79).

Migrants must choose their own trajectory and be aware that they must also respond for minimal duties in the context of the host society, in a consistent way with the defense of Human Rights and democratic values, beyond the Cultural relativism (Nair, 2006).

#### 4. Migration-Development Relations: Dependency-co development

Co-development aims to highlight the linkage of migration and migrants as actors in the social development of their societies of origin. By raising the relationship between migratory dynamics and promoting the development of a territory, two different perspectives predominate in relation to this relationship: dependence or co-development.

The perspective of dependence, linked to the tradition of Latin American studies, considers that it is a vicious circle of impoverishment and loss of human talent, crossed by dependency relations between host countries and those of origin. Castles and Delgado (2007) question the proposal by multilateral entities, such as OIM, affirming that international migrations promote development “by simply adopting appropriate forms of ‘migration Management’” (p. 15).

From the dependence point of view of the peripheral territories, the underdevelopment is the cause of migrations, which in turn reinforce the structural conditions of poverty and dependence in which the country of origin is located. However, this approach has the risk of skewing the gaze only to global conditions and losing sight of the role played by people and social groups in the country in this process, the internal dynamics of domination, the concentration of resources, opportunities and exclusion.

Governments that see emigration as a safety valve to export unemployment and political dissent, in fact, far from using migration as a development tool, employ it as an alternative to avoid carrying out the necessary strategic transformations (Castles and Delgado, 2007, p. 15).

“Brain drain” is also one of the aspects of the international migration of negative incidence for the countries of origin. For this reason, thousands of professionals with a high level of training leave their countries of origin, in which university education is not an opportunity available to all graduates of secondary education. Many of these people migrate to more developed countries where priority is given to visa applications for the best-trained people, as recognized by the United Kingdom’s Immigration Minister in December 2001:

The migrant program highly skilled people represents a breakthrough in the development of our immigration system, to maximize the benefits of the UK to compete in business in the global marketplace... It will Allow eminent scientists to establish their research in the United Kingdom, stimulate the movement of experts in business and finance to the City of London and give those at the top of their corresponding professions the opportunity to make the United Kingdom their home (Kapur & Mchale, 2005).

Countries such as Australia, Canada, Germany, the United Kingdom, and the United States have policies to promote selective immigration, which rate characteristics such as the candidate’s curriculum, academic background, language proficiency, and being married to a highly qualified person. It is worth mentioning the case of

Canada, which also values the fact that the person has coursed a postgraduate degree in Canadian Universities (Kapur & Mchale, 2005).

El Salvador is as an example of the effects migrations can have on a country's efforts to have qualified human capital. This Central American country has about six million inhabitants. It is estimated that more than 20% of its population has emigrated mainly to The United States, whereas "El Salvador migrants with post-secondary education accounted for 39.5% [of total migrants]" (UNDP, 2005). While Post-graduate Mexicans living in the United States "amount 16% of all postgraduates residing in Mexico" (Gaspar & Chávez, 2016, p. 108).

The emigration of professionals has increased during the first decade of this century in almost all the Latin American countries; however, about half of these qualified migrants are integrated into the labor market of host countries under unfavorable conditions and "work in occupations in which they do not use their knowledge or skills, i.e., they are over-qualified for works they perform" (Ramírez and Lozano, 2017, p. 132), due to obstacles such as irregular administrative situation, recognition of titles and discrimination (Aparicio, Biderbost and Tornos, 2018).

Nevertheless, international migration represents significant monetary flows to countries of origin thanks to remittances. In the case of El Salvador, "more than 16% of GDP, 133% of total exports, [...] 655% of foreign direct investment, 140% of the tax burden, 91% of the nation's general budget" (PNUD, 2005, p. 13-14).

In Addition to the lack of opportunities commensurate with professional and income expectations, these migrants perceive as "unacceptable" the Human Rights conditions and the governability of their countries of origin (including corruption, at all levels, especially when accessing to opportunities). Proof of this is that when this situation improves, migrants return, despite the fact that the economic situation has not changed considerably, as was seen in Spain in 1975 or in Chile in 1991 with the departure of Pinochet (Olesen, 2002).

## 5. A Co-development perspective

Co-development highlights the positive aspects of the relationship between migration and economic development, its potential to promote the well-being of those who migrate and their families, their communities and their country of origin, through the transfer of remittances, productive investments, the voluntary return that allows the recovery of "brains", human capital acquired during the migratory experience, the creation and strengthening of transnational networks, among other aspects (Lacomba, 2004).

The co-development programs aim to incorporate in the promotion of economic and social development the organized participation of migrants and their associations. Co-development is a complex concept, from the multilateral, the State and the local, from the host country and the one of origin, from organized civil society, NGOS, immigrant associations, migrants and their families.

Malgesini (2001) proposes the existence of two co-development perspectives. The "traditional", which consists of an official speech deterrent to migration that promotes the return of immigrants to their countries of origin through individual inser-

tion projects. From this perspective, the official development aid is aimed at reducing the need to migrate and conceives co-development “as prevention, management and assisted return of migratory flows” (p. 128-129). The second perspective is “spontaneous co-development” as part of a community proposal from which it is stated that intercultural contact produces a mutual enrichment, both from the society of origin and from the receiving society. It is proposed to overcome the previous restrictive approach, recognizing the importance of immigrant participation and their capacity as transnational agents.

Co-development can also be addressed from different areas of development promotion, such as education for development, intercultural awareness, health, Human Rights development, articulation with productive projects and infrastructure, among others. It raises a different conception of international cooperation, with the participation of migrant populations, including a fairer organization of international trade. In this regard, the European Commission proposes that:

Development aid can hardly have a decisive impact on migrations seen the complexity of the phenomenon. However, it has a role to play if it is inserted within the framework of a set of political, economic, cultural and solidarity initiatives, concerted at international level. [...] The long-term objective of development aid is to sustain lasting development and, as a consequence, to limit individuals and groups to the need to emigrate (Lacomba, 2004, p. 36).

There are cases in which cooperation projects are implemented in impoverished countries with the participation of international NGOs supported by public resources, which act with social organizations of the target country as counterparts in the project and which, in addition, incorporate associations of original immigrants in that country, in the identification and in the management of the project, which allows to have their own experiences of the migratory phenomenon and of the problematic situations of their region of origin, bringing more sensitivity and relevance to these projects. From this perspective, it addresses the overcoming of poverty and exclusion, emphasizing what individuals and groups have, and their capacities, and not so much in what they lack, in their needs (Gutiérrez, 2005).

