

Cancún, Emergent City: A Proposal to Apply the Balance Scorecard Model as a Method to Evaluate Sustainability and Quality of Life

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The concept of emerging city, introduced by the IDB, has allowed this institution to promote the evaluation of sustainability and quality of life through 120 indicators that measure: climate change and environment; integral urban development; fiscal and governance. The purpose of this work, in its first phase, is to propose the Balance Scorecard as a method to evaluate these indicators, plus the 32 tourism indicators of the researcher Ledger Brenner. The city of Cancun has a population of almost one million inhabitants, hosts almost 5 million tourists per year and shows an important economic and urban growth. This city requires sustainable growth that can be evaluated so that the parties that interact in its territory: citizens, authorities, tourism economic agents and tourists are aware of it. In the second phase of this research project, it is proposed to measure the 152 interconnected indicators to calculate a sustainability and quality of life index that can publish its results on a freely accessible platform on the web.

Keywords: Cancún, sustainable, valuation, indicators, balance scorecard

INTRODUCTION

The Inter-American Development Bank (IDB) has created the concept, in the Latin American and Caribbean region, of emerging cities, which are identified by the size of their population, ranging from 500,000 to 2,000,000 inhabitants (IDB, 2014). According to studies conducted by this institution, these cities “are characterized by high poverty rates, and therefore, their governments generally require strengthening their institutional and operational capacity, which is more urgent given the permanent scarcity of financial resources for investment and the consequent need for adequate financial management” (IDB, 2014: 2).

Another important aspect for the IDB associated with emerging cities is their rapid urban growth and economic activity. This creates opportunities for millions of people, but also presents major challenges for the region’s governments, which need to expand the provision of basic services, ensure a better quality of life, promote job creation, protect the environment and address the challenges related to climate change.

Given the significance that these cities have gained, the IDB has created an instrument to support them. Between 2010 and 2011, the IDB designed a methodology for rapid application and diagnosis that guides emerging cities in the formulation and implementation of action plans for their sustainability. In June 2012 the first edition of the ICES Methodological Guide¹ (Emerging Sustainable Cities Initiative) was launched and in 2014 the second edition, where this support is emphasized.

Now, from 2012 to 2014 this tool has been tested in 40 cities and 15 action plans have been developed, its application has enriched the methodological process, facilitating its improvement and deepening. The ICES allows cities to present information related to sustainability and quality of life in three sustainability dimensions: Climate Change and Environment; Comprehensive Urban Development; and Fiscal and Governance. These three dimensions are subdivided into 23 themes and 59 sub-themes, the latter are measured through 120 indicators (IDB, 2012).

The purpose of this paper is to propose the application procedure of the ICES Methodology Guide to evaluate sustainability and quality of life in an emerging city such as Cancun; with the addition of the 32 indicators of Brenner, L. (1999), which measure tourism sustainability; using the strategic and operational structure of the Balance Scorecard.

In a second phase of this research, the purpose will be to carry out the measurements proposed here and make the results of the evaluation available on a digital platform, with free access, on the web so that it can be consulted. The result of this work, in its two phases, is intended to be shown to the authorities of the Municipality of Benito Juarez, to promote public policies and actions for the management of sustainability and quality of life in Cancun.

In both phases, the central part of this work is the use of a management tool such as the Balance Scorecard (BSC) for the strategic management and monitoring of sustainability and quality of life in Cancun in its four dimensions, themes, sub-themes and 152 indicators. This is an instrument that has already been used for social purposes in countries such as Brazil and specifically in the area of sustainability in Europe, where the Balanced Scorecard (BSC) is used, an instrument similar to the BSC.

Reference Framework: Cancun Emerging City

The city of Cancun, in the municipality of Benito Juarez, is located in the northern part of the state of Quintana Roo, Mexico. It is a city with a rapid population, urban and economic growth. Its population grew from 33 273 inhabitants in 1980 to 668 306 in 2010 (H. Ayuntamiento de Cancún, 2012), and according to figures from the National Population Council for 2016 it had approximately 764 845 inhabitants (CONAPO, 2017). The municipality has an area of 1,664 km² and occupies 3.27% of the state's territory (Cupul and Salazar, 2009).

Cancun is a destination that was born 46 years ago and has become the main sun and beach tourist destination in Mexico with an annual attraction of 4,761,482 tourists and an annual economic revenue of 4.7 billion dollars (SEDETUR, 2016).

The development model with which Cancun was conceptualized was based on an extensive study of carrying capacity that was evaluated according to the necessary infrastructure, based on a certain number of rooms and population size in the center of the population; towards a 30-year horizon. It was the first tourist zone to have a master development plan that would give life to the Integrally Planned Centers in Mexico, with an innovative vision for the moment due to having contemplated a sustainable and balanced tourist pole with interesting employment and investment opportunities, always in harmony with the natural environment.

The motivation for this research is due to the fact that Cancun, like any other city with accelerated population and economic growth, suffers from social and environmental problems that involve the whole society and all the actors in its territory.

Theoretical Framework: Territory and Its Management

The concept of territory comes from far away, Kasai, Y. (1975:2) affirms "that its study belongs to geography since very remote times, only that it has changed with time". Universal geography, postulated by Von Richthofen in the 19th century, has as its object of study the terrestrial surface, understood as

territories located in countries or in large regions of the world. The science proposed to study the terrestrial surface in two ways: the descriptive one, with its natural elements: lithosphere, hydrosphere and atmosphere, denominating this approach as the geography of the landscape. And from a second approach, called territorial, understanding the territory as a space where organisms: man, plants and animals interrelate with each other and their environment. The study of the territory is the analysis of man's relationship with five other elements; three already mentioned, plus the natural and organic ones (Kasai, Y., 1975).

The geography of the territory, also called regional geography, as the researcher Ortega, V. calls it, "is a geography product of the 20th century, whose object of study is the region or territory and its objective is to identify geographic units, characterize them and explain them in relation to the interaction of the existing conditions with the human groups living in them" (2000: 465).

