IESE Business School
University of Navarra

Center for Globalization and Strategy

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Cities in Motion - Index 2014

About Us

IESE Cities in Motion Strategies is a research platform launched jointly by the Center for Globalization and Strategy and the Department of Strategy of the IESE Business School.

The initiative unites a worldwide network of experts on cities and specialized private companies with local administrations from around the world with the objective of developing valuable ideas and innovative tools that can lead to more sustainable, smarter cities and promote changes at the local level.

The platform's mission is to promote the model of Cities in Motion, which includes an innovative approach to the governance of cities and a new urban model for the twenty-first century based on four main factors: a sustainable ecosystem, innovative activities, equality amongst people and a well-connected territory.

Sponsors

Work Team

Academic Team

Professor Pascual Berrone, Schneider Electric Professorship of Sustainability and Strategy

Professor Joan Enric Ricart, Carl Schroeder Professorship of Strategic Management

Carlos Carrasco, research assistant

Roger Ricart, research assistant

Consulting Team

Juan Manuel Barrionuevo, President of the advisory board of the IESE Cities in Motion platform

Technical Team

David Augusto Giuliodori, Econfocus Consulting

Franco Boneu, Econfocus Consulting

María Andrea Giuliodori, independent researcher

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Foreword

It is a pleasure for us to be presenting the first edition of our Cities in Motion Index (ICIM), which attempts to evaluate cities in terms of what we consider to be ten key dimensions: Governance, Urban Planning, Public Management, Technology, The Environment, International Outreach, Social Cohesion, Mobility and Transportation, Human Capital and The Economy.

We have taken on the challenge of creating an index of cities which is superior to those already in existence. As a result, this index is objective and broad, providing widespread coverage while guided by the criteria of conceptual relevance and statistical precision. We therefore present the ICIM for 135 cities –49 of them capital cities–, representing 55 countries, for the years 2011, 2012 and 2013.

Our index is based on empirical evidence with high explanatory power, designed for facilitating the interpretation of the forces which drive a city to achieve good performance. We trust that this report will be of great utility to mayors, urban administrators, companies which provide urban solutions and all those interest groups which have the objective of improving the standard of living of cities' inhabitants.

We view this task as a dynamic project. In this report, we are presenting a first approach, but we continue to work so that future editions of the index will contain even better indicators, greater coverage and increasing predictive value. We rely on your comments for improvement and invite you to contact the platform through our website: www.iese.edu/cim.

This report is the result of a collective effort which includes our work team, our sponsors and a large number of people who have taken part in our workshops, meetings and training programs, having selflessly provided us with good ideas and support.

We are convinced that we can live in better cities, but this will only become possible if all of the social role-players –including the public sector, private companies, civic organizations and academic institutions– contribute and cooperate to achieve this common goal. This report is the grain of sand which we would like to add.

The *Cities in Motion* Team

Introduction: The Need for a Global Vision

Now more than ever, cities require strategic planning. Only in this way can they begin to seek out paths for innovation and prioritize what is truly important for their future.

The strategic planning process must be participatory and flexible, with one central objective: to design a sustainable action plan which contributes uniqueness and notoriety to the metropolis. Just as no two companies can use the same recipe for success, each city must search for its own model based on a set of common considerations.

Experience shows that cities must avoid having a short-term viewpoint and expand their field of vision. They must frequently turn to innovation to improve the efficiency and sustainability of their services, promote communication and get both their people and companies involved in projects.

The time has come to exercise smart governance which bears in mind all factors and social role-players, with a global outlook.

It is because of this that, in recent decades, national and international entities have carried out studies with a focus on defining, creating and applying indicators to achieve various objectives, above all that of helping to perform a diagnosis of the status of cities. In each study, the way in which indicators are defined and the process for creating them are the result of each study's characteristics, the technical and econometric techniques which are best adapted to the theoretical model and available data, and the analysts' preferences. In this report, certain methodologies are highlighted with the goal of selecting those techniques which are best adapted to the ICIM study from each of them.

At present, there are a large number of "urban" indicators, though many of them have not been standardized, or they are not consistent or comparable between cities.

In the past, numerous attempts have been made to develop indicators for cities, of a national, regional and international scale. However, few have been sustainable in the medium term, because they were studies which intended to meet the specific information needs of certain entities whose existence depended on how long their financing endured. In other cases, the system of indicators depended upon the political desires of the moment, so its creation came to a halt when political priorities or authorities changed.

However, there are also indicators specifically created by international entities which seek to achieve the consistency and strength necessary to compare cities, though in most cases these indices tend to be biased or focused on one subject matter in particular (Technology, Economy, the Environment, etc.).

The ICIM was designed with the goal of building an indicator that "surmounts" these difficulties, in the sense that its thoroughness, properties and comparability, and the quality and objectivity of the information included, make it capable of measuring the sustainability of the largest world cities into the future, as well as their inhabitants' standard of living.

The ICIM will allow people and governments to understand a city's performance through ten fundamental "dimensions": Governance, Urban Planning, Public Management, Technology, The Environment, International Outreach, Social Cohesion, Mobility and Transportation, Human Capital, and The Economy. All of the indicators are combined with one strategic objective, which leads to a different type of local economic development (creating a global city, promoting an entrepreneurial spirit, innovation, etc.).

Each city is unique and exceptional. They each have their own needs and opportunities. Therefore, they must all design their own plan, which establishes priorities while remaining flexible enough to adapt to changes.

Smart cities create many different business opportunities and possibilities for cooperation between the public and private sectors. All can contribute, and therefore a networked ecosystem must be developed that involves every interest group (the people, organizations, institutions, government, universities, companies, experts, centers of research, etc.).

Working in a network provides advantages: it allows for better identification of the city's needs and those of its residents; setting common goals; establishing constant communication between different role-players; increasing learning opportunities; increasing transparency and implementing more flexible public policies. As already indicated in a report by the OECD (Organization for Economic Cooperation and Development) in 2001, a network focus ensures that local policies revolve around the people.

Private initiative also has much to gain from this system of collaboration in a network; it can cooperate with the Administration in the long term; access new business opportunities; obtain greater knowledge about the needs of the local ecosystem, increase its international visibility and attract talent.

Thanks to their technical knowledge and experience in management projects, private companies are ideal for leading and developing smart city projects, in collaboration with universities and other institutions. Moreover, they can contribute efficiency and significant savings to public-private entities.

Last of all, we must not forget that the human factor is fundamental to the development of cities. Without a participatory, active society, any strategy, no matter how intelligent and global it may be, will be destined to fail.

Beyond technological and economic development, it is the people who hold the key to making cities shift from being "smart" to "wise." That is the goal to which all cities must aspire: for the people who inhabit the city and those who govern it to put all of their talent to work in order to achieve progress.

Our Model: Cities in Motion

Experience demonstrates that cities must flee from a short-term outlook and broaden their field of view, turning more often to innovation to improve the efficiency and sustainability of their services, promoting communication and getting all of their people and companies involved in projects.

The time has come to exercise intelligent governance which takes into account all factors, with a global outlook. Through our platform, we are proposing a conceptual model based on the study of a large number of successful cases, including a series of in-depth interviews with urban administrators, businesspeople, scholars and experts who are related with urban development.

Our model proposes a series of steps which encompass everything from performing a diagnosis of the current situation to creating a strategy and later implementing it.

The first step towards being able to perform a proper diagnosis of the situation consists of analyzing the status of the key dimensions, which we describe in the following paragraphs.

Governance

The people are the point of convergence for solving all of the challenges which are faced by cities. Because of this, such factors must be taken into account as the people's level of participation, the authorities' ability to get business leaders and local role-players involved, and the application of e-Governance plans.

Public Management

These consist of the activities intended for improving the efficiency of the Administration, such as designing new types of organization and management. Within this area, great opportunities are created for private initiative, which may contribute to increasing efficiency.

Urban Planning

In order to improve the "livability" of any territory, one must bear in mind the local master plans and the design of green areas and spaces for public use, as well as making a commitment to intelligent growth. New urban planning methods must focus on creating compact, well-connected cities which have public services that are accessible.

Technology

Although cities cannot live off of technology alone, ICTs (information and communication technologies) are a part of the backbone of any society that wishes to call itself "smart."

The Environment

In terms of this dimension, the following factors are essential to cities: improving environmental sustainability through plans to fight pollution, supporting green buildings and alternative energies, efficient management of water, and policies which help counteract the effects of climate change.

International Outreach

Those cities that wish to progress must achieve a privileged place in the world. Maintaining a global outreach means improving the city's "brand name" and its international recognition through strategic tourism plans, attracting foreign investment and having representation abroad.

Social Cohesion

A concern for the city's social environment requires the analysis of factors such as immigration, the development of communities, care for the elderly, the effectiveness of the health care system, and the people's safety and security.

Mobility and Transportation

In this area, there are two great challenges in terms of the future: facilitating movement through cities, often of very large dimensions, and facilitating access to public services.

Human Capital

Any city's main objective should be to improve its human capital. Therefore, it must be capable of attracting and retaining talent, creating plans for the improvement of education, and promoting creativity and research.

The Economy

This dimension includes all those aspects which promote a territory's economic development: local economic promotion plans, transition plans, strategic industrial plans, the creation of clusters, innovation and entrepreneurial initiatives.

Indicators

Governance

Governance, a term commonly used to refer to the effectiveness, quality and proper orientation of State intervention, is represented by the following indicators in this report: the Strength of Legal Rights Index (SLR) and the Corruption Perceptions Index (CPI), the latter having been calculated by the organization Transparency International. The SLR was included with a positive bearing. It is a function which national or local States cannot delegate, whose purpose is to create the proper conditions or seek to ensure the effective fulfillment of the people's rights and those of the companies located in their territory. The perception of the fulfillment of legal rights influences every aspect of a country's or city's life, such as the business climate, incentives for investment and legal security, as well as others.