If co-development approach proposes a type of relationship and hybridization between migrations and development, it is also necessary to consider the conducive conditions to forced migration. Also in Sen's approach to capacities (2000), the adverse effects of social inequality, which are one of the many causes of migration, are highlighted. Lacomba (2004) affirms that cooperation should not aim to reduce migration, but to overcome the social marginalization of large sectors of the population of these countries.

In this sense, migrations can continue to deepen the situations of social inequality in the countries of origin, because the person who migrates is the person who can do it, not the one who wants to. For example, it is argued that remittances by migrants to their families and friends may represent a more inequality in impoverished communities. It is often easier to migrate for those with important capital, not only in economic but also social terms (Bourdieu, 2000).

In impoverished countries, there are some opportunities for students with merits who need family support in the terms mentioned above. Many times families

with scarce resources strive as a group, adding the work of several members so that one can study and improve his/her employability, because, as Bauman assures (2004): The current situation that these people have to face is even more complex and unstable, in the context of liquid modernity.

Although one of the potentialities of emigration most notable for its contribution to the countries of origin is the sending of remittances, the conception of co-development also considers cultural and social contributions as important contributions that can be made by migrants to their countries of origin, also through their temporary or permanent exchanges and returns. In this sense, "it also refers about the concept of social remittances, which would be those experiences, knowledge, technologies, etc., transmitted in a similar way to the economic remittances" (Malgesini, 2001, p. 144).

The immigrant can be "a fundamental element in the social articulation of the country, which can transfer democratic and social values and channel direct relations from civil society to civil society" (Lacomba, 2004, p. 65). However, certain favorable conditions are required in the country of origin so that the return can be beneficial, as well as a coherence between the studies carried out abroad and the applicability of the capacities acquired in the country of origin.

People who go to another country to course postgraduate studies are an important case of potential returnees. Looking at doctoral students in the United States between 1990 and 1999, some studies point out that about 60% have clear plans to stay (Kapur & Mchale, 2005).

If the studies carried out can be applied more easily in their countries of origin, according to the characteristics of the national production system and the labor market, their possibilities of return would increase. Even If all students do not return, those highly qualified returnees can make a contribution to building public institutions, both administrative and educational, which can represent substantial benefits for the country of origin (Kapur & Mchale, 2005, p. 171).

### ***5.1. The importance of remittances***

Remittances help reduce the income poverty of those who receive them and enable them to improve their quality of life. They are an important source of income in many countries and are highlighted as one of the consequences of the migrations with the greatest potential for the promotion of the development of the countries of origin. "In gross terms, they surpass development aid, foreign investment or tourist revenues received by many of the developing countries, such as Morocco" (Moré, 2005).

These monetary flows are controversial because it is said that when they are not aimed at the productive system they have no greater positive effects on the economy of the country that receives them. The use given to remittances depends on a number of factors. In addition to the economy conditions of the countries of origin, it is necessary to consider variables such as the previous situation of the migrants and their family, the purchasing power attained by the migrants, the progress in their migratory project and their social capital, mainly in terms of migratory networks of solidarity relations (Basok, 2003).

An example of public policies that favors a productive investment of remittances is the Mexican program "Three by One", by which it encourages the investment

of collective remittances in community works that improve the quality of life of the origin country, with impact for the families of the millions of Mexicans living in the United States. The program is based on the collaboration of migrant associations with Governments at the local, regional and national levels. For every dollar donated by migrants, the three above-mentioned levels provide three dollars. Garcia (2007) says that thanks to this program, the community in general benefits and not only the families receiving remittances.

## 6. Final considerations

Co-development is a polysemic concept about the positive effects of migrations in the development of the countries involved, highlighting the mutual benefit, according to Lacomba-Vázquez and Cloquell-Lozano (2017). From the perspective of co-development, it can be said that the return can have positive effects for the improvement of the conditions of the country of origin, but this is not assumed from a restrictive policy but as a free and voluntary option of the people who have emigrated. There are a number of voices that call attention to the need to support those who want to return, so that their new adventure, their “migratory project”, is successful. One of the routes indicated as the most appropriate is the entrepreneurship, the creation of the employment of the migrants in their country, through the establishment of a company that can generate other jobs eventually. For this, training programs are promoted, including the identification of the business idea, the elaboration of the plan, feasibility studies, and financing alternatives through micro-credits.

The migratory experience empowers competencies that can serve an entrepreneur project, and if the migration project is successful it is possible to accumulate not only the necessary financial capital but the cultural capital (knowledge, skills and competencies) and social by having new networks of relations through associations and NGOs of the host country, which allow to add important options and supports, for example, to recover social representation to institutions of the country of origin.

This fluidity dynamic of migratory movements is not consistent with restrictive policies that leave many the only option of illegality. As mentioned above, temporary migrations are options that can be considered as an alternative. It would be about “promoting circulation, making the return to the country of origin more attractive” (Nair, 2006, p. 245).

In relation to job opportunities that meet the expectations of those who have invested their efforts in studying, the need for interventions by various actors from the country of origin and from the host, is recognized, as well as the possibilities offered by “the host country multinationals, mobilization in public and private cooperation projects, university education in the North and in the South, or the creation of companies in the country of origin” (Nair, 2006, p. 246).

A strategy from diverse actors, including international NGOs, is to take advantage of international cooperation programs and projects to promote ‘brain return’. It is estimated that 35% of development aid is invested in the payment of staff in the target countries of the programs. If instead of hiring a European expert to develop a cooperative work in an impoverished country, a national is hired in the diaspora

with an equivalent qualification level, the return will obviously be favored. In this line, there are some development agencies that have begun to include expatriates in projects in their countries of origin (Olesen, 2002).

Kapur & Mchale (2005) point out that the limited existing literature suggests that returns are negatively selective. According to estimates for Denmark, Norway and Sweden, less successful migrants measured by the level of income and insertion into the labor market, tend to return, suggesting that if a country loses many of its most qualified people (for example India, most of them migrating to the United States) the less qualified of this group is the most willing to return. This implies that the most talented people are more willing to make their contributions to their country of origin as members of the diaspora.