For Bozzano, H. (2009:4) "a territory goes beyond the physical,² because it has to do with both the continent (territory) and the content. The continent is basically composed of the physical, while the content is occupied by the different social, economic, governmental and environmental (flora and fauna) actors existing in the territory; observing how these actors interrelate with each other".

The geography of the territory is a geography of space, which allows the analysis of how the relationships of the different human groups existing in that territory are organized with their economic, social, political and environmental surroundings. The territory, thus conceived, is a space of social, political, cultural, economic, technological, local or global relations, that is, from an integrative approach, which is synthesized with the participation of the actors existing in it (Cuadra, 2014). This allows it to be shown "as a holistic and systematic demarcation tending to the projection on a given space of the specific structures of a human group, including the mode of division and management of space, the ordering of that space" (Brunet, R., R. Ferras y H. Thery, 1993, citado en Blanco, J., 2009:42).

Thus, the territory is the space of governance of the nation, it is the starting point of people's existence. Other territories produced by social class relations are constituted in it. Non-capitalist private, family or community properties. Capitalist properties constitute the second territory (Fernandes, 2009). This is how it states Cuadra, D., Lucca, A., Tabora, M., Romero, L. (2015), the concept of territory is associated, firstly, with the notion of concrete space belonging to a State, province or municipality, i.e., depositary of the territory has physical, political, legal, institutional and demographic dimensions, and in this sense is how a frame of reference of the social, economic, environmental territory and its interrelationships is given. A territory is a city, a country with its contents and its interrelationships.

Sustainability Management

The evaluation of the sustainability of the territorial system must involve monitoring the behavior, product of the interaction of all social, economic, environmental and governmental actors. This evaluation of the sustainability of territories has had in the UN (United Nations Organization) its main promoter, both at the level of nations (Paris Agreement, 2015), and at the level of cities, where this organization has promoted, since 1990 the implementation of sustainability programs. Sougareva and Holec (2000) mark the years 1990, 1993, 1996 and 2000 as the most important years in which the UN has promoted the adoption of sustainability assessment worldwide, being the cities of the European continent the most advanced in this sense, as follows:

1. In 1990, the United Nations Center for Human Settlements launched its "Sustainable Cities" program to improve the environmental planning and management capacity of municipal authorities in developing countries. And two years later, in 1992, the UN organized the Conference on Environment and Development in Rio de Janeiro, which was instrumental in giving both local authorities and NGOs (Non-Governmental Organizations) a voice in UN conferences on the subject.
2. In 1993, the European Commission created the Group of Experts on the Environment, with a commitment to Sustainable Cities. By October 1994, this group presented its first report on "Sustainable European Cities". It recommends the development of comprehensive management strategies that include not only the environment but also key areas such as: the

economy, urban planning, environmental planning, mobility and access; as well as other more sectoral policy areas.

3. In October 1996, at the “European Sustainable Cities” conference held in Lisbon, Portugal, the topic of governance was included, on how to govern cities, and where other actors, other than local authorities, were also allowed to express their views. Subsequently, in the course of the preparatory meetings for the third European Sustainable Cities Conference to be held in Hanover, Germany, in 2000, it was decided to propose a Balanced Scorecard (BSC)³ as the tool for measuring sustainability through the use of indicators.
4. At the Hanover conference in 2000, the decision to use the Dashboard for sustainability assessment, in a broad sense, in European cities was confirmed. Among the first cities to use the TMI was Paris⁴ (Mairie de Paris, 2010), which set its objective on the sustainable development of the city and that of using a Dashboard with 4 axes of reference: the organization responsible for the assessment; the urban framework (urban spaces, housing, safety, coexistence, etc.); responsible environmental management (waste management, pollution, noise, preservation of biodiversity and natural spaces, etc.); and social cohesion and economic diversity (employment, unhealthiness, housing, proximity services, etc.).

At the Latin American level, there is no Sustainable Cities program similar to the European one, however, the IDB, being an economic and financial institution, has been promoting and economically encouraging, since 2010, the program: Emerging Sustainable Cities Initiative, ICES, which in its second edition (ICES-IDB, 2014) states in its introduction the following:

The Emerging and Sustainable Cities Initiative (ICES) is an institutional proposal of the Inter-American Development Bank (IDB) that seeks to support, with a multisectoral vision, the emerging cities of LAC in their efforts to improve the quality of life of their citizens. The immediate objective of this proposal is to contribute to sustainability in three dimensions: environmental, urban, financial and governance, in the cities of the region.

The environmental dimension includes issues such as air and water quality, mitigation of greenhouse gas emissions, adaptation to climate change, reduction of vulnerability to natural disasters, and coverage of public services. The urban development dimension considers the physical, economic and social aspects of urban development. The financial and governance dimension addresses the characteristics of good governance, including transparency, public participation and results-oriented management, as well as reliable city practices such as cost recovery, debt management and public investment. These three dimensions are subdivided into 23 themes, which in turn are subdivided into 59 sub-themes, and these are derived from the 120 indicators, which are specified in the methodological section of this paper.

Given that the ICES do not contemplate a dimension for cities with a tourist vocation, as is the case of Cancun, it was considered necessary and important to include a fourth dimension in this sense. For this purpose, several methodologies of different authors, basically European, were evaluated; the Tourism Sustainability Evaluation Model of Ludger Brenner, L. (1999) was chosen. His model was selected because empirical evidence already exists. The author applied it in the city of Ixtapa-Zihuatanejo, state of Guerrero, Mexico; “a city that in many ways is similar to Cancun; it is in the Mexican Republic; it is an integrally planned tourist destination”⁵ (Dávila, 2009:1), just like Cancun, and which was born on the same dates as Cancun.