As for the Corruption Perceptions Index, it is a way to measure the quality of governance, because if society has a high perception of corruption in public bodies, it is an indication that the State's intervention is not efficient from the perspective of social economics, because public services –understood in a broad sense– bear greater costs compared to those which they would entail if corruption did not exist. Moreover, the incentives to invest or

settle in countries or cities with a high perception of corruption will be lesser than in others with low levels, thereby having a negative influence on the country's or city's sustainability. In the case of the ICIM, it is used as an explanatory indicator of the dimension of Governance, with a positive bearing, due to manner in which the index is calculated by the organization Transparency International, which assigns it a value of 0 for countries with a high corruption level, and 100 for very transparent countries.

Urban Planning

A city's urban planning involves various sub-dimensions and is closely related with a city's sustainability. Deficient urban planning leads to a decrease in the people's standard of living in the medium term, and also has a negative effect on investment incentives, because a city which is not planned or is poorly planned creates difficulties and increases the costs of logistics and employee transportation, as well as affecting other factors.

On the basis of the information available, the measurement of Improved Sanitation Facilities (ISF), which is highly correlated with urban planning, is included as an indicator in this dimension, because it can be demonstrated that deficient planning unavoidably leads to health care problems in the short and long term.

Furthermore, from an urban planning-residential point of view, a city with adequate urban planning displays few or no problems of overcrowding in households in general, because normally the housing policy, as regards estimated urban population growth, is a decisive factor in urbanization plans. For this reason, the number of Occupants per Household (OCC) was considered amongst the explanatory indicators of this dimension, with a negative bearing.

Public Management

In this report, public management is understood to be highly correlated with a city's or country's state of public finance. In this sense, public accounts have a decisive effect on the people's standard of living and on the sustainability of a city, insofar as it determines the level of present and future taxes which the people and system of production must pay; the expected increase in the general level of prices; the potential public investment in basic social infrastructure, and the incentives aimed at private investment. Moreover, if the State has a need for funds as a result of a weak public finance system, it will compete with the private sector for the funds available in the financial system, thereby affecting investment.

The indicators which represent this dimension in this report are the ratio of taxes in relation with commercial profits; the level of central bank reserves; and the level of reserves per capita. The included indicator related with the taxation system, with a negative bearing on the value of the synthetic indicator of this dimension, encompasses aspects of the status of public finance, because the greater the relative tax pressure is, the weaker a city's public accounts will become.

As for the level of total reserves, it is an indicator of the short to medium-term strength of the public finance system, its ability to deal with changing economic cycles, and the strength and sensitivity of the economic structure as regards the State.

Technology

Technology, as a dimension forming part of CIM, is an aspect of society which improves the current standard of living, and its level of development or widespread usage is an indicator of a society's achieved or potential quality of life. Moreover, technological development is a dimension which allows cities to be sustainable across time, and to maintain or expand the competitive advantages of their production system and the quality of employment. A city that is technologically outdated has comparative disadvantages with other cities, both from the perspective of safety, education and health, which are fundamental aspects in society's sustainability, and from the perspective of the productive system, which as a result ends up with outmoded production tasks

that make it difficult to achieve competitiveness without protectionism, a factor which has a negative effect on the city's ability to consume and invest, as well as reducing productivity in the workplace.

The indicators selected to measure the cities' performance in terms of the scope of technology and growth in cities are the number of fixed broadband Internet subscribers per 100 inhabitants (FIS) and the Innovation Cities Index published by the Innovation Cities Program (IIC). The first of these data has a strong correlation with a city's general technological advancement, because the technological development of applications and devices for their efficient use is made necessary. As for the IIC index, it is calculated by carrying out assessments on the basis of several factors involving technological innovation in cities, in sectors such as health care, the economy or the population in general, as well as others, having currently become the most thorough indicator for measuring the cities' degree of development in innovation, divided methodologically into three aspects or dimensions: cultural assets, human infrastructure and interconnected markets.

The Environment

Sustainable development in a city may be defined as "development which meets the needs of the present without jeopardizing the ability of future generations to meet their own needs"[1]. In this sense, the environment is very important, because the sustainability over time which makes it possible for future generations to meet their needs is very closely related to this dimension. Because the ICIM also intends to measure the sustainability of cities, the environment is included as one of the aspects to be measured.

The indicators selected for this dimension are CO2 emissions; improved water sources as a percentage of the total urban population with access (H2O); PM10 particles; the EPI index, and methane emissions (MET).

[1] Definition used in 1987 by the United Nations World Commission on the Environment and Development, created in 1983.

As can be deduced, the first two indicators selected include measurements of air pollution sources and the quality of water in cities, which are indicators of their inhabitants' standard of living; as well as the sustainability of their production system and urban planning. CO2 and methane emissions are the main measurements regularly used to determine the degree of air pollution, because they are substances which have a great deal to do with the greenhouse effect. In fact, a decrease in the values of these indicators is included as an objective in the Kyoto Protocol.

Another very important indicator of air pollution in cities is PM10, the name given to small solid or liquid particles consisting of dust, ash, soot, metallic particles, cement or pollen dispersed into the atmosphere, with a diameter of less than 10 micrometers. They are mainly made up of inorganic compounds such as silicates and aluminates, heavy metals and organic material associated with carbon particles (soot). This indicator is used a great deal in the indices which attempt to measure the status of environmental pollution.

Last of all, the EPI (Environmental Performance Index), calculated by Yale University, is an indicator based on the two large dimensions related with the environment: Environmental Health and Ecosystem Vitality. The first is divided into three sub-dimensions: effects of air pollution on human health; effect of water quality on human health, and environmental load of diseases. Ecosystem Vitality has seven sub-dimensions: effects of air pollution on the ecosystem; effects of water quality on the ecosystem; biodiversity and habitat; forestation; fish; agriculture, and climate change. Given the thorough nature of this indicator –because it includes nearly all of the aspects involving the measurement of a city's environmental status and changes in a city's environment, complemented by the other four indicators which are included in the ICIM–, the dimension of The Environment is considered to have been represented in a well-proportioned manner.

The indicators which represent PM10 particles and CO2 and methane emissions are considered with a negative bearing in the

dimension, whereas the remaining indicators have a positive effect on the environment.

International Outreach

Cities may have greater or lesser international outreach when compared with cities in other countries, but this factor is not independent from the degree of the country's openness. This dimension attempts to include these differences and measure the cities' international outreach, on the basis of international tourism and the potential which each city offers for holding congresses and meetings of an international nature, given the restricted nature of current information.

In this sense, the following indicators have been included: international tourist arrivals (ITA); number of airline passengers (AEP), and number of meetings (MIT), according to data from the International Meeting Congress and Convention Association. This last figure is an important indicator of a city's international outreach, bearing in mind that such events regularly take place in cities which have international hotel and restaurant services, rooms especially prepared for such purposes, a good frequency of international flights and adequate security measures.

Social Cohesion

Social Cohesion is a sociological dimension of cities, defined as the degree of consensus of the members of a social group or the perception of belonging to a common project or situation. It is a measurement of the intensity of social interaction within the group. We decided to measure social cohesion through the use of the different indicators which are available, having selected the following: the number of deaths per 1,000 inhabitants (QEP); the Gini coefficient (GIN); the unemployment rate (UER), and the consumer expenditure on housing per capita, in millions of constant dollars per inhabitant in 2013 (CEV).

This selection of indicators attempts to include all of the sociological sub-dimensions that Social Cohesion contains. For example, health and the future expectations of society are, in this case, measured using the number of deaths for every 1,000 inhabitants, with a negative bearing; employment is a fundamental aspect within societies, to such an extent that the lack thereof may break the implicit consensus or social contract, according to historical evidence, and therefore the unemployment rate is included with a negative bearing when creating the indicator of this dimension. GIN is a measurement of social inequality which takes values ranging from 0, in the case of a perfectly equitable income distribution, to 1, in the case of a very inequitable income distribution, and therefore it is included within the indicator of the dimension Social Cohesion with a negative bearing, because a higher value of this index (in other words, greater social inequality) has a negative influence on cohesion, in a manner similar to what occurs with unemployment.

As for the per-capita consumer spending on housing, it bears a positive relationship with the indicator of this dimension, because the possibility of gaining access to a higher consumption level, above subsistence values, increases the incentives for belonging to the society of a specific city; in turn, if similar cities are compared, higher spending on housing is an indication of the degree to which people feel rooted in the city and have a sense of belonging to the city where they have decided to locate their households.

Mobility and Transportation

Mobility and Transportation, in terms of both the highway and road infrastructure and the automobile fleet and public transportation, affect the standard of living of a city's inhabitants and may be vital to the sustainability of cities across time. However, perhaps the most important is not this, but rather the externalities which are produced in the productive system, due both to the labor force's need to commute and the need for production output. As a result, and always on the basis of the available indicators, considered representative of this dimension are the indices of logistical performance, in terms of both

commercial aspects and the infrastructure related with trade (LGT) and with logistics overall (LGP) –as shown in Table 1–. These provide a measurement of the effects which this dimension could have on the production process and, as a result, on the people's income and standard of living. And as a measurement of the efficiency and safety of highway and public transportation –which, if it is effective and has a good infrastructure, promotes a decrease in vehicular traffic on highways– we included, with a negative bearing, the number of deaths due to traffic accidents, revealed by the World Health Organization (WHO), after weighting by the number of inhabitants and vehicles in each city.

Human Capital

Used as representative in this dimension are the indicators related with the international flows of mobile students in each city or country (IFS); the consumer expenditure on leisure and recreation (CER), and the highest level of studies completed. Although the Human Capital dimension includes factors which make it much broader than what can be measured using these indicators, there is an international consensus that educational level and access to culture are very useful factors for rating Human Capital. In fact, one of the foundations of human development is Human Capital, and if we bear in mind that the Human Development Index published annually by the United Nations Development Program (UNDP) includes education and culture as dimensions, it is valid to use these indicators as explanatory of the differences in Human Capital in a city or country.