According to Pérez (2017), migrants in an irregular situation can also be considered as actors of development, because beyond their administrative situation, they obtain economic resources thanks to their work, part of which can be sent as remittances to their country of origin and also strengthens their skills or abilities, which can be at the service of their community when they decide to return.

Co-development can be a complement to restrictive immigration policies as a tool to curb migratory movements. But other co-development proposals may arise, as a more horizontal type of relationship between international actors, without disregarding Human Rights, including the right to develop and affirming that migrations can have greater positive effects if they are not forced, if the decision to emigrate is a free choice and not the only way to unjust socioeconomic and political situations. However, not all people who emigrate can take a more active role, since their status as foreigners implies situations of vulnerability, which change throughout the migratory process and according to their situation by the legislation of residence.

In view of this situation, the initiatives of the migrants' associations are a space for the empowerment of these minorities in favor of their social integration process and also in their role as cooperatives that promote the well-being of their community of origin. It is necessary to emphasize the need to understand the complexity of the phenomenon of migratory movements from a transnational perspective, recognizing its dynamic character, in which the lives of migrants, their families and the host and origin countries combine in the economic and socio-cultural aspects (Pardo, 2015).

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# Qualitative approach about innovation determinants in an emerging economy

## Análisis cualitativo de los determinantes de la innovación en una economía emergente

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### Abstract

*Manufacturing companies strive to be innovative and competitive. These companies are very important in an emerging economy due to their contribution to a country's gross domestic product and the generation of jobs. Therefore, the objective of this article is to identify the internal and external factors that improve the innovation capacity of Peruvian manufacturing companies and, in turn, favor their competitiveness. A qualitative approach was applied based on the Glaser «six-C model», which is part of the grounded theory; for this, the managers of the Peruvian manufacturing companies were interviewed. From the analysis and processing of this data with Atlas ti® qualitative analysis software (QDA), it was found that suppliers and customers provide valuable information to innovate; additionally, the application of the design and the acquisition of machinery favor the innovations of these companies. To that extent, this qualitative study contributes to identify those factors that help Peruvian manufacturing companies improve their innovation capacity. Thus, manufacturing companies' managers must identify those factors that favor the implementation of innovations to make their companies more competitive.*

### Resumen

Las empresas de manufactura se esfuerzan por ser innovadoras y, de esta manera, ser competitivas en el mercado. Estas empresas son muy importantes en una economía emergente debido a su contribución al Producto Interno Bruto y a la generación de puestos de trabajo para la población. Por ello, el objetivo de este estudio es identificar cuáles son los factores internos y externos que mejoran la capacidad de innovación de las empresas peruanas de manufactura y, a su vez, favorecen su competitividad. Para ello, se aplicó un enfoque cualitativo basado en el «modelo de las seis C» de Glaser, que forma parte de la teoría fundamentada, y se entrevistó a gerentes de las empresas de manufactura peruanas. A partir del análisis y procesamiento de estos datos con el software de análisis cualitativo (QDA) Atlas ti®, se encontró que los proveedores y los clientes proporcionan valiosa información para innovar, y que la aplicación del diseño y la adquisición de maquinaria favorecen las innovaciones de estas empresas. En esa medida, el presente estudio contribuye a identificar aquellos factores que ayudan a las empresas de manufactura peruanas a mejorar su capacidad de innovación. Así, los gerentes de las empresas de manufactura deben identificar aquellos factores que favorecen la implementación de innovaciones y, de esta manera, lograrán que sus empresas sean más competitivas.

### Keywords | palabras clave

*Innovation, qualitative analysis, manufacturing, emerging economies, technological development, grounded theory.*  
Innovación, análisis cualitativo, manufactura, economía emergente, desarrollo tecnológico, teoría fundamentada.

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## 1. Introduction

Innovation has become a topic of great interest to companies because of the results obtained by those that implement it, in some cases creating a competitive advantage (Herman, Hady & Arafaah, 2018) with their innovative performance (Martínez-Costa, Jimenez-Jimenez & Castro-Del-Rosario, 2018). A review of the literature shows that studies on innovation in developed economies are mainly quantitative (Ketata, Sofka & Grimpe, 2015). There is also a significant number of quantitative applications in innovation research in Latin American countries, such as Colombia (*v.gr.* Albis & Álvarez, 2017). These findings show little attention to research with qualitative approaches in Latin American economies, as for example the case of Brazil (*v.gr.* Ferreira de Lara & Neves Guimarães, 2014).

It should be taken into account that Latin American economies went through a period of economic boom, and then faced a different reality, highlighting the low political stability (Olavarrieta & Villena, 2014), high levels of corruption (Paunov, 2016), and informality (Heredia, Flores, Geldes & Heredia, 2017). It is this context that it becomes in some cases a constraint to carry out innovations.

This study has focused on Peruvian manufacturing companies, because this economic sector has a high impact on the economy of the South American country. In fact, the manufacturing sector represents more than 16% of national production, according to the National Institute of Statistics and Informatics (INEI, 2018). Therefore, it seeks to identify the internal and external factors that improve the innovation capacity of these companies. In this way, it contributes to the literature on innovation in the manufacturing sector of an emerging economy. Additionally, the article is organized into four parts. In the first place, the literature review is presented and the literature identifies the external and internal factors that favor the realization of innovation. Secondly, the materials and method used are described, detailing the principles of "Glaser six-C" model, how the selection of the sample was done, the selection of the participants, the methods of collecting information and the data obtained. Third, the results are presented according to the structure of the Glaser six C's, to finally present the discussion and conclusions.

### 1.1. Literature review

#### 1.1.1. Context and conditions of an emerging economy

When analyzing the context of an emerging economy like the Peruvian one, two aspects must be considered: on the one hand, the interest to carry out research on the conditions in which the companies carry out innovations and, on the other hand, the challenges and difficulties these companies face. In relation to the investigations carried out by Castellacci & Natera (2012), they mention that different quantitative investigations have been conducted; however, further research should still be carried out, particularly with qualitative approaches and designs to deepen the findings. It is known that companies that want to improve their innovation capacity must establish linkages with their suppliers, clients, laboratories, universities, among others (Ferraris, Santoro & Dezi, 2017).