This model is based on 32 indicators, distributed in three axes of analysis: ecological, economic and social. Likewise, this model uses indicators with reference values, the same method used by ICES. Thus, in our work, the evaluation is made in 4 dimensions: environmental, urban, fiscal and governance, and tourism, which is also necessary for the use of the BSC.

Sustainable Development and Quality of Life

Jeffrey Sachs (2015) argues that sustainable development seeks to build a world where economic progress is widespread and extreme poverty is eliminated; where social trust is sustained by public policies

that seek to strengthen communities where the environment is protected from human environment is protected from the same human.

In order to address these problems, it is necessary to have a holistic approach, that is, it is necessary to work with all dimensions at the same time, including an important factor for its implementation: governance, as stated by the United Nations General Assembly at the Rio+20 Summit:

We also strongly reaffirm the need to achieve sustainable development by promoting sustained, inclusive and equitable growth, creating greater opportunities for all, reducing inequalities, improving basic living standards, fostering equitable social development and inclusion, and promoting the integrated and sustainable management of natural resources and ecosystems, which contributes, inter alia, to economic, social and human development, while facilitating the conservation, regeneration, restoration and resilience of ecosystems in the face of new and emerging challenges (United Nations General Assembly, 2012, p. 1).

At the end of the day, to speak of a developed city would imply not only that it is economically prosperous, but also socially inclusive, environmentally sustainable, and well governed (Sachs, 2015)

So, if we start from the idea that the concept of development is a multidimensional concept and that it has always been linked to the concept of well-being (Ordoñez Tovar, 2014), we should ask ourselves what we call well-being-quality of life.

For the purposes of this work, the starting point is a vision of sustainability that seeks to solve human problems and that ultimately becomes a way to generate well-being and raise the quality of life of those who make up a community. It has been difficult to integrate a single definition of quality of life and well-being because they are influenced by cultural, historical and personal factors.

The first approaches to the study of quality of life came from psychology and sociology, which opened the way to two different approaches. On the one hand, there is the subjective perception of the quality of life, also called subjective well-being; and on the other, a series of quantitative indicators of an economic and social nature that serve to describe the quality of life of groups and individuals.

Given the descriptive nature of quantitative indicators and their comparability over time and between groups, this line was further developed with an economic approach centered on income. It was based on the idea that higher income would directly generate a better quality of life.

However, the same data began to indicate that the correlation did not necessarily occur in this way. Then, other data such as educational level or access to health services began to be integrated to better understand the realities, as well as subjective assessment scales to measure people's satisfaction (Ochoa León, 2008).

The publication of the Stiglitz Report (2013) proposed a series of categories that should be taken into account to measure the well-being of the population, which would require a multidimensional definition:

TABLE 1
CATEGORIES FOR MEASURING WELL-BEING ACCORDING TO THE
STIGLITZ REPORT

1. Material living standards (income, consumption and wealth).	5. Political voice and good governance
2. Health	6. Social connections and relationships
3. Education	7. Environment (present and future conditions)
4. Personal activities, including work	8. Insecurity, economic and physical in nature

Source: Own elaboration.

At the international level, several indexes have been developed to measure quality of life, the underlying theories of which vary widely. Some of the indexes created are:

TABLE 2
INTERNATIONAL INDEXES THAT MEASURE QUALITY OF LIFE

Index of Social Health	American Demographics Index
Genuine Progress Index	Index of Economic Welfare
Philippines' Weather Station (Social Weather Station, Development Academy of the Philippines)	Reality Check Survey (South Africa)
Veenhoven's Happy Life Expectancy Scale	Cummins' Comprehensive QOL Scale
Oregon Benchmark Study	Virginia QOL Annual Survey
Netherlands' Living Conditions Index (Social and Cultural Planning Office)	Sweden's ULF Survey (Statistics Sweden)
Germany's Social Indicator System (Center for Survey Research and Methodology)	Global Index of Social Progress (Denmark)
Living Conditions in the Arctic, Greenland (Statistics Greenland)	

Source: Own elaboration.

The most widely used at the international level today are the Human Development Index (HDI) of the United Nations Development Program (UNDP) and the measurement of well-being of the Organization for Economic Cooperation and Development (OECD).

The UNDP Human Development Index presents an alternative measurement based on income, life expectancy and education indicators.

OECD (2015) presented a proposed multidimensional well-being measurement covering different aspects of life, which range from civic engagement to housing, from household income to work-life balance, and from competencies and skills to health.

In the case of Mexico, most of the approaches have been quantitative, with objective indicators that seek to describe the living conditions of the population:

- Marginalization index of the National Population Council (CONAPO), which states that marginalization is expressed, on the one hand, in the difficulty of spreading technical progress throughout the productive structure and regions of the country and, on the other hand, in the exclusion of social groups from the development process and the enjoyment of its benefits (INEGI, Indices of Marginalization 2000, 2001). It evaluates four dimensions: housing, labor income, education and population distribution, included in nine indicators.
- Index of Deprived Masses in the Fiscal Coordination Law: identifies households that do not meet their basic needs in terms of income, education, housing space, drainage and fuel used (Ochoa León, 2008).
- Poverty Index of the Ministry of Social Development: provides information on the socioeconomic characteristics of the members of the families, the characteristics of their homes and the assets they own to identify the households that are eligible to receive the support called Monetary Transfers, corresponding to the programs of the Education, Health and Food Program (PROGRESA), now PROSPERA (Ochoa León, 2008).
- Social Gap Index of the National Council for the Evaluation of Social Development Policy (CONEVAL): it is based on the social rights included in the General Law of Social

Development (LGDS); therefore it includes indicators of household assets, education, access to health services and social security, housing quality and spaces and basic services in housing (Ochoa León, 2008).

On the other hand, and influenced by the OECD, Mexico also measures well-being through the Index for a Better Life (INEGI, Indicadores de Bienestar por entidad federativa, 2017b). This presents 35 indicators grouped into broad categories such as: housing, income, employment, community, education, environment, civic engagement, health, satisfaction, safety, and work-life balance.