In the case of the ICIM, included with a positive bearing are the factors of population by higher educational attainment (HEP) and secondary educational attainment (SEP), along with IFS; and with a negative bearing, the population with only primary educational attainment (PEP). Moreover, as a measure of access to culture, the spending on entertainment goods and services was considered, bearing a direct relationship with the indicator.

The Economy

The indicators used to represent the dimension of performance by The Economy of the cities are as follows[2]: the time required to open a business, measured in days; the gross domestic product (GDP) in millions of dollars at constant prices of 2012; labor productivity, measured in dollars according to the labor force (LPR); and total early stage entrepreneurial activity (TEA), defined as the percentage of the population between the ages of 18 and 64 years who are incipient entrepreneurs or the proprietor/administrator of a new business (no more than 42 months).

Bearing in mind that the ICIM attempts to measure the future sustainability of the largest cities in the world and the standard of living of their inhabitants through many different dimensions, real GDP is one measurement of the city's economic power and the income of its inhabitants, which, in turn, is an important measurement of the quality of life in cities. In numerous studies, GDP is considered to be the only measurement or most important measurement of a city's or country's performance. However, in this report, it is not considered to be excluding or the most relevant factor, because it is considered just one further indicator amongst the ten dimensions of the ICIM. Therefore, its share in the total is similar to that held by other indicators, if not the same, depending upon the technique which is applied. For example, if a city with a high or relatively high GDP does not have a good performance level in other indicators, it may not be placed among the top ranks. For instance, a highly productive city that has problems with transportation, inequality, weak public finance or a production process which uses polluting technology, it will probably not occupy the top positions in the ranking.

As for LPR, it is a measurement of the strength, efficiency and technological level of the production system, which, as regards local and

[2] The abbreviations used to refer to the different indicators are taken from their names in English.

international competitiveness, will obviously affect real salaries and the return on capital, business profits –all reasons why it is very important to include it within the dimension of The Economy, because different productivity levels may explain differences in the standard of living of a city's workers–, and the sustainability of the productive system over time.

The other two indicators selected as being representative of this dimension make it possible to measure certain aspects of a city's business world, such as the time required to open a business, or the entrepreneurial capabilities and potential of the city's inhabitants (such as TEA). These last two measure the city's capacity for sustainability over time and the potential ability the city has to improve its inhabitants' standard of living.

Described in Table 1, in the form of a summary, are the indicators used in each of the dimensions, a description thereof, the units of measurement and the sources of information from which they were taken

Table 1
Indicators

Indicator	Abbreviation	Unit of Measurement/Description	Dimension/Cluster	Source
Time Required to Start a Business	TSB	Days	The Economy	World Bank
Total GDP	GDP	Millions of USD at prices of 2012	The Economy	Passport
Labor Productivity	LPR	USD/occupied person	The Economy	Passport
Total Early Stage Entrepreneurial Activity	TEA	Percentage of the population aged 18-64 years	The Economy	Global Entrepreneurship Monitor
International flows of mobile students at the tertiary level	IFS	Number of people	Human Capital	UNESCO
Population by Educational Attainment [Higher]	HEP	Thousands of people	Human Capital	Passport
Population by Educational Attainment [Secondary]	SEP	Thousands of people	Human Capital	Passport
Population by Educational Attainment [Primary]	PEP	Thousands of people	Human Capital	Passport
Consumer Expenditure on Leisure and Recreation per capita	CER	Millions of USD/inhabitant at prices of 2012	Human Capital/Country Cluster	Passport
Strength of Legal Rights Index	SLR	Index (from 0 = low, to 10 = high)	Governance	World Bank
Corruption Perceptions Index	CPI	Index (from 0 = very corrupt, to 100 = very transparent)	Governance	Transparency International
Fixed broadband Internet Subscribers	FIS	Number of new subscriptions/100 inhabitants	Technology	World Bank
Innovation Cities Index	IIC	Index (from 0 = no innovation, to 60 = much innovation)	Technology	Innovation Cities Program
Road Traffic Deaths per capita, by car	RTD	Number of deaths in accidents/inhabitant/vehicle	Mobility and Transportation	Global Health Observatory
Logistics Performance Index: Overall	LGP	Index (from 1 = low, to 5 = high)	Mobility and Transportation	World Bank
Logistics Performance Index: Trade	LGT	Index (from 1 = low, to 5 = high)	Mobility and Transportation	World Bank
CO_2 emissions (kt)	CO_2	kt	The Environment	World Bank
PM10 24 Hour Mean micrograms per cubic meter	PM10	Micrograms per cubic meter (daily measurement)	The Environment	Passport
Methane emissions	MET	Equivalent kt of CO_2	The Environment	World Bank
Improved water source, urban (% of urban population with access)	H_2O	Percentage of the total urban population with access	The Environment	World Bank
Environmental Performance Index	EPI	Index (from 1 = bad, to 100 = good)	The Environment	Yale University

Indicator	Abbreviation	Unit of Measurement/Description	Dimension/Cluster	Source
Unemployment Rate	UER	Percentage of population which is active	Social Cohesion	Passport
Gini Index	GIN	Index (from 0 to 100)	Social Cohesion	Passport
Consumer Expenditure on Housing per capita	CEV	Millions of USD/inhabitant at prices of 2012	Social Cohesion/Country Cluster	Passport
Death	QEP	Thousands of people	Social Cohesion	Passport
Airline Passengers	AEP	Thousands of passengers	International Outreach	Passport
International Tourist Arrivals	ITA	Thousands of tourists	International Outreach	Passport
Numbers of Meetings	MIT	Number of meetings	International Outreach	International Meeting Congress and Convention Association
Improved sanitation facilities (% of population with access)	ISF	Percentage of population with access	Urban Planning	World Bank
Occupants per Household	OCC	Number of people/household	Urban Planning	Passport
Total reserves	RBCT	Millions of current USD	Public Management	World Bank
Total reserves per capita	RBCH	Millions of current USD /inhabitant	Public Management	World Bank
Total tax rate (% of commercial profits)	TAX	Percentage of commercial profits	Public Management	World Bank
Consumer Expenditure on Hotels and Catering per capita	CEH	Millions of USD/inhabitant at prices of 2012	Country Cluster	Passport
Annual Disposable Income	DIN	Millions of USD at prices of 2012	City Cluster	Passport
Households	HOU	Thousands of households	City Cluster	Passport
Average Household Annual Disposable Income by Decile (Decile 1)	DE1	USD 2012	City Cluster	Passport
Average Household Annual Disposable Income by Decile (Decile 2)	DE2	USD 2012	City Cluster	Passport
Average Household Annual Disposable Income by Decile (Decile 3)	DE3	USD 2012	City Cluster	Passport
Average Household Annual Disposable Income by Decile (Decile 4)	DE4	USD 2012	City Cluster	Passport
Average Household Annual Disposable Income by Decile (Decile 5)	DE5	USD 2012	City Cluster	Passport
Average Household Annual Disposable Income by Decile (Decile 6)	DE6	USD 2012	City Cluster	Passport
Average Household Annual Disposable Income by Decile (Decile 7)	DE7	USD 2012	City Cluster	Passport
Average Household Annual Disposable Income by Decile (Decile 8)	DE8	USD 2012	City Cluster	Passport
Average Household Annual Disposable Income by Decile (Decile 9)	DE9	USD 2012	City Cluster	Passport
Average Household Annual Disposable Income by Decile (Decile 10)	DE10	USD 2012	City Cluster	Passport
Employment Rate	EMP	Percentage	Country Cluster	Passport
Consumer Expenditure on Education per capita	CEE	Millions of USD/inhabitant at prices of 2012	Country Cluster	Passport
Consumer Expenditure on Health Goods and Medical Services per capita	CEM	Millions of USD/inhabitant at prices of 2012	Country Cluster	Passport

Indicator Limitations

Perhaps the most important limitation on calculation of the ICIM is related with the availability of data. However, several actions were implemented to minimize the impact of this limitation. First of all, for those indicators that did not have data for the entire period of analysis, extrapolation techniques were used. For situations in which the values of the indicator were non-existent at the city level, but had valid values at the level of the country to which the city belongs, individual values were assigned to each city, relating the indicator at the country level using some other variable theoretically linked at the city level. Last of all, there were cases in which the values of the indicator were non-existent for a specific city or group of cities throughout the entire period being considered. In this case, statistical clustering techniques were used. The scope and details of these tools are explained in depth in the complementary document titled Methodology and Modeling.

It should be mentioned that certain aspects of the ten dimensions included in the CIM model could not be collected due to the non-existence of data (for example, e Governance, which forms part of the Governance dimension). Here at the platform, we continue working to obtain more thorough and accurate indicators, while at the same time calling out to cities to facilitate access to the information which they generate.

Despite the limitations on information, we are certain that the ICIM provides a good portrayal of the current status of the cities. In order to confirm this assumption, different sensitivity analyses were carried out. On the one hand, the index was recalculated using two different methodologies. And on the other, the index was recalculated after eliminating three dimensions whose indicators were predominantly taken at the country level. These studies concluded that there are no significant variations in the ICIM compared with the results presented in this report (which can be viewed in detail in the Methodology and Modeling document), which provides a certain level of confidence as to the consistency of the data presented herein.

Geographic Coverage

Throughout the process prior to the calculation of the indicators, data sufficiency and thoroughness tests were performed so that the inclusion of cities would be carried out in a way that would ensure the quality of the end product, in addition to analyzing the cities' relevance. Information was analyzed on 851 cities for which there was data on at least one selected variable.

A series of criteria were applied for the selection of cities based on population size and the economic, political or cultural importance of the cities for the countries in which they are located. After this, a series of analyses were completed on the existence of selected indicators used for calculation of the index; on the basis of this, those cities for which there were no data at all were excluded, as well as those which could not be assigned using clustering techniques, not even by making it flexible to acceptable limits.