From the point of view of the challenges and difficulties, two important studies can be mentioned. The first was carried out by Sanz & Jones (2013), who claim that Latin American countries have gone through a stage of economic prosperity over a decade ago that has allowed them to reduce poverty levels and the growth of a middle class, due to the increase in the prices of minerals. The second study performed by Olavarrieta & Villena (2014) considers that Latin American companies that develop innovation face challenges and difficulties, such as the lack of policies that encourage the development of innovations.

It is not trivial to make some clarifications regarding terms such as “technological intensity”, which according to Zawislak, Fracasso & Tello-Gamarra (2018) is obtained by dividing the costs in Research and Development (R+D) between assets or sales. For the Organization for the Economic Cooperation and Development (OECD, 2011), companies according are classified to their technological intensity in low, low-medium, medium-high and high technological intensity.

On the other hand, Kim, Park & Paik (2018) indicate that the innovation capacity of the company, which is the potential to create innovations, can be analyzed in several dimensions and according to the different types of innovation: product, process, organizational or marketing.

### 1.1.2. *Internal Factors*

Internal factors, according to Lee, Leong, Hew & Ooi (2013) are the internal variables under the control of the company and that allow it to improve its innovation capacity. These variables are industrial design and engineering, machinery acquisition, certification and quality control, and staff training.

The design refers to an important way of transferring ideas or knowledge (Simeone, Secundo, & Schiuma, 2017). In addition, this helps significantly in the development of new products. In the case of the Peruvian manufacturing companies, Tello (2017) found that they improved their innovation capacity by acquiring machinery. For its part, the ISO 9000 quality standard is based on the definition of quality conformity to assure customers that a quality product or service will be consistently supplied (Bourke & Roper, 2017).

In the management of innovation, the motivation of the professionals plays a crucial role in the collaborative creation process of knowledge for having greater competencies (Papa *et al.*, 2018).

### 1.1.3. *External Factors*

Roper, Love & Bonner (2017) say that part of the innovation process undertaken by companies is to collect accurate information from a variety of sources outside the company, such as customers, suppliers, universities, among others, which help to reduce uncertainty in the chances of innovating. Additionally, Saldanha, Mithas & Krishnan, (2017) mention that clients are a source of knowledge that help the enterprises in the modification of existing products for their better use; therefore, it is necessary to involve them in the innovation processes of the company.

On the other hand, suppliers play an important role in the company's innovation process. In this sense, a strong relationship between suppliers and company

allows to achieve an adequate innovation environment by improving the quality of the product and the adequate cost management (Jajja *et al.*, 2017).

Companies face competitors by applying different strategies. In some cases, they imitate new products offered at low prices and, in other contexts, they offer their consumers differentiated products, trying to generate loyalty in customers (Liu & Atuahene-Gima, 2018). In this sense, organizations implement innovation processes influenced by companies and individuals. In this process, the role of consultants is of paramount importance due to their knowledge and experience (Musiolik *et al.*, 2018).

## 2. Materials and methods

For purposes of this research, it was decided to use Glaser's "Six C model" (Gandomani *et al.*, 2013) as a methodological tool for obtaining primary information about the main factors that impact the development of innovation in manufacturing companies. The proposed model is part of the based theory, which allows researchers to develop the theory through the information collected and it favors a constant feedback with the problem studied (Strauss & Corbin, 1994).

It has been preferred to use the based theory because innovation is a process of interaction between different variables and actors that are both internal and external, which allow the company to accumulate knowledge to convert it into innovative products or processes. In addition, it has been preferred to use, as a tool, a semi-structured interview guide because it allows the interviewer to mention variables or situations that go beyond the questions. Thus, data to identify a theory can be obtained. Then, through the use of these interviews to staff of companies in the sector and the contrast of the information obtained with the corresponding literature, it was started to generate a behavior pattern for each factor, which will be the basis for the research. Although the grounded theory does not imply formulating the research problem from the outset based on an important review of the literature, the application is not prohibited (Dunne, 2011).

For the theoretical codification, Glaser's "Six C model" was used (Gandomani *et al.*, 2013), as the last step of the study. This model helps the investigator to look for connections and relationships between the central and other categories that emerged. The following is the terminology used by the above model:

[...] context (the place where the category is), condition (a factor that is a prerequisite for the category to arise), cause (a reason for the category to occur), consequence (a result or effect of the category occurrence), contingency (a moderator factor between categories and consequences), and covariance (categories that may vary from one to the other) (Van Waardenburg & Van Vliet, 2013, p. 2158).

Those interviewed, for the most part, work as general managers, area managers and designated staff of representative companies in the sector. In addition, most of them represent textiles and food companies (40%). Below (Table 1), the relation of the companies under study is presented and the business rotation, the technological intensity, the size and age of the company is indicated.

**Table 1. Information of the selected enterprises**

Enterprise	Industrial	Technological intensity	Size of the enterprise
E01	Food	Low	Medium
E02	Food	Low	Small
E03	Food	Low	Small
E04	Textile	Low	Small
E05	Textiles	Low	Big
E06	Textile	Low	Medium
E07	Manufacturing of rubber and plastic products	Low-medium	Small
E08	Manufacturing of rubber and plastic products	Low-medium	Medium
E09	Manufacturing of motor vehicles	Medium-high	Small
E10	Manufacturing of motor vehicles	Medium-high	Small
E11	Manufacturing of motor vehicles	Medium-high	Small
E12	Manufacturing of metal-based products	Low-medium	Big
E13	Manufacturing of metal-based products	Low-medium	Medium
E14	Other manufacturing enterprises (Ceramics)	Low	Small
E15	Manufacturing of leather products	Low	Small
E16	Manufacturing of machinery and equipments	Medium-high	Big

Some interviews were recorded digitally, while others were answered by email. The collection began on February 1, 2017. It should be mention that at the end, when it was observed that there were omissions in the answers of some questions, it was decided to interview one more time these people. The entire recording is then written using the Microsoft Word® text processor. A total of 97 codes were used and grouped into 2 categories (Table 2).