To take subjective indicators into account, INEGI (2017a) has developed a subjective measurement of well-being based on the design of the BIARE (Bienestar Autoreportado) modules, which accompany the Institute's household surveys, with the intention of having a more comprehensive understanding of individuals and society, as well as the impact of public policy on the way they experience their lives.

For the purposes of this proposal, the following indicators will be taken into account as elements for measuring quality of life. Below is a comparative table between the proposals of the IDB (2014), Brenner (1999) and the OECD (2015)

TABLE 3
INDICATORS PROPOSED BY THE PROJECT AND OECD INDICATORS

<i>Subject</i>	<i>IDB/Brenner</i>	<i>OECD</i>
Housing	Water coverage	Rooms per person and dwellings with basic services Inadequate water supply and sewage services
	Water use efficiency	Inadequate water supply and sewage services
	Water supply service efficiency	Toilet
	Sanitation coverage	Expenditure on housing
	Effectiveness of drainage	-
	Solid waste collection coverage	-
	Energy coverage	-
	Housing with habitability standards.	-
Income	Poverty	Adjusted net family disposable income
	Socio-spatial segregation	Net family financial wealth
	Income inequality	-

Employment	GDP per capita	Employment rate
	Unemployment	Long-term unemployment rate
	Informal employment	Average income
	Tourism jobs	Job security
	Employment/housing ratio	-
	Respect for labor legislation	-
	Education	Educational quality
School attendance		Educational Attainment
Higher education		Student competencies
Environment	Diseases caused by water quality	Air pollution
	Air pollutant concentrations	Water quality
Civic Commitment	Citizen participation in the government's public management planning	Electoral participation
	Accountability to citizens	Stakeholder participation in the elaboration of regulations
Health	Health Level	Life expectancy
	Provision of health services	Self-reported health
Satisfaction	Level of satisfaction with tourism	Life satisfaction

Safety	Violence	Feeling of safety when walking alone at night
	Citizen confidence in security	Homicide rate
Work-life balance	Green and recreational areas	Workers with long working hours
	Access to public beaches	Time spent on leisure and self-care
Transportation	Balanced transportation infrastructure	-
	Safe transportation	-
	Affordable transportation	-
Connectivity	Internet	-
	Telephone	-
Community	-	Social support network

Source: Own elaboration.

It is clear that quality of life is related to diverse and complex elements, such as those contemplated by sustainable development. This study concentrates objective data describing living conditions, grouped mainly in the dimension of Urban Sustainability, but which are influenced by elements contemplated in the tourism, environmental and tax dimensions.

To summarize this section, it could be concluded that, on the one hand, among the main problems in measuring quality of life are the various theoretical and methodological contributions, since quality of life is a multidimensional concept that seeks to evaluate what is considered a good life and, therefore, must take into account the objective conditions of life (measured in this study), as well as subjective well-being, as determinant elements of quality of life, especially in a context of sustainable development.

METHODOLOGY

The objective of this project, in its first phase, is to propose a methodology for measuring sustainability and quality of life in the city of Cancun, which integrates into the BSC the 152 indicators, divided into the

four dimensions of the ICES Methodological Guide and those of Brenner's Tourism Evaluation Model, using the strategic, evaluation and follow-up structure offered by the Balance Scorecard.

Throughout this section we detail the BSC in its original version, as it was for eminently business purposes and which, given its strategic and operational potential, has evolved to be used now both in non-profit organizations and governmental entities. In our project we propose the necessary changes to this tool to make it possible to use it for measuring sustainability and quality of life in Cancun. As will be seen below, the four perspectives of the BSC that we propose, replacing the original four, are: the citizen perspective; the financial or fiscal and governance perspective; the process perspective driven by all tourism activities that generate value in the city of Cancun; and the learning and growth perspective related to the consumption of the city's natural resources.

These four dimensions are mutually interrelated, which is one of the virtues of the BSC, however, three of them: financial, processes and learning and growth; are different from the citizen's dimension, since the citizen is the receiver and therefore the evaluator of the first three. The first three are basically the result of public policies and their application, as well as business policies, in this case those of the tourism companies that converge in Cancun, and their impact on its population.

In this context, the information, input to achieve the integration of the 152 indicators, which are integrated in the four dimensions mentioned, except for that of the citizen by its nature, is official public information and therefore is available in websites and publications of federal, state and municipal entities such as: INEGI, CONAPO, Ministry of Economy, Government of the State of Quintana Roo, CONAGUA, the Municipality of Benito Juarez (Cancun) and others. For this methodology, these organizations constitute secondary sources of information.

In terms of obtaining information from the citizen's perspective, that is, knowledge of the incidence and evaluation of the 9 topics that make up the sustainability and quality of life of the population in Cancun, namely: Housing, Income, Employment, Education, Environment, Civic Engagement, Health, Satisfaction, Safety, Life-Work Balance, Transportation, Connectivity and Community. A cross-sectional exploratory research was designed, with a non-representative sample of 447 inhabitants, but including most of the regions and superblocks that make up the urban infrastructure of the city.

For this purpose, a questionnaire was designed with 27 questions, of which 24 are closed and 3 are open-ended. These questions were divided into 6 sections: public services; family habits; tourism; household services; income; mobility. household services; income; mobility. The questionnaire includes classification data related to: length of time of residence in Cancun, degree of studies, place of residence in Cancun, age, marital status, age of children, occupation, and those who live in the home. In fact, this research was carried out since the end of November 2017, in the different regions (neighborhoods, colonies) of the city.

The Balance Scorecard as a Methodological Tool

The Balance Scorecard (BSC) is a management control board for management that was created in 1992 by Robert Kaplan and David Norton, professors at Harvard University. In that year, these authors presented the BSC as a set of indicators that provide top management with a comprehensive view of the business. It is a management tool that translates the company's strategy into a coherent set of indicators (Kaplan and Norton, 1992, in Michela, V., 2007). Both tools, the French and the American, converge in the company's performance culture and therefore have a similar usefulness, diverging only in the cultural context (Le Gall, G., 2004).