As a result of this process, 135 cities were included in this study, with the geographic distribution that is shown in Table 2.

Table 2
Geographic Areas Covered

Africa
Alexandria-Egypt
Cairo-Egypt
Cape Town-South Africa
Durban-South Africa
Johannesburg-South Africa
Pretoria-South Africa
Eastern Europe
Sofia-Bulgaria
Herzegovina-Sarajevo-Bosnia
Prague-Czech Republic
Budapest-Hungary
Riga-Latvia
Warsaw-Poland
Wroclaw-Poland
Ljubljana-Slovenia
Ankara-Turkey
Bursa-Turkey
Istanbul-Turkey
Latin America
Buenos Aires-Argentina
Córdoba-Argentina
Rosario-Argentina
La Paz-Bolivia
Belo Horizonte-Brazil
Brasllia-Brazil
Curitiba-Brazil
Fortaleza-Brazil
Porto Alegre-Brazil
Recife-Brazil
Rio de Janeiro-Brazil
Salvador-Brazil
Sao Paulo-Brazil
Santiago-Chile
Bogota-Colombia
Cali-Colombia
Medellín-Colombia
Santo Domingo-Dominican Republic
Quito-Ecuador
Guadalajara-Mexico
Mexico City-Mexico
Monterrey-Mexico
Lima-Peru
Montevideo-Uruguay
Caracas-Venezuela
Oceania
Melbourne-Australia
Sydney-Australia
Auckland-New Zealand

Asia
Beijing-China
Chongqing-China
Guangzhou-China
Harbin-China
Shanghai-China
Shenyang-China
Shenzhen-China
Suzhou-China
Tianjin-China
Wuhan-China
Jakarta-Indonesia
Osaka-Japan
Tokyo-Japan
Kuala Lumpur-Malaysia
Manila-Philippines
Moscow-Russia
St Petersburg-Russia
Busan-South Korea
Daegu-South Korea
Daejeon-South Korea
Seoul-South Korea
Kaohsiung-Taiwan
Taichung-Taiwan
Tainan-Taiwan
Taipei-Taiwan
Bangkok-Thailand
Middle East
Haifa-Israel
Tel Aviv-Israel
Doha-Qatar
Jeddah-Saudi Arabia-
Riyadh-Saudi Arabia
Abu Dhabi-United Arab Emirates
Dubai-United Arab Emirates
North America
Montreal-Canada
Ottawa - Gatineau-Canada
Toronto-Canada
Vancouver-Canada
Baltimore-USA
Chicago-USA
Dallas-USA
Houston-USA
Los Angeles-USA
Minneapolis-Saint Paul-USA
New York-USA-
Philadelphia-USA

Western Europe
Linz-Austria
Vienna-Austria
Brussels-Belgium
Copenhagen-Denmark
Helsinki-Finland
Lille-France
Lyon-France
Marseille-France
Nice-France
Paris-France
Berlin-Germany
Cologne-Germany
Duisburg-Germany
Frankfurt am Main-Germany
Hamburg-Germany
Munich-Germany
Stuttgart-Germany
Athens-Greece
Dublin-Ireland
Florence-Italy
Milan-Italy
Naples-Italy
Rome-Italy
Turin-Italy
Amsterdam-Netherlands
Eindhoven-Netherlands
Oslo-Norway
Lisbon-Portugal
Porto-Portugal
Barcelona-Spain
Madrid-Spain
Seville-Spain
Valencia-Spain
Gothenburg-Sweden
Stockholm-Sweden
Basel-Switzerland
Geneva-Switzerland
Zurich-Switzerland
Birmingham-United Kingdom
Glasgow-United Kingdom
Leeds-United Kingdom
Liverpool-United Kingdom
London-United Kingdom
Manchester-United Kingdom
Nottingham-United Kingdom

Cities in Motion. Ranking

The indicator which is discussed in this report, the ICIM, is a synthetic indicator, and as such it is a function of the partial indicators that are available.

The model on which the process for creating the synthetic indicator is based is a weighted aggregation of partial indicators that represent each of the ten dimensions which make up the theoretical ICIM model. The dimensions selected to describe the reality of the cities in terms of their sustainability and the standard of living of their inhabitants, in the present and in the future, are as follows: Governance, Urban Planning, Public Management, Technology, The Environment, International Outreach, Social Cohesion, Mobility and Transportation, Human Capital, and The Economy.

The partial indicators which represent each dimension can also be categorized as synthetic indicators, which are defined as "weighted aggregations of each of the selected indicators that represent different factors of each dimension."

The DP2 technique is a methodology based on distances –in other words, the difference between one given value of an indicator and another value taken as a reference or as a target–. These techniques solve the problem of heterogeneity in measurement units. The use of distance techniques means having to comply with some of the main properties of the indicators mentioned in Methodology and Modeling.

Amongst these techniques, the most commonly used at the international level, and the most suitable, given the type of indicator to be calculated and the available data, is the one known as DP2.

This technique attempts to correct the dependence among partial indicators, which would artificially increase the indicator's sensitivity to variations in a specific partial value. The correction consists of applying the same factor to each partial indicator, assuming a linear dependence function.

Given the partial indicators, the correction factors are determined by the complement of the coefficient of determination (R2) of each indicator compared with the remaining partial indicators. For further detail on the methodology applied, you may see the complementary document Methodology and Modeling.

Presented in Table 3 is the CIM ranking of cities, with the index value and a set of cities shown in accordance with their performance, measured using the synthetic indicator value. Cities with a "High" performance (A) are considered those in which the index is higher than 90; a "Relatively High" performance is between 60 and 90; "Average" (M) between 45 and 60; "Low" (B) between 13 and 45, and "Very Low" (MB) less than 13.

Table 3
Ranking

Ranking	City	Performance	CIMI	Ranking	City	Performance	CIMI
1	Japan-Tokyo	A	100,00	37	Sweden-Gothenburg	M	54,78
2	United Kingdom-London	RA	84,36	38	France-Lille	M	54,43
3	USA-New York	RA	81,25	39	Germany-Frankfurt am Main	M	54,30
4	Switzerland-Zurich	RA	79,94	40	France-Nice	M	54,29
5	France-Paris	RA	79,11	41	Germany-Hamburg	M	53,65
6	Switzerland-Geneva	RA	75,61	42	United Kingdom-Manchester	M	53,62
7	Switzerland-Basel	RA	70,91	43	Ireland-Dublin	M	53,15
8	Japan-Osaka	RA	68,76	44	Canada-Vancouver	M	53,14
9	South Korea-Seoul	RA	68,27	45	Belgium-Brussels	M	52,89
10	Norway-Oslo	RA	68,00	46	United Kingdom-Glasgow	M	52,67
11	USA-Philadelphia	RA	67,06	47	Canada-Montreal	M	52,40
12	USA-Los Angeles	RA	67,05	48	United Kingdom-Birmingham	M	52,33
13	USA-Dallas	RA	65,82	49	United Kingdom-Leeds	M	51,85
14	Denmark-Copenhagen	RA	65,00	50	Germany-Duisburg	M	51,81
15	Netherlands-Eindhoven	RA	64,21	51	Spain-Barcelona	M	51,18
16	Netherlands-Amsterdam	RA	64,02	52	Spain-Madrid	M	51,08
17	Australia-Sydney	RA	63,81	53	Saudi Arabia-Riyadh	M	50,74
18	Sweden-Stockholm	RA	63,26	54	Italy-Rome	M	50,74
19	USA-Chicago	RA	63,23	55	New Zealand-Auckland	M	50,22
20	USA-Baltimore	RA	61,95	56	Malaysia-Kuala Lumpur	M	50,19
21	Australia-Melbourne	RA	60,80	57	Italy-Florence	M	49,76
22	USA-Minneapolis-Saint Paul	RA	60,72	58	Italy-Milan	M	49,68
23	Austria-Linz	RA	60,42	59	France-Lyon	M	49,38
24	Israel-Haifa	M	59,31	60	Qatar-Doha	M	49,36
25	USA-Houston	M	58,81	61	France-Marseille	M	48,49
26	Germany-Munich	M	58,73	62	China-Beijing	M	48,44
27	Austria-Vienna	M	58,52	63	United Arab Emirates-Dubai	M	48,09
28	Germany-Berlin	M	58,51	64	South Korea-Daejeon	M	48,07
29	Canada-Toronto	M	58,05	65	Czech Republic-Prague	M	48,05
30	Canada-Ottawa - Gatineau	M	57,76	66	Thailand-Bangkok	M	47,65
31	Finland-Helsinki	M	57,64	67	Portugal-Porto	M	47,63
32	United Kingdom-Nottingham	M	56,59	68	South Korea-Daegu	M	47,24
33	Germany-Cologne	M	55,65	69	Italy-Turin	M	46,59
34	Israel-Tel Aviv	M	55,59	70	United Arab Emirates-Abu Dhabi	M	46,08
35	Germany-Stuttgart	M	55,45	71	Spain-Valencia	M	45,87
36	United Kingdom-Liverpool	M	54,87	72	South Korea-Busan	B	44,98