**Table 2. Number of quotes from internal and external factors**

Categories	<i>f</i>
<b>Internal factors</b>	
Design and industrial engineering	13
Acquisition of machinery	7
Certification and quality control	5
Personnel training	5

Categories	<i>f</i>
<b>Internal factors</b>	
Acquisition of the software	4
Trained personnel	3
Market study	3
Total	40
<b>External factors</b>	
Clients	16
Suppliers	13
Competence	12
External advisors	7
Universities	5
Enterprise associations	3
Government research institutes	1
Total	57
Total of codes	97

Note: for the codification, analysis and network elaboration, the qualitative analysis software (QDA) Atlas ti® was used. The final analysis of the results was completed on May 31, 2018

The analysis consists of classification, comparison, weighting and the combination of data obtained by the interviews, so that meanings and implications are extracted to reveal patterns or make a coherent narrative. The analysis model consists of two parts. In the first part, transcripts were prepared, and concepts, themes and events were found, refined and elaborated. Then, the interviews were codified to clarify what the interviewee has said about the concepts identified, topics and events. In the second part, several steps were followed: concepts and topics were compared throughout the interviews or separate events were merged to formulate a description of the information. The aim was to answer the research questions in order to draw general theoretical conclusions.

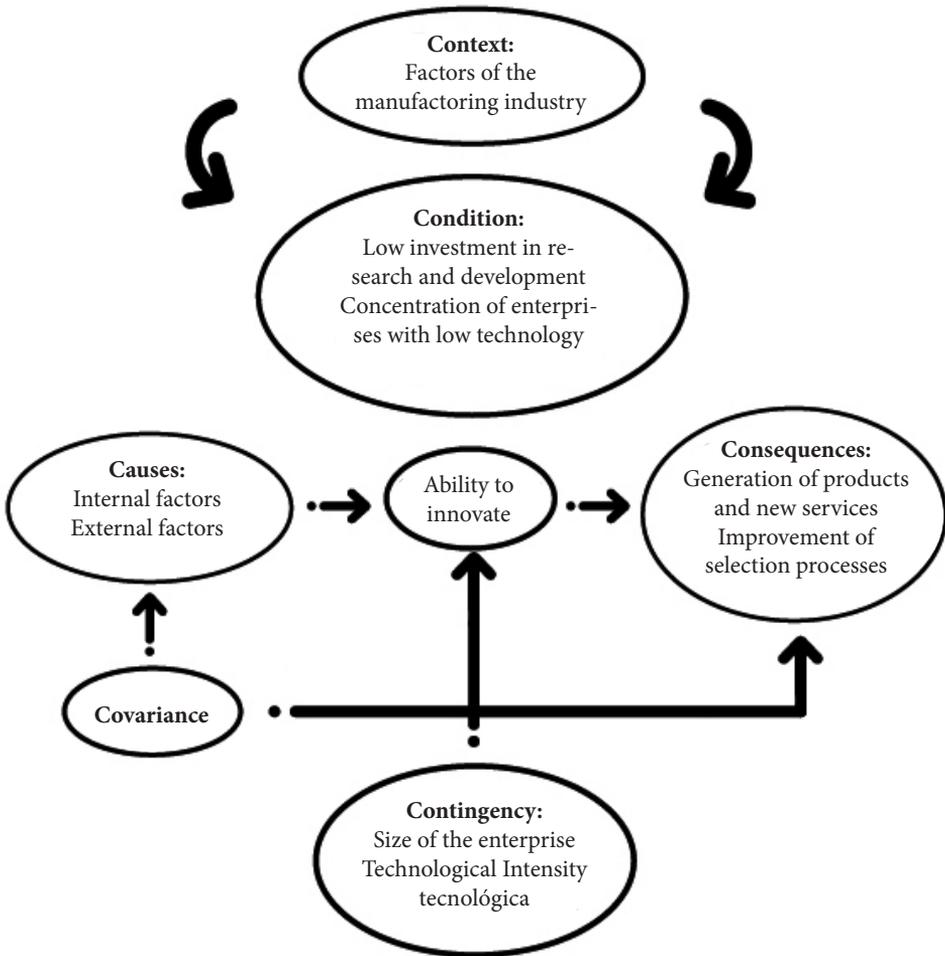
### 3. Analysis and Results

The results are presented from the application of Glaser's "six C model" and the use of the Atlas TI® qualitative analysis software (QDA).

#### 3.1. Application of Glaser's six-C model

Figure 1 shows Glaser's "Six C" model (Gandomani *et al.*, 2015), which will be used to present the results of the present study.

**Figure 1. Glasser's six C model**



Source: Gandomani *et al.* (2015, p. 300)

### 3.2. Context

Fifteen years ago, the Peruvian economy showed sustained growth (Scott & Chaston, 2012), which turned it into one of the fastest growing economies in the region. However, after the commodities crisis (Brenes *et al.*, 2016) companies were forced to face a change of reality. Despite this situation, Peruvian companies tend to invest very little in research and development (R+D), and prefer to innovate by buying machinery, hardware and software (Tello, 2017). They also face informal competition (Heredia *et al.*, 2017) and have trouble obtaining financial resources to promote innovation (Pérez *et al.*, 2018).

### 3.2. Conditions

The Ministry of Production (2016), in the study of the current situation of innovation in the manufacturing industry, noted that “manufacturing is one of the sectors that have greater participation in the Gross Domestic Product, reaching 13.5% in the 2015” (*ob. cit.*, p. 15). He also indicated that in 2014, “more than 95% of manufacturing companies are national and mostly small enterprises” (*ob. cit.*, p. 16).

### 3.4. Causes

Table 3 shows representative examples of the responses obtained in relation to the internal factors that encourage the development of the innovation capacity of enterprises:

**Table 3. Answer of the interviewee on the internal factors**

Description of the type of internal factors	Example of quotes
Description of the type of internal factors	"In the footwear sector, the evolution is almost constant, because the technology clearly manifests its contribution. Beyond increasing productivity, it increases quality" (Manufacturing of leather products, enterprise 15)
Acquisition of machinery	"The acquisition of machinery, that involves the incorporation of machinery and tools to improve the process and to optimize all the resources" (Manufacturing of ceramics, Enterprise 14)
Certification and quality control	"Not all companies apply quality control in all areas. Therefore, they are not maintained and many fail as time passes... We have an innovation and management area that helps keep the ISO updated" (Manufacturing of iron and steel, Enterprise 12)
Personnel training	"To acquire knowledge in working and professional life, improving aptitudes and skills" (Manufacturing of metals, enterprise 12)