The BSC is thus a tool whose purpose is to lead the company towards its strategic objectives by monitoring the performance of four important perspectives for the company: financial, customer, internal processes and organizational learning and company growth (Kaplan and Norton, 1996a). These perspectives are not isolated, but rather have a relationship of dependence and causality. These authors express it in the following scheme.

**FIGURE 1
STRATEGIC MAP**



Source: Kaplan and Norton, 1992, cited in Michela, V., 2007.

As can be seen, the BSC places the financial dimension at the forefront of its analysis, since it is the main indicator of a company's performance. Le Gall, G. (2004) considers that this is because in the United States there is a great culture of financial information due in large part to the weight that shareholders have in the life of companies, since they are rarely the founders of the company, they are only investors. The information on the performance of the company's shares on the stock exchange and in the pension funds is important and requires very active periodic disclosure of information.

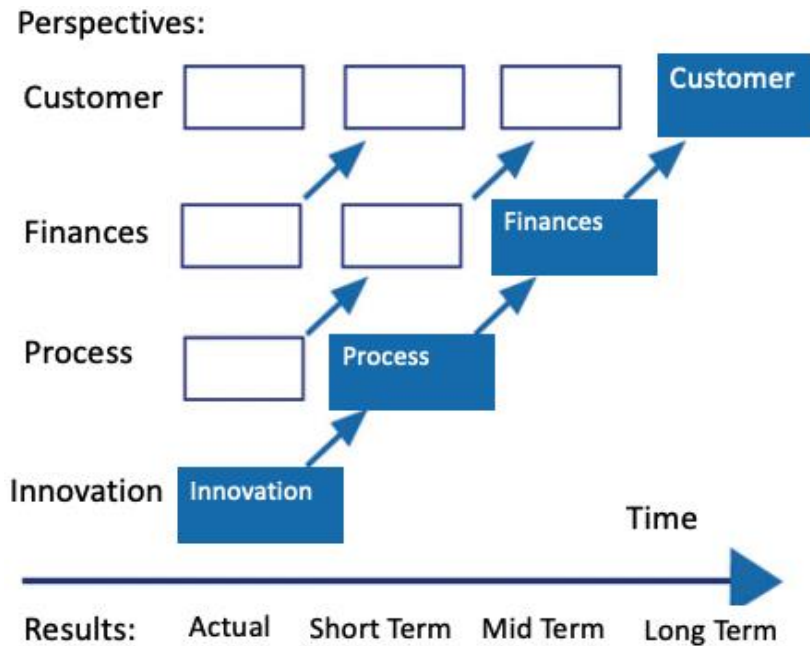
For Kaplan and Norton (1996a, in Bourguignon A., Malleret, V. & Norreklit, H., 2001:6) these four perspectives are analyzed, processed and addressed in terms of two specific audiences: shareholders and customers. The financial perspective translates into how the company wishes to be viewed by its shareholders. The customer perspective translates into how the company wishes to be viewed by its customers. The internal business process perspective describes the business processes in which the company has to be especially adept in order to satisfy its shareholders and its customers.

Likewise, Kaplan and Norton (1996a in Bourguignon et al, 2001:6) assume the following chain of causalities:

- a) Performance in organizational learning and growth (which determines) - > Performance in internal processes (and this determines) - > Performance from the customers' perspective (which determines) - > Financial performance.
- b) At the base of the four perspectives is the company's performance in organizational learning, innovation and growth to achieve changes and improvements to achieve the planned mission. Which has an impact on driving better performance of internal business processes.

For Le Gall, G. (2004), this relationship between the four perspectives is a relationship not only of causality, but also of balance and equilibrium between the short and long term, between the operational and the strategic, between what is internal and what is external to the company (Figure 2).

FIGURE 2
PERSPECTIVES AND THEIR CHAIN OF CAUSALITY OVER TIME



Source: Le Gall (2004).

For this linkage to occur, it is necessary to identify at each of the levels and areas, the main indicators of the processes that the company will control and that will give content to the scorecard itself; thus identifying, from the base, the changes and improvements that the company needs to make its strategic vision a true reality (Kaplan and Norton, 1996, in Bourguignon et al., 2001)

The BSC in Nonprofit Organizations

Robert Kaplan and David Norton, authors of the Balance Scorecard or Balanced Scorecard (BSC), designed this method exclusively for use in for-profit organizations, i.e. companies. However, this tool has now become widely used not only by large international companies, but also by public entities, such as national and municipal governments, and by non-profit organizations of civil society, such as foundations, financial organizations, etc.

For Kaplan, R. (2001:360), the BSC applied to non-profit organizations and public entities, is the result of knowing that in these organizations management control does not manifest itself in the same way as in for-profit organizations. Managers of non-profit organizations and public entities must design management control systems that guarantee the effective and efficient use of resources.

A not-for-profit organization is one whose purpose is distinct from the profit motive of its owners. In this type of organization, the decisions made by management are aimed at providing the best possible services with the resources available. The success of this type of organization is measured by the quantity of services provided and their quality, expressed by the contribution to public welfare. Controlling the use of the annual budget is a good evaluation in accordance with the program objectives, since in the course of the budget process a careful estimation of the costs per program and of the responsibilities for their execution is made, which are assigned to the individual responsibility centers.

Likewise, Kaplan and Norton (2000, 2001, in Urrea et al., 2004) consider that the main problem with approaches focused only on financial measurements is that they do not take into account that the objectives of nonprofit organizations are social. And the performance that should be measured is how effectively they

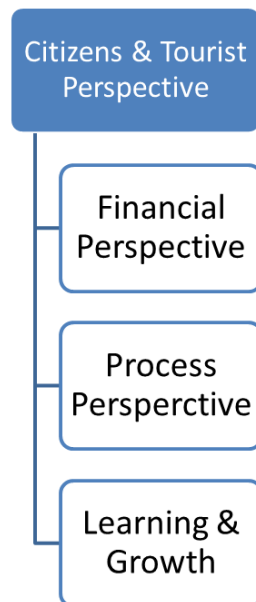
meet the needs of the target social sector. Although it should not be overlooked that financial and control indicators have a facilitating or restricting role for these companies.