Ranking	City	Performance	CIMI
73	China-Shanghai	B	44,74
74	Hungary-Budapest	B	44,02
75	Turkey-Istanbul	B	43,50
76	Poland-Warsaw	B	43,33
77	Spain-Seville	B	43,21
78	Italy-Naples	B	42,20
79	Portugal-Lisbon	B	41,73
80	Saudi Arabia-Jeddah	B	41,26
81	Taiwan-Taipei	B	40,98
82	Poland-Wroclaw	B	40,32
83	Chile-Santiago	B	40,00
84	Russia-Moscow	B	38,18
85	Turkey-Bursa	B	37,39
86	Slovenia-Ljubljana	B	36,65
87	Latvia-Riga	B	36,25
88	China-Guangzhou	B	36,10
89	Greece-Athens	B	35,36
90	Bulgaria-Sofia	B	34,86
91	Turkey-Ankara	B	34,34
92	Mexico-Monterrey	B	33,22
93	Taiwan-Tainan	B	32,59
94	Brazil-SÃo Paulo	B	31,98
95	Taiwan-Kaohsiung	B	31,27
96	Taiwan-Taichung	B	31,11
97	Brazil-Curitiba	B	31,04
98	Colombia-Cali	B	30,77
99	China-Tianjin	B	30,49
100	Argentina-Rosario	B	30,42
101	Mexico-Mexico City	B	29,86
102	Mexico-Guadalajara	B	29,85
103	Argentina-C¢rdoba	B	29,59
104	South Africa-Durban	B	29,33
105	Colombia-Medell°n	B	29,06
106	Argentina-Buenos Aires	B	28,63
107	Colombia-Bogota	B	28,47
108	Uruguay-Montevideo	B	26,84
109	Peru-Lima	B	25,95
110	China-Shenyang	B	25,36
111	Russia-St Petersburg	B	25,23
112	China-Wuhan	B	25,17
113	China-Harbin	B	24,94
114	China-Chongqing	B	24,93
115	Egypt-Alexandria	B	24,51
116	Brazil-Rio de Janeiro	B	23,69
117	South Africa-Pretoria	B	22,17
118	South Africa-Johannesburg	B	22,16
119	South Africa-Cape Town	B	21,95
120	Philippines-Manila	B	21,15
121	Ecuador-Quito	B	20,79
122	Egypt-Cairo	B	20,64
123	China-Shenzhen	B	19,42
124	China-Suzhou	B	18,05
125	Indonesia-Jakarta	B	17,82
126	Venezuela-Caracas	B	17,37
127	Brazil-Salvador	B	15,64
128	Brazil-Porto Alegre	B	15,02
129	Brazil-Belo Horizonte	B	14,97
130	Bolivia-La Paz	B	14,97
131	Brazil-Bras°lia	B	14,23
132	Brazil-Recife	B	14,14
133	Brazil-Fortaleza	B	13,96
134	Bosnia-Herzegovina-Sarajevo	MB	7,32
135	Dominican Republic-Santo Domingo	MB	0,00

For 2013, it can be seen that 17% of cities (23) have a performance of A or RA according to this ranking, headed by Tokyo, London, New York, Zurich and Paris. There are 48 cities with a performance of M (35.6%), whereas the performance levels classified as B include 46% of the selected cities. Just 2 cities appear with a classification of MB: Sarajevo (Bosnia-Herzegovina) and Santo Domingo (Dominican Republic). Among the top 25 cities, 11 are European; 8 are North American; 3 are Asian; 2 are in Oceania, and 1 is in the Middle East.

Cities In Motion. Ranking by Dimensions

This section shows the ranking by each dimension, including all those which make up the index, in which one can see the general ranking of each city and the rank which it holds for each dimension. In order to make visual observation of the data more intuitive, those shaded in dark green are the highest ranked, and those shaded in the darkest red are the lowest ranked, with an intermediate range that includes shades of yellow.

The interpretation of Table 4 is very important for analyzing the results, because one can observe the relative ranking of all the cities in each of the dimensions.

Governance

In this dimension, Auckland (New Zealand) is ranked number one.

Urban Planning

In this dimension, Berlin (Germany) is ranked number one.

Public Management

In this case, Tokyo (Japan) is once again ranked number one.

Technology

London (United Kingdom) is the city located at the top of this ranking.

The Environment

In this dimension, the cities which are best ranked are Zurich, Geneva and Basel (all in Switzerland).

International Outreach

London (United Kingdom) is ranked number one for this dimension.

Social Cohesion

Eindhoven (Netherlands) was the city which received the highest score for this dimension.

Mobility and Transportation

The city of Berlin (Germany) is ranked number one.

Human Capital

The city which ranks number one in this case is Tokyo (Japan).

Economy

The city which heads the ranking for this dimension is New York (United States).

At the same time, a paradigmatic example is that of the city of Tokyo (Japan), which leads the general ranking, propelled by its performance in the dimensions of Human Capital, Public Management (ranked first) and The Economy (ranked second), despite the fact that it ranks number 20 in terms of The Environment and 125 in Social Cohesion. As for the last of these dimensions, it is surprising to see that 5 of the top 10 cities are ranked in the lowest positions.

Another case which can be taken as an example for interpretation of these results is the city of Los Angeles (United States), which, despite ranking number 3 worldwide in the dimension of The Economy, comes in at number 12 in the general ranking, as a result of a relatively low performance in the dimensions of Urban Planning, Public Management, The Environment and Social Cohesion, which, over time, may affect the city's sustainability.

Table 4
Ranking by Dimensions

City	Governance	Urban Planning	Public Management	Technology	Environment	International Projection	Social Cohesion	Mobility and Transportation	Human Capital	Economy	Cities in Motion
Japan-Tokyo	14	6	1	16	20	12	125	6	1	2	1
United Kingdom-London	6	5	28	1	6	1	96	10	12	5	2
USA-New York	10	16	36	4	37	4	110	15	2	1	3
Switzerland-Zurich	7	4	2	27	1	40	3	30	36	22	4
France-Paris	17	7	87	7	5	2	74	20	21	4	5
Switzerland-Geneva	7	4	5	27	1	56	5	56	45	16	6
Switzerland-Basel	7	5	4	44	1	95	16	57	80	15	7
Japan-Osaka	14	7	7	25	20	41	112	8	13	11	8
South Korea-Seoul	23	18	8	13	31	20	80	43	7	21	9
Norway-Oslo	11	4	18	18	4	50	6	45	29	9	10
USA-Philadelphia	10	12	74	17	37	18	60	19	3	6	11
USA-Los Angeles	10	24	58	10	37	14	101	13	10	3	12
USA-Dallas	10	19	74	26	37	18	67	19	5	6	13
Denmark-Copenhagen	2	4	9	5	13	29	57	32	51	31	14
Netherlands-Eindhoven	12	4	45	37	16	61	1	7	6	53	15
Netherlands-Amsterdam	12	3	46	2	16	11	26	12	71	19	16
Australia-Sydney	3	18	83	15	26	35	20	34	19	10	17
Sweden-Stockholm	5	4	56	8	2	36	18	11	48	17	18
USA-Chicago	10	16	75	17	37	22	88	18	9	7	19
USA-Baltimore	10	12	84	33	37	51	8	27	4	12	20
Australia-Melbourne	3	15	85	15	26	42	23	33	18	13	21
USA-Minneapolis-Saint Paul	10	12	84	28	37	51	14	27	8	12	22
Austria-Linz	15	7	92	42	9	49	2	42	11	47	23
Israel-Haifa	16	26	12	29	29	49	10	29	33	38	24
USA-Houston	10	22	82	28	37	38	79	31	15	8	25
Germany-Munich	13	2	66	6	10	33	46	4	42	32	26
Austria-Vienna	15	4	90	3	9	9	47	36	56	72	27
Germany-Berlin	13	1	67	9	10	15	81	1	32	70	28
Canada-Toronto	9	19	21	10	24	37	51	23	40	26	29
Canada-Ottawa - Gatineau	9	10	25	64	24	54	9	41	24	23	30
Finland-Helsinki	4	4	59	19	11	48	12	28	46	46	31
United Kingdom-Nottingham	6	7	50	36	6	61	19	17	20	67	32
Germany-Cologne	13	5	76	23	10	49	30	9	50	33	33

City	Governance	Urban Planning	Public Management	Technology	Environment	International Projection	Social Cohesion	Mobility and Transportation	Human Capital	Economy	Cities in Motion
Israel-Tel Aviv	16	23	12	20	29	49	43	29	86	38	34
Germany-Stuttgart	13	5	76	14	10	49	38	9	59	33	35
United Kingdom-Liverpool	6	6	50	41	6	61	27	17	27	67	36
Sweden-Gothenburg	5	4	81	47	2	70	13	26	58	51	37
France-Lille	17	7	103	43	5	49	15	39	25	28	38
Germany-Frankfurt am Main	13	3	70	9	10	71	61	5	41	43	39
France-Nice	17	3	103	39	5	81	11	39	23	28	40
Germany-Hamburg	13	3	68	14	10	75	59	3	38	48	41
United Kingdom-Manchester	6	5	51	11	6	82	45	14	31	79	42
Ireland-Dublin	8	13	33	52	17	30	73	49	83	29	43
Canada-Vancouver	9	12	26	21	24	52	40	35	53	65	44
Belgium-Brussels	18	6	98	22	15	26	72	21	73	27	45
United Kingdom-Glasgow	6	6	53	30	6	93	32	24	28	71	46
Canada-Montreal	9	8	24	21	24	63	56	25	60	59	47
United Kingdom-Birmingham	6	6	49	48	6	80	49	22	30	73	48
United Kingdom-Leeds	6	6	52	48	6	92	28	16	35	82	49
Germany-Duisburg	13	3	78	46	10	43	22	2	39	97	50
Spain-Barcelona	25	11	64	38	23	7	104	44	61	81	51
Spain-Madrid	25	11	62	50	23	10	108	40	44	69	52
Saudi Arabia-Riyadh	35	70	3	106	49	17	69	77	121	52	53
Italy-Rome	43	7	102	53	8	13	52	46	67	49	54
New Zealand-Auckland	1	23	29	31	7	60	65	61	69	74	55
Malaysia-Kuala Lumpur	21	39	17	51	14	16	58	59	98	93	56
Italy-Florence	43	7	106	68	8	49	7	54	26	34	57
Italy-Milan	43	5	101	40	8	31	31	47	57	37	58
France-Lyon	17	6	104	12	5	97	37	38	47	42	59
Qatar-Doha	26	67	10	56	34	58	24	102	102	14	60
France-Marseille	17	6	105	24	5	66	64	37	52	54	61
China-Beijing	36	47	22	61	52	5	85	55	16	30	62
United Arab Emirates-Dubai	28	59	14	22	48	19	17	52	108	89	63
South Korea-Daejeon	23	18	16	58	31	43	44	53	84	85	64
Czech Republic-Prague	32	4	61	32	12	24	25	64	89	90	65
Thailand-Bangkok	40	33	15	78	39	3	103	80	88	61	66