Low and low-medium intensity manufacturing companies develop design and industrial engineering activities, machinery acquisition, certification and quality control, and staff training. In this way, they manage to improve their innovation capacity. These activities are done regardless the size of the company. Table 4 shows representative responses obtained in relation to external factors that encourage the development of business innovation capacity:

**Table 4. Answer of the interviewee on the external factors**

Description of the type of external factors	Example of quotes
Consumers and/o Clients	[...] "Customers help us know if we are going in the right direction with every change made in the company, in both the processes and the products" (Manufacturing of other food products, enterprise 3)
Suppliers	[...] "Feedback with vendors that keep you up to the best of your products and customers that drive you to continuous improvement" (other manufacturing industries, Enterprise 14)
Competence	"There is constant benchmarking with competing companies, analyzing their sales strategies" (manufacturing of textile, big enterprise, enterprise 5)
External consultants	"In addition, the company considers the expansion in the business units, for which the company is working in internal and external activities related to R+D, with assistance of external consultants" (Manufacturing of textile fibers, enterprise 5)

Low-and low-medium-intensity manufacturing companies tend to link with consumers, customers, suppliers and consultants to obtain information or knowledge that will enable them to improve their innovation capacity. Some of these companies see the competition as a benchmark that encourages them to be more competitive. Finally, in table 5, we have the answers of the different companies on innovation:

**Table 5. Answer of the interviewee on innovation**

Description of the type of innovation	Example of quotes
Innovation of the product	[...] "The company identified a need on a new product that were the Mill balls, and that we did not sell before, and it was observed that the miners use it frequently" (iron and steel industries, enterprise 12)
Innovation under process	[...] "After a thorough analysis of each process, it was possible to modify certain steps in order to optimize the time and significantly decrease the losses" (Elaboration and conservation of meat, enterprise 1).

### 3.5. Consequences

The development of the innovation capacity of the company has as consequence the implementation of technological and non-technological innovations.

- **Food enterprises (Low technological intensity)**
- Enterprise 1 carried out innovation in processes with the purpose of reducing time and losses; in addition, it implements innovation in the area of marketing to improve the strategies that allow them to increase the sales.
- **Textile Companies (Low technological intensity)**

Enterprise 5 acquires production machines and laboratory equipment to improve the formulation of recipes for the dyeing of tissues. Also, the company always improves the relationship with its clients.

- **Companies of plastic or rubber products**

Enterprise 8 has launched two new products and are registering two new patents. Also, through the acquisition of the software, it has been able to make improvements in the production processes.

- **Vehicle Parts Manufacturing**

Enterprise 9 has entered a new production line that consists of the manufacturing of spare parts for trucks. In non-technological innovations, it has implemented a Web page that allows to be in contact with the clients the 24 hours a day and 7 days a week.

- **Machinery Manufacturing**

Enterprise 16 is planning to launch a new type of machinery called Scoop, which improves the line of rock drilling equipment. Also, in the innovation process it implemented a study of time and movements, and bought an instrument of adjustable torque, which is used by a single operator and reduces the mounting times from 5 hours to almost 8 minutes.

### 3.6. *Covariances*

To the extent that companies develop more innovation capacity, they have a greater willingness to implement innovations in products and processes. Therefore, it can be said that at a greater innovation capacity, greater number of innovations.

### 3.7. *Contingencies*

Peruvian manufacturing companies face particular contingencies for the performance of their activities. Thus, the Ministry of Production (2016), in analyzing the national survey of manufacturing industry innovation in Peru of 2015, found that most of the companies surveyed are small and medium, and have a low and medium-low technological intensity.

## 4. **Discussions and conclusions**

The findings can be divided in relation to two aspects: internal factors and external factors, which are associated with the innovation capacity of the company. In relation to the internal factors, it must be pointed out that the design and application of industrial engineering techniques is one of the most performed activities by small companies with low technological intensity. The design is a relevant activity in the footwear industry, especially in the elaboration of new models (innovation in products), or in the textile fiber industry, in which, applying techniques of continuous improvement manages to reduce time and costs, leading to the improvement of the company's performance.

The following most successful activity is the acquisition of machinery, which is very common in companies with low technological intensity. Small companies do so

because they are able to introduce innovation in processes. Medium-sized enterprises allow them to enter new markets with improved products. This result is indicated by Tello (2017), who mentions that the acquisition of the machinery allows companies to improve their innovation capacity and implement innovations in products and processes.

In relation to the companies that obtain certification and quality control, it can be seen that for the most part they are large companies and present medium-low technological intensity. These quality control practices lead companies to develop innovation in processes, and in other cases to implement “ERP systems”, leading to the implementation of organizational innovations. This agrees with Bourke & Roper (2017), who argue that the quality consistency of the products will generate more satisfaction in the customers.

On the other hand, Papa *et al.* (2018) indicate that the personnel training improves the innovation capacity of the company, which is consistent with the results indicated by the interviewees in small and big enterprises, both in low and low-medium-tech intensity enterprises. They also show that staff training allows them to know better the operation of the machines, as well as the development of skills that will encourage innovation.

Analyzing the findings for external factors, it was found that one of the factors that most influences the development of the innovation capacity of companies is their relationship with customers or consumers. This is seen in small and big companies of low intensity. Customers provide valuable information to improve products and processes. This result is similar to the indicated by Saldanha *et al.* (2017), who claim that the consumer helps to improve the company's innovation capacity.

The following external factor is the relationship or linkage with suppliers, which allows small and big enterprises with low and medium-low technology intensity to improve their innovation capacity of the company. It is observed that small companies of low technological intensity obtain valuable information from their suppliers, leading them to make a continuous improvement, while medium-low technology companies visit the fairs of suppliers to improve their products and processes. Providers are an important source of knowledge, as also mentioned by Roper *et al.* (2017).

Similarly, competition helps big and low-tech enterprises improve their innovation capacity. Low-tech companies consider competitors to be a benchmark for improving their own sale strategies and medium-sized enterprises as an incentive to innovate. This result agrees with the stated by Qian & Wang (2017), who argue that the competition of the market forces the companies to innovate, and in this way to differentiate themselves from the competitors.