For Kaplan (2010), and Kaplan and Norton (2001, in Correa and Liddle, 2009), the BSC, to be used in organizations or nonprofit projects, requires some adjustments to its methodology, but also some adjustments to the modus operandi of nonprofit organizations. Because their objectives are not related to financial performance. They propose, therefore, to place the client at the top of the strategic map instead of the financial dimension. One problem, of course, to be solved is for these entities to identify who the customer is: the donors of funds or the recipients of the social cause. To solve this, they propose to put both actors at the top of the model.

THE BSC APPLIED TO THE PROJECT: CANCUN SUSTAINABLE CITY, A PROPOSAL TO EVALUATE ITS QUALITY OF LIFE BASED ON INDICATORS

To apply the BSC method into this project, which is called Territorial Model. The proposal is to make changes in the original instrumentation originally proposed by Kaplan and Norton (1992), in relation to the four perspectives, basic and traditional structural components of the BSC, which entail a series of causality relationships in which the set of strategic objectives, actions and achievements, measured in performance indicators, are expressed. In our case, we modified these causality perspectives as follows.

FIGURE 3
INSIGHTS AND CHAIN OF CAUSALITY FOR MEASURING SUSTAINABILITY



Source: Own elaboration based on Le Gall (2004).

It is proposed that the citizen's and tourist's perspective should lead the most important position in the causal relationship of perspectives, followed by the operational processes and learning perspectives. Thus, in order to apply the BSC in the evaluation of an emerging city, such as Cancun, according to the ICES-IDB program, the following considerations or modifications to the model are made as suggested by their authors Kaplan and Norton (2001, in Correa and Liddle, 2009:357) for its application in a non-profit project such as this one, and where the indicators will not be financial, but those of ICES and Brenner.

Phase 1.- Strategic Concept

A city can be seen as a company since it has several actors among which are the citizens, the companies themselves, the government and its institutions and in the case of Cancun, being a tourist city, its visitors, whom it has to satisfy, since they are the economic engine of the destination.

Like companies, the city has financial resources that it needs to use efficiently to achieve its objectives. Likewise, it has to make a city to satisfy the needs of its customers: the citizens, and in the case of Cancun also the tourists.

Cancun measures its success by the number of tourists it receives and the jobs it generates. Whenever the success or failure of the city is analyzed, it is always thought of in terms of quantitative indicators directly related to tourism, not to the well-being of the community that lives there.

In such a way that the Mission or General Objective is “to be an ideal city to live and visit, recognized for its quality of life”. For this to be achieved, each of the participating actors must have a particular vision.

TABLE 4
PARTICIPANTS AND THEIR VISION

Participant	<i>Vision</i>
Citizens	To live in a city that provides me with a good quality of life.
Tourists	Go to a destination that meets my expectations
Natural Resources	Be a city (destination) that values its environmental resources
Government	Be a city (destination) with sufficient resources to meet the needs of my citizens and visitors

Source: Own elaboration

Cancun is a relatively young city that was born 46 years ago. Among its values, it stands out for being a resilient city that has been able to rise up after strong tragedies such as Hurricane Gilberto, Hurricane Wilma and H1N1 influenza. It is also a cosmopolitan city, which despite being a positive characteristic, has made it difficult to create its own identity.

This is part of the challenges that the city faces, since the accelerated growth that has been generated has caused a disorderly growth and not due to the absence of planning, since it was a destination conceived and planned by Mexican technicians. The TOURIST destination, Cancun, which was born in 1974, elaborated its first development plan until the eighties and since then it has been revised approximately every 10 years. The difficulty of these revisions is that they have always been contemplated with a constant modification, as it is the territorial increase and the increase of levels and densities without control, which has generated socioeconomic, territorial and environmental imbalances.

Phase 2: Objectives and Strategic Actions

Once the participants and their strategic concept of Cancun were determined, with its mission, vision and values, the next step was to look for the strategic perspectives according to the model proposed by Norton and Kaplan and how they were adjusted to the dimensions of the indicators of sustainable emerging cities that the Inter-American Bank (IDB) manages, and which were the main indicators with which we would work. The following table summarizes the reinterpretation of Norton and Kaplan’s model.

**TABLE 5
PERSPECTIVES OF THE TERRITORIAL BALANCE SCORECARD⁶**

<i>Perspective</i>	<i>Description</i>	<i>Objectives in the Kaplan</i>	<i>Objectives for Cancun</i>	<i>Indicators in Major ICES-IDB-Brenner* topics</i>	<i>IDB dimension for Cancun</i>
Client Results for the city (Workers, society, entrepreneurs, government and tourists)	Relationship that exists with customers. That in the case of a city the clients are the citizens and in the specific case of a tourist city the clients are the citizens and the tourists that visit the entity.	“To acquire our target how should we appear before our customers”	“To achieve our overall objective, how should we appear to citizens and tourists?” Customers: citizens and tourists	1. Land use 2. Urban inequality 3. Mobility/transportation 4. Economic competitiveness 5. Employment 6. Connectivity 7. Education 8. Security 9. Health	Urban sustainability. Based on the welfare of our citizens. How the city should be maintained or found
Financial Results based on an adequate management of resources	Adequate functioning of the money the company has to work with. In the case of a city, what is evaluated is the use that the government gives to its income. In other words, the proper functioning of the government.	“To be successful how we should appear to our partners.”	“To be a city financially successful how we should appear to our citizens”	1. Participatory public management 2. Modern public management 3. Transparency 4. Taxation and autonomy 5. and financial autonomy 6. Expenditure management 7. Debt management	Financial sustainability and governance. Economic results for the city.