City	Governance	Urban Planning	Public Management	Technology	Environment	International Projection	Social Cohesion	Mobility and Transportation	Human Capital	Economy	Cities in Motion
Portugal-Porto	33	15	42	65	28	53	82	58	14	63	67
South Korea-Daegu	23	18	16	54	31	43	55	53	94	85	68
Italy-Turin	43	6	106	55	8	49	29	54	64	34	69
United Arab Emirates-Abu Dhabi	28	68	13	34	48	99	4	68	110	25	70
Spain-Valencia	25	7	71	74	23	68	21	50	43	84	71
South Korea-Busan	23	15	16	45	31	73	68	53	105	85	72
China-Shanghai	36	50	20	49	52	6	113	70	22	24	73
Hungary-Budapest	29	5	48	35	21	28	63	81	100	86	74
Turkey-Istanbul	38	32	43	63	38	8	95	62	133	39	75
Poland-Warsaw	19	14	37	59	22	57	42	60	96	95	76
Spain-Seville	25	11	73	74	23	43	39	48	81	105	77
Italy-Naples	43	23	107	60	8	61	34	51	65	78	78
Portugal-Lisbon	33	9	72	65	28	25	100	69	87	80	79
Saudi Arabia-Jeddah	35	45	6	81	49	43	66	85	107	96	80
Taiwan-Taipei	36	63	31	69	52	23	33	65	66	18	81
Poland-Wroclaw	19	14	35	72	22	76	71	74	54	104	82
Chile-Santiago	20	28	19	102	35	67	102	82	127	20	83
Russia-Moscow	51	53	11	57	41	34	130	95	17	50	84
Turkey-Bursa	38	30	63	80	38	65	53	72	68	77	85
Slovenia-Ljubljana	31	9	57	67	19	100	48	96	91	88	86
Latvia-Riga	22	20	41	70	3	85	89	110	101	87	87
China-Guangzhou	36	57	40	87	52	21	78	63	90	36	88
Greece-Athens	42	21	94	84	25	55	115	86	85	58	89
Bulgaria-Sofia	30	7	23	91	32	96	36	94	104	101	90
Turkey-Ankara	38	32	69	88	38	64	76	73	125	75	91
Mexico-Monterrey	37	62	77	89	45	47	109	79	37	56	92
Taiwan-Tainan	36	64	95	83	52	43	35	66	74	45	93
Brazil-Sao Paulo	44	42	79	66	27	27	122	71	129	100	94
Taiwan-Kaohsiung	36	63	95	79	52	43	62	66	97	45	95
Taiwan-Taichung	36	66	95	83	52	43	54	66	92	45	96
Brazil-Curitiba	44	40	96	86	27	47	105	75	34	111	97
Colombia-Cali	39	61	113	85	18	76	84	106	78	41	98
China-Tianjin	36	60	47	82	52	78	83	67	63	44	99

City	Governance	Urban Planning	Public Management	Technology	Environment	International Projection	Social Cohesion	Mobility and Transportation	Human Capital	Economy	Cities in Motion
Argentina-Rosario	45	29	116	77	36	65	41	88	55	55	100
Mexico-Mexico City	37	52	80	71	45	44	106	78	135	62	101
Mexico-Guadalajara	37	65	97	107	45	43	70	83	114	83	102
Argentina-Cordoba	45	31	116	77	36	65	50	88	62	55	103
South Africa-Durban	24	51	34	99	44	76	86	98	70	94	104
Colombia-Medellin	39	58	113	90	18	101	87	106	82	41	105
Argentina-Buenos Aires	45	27	115	77	36	32	107	84	115	35	106
Colombia-Bogota	39	54	114	98	18	62	111	104	93	40	107
Uruguay-Montevideo	27	17	55	111	47	90	77	114	106	68	108
Peru-Lima	34	69	30	113	51	59	98	107	95	57	109
China-Shenyang	36	63	91	94	52	76	91	89	76	60	110
Russia-St Petersburg	51	46	54	57	41	87	93	103	72	109	111
China-Wuhan	36	64	93	82	52	69	97	87	77	66	112
China-Harbin	36	64	91	100	52	76	90	89	75	60	113
China-Chongqing	36	57	91	100	52	76	94	89	79	60	114
Egypt-Alexandria	48	35	89	104	40	74	99	93	112	102	115
Brazil-Rio de Janeiro	44	38	100	73	27	46	120	76	132	112	116
South Africa-Pretoria	24	41	38	103	44	91	129	97	99	91	117
South Africa-Johannesburg	24	43	39	110	44	72	135	92	109	92	118
South Africa-Cape Town	24	56	44	76	44	86	131	100	113	99	119
Philippines-Manila	46	72	60	101	43	88	114	109	49	103	120
Ecuador-Quito	49	34	65	112	33	89	128	113	111	76	121
Egypt-Cairo	48	37	88	95	40	83	126	91	123	98	122
China-Shenzhen	36	57	99	62	52	79	121	99	122	64	123
China-Suzhou	36	71	99	82	52	79	117	99	120	64	124
Indonesia-Jakarta	47	73	32	109	50	39	123	90	134	107	125
Venezuela-Caracas	53	49	109	108	30	45	75	111	130	116	126
Brazil-Salvador	44	42	111	93	27	77	118	108	131	115	127
Brazil-Porto Alegre	44	36	110	105	27	79	116	112	126	114	128
Brazil-Belo Horizonte	44	42	110	96	27	79	119	112	128	114	129
Bolivia-La Paz	52	74	112	97	46	74	92	105	103	108	130
Brazil-Brasilia	44	44	108	86	27	98	134	101	118	113	131
Brazil-Recife	44	44	108	96	27	91	133	101	117	113	132
Brazil-Fortaleza	44	48	108	96	27	91	132	101	116	113	133
Bosnia-Herzegovina-Sarajevo	41	25	27	75	42	94	127	116	124	110	134
Dominican Republic-Santo Domingo	50	55	86	92	53	84	124	115	119	106	135

Good Urban Development Takes into Account Ten Different Dimensions in a City's Prosperity

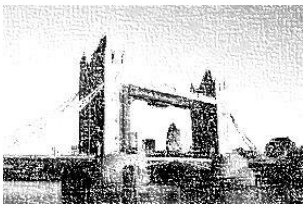
A Few Notable Cases

In this section, we present descriptions of a few highlighted cases. Presented in the Graphic Annex of the study is a graphic analysis of the 135 cities included in the ICIM.

Tokyo

This is the city which placed highest in the ranking of the year 2013, having placed first in both Human Capital and Public Management. However, it lags far behind in Social Cohesion. The main cause of this is the effect that the earthquake in Fukushima and the ensuing tsunami had on all of Japan.

London

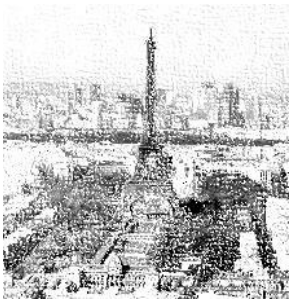


This is another city which ranks high in nearly all of the dimensions, with an emphasis on International Outreach and Technology. However, in Public Management and Social Cohesion it has relatively low values, so it is these areas in which the city has potential for improvement.

New York

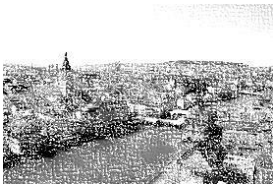
This is the most populous city of the state with the same name (United States) and the second largest urban area on the continent of North America, after Mexico City. New York is the most important economic center in the world and, along with Tokyo, they are the two most important cities in terms of Human Capital and The Economy.

Paris



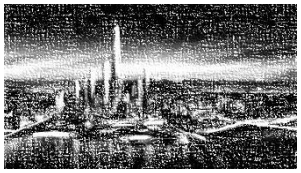
This city is the most popular tourist destination in the world, with more than 40 million foreign tourists each year. It excels in International Outreach, Technology, and Mobility and Transportation.

Zurich



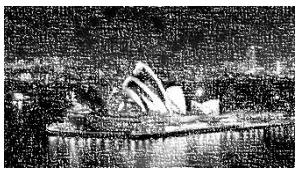
This is the largest city in Switzerland, and it is the financial motor and cultural center of the country. It stands out in the dimensions of The Environment, and Mobility and Transportation.

Seoul



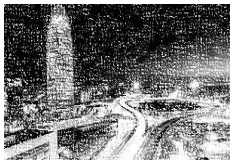
Seoul is considered to be a global city, as a result of a boom in economic growth. It is the headquarters of some of the largest companies in the world, including Samsung, LG Group, Hyundai and Kia Motors, as well as others. It ranked number 9 in the ICIM.

Sydney



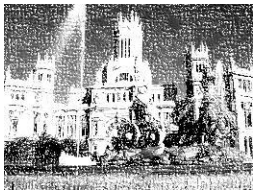
It is the largest, most populous city in Australia and is the main destination for immigrants. It comes in at number 17 in the ranking and stands out for being ranked third in Governance, while also showing good performance in The Economy, in which it is ranked tenth.

Barcelona



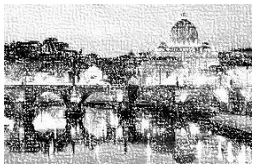
Of Spain's cities, it is the highest ranked, though in the general ranking it comes in at number 51. It exceeds Madrid in Technology, Social Cohesion, International Outreach, and Mobility and Transportation.

Madrid



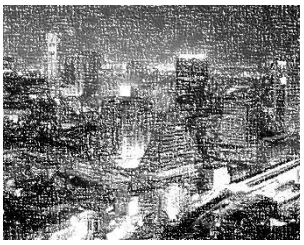
The second city in Spain in terms of the ranking, right behind Barcelona. It stands out, above all, in the dimensions of The Environment and Urban Planning. At the same time, in International Outreach it is ranked number 10.