External consultants are also a valuable source of knowledge for small and low-tech companies. Big companies that have greater resources hire external consultants to develop research and development activities, while small enterprises hire external consultants to orient them in improving the manufacturing and administrative processes. To that extent, our findings are aligned with those obtained by Musioliket *et al.* (2018).

This study contributes to the literature, because the internal and external factors that favor the development of the innovation capacity, according to their size and technological intensity, are identified. The development of internal innovation activities, such as the design and application of industrial engineering techniques, the acquisition

of machinery, the obtaining of quality certificates and the application of quality control techniques, as well as the training of personnel, allows the development of the innovation capacity of the companies and, in this way, the implementation of innovations in products and processes. Manufacturing companies are linked to customers or consumers, suppliers, competitors and external consultants to improve their innovation capacity. In most cases, linkages generate information or knowledge that help companies develop innovations in products or processes and, in others, provide them with the knowledge to carry out research and development activities that contribute to improve the performance of their companies.

Three main constraints can be observed: first, it is difficult to decide whether theoretical saturation has been achieved. In this time, we were able to interview 16 people working in companies of different industries, different sizes, or that show three out of the four technological intensities. However, it was not possible to interview any company with high technological intensity. Secondly, the way in which the sample was selected is also a constraint, since participants were chosen taking into account the different industries (items) to which they belonged or the different sizes of the companies, and according to their convenience for interviewing them. Thirdly, the information collected is the one provided by the respondents. There was no opportunity to directly observe the relationships established between companies and their suppliers or customers.

Although this study has limitations, it is also a contribution to the innovation literature of manufacturing companies in an emerging economy, because it opens lines of future research. It is recommended that organizational and marketing innovations be analyzed, as well as how they influence product and process innovations. It would also be interesting to analyze how innovations are related to the best performance of the company or analyze a single industry, taking into account that heterogeneous behaviors can occur, depending on the type of product offered to the market.

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# **E**ditorial Guidelines

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# Basic writing rules

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*Universidad Politécnica Salesiana del Ecuador*

## 1. General information

“Retos” is a bilingual scientific publication by the Universidad Politécnica Salesiana de Ecuador, which has been edited on a bi-annual basis since January 2011. The journal focuses on Development and transdisciplinary issues including Public Administration, Social Economics, Marketing, Tourism, Entrepreneurship, Management, Administrative and Economic Science, etc.

It is an arbitrated Scientific Journal that uses an external evaluation system known as *peer-review*, employing *double-blind review*, in accordance with the American Psychological Association (APA) style rules. By using this system, the authors have access to an objective, impartial and transparent review process, which facilitates their publication being included in databases, repositories, and international indexed references.

“Retos” is indexed in the selective directory and catalog of the Online Regional Information System for Scientific Journals in Latin America, the Caribbean, Spain, and Portugal (Latindex), in the REDALYC Scientific Information System, the Directory of Open Access Journals in repositories, libraries, and specialized catalogs in Ibero-America.

The Journal is published with two different editions: printed (ISSN: 1390-62911) and electronic (e-ISSN: 1390-8618), in Spanish and English, and each article is identified with a DOI (Digital Object Identifier System).

## 2. Scope and policies

### 2.1. Themes

Original contributions in Development issues, as well as related fields: Public Administration, Social Economics, Marketing, Tourism, Entrepreneurship, Management...and all other disciplines related to the central thematic issue.

### 2.2. Contributions

“Retos” preferably publishes the results of empirical research about Development, written in Spanish and/or English, while reports, studies, and proposals are also accepted, as well as reviews of state-of-the-art literature.

All of the publications must be original, never have been published in any other journal, and not be undergoing any arbitration or publication processes. Contributions to the journal can include any of the following:

- **Research:** 5,000 to 6,500 words of text, including the title, abstracts, keywords, tables, and references.
- **Reports, Studies, and Proposals:** 5,000 to 6,500 words of text, including the title, abstracts, tables, and references.
- **Reviews:** 6,000 to 7,000 words of text, including tables and references. Justified, current, and selective references shall be evaluated, and should include around 70 publications.

“Retos” is published bi-annually (20 articles per year), in April and October, and each edition has two sections with five articles each, the first containing a **Monograph** theme edited by subject matter experts, and a second **Miscellaneous** section, made up of diverse contributions related to the publication’s theme.

### 3. Presentation, structure, and submission of manuscripts

Papers are to be presented with Arial 10 typeface, single line spacing, all justified, without indentation or blank spaces between paragraphs. A space is only to be included between the major sections (title, authors, abstracts, keywords, credits, and epigraphs). All margins on each page must be 2 cm.

The papers are to be presented in Microsoft Word format (.doc or .docx), and the file is to be anonymous in the File Properties such that the author(s) is(are) not identified.

Manuscripts are to be submitted only through the OJS (Open Journal System), in which all authors must first register. Original papers sent via email or another interface are not accepted.

#### 3.1. Manuscript Structure

For papers that are empirical research, the manuscripts are to follow IMRDC structure, while Notes and Contributions epigraphs are optional. Papers that constitute reports, studies, proposals, and reviews are afforded greater flexibility in terms of epigraphs, especially in relation to Materials and Methods, Analysis and Results, and Discussion and Conclusions. All types of papers are required to include References.

- 1) **Title (Spanish) / Title (English):** Concise but informative, the first line in Spanish and the second, in English. Maximum 80 characters are accepted, including spaces. The Editorial Board is allowed to propose changes to the author’s title.
- 2) **First and last names:** of each of the authors, organized in order of priority. Maximum three authors are accepted per original paper, although justified exceptions may be allowed, based on the theme, complexity, and length. The names are to be followed by the professional category, workplace, each author’s email address and ORCID number. It is mandatory to include whether the author has a doctorate degree (Dr. before the name).