Processes	Evaluates the value-generating processes. That is, the internal processes of the business and the business driver. In the case of a tourist city, this “driving” sector is tourism.	“To satisfy our partners and customers in which business processes we should excel.”	“To satisfy our citizens and tourists in what business processes we must excel in the tourism market.”	<ol style="list-style-type: none"> 1. Operational process – tourists’ opinion. 2. Operational process - local population. 3. Social and regulatory process - employment generated by tourism. 4. Administrative process - tourism indicators. 	<p>Tourism sustainability.</p> <p>Driven by the city’s primary processes and activities: tourism.</p>
Growth and learning	Here the elements of interest are the resources. For a company, the greatest resource is the “human resource”, but in a sun and beach tourist destination, natural resources are a fundamental pillar together with the human resource it has	“To satisfy our target we will sustain our ability to change and improve.”	<p>“To satisfy our target how will we sustain our ability to change and improve?”</p> <p>How in our environment sustain the ability to change and improve?</p> <p>The natural resource and the human resource through training and awareness of caring for it.</p>	<ol style="list-style-type: none"> 1. Water 2. Sanitation and drainage 3. Solid waste management 4. Energy 5. Vulnerability to natural disasters and climate change 	<p>Environmental sustainability.</p> <p>Natural resource consumption indicators.</p> <p>Built on the basis of development: Natural resources.</p>

Source: Own Elaboration.

The Strategic Perspectives of the BSC

In Kaplan and Norton’s model all the actors are interrelated at the time of the strategies, in the territorial model proposed here for Cancun emerging city, these perspectives are also connected, as shown in the following Figure.

FIGURE 4
STRATEGIC MAP FOR CANCUN TERRITORIAL MODEL



Source: Own elaboration based on Kaplan and Norton, 1992.

Strategic Perspective

In this instrument of control, of a territorial nature, what is at the forefront is the urban, which is where the achievements that lead to the improvement of the city for the use and enjoyment of those who inhabit and visit it are observed, that is to say, the citizens and tourists, who are the clients, become the dominant factor. It is from them that the mission and vision are established, as well as the objectives to achieve this vision.

Client  *Urban Sustainability*

A company seeks to satisfy its customers in order to achieve its objective of maximizing its profitability, success with customers that will show the proper functioning of money to be financially successful.

But in a city or territory the client comes to take the place of the citizen and in the case of a tourist destination, it is necessary to include the tourist who also makes use of the services provided by the city. So that what is evaluated here as a final result is the control of growth and the improvement of the human habitat.

Among what is sought to be measured in this section is the good functioning of sustainable urban transportation; competitive and sustainable local economic growth and the provision of high-level social services and social cohesion, given that what is sought as the ultimate objective is not the maximization of profits but to be an ideal city to live in and visit that is recognized for its quality of life, this dimension being the ultimate fi of the model.

Shareholders  *Fiscal and Financial Governance*

Being the ultimate goal to be recognized as an ideal city to live and visit, the Fiscal and Financial governance perspective aims to respond to the needs of customers who are the citizens and tourists, since

it is where financial resources are managed and where the appropriate mechanisms of government, revenue management, expenditure management and indebtedness and fiscal obligations are evaluated.

Internal Processes *Tourism Sustainability*

The original model analyzes the processes within the company to determine their efficiency. This section measures operational management processes, sales, product innovation and regulation.

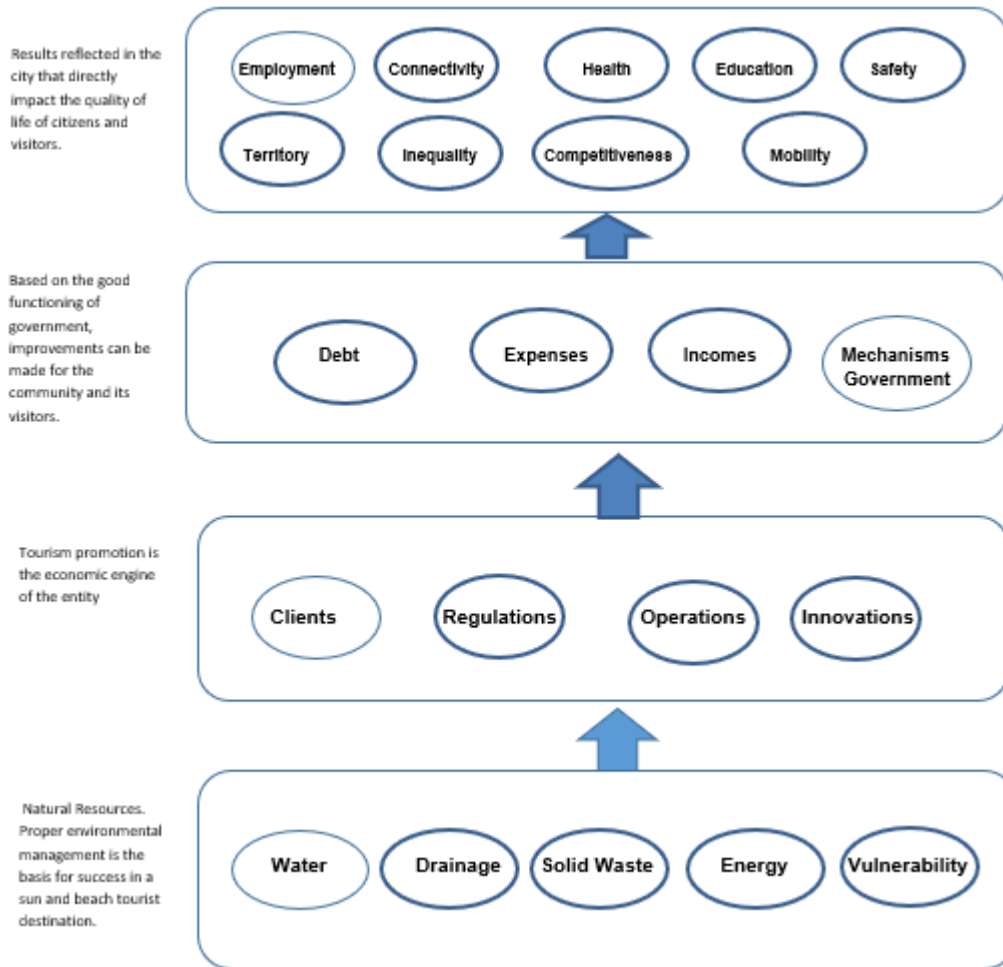
In the territorial model, it was decided that this segment should be tourism, given that this is the economic driver of the destination and almost the *raison d'être* of the city, since nearly 70% of the inhabitants work in a sector directly or indirectly related to the tourism sector (Mc Coy, 2015). The variables evaluated in this section are tourism indicators such as the level of tourist satisfaction, the proportion of tourists in places of interest, repeat tourists, the level of satisfaction of the local population, infrastructure, tourist arrivals, income generated by tourism, hotel occupancy, tourism-related jobs, commercial jobs related to tourism.