Rome



The Italian capital is ranked number 54. It is one of the most important tourist destinations in the world, due to the incalculable grandeur of its archeological and artistic treasures. This is why it is no surprise that it ranks number 13 in International Outreach, as well as predominating in Urban Planning and The Environment.

Bangkok



This is the capital and most populous city in Thailand. It is ranked number 66 overall, though it stands out mainly in International Outreach, in which it is ranked number 3.

Santiago, Chile

This city is ranked number 83 overall and is the one which receives the highest score in Latin America, surpassing Buenos Aires, São Paulo, Mexico City and Montevideo. Furthermore, it stands out in the dimensions of The Economy, Public Management and Governance, in which it ranks at approximately number 20.

Riga

This city is both the capital and largest city of Latvia. It is the main cultural, educational, political, financial, commercial and industrial center in the Baltic Sea region. The particularity of this city is that, although it comes in at number 87 in the overall ranking, it ranks higher than the Swiss cities of Zurich, Geneva and Basel, and the Swedish cities of Stockholm and Goteborg, in terms of the dimension of The Environment.

Changes in the Cities in Motion Index

The changes which occur in cities are of vital importance in order to understand what direction their development is headed towards. It is because of this that we describe the changes over the last three years in the ICIM for the top 50 cities in the ranking of 2013 within this section.

The results show certain stability in the top rankings. Amongst the most notable changes, we must mention that Paris, which was ranked number 4 in 2011, gave way to Zurich, which has taken over this position by rising from 5th since 2012. Another Swiss city, Basel, showed great advancement in 2012, shifting from rank 14 in 2011, to rank number 7, which it held on to in 2013. The city of Oslo has fallen 2 ranks per year since 2011, ending up in 10th place in 2013. As for the largest cities in the United States, New York stands out due to its stability being ranked number 3; Los Angeles, ranked number 12, and Dallas, ranked number 13. As for Philadelphia, it went from 10th to 11th in 2012, where it remained in 2013, whereas Chicago raised two positions in 2012 and remained steady at 19th in 2013.

The most notable changes among the top cities in the ranking to have taken place during this period were those that occurred in the city of Basel (Switzerland) and Tel Aviv (Israel). The first of these two, as mentioned above, raised 7 places in the overall ranking thanks to its general improvement in all dimensions. In the second case, the decrease was caused by a drop in the ranks for the dimensions of The Economy, and Mobility and Transportation.

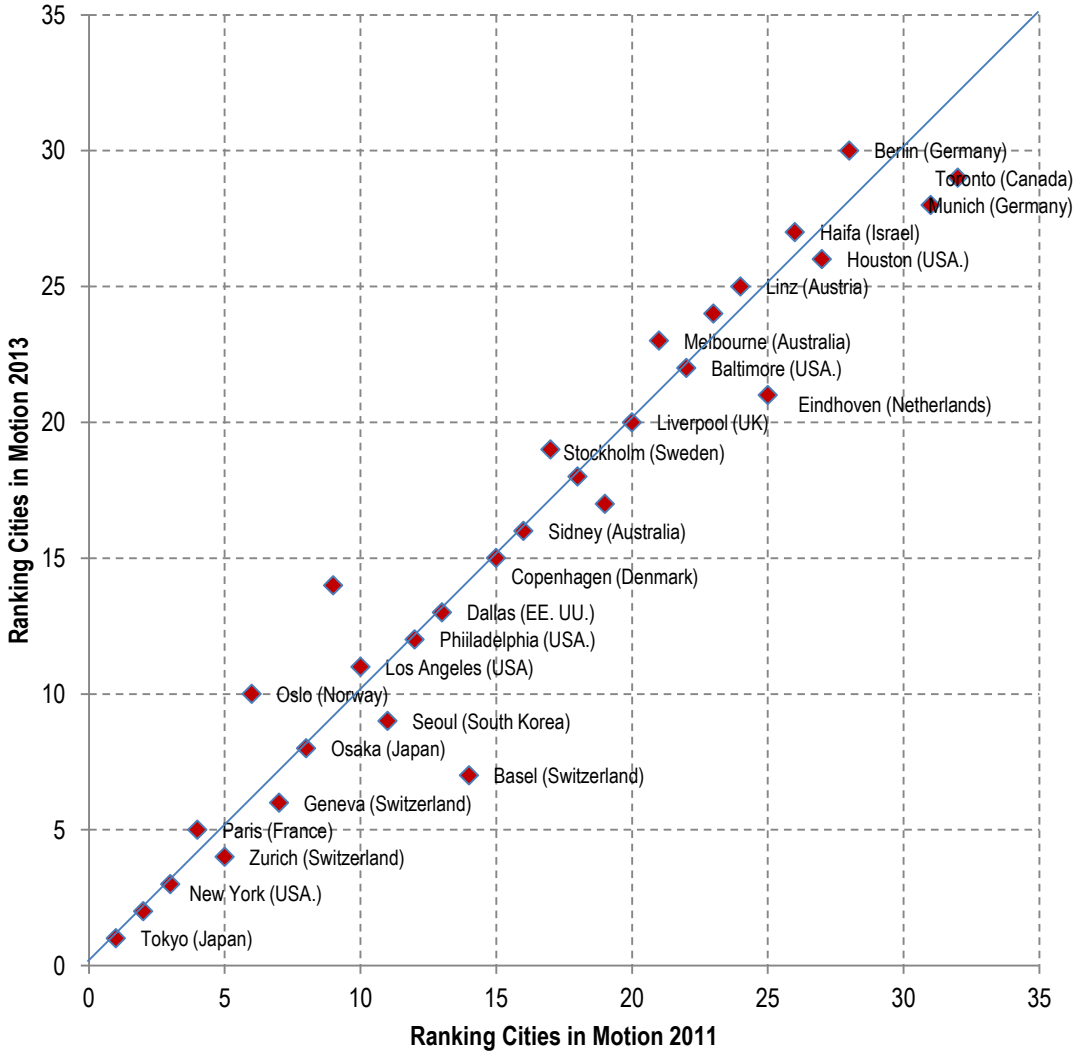
Shown in Table 5 are the changes in the placements over the last three years for the top 50 cities in the ranking of 2013.

Table 5
Changes in the Index for the Top 50 Cities in the Year 2013 Ranking (last three years)

City	2011	2012	2013	2011-2012	2012-2013
Japan-Tokyo	1	1	1	0	0
United Kingdom-London	2	2	2	0	0
USA-New York	3	3	3	0	0
Switzerland-Zurich	5	5	4	0	1
France-Paris	4	4	5	0	-1
Switzerland-Geneva	7	6	6	1	0
Switzerland-Basel	14	7	7	7	0
Japan-Osaka	8	9	8	-1	1
South Korea-Seoul	11	10	9	1	1
Norway-Oslo	6	8	10	-2	-2
USA-Philadelphia	10	11	11	-1	0
USA-Los Angeles	12	12	12	0	0
USA-Dallas	13	13	13	0	0
Denmark-Copenhagen	9	16	14	-7	2
Netherlands-Eindhoven	15	15	15	0	0
Netherlands-Amsterdam	16	18	16	-2	2
Australia-Sydney	19	14	17	5	-3
Sweden-Stockholm	18	17	18	1	-1
USA-Chicago	17	19	19	-2	0
USA-Baltimore	20	20	20	0	0
Australia-Melbourne	25	23	21	2	2
USA-Minneapolis-Saint Paul	22	22	22	0	0
Austria-Linz	21	21	23	0	-2
Israel-Haifa	23	27	24	-4	3
USA-Houston	24	28	25	-4	3
Germany-Munich	27	24	26	3	-2
Austria-Vienna	26	30	27	-4	3
Germany-Berlin	31	25	28	6	-3
Canada-Toronto	32	29	29	3	0
Canada-Ottawa - Gatineau	28	26	30	2	-4
Finland-Helsinki	33	32	31	1	1
United Kingdom-Nottingham	29	31	32	-2	-1
Germany-Cologne	34	33	33	1	0
Israel-Tel Aviv	30	39	34	-9	5
Germany-Stuttgart	36	34	35	2	-1
United Kingdom-Liverpool	35	36	36	-1	0
Sweden-Gothenburg	39	38	37	1	1
France-Lille	37	37	38	0	-1
Germany-Frankfurt am Main	41	40	39	1	1
France-Nice	38	35	40	3	-5
Germany-Hamburg	48	44	41	4	3
United Kingdom-Manchester	43	41	42	2	-1
Ireland-Dublin	40	43	43	-3	0
Canada-Vancouver	46	42	44	4	-2
Belgium-Brussels	45	46	45	-1	1
United Kingdom-Glasgow	44	45	46	-1	-1
Canada-Montreal	53	48	47	5	1
United Kingdom-Birmingham	47	47	48	0	-1
United Kingdom-Leeds	49	49	49	0	0
Germany-Duisburg	50	51	50	-1	1
Spain-Barcelona	63	63	51	0	12

Shown in Graph 1 are the cities' ranks in 2011 and in 2013, for the top 30 cities in the ranking. Those which underwent a positive change are located below the angle of 45 degrees which is formed by the diagonal line; whereas the cities which underwent a change that was not positive are located above this line. For example, in 2011 Basel was ranked number 14 in the overall ranking, and in 2013, number 7. On the other hand, Copenhagen underwent a negative change, going from rank number 9 to number 14 in 2013.

Graph 1



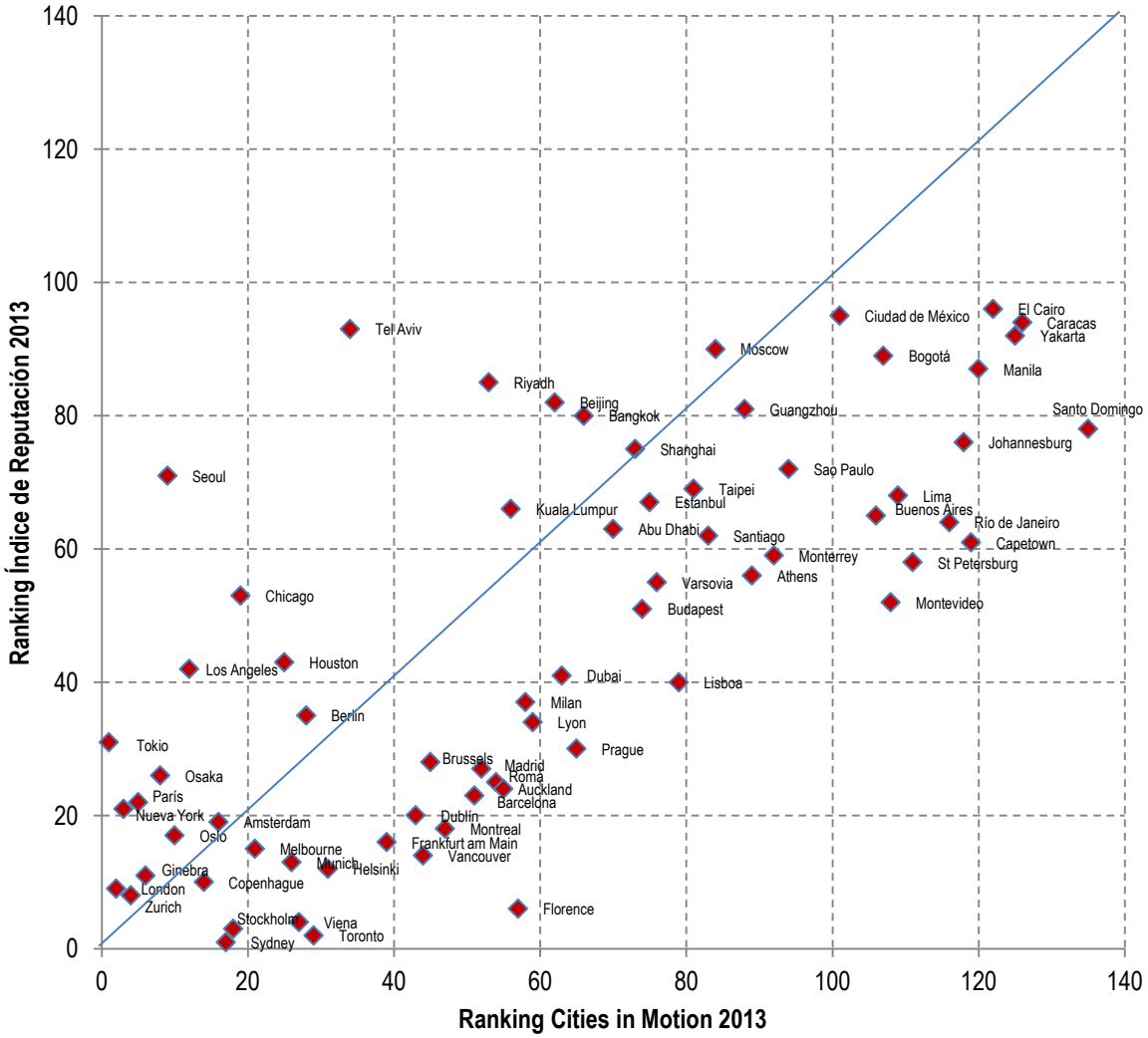
Cities in Motion vs. Reputation Index

This is an intellectual exercise which is of interest because it compares the ICIM with other existing indices. It is of particular interest to compare the ICIM with the Reputation Index (IR) created by the Reputation Institute, which compiles the opinions of more than 22,000 people around the world. The IR measures the degree to which people trust, admire, respect and have good feelings about a city, or their emotional relationship with it. This index has been produced since 1999 for both cities and countries.

Presented in Graph 2 is a comparison between the rankings in the ICIM and the IR of 2013. All those cities which are above the diagonal line have a better position in the CIM ranking than they do in the IR. The opposite is true for the cities which are below the line. One particular case is Tokyo, which is ranked number 1 in the ICIM, yet it is ranked number 31 in the IR. The same is true for cities such as Los Angeles and Chicago (United States), Tel Aviv (Israel) and Seoul (South Korea). On the other hand, cities such as Vienna (Austria), Toronto (Canada) and Florence (Italy) enjoy a reputation above what is indicated by the ICIM.

The cities which fall close to the line are cities which have a reputation that resembles what is found in the ICIM. Within this group are Zurich (Switzerland), Copenhagen (Denmark) and Shanghai (China).

Graph 2



Cities in Motion: A Dynamic Analysis

In order to evaluate the cities' growth trends and potential, we have created a chart in the attempt to portray these aspects. The chart shows the current position (X-axis) and trend (Y-axis) of each city in the ICIM index. The percentage change in the ICIM value from 2011 to 2013 was used as the measurement for calculating the trend. This means that the cities located at the top of the ranking tend to be more stable (even reaching 0 in the case of the highest ranks) due to an effect of decreasing performance levels in which, for every point increase in one of the index's variables or dimensions, the marginal benefit per final unit (the city) becomes lesser.

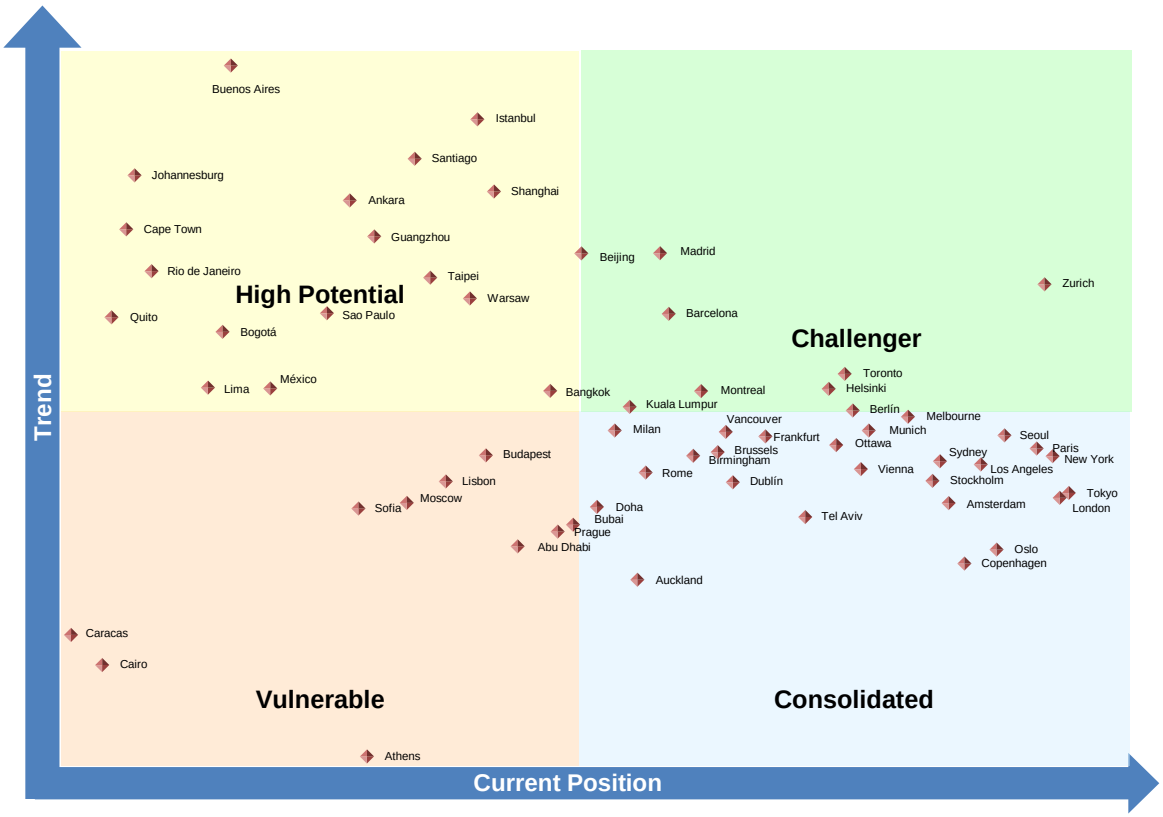
The chart's area has been divided into four quadrants of cities, defined as: high potential, challenger, vulnerable and consolidated.

The first set, that of the cities with high potential, is made up of those cities which, despite the fact that their current position falls in the medium to low zone in the index, display a very fast-paced rate of positive change (upper-left quadrant). In this group you can find Latin American capitals such as Buenos Aires, Rio de Janeiro, Quito, Lima and Bogota, as well as Asian cities like Shanghai, Guangzhou and Taipei.

The challenger cities are the second set to be found in the chart (upper-right quadrant). It is made up of cities whose ranks have improved on the index at a fast rate and have already reached the upper to high zone on the chart. Amongst the examples, you can find Spain's two largest cities, Madrid and Barcelona, as well as the capital of China, Beijing, the Canadian cities of Toronto and Montreal, and Zurich, the most noteworthy city due to its rapid growth and the fact that it is the city which comes in at fourth in the overall ranking of cities.

The third set of cities are those which are in a vulnerable position (lower-left quadrant). This is a group which is growing at a slower pace than the others and falls at the medium to low position within the overall ranking. It is made up of cities such as Caracas and Cairo (the worst situated in terms of position-trend), as well as Sofia, Moscow, Lisbon and Budapest. Especially notable within this group is the situation of Athens, the city in the entire sample which has seen the least improvement throughout the period analyzed.

The last group is that of the consolidated cities (lower-right quadrant). These are cities with a generally medium to high position, but whose position throughout the period has remained steady or grown just slowly. This group is made up of cities from very different geographical areas, such as: New York, Los Angeles and