- 3) **Abstract (Resumen, Spanish) / Abstract (English):** This section can contain a maximum of 230 words, first in Spanish and then in English. The abstract shall concisely contain the following, and in this order: 1) Justification of the theme; 2) Objectives; 3) Methods and sample; 4) Main results; 5) Main conclusions. It should be written impersonally “This paper analyzes...” In the abstract, automatic translation is not accepted due to its poor quality.
- 4) **Keywords (descriptores, Spanish) / Keywords (English):** Six keywords are to be included for each language, and must be directly related to the paper’s theme. This requirement shall be scored based on whether the keywords can be found in the UNESCO Thesaurus.
- 5) **Introduction and State of the Question:** The section proposes the question, the context of the issue surrounding it, justification, basis, and proposal for the study, using bibliographic references, including the most important up-to-date literature on the theme, both nationally and internationally.
- 6) **Material and Methods:** This is to be composed in such a way that the reader can easily understand how the research was performed. As appropriate, describe the method, sample, sampling, and refer to the type of statistical analysis used. If it is an original method, present the reasons for applying it, and describe any possible limitations.
- 7) **Analysis and Results:** This section should seek to highlight the most important observations, and without including any value judgments, describe the methods used. Throughout the text, essential tables and figures shall be included in a logical sequence, without repeating any data.
- 8) **Discussion and Conclusions:** This section summarizes the most important findings related to any observations from relevant studies, pointing out contributions and limitations, without repeating data from other sections. The discussion and conclusions paragraph is to include inferences and new lines of research for the future.
- 9) **Contributions and acknowledgment (optional):** The Science Editors Board recommends that the author(s) specify the financing source for their research. Priority shall be given to work endorsed by competitive national or international projects. Regardless, for the manuscript to be scientifically evaluated, it is to be anonymized with an XXXX only for the initial evaluation, in order to avoid identification of any of the authors or research teams, which are to be named in the Cover Letter and later, in the final manuscript.
- 10) **Notes (optional)** are included, only if necessary, at the end of the article (before the references). They are to be included manually, since the Word footnotes are not recognized by the layout systems. Note numbers are to be included using superscript, both in the text and in the final note. Notes including simple bibliographic references (without comments) are not allowed, since these are supposed to be included in the references.
- 11) **References:** Bibliographic references are to follow the text references. Under no circumstances should references be included that have not been cited in the text. There should be enough references in order to contextualize the theoretical framework, and be based on criteria of contemporary relevance and importance.

They are presented alphabetically, according to the author's last name (if the last name has more than one word, based on the first word of the last name).

### 3.2. Rules for references

#### *Periodical publications*

**Journal article (one author)** Valdés-Pérez, D. (2016). Incidencia de las técnicas de gestión en la mejora de decisiones administrativas [Impact of Management Techniques on the Improvement of Administrative Decisions]. *Retos*, 12(6), 199-2013. <https://doi.org/10.17163/ret.n12.2016.05>

**Journal article (up to six authors):** Ospina, M.C., Alvarado, S.V., Fefferman, M., & Llanos, D. (2016). Introducción del dossier temático “Infancias y juventudes: violencias, conflictos, memorias y procesos de construcción de paz” [Introduction of the thematic dossier “Infancy and Youth: Violence, Conflicts, Memories and Peace Construction Processes”]. *Universitas*, 25(14), 91-95. <https://doi.org/10.17163/uni.n25.%25x>

**Journal article (more than six authors):** Smith, S.W., Smith, S.L. Pieper, K.M., Yoo, J.H., Ferrys, A.L., Downs, E.,... Bowden, B. (2006). Altruism on American Television: Examining the Amount of, and Context Surrounding. Acts of Helping and Sharing. *Journal of Communication*, 56(4), 707-727. <https://doi.org/10.1111/j.1460-2466.2006.00316.x>

**Journal article (with no DOI).** Rodríguez, A. (2007). Desde la promoción de salud mental hacia la promoción de salud: La concepción de lo comunitario en la implementación de proyectos sociales. *Alteridad*, 2(1), 28-40. (<https://goo.gl/zDb3Me>) (2017-01-29).

#### *Books and chapters of books*

**Complete books:** Cuéllar, J.C., & Moncada-Paredes, M.C. (2014). *El peso de la deuda externa ecuatoriana*. Quito: Abya-Yala.

**Chapters of a book:** Zambrano-Quiñones, D. (2015). *El ecoturismo comunitario en Manglaralto y Colonche*. En V.H. Torres (Ed.), *Alternativas de Vida: Trece experiencias de desarrollo endógeno en Ecuador* (pp. 175-198). Quito: Abya-Yala.

#### *Electronic media*

Pérez-Rodríguez, M.A., Ramírez, A., & García-Ruíz, R. (2015). La competencia mediática en educación infantil. Análisis del nivel de desarrollo en España. *Universitas Psychologica*, 14(2), 619-630. <https://doi.org/10.11144/Javeriana.upsy14-2.cmei>

All reference that have a DOI (Digital Object Identifier System) must be included in the References (which can be obtained at <http://goo.gl/gfruh1>). All of the journals and books that do not have a DOI are to appear with a link (to the online version, if available, shortened using Google Shortener: <http://goo.gl>) and the date of query in said format.

Journal articles are to be listed in English, except for those that are available in Spanish and English, in which case, both languages are to be included in brackets. All internet addresses presented are to be shortened in the manuscript, except for the DOI, which are to be included in the established format (<https://doi.org/XXX>).

### ***3.3. Epigraphs, Tables, and Graphs***

The epigraphs in the article's body are in Arabic numbers. These are to avoid all capital letters, underlining, or bold text. Numbering should use maximum three levels: 1. / 1.1. / 1.1.1. A carriage return is to be used at the end of each epigraph.

Tables are to be included in the text in Word format, according to their order of appearance, with Arabic numbering and captioned with a description of their content.

Graphics or figures should be kept to a minimum and incorporated into the text, in accordance with their order of appearance, with Arabic numbers and captions with a short description. Quality should be no less than 300 ppp, if necessary, using TIFF, PNG, or JPEG formats.

## **4. Submission process**

The papers are to be submitted in two files through the journal's OJS system:

- 1) **Cover letter and title page**, which includes the title in Spanish and English, first and last names of the authors (standardized format) with ORCID number, abstract in Spanish and English, keywords in Spanish and English, and a declaration that the manuscript constitutes an original contribution that has not been sent for evaluation in another journal, confirmation of the authorship, acceptance (as the case may be) of formal changes to the manuscript according to the rules, and partial transfer of copyright to the publishing house (use the official format).
- 2) **Completely** anonymized manuscript in accordance with the preceding rules.

All authors are to register on the OJS platform, even if only one of them will be in charge of correspondence. No author can submit two manuscripts simultaneously, with a penalty of not being able to participate in four consecutive editions (2 years).