Growth and Development *Environmental Sustainability*

One of the dimensions is that of growth and development, whose objective is to evaluate how to sustain its ability to change and improve within the company in order to position and maintain itself in the market, focusing its work on organizational culture, leadership and teamwork, among others.

In the territorial model, in a tourist destination such as the one proposed, the environmental segment is equivalent to this perspective, given that in a sun and beach destination the main attraction is nature and therefore, it is important to take care of it, at the same time creating awareness of the need to maintain this natural resource. This section evaluates the management of the environment and consumption of natural resources. The natural resources measured are water; sanitation and drainage; solid waste management and energy. Given that it is located in an area prone to hurricanes, it was also decided to measure vulnerability to natural disasters in the context of climate change.

FIGURE 5
STRATEGIC MAP - CAUSE-EFFECT RELATIONSHIPS



Source: Own elaboration based on Kaplan and Norton, 1992.

CONCLUSIONS

Cities, being composed of human beings, are living entities that are constantly developing and transforming, hence the need to generate Urban Development Plans and Ecological Land Management Programs, among other control instruments. However, the efficiency of these plans and programs, as well as economic programs, are transversal to several governmental entities, as well as to several governments, which makes it important to have new instruments that, in an integral manner, are capable of measuring the performance of the fundamental areas that make up a city and thus know specifically where the strengths and weaknesses of the entities are in order to take early action measures, always prioritizing the well-being and quality of life of the population.

From this arises the proposal to generate a platform for administrative use to be applied to the territory of a city like Cancun, the first tourist center that once stood out for its high level of planning and that, with the passage of time, has lost it due to excessive growth, surpassing the authorities.

Urban economics is an area of this discipline that forces to study what is happening in the entity with the social and economic actors, the tool proposed in this article is an option to know these impacts and thus, to know how this dimension has been affected by the growth of urban agglomeration.

The development of the methodological proposal implied the formation of discussion groups in order to integrate the IDB dimensions to the BSC perspectives, especially to define what would be the base perspective and what would be the mission and vision of a city. It also led to a critique of the instrument itself in relation to strategic planning and the relationships between all the perspectives.

Regarding the application, we have found strengths and weaknesses. Among the former is the enormous value of identifying relationships between the dimensions, especially when historical data is available, which will make it possible to establish correlations between indicators and generate proposals for practical changes for the city.

The fact that it can be easily visualized through the dashboard developed from the methodological proposal is also considered valuable. An easy visualization of the indicators and their values provides an understanding of the measured reality, as well as decision-making for action.

Among the difficulties encountered are the need to obtain reliable data. That is, although we work with official databases, these sometimes differ according to their origin. For example, INEGI and CONAPO do not always coincide with their data on population or housing conditions.

On the subject of information, there were also limitations on data that only the hotel chains have, which can make it difficult to give the correct follow-up to the tourism dimension of the model.

Despite all this, it is found that the evaluation of sustainability and quality of life is an opportunity that takes advantage of the availability of the indicators proposed by the IDB, by Brenner and to use such a powerful tool as the BSC Dashboard, which would make Cancun the first tourist city to disseminate its indicators, and could have a positive impact on its population.

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ENDNOTE

- ¹ The ICES Methodological Guide is a program to assist the governments of intermediate cities in LAC with high population and economic growth dynamics. This rapid assessment program makes it possible to identify, organize and prioritize short-, medium- and long-term infrastructure projects, as well as to define urban, environmental, social, fiscal and governance projects and proposals to improve the quality of life in Latin American cities and achieve greater sustainability.
- ² A territory is not only a neighborhood, a city, a region or a country, but a neighborhood and its life in someone, a city and its life in someone, a region and its life in someone, a country and its life in thousands or millions of actors who appropriate it, occupy it, use it, value it, exploit it, degrade it, preserve it, and so on.
- ³ The Integral Scorecard (ISC) is the historical predecessor of the BSC, which is defined as a tool for the evaluation of a company or a project, which is made up of various indicators and its performance at a given time. This tool makes it possible to visualize in a simple way the result of evaluating a large number of indicators and their differences with respect to previous periods and with respect to previous years. differences with respect to previous periods and with respect to target indicators.
- ⁴ Document: Un aménagement durable pour Paris, Alcaldía de Paris, 2010, disponible en http://www.hqegbc.org/plugins/fckeditor/userfiles/file/Ateliers10_Quartiers_VilledeParis_.
- ⁵ Mexico is currently one of the few countries in the world that projects tourism from the State. To fulfill this function, it created the National Fund for the Promotion of Tourism (FONATUR), which planned and developed (between 1974 and 1984) five coastal tourist enclaves throughout the country, focusing on sun and beach tourism as an economic reactivator.
- ⁶ Due to its dimensions, this table is written in font size 10.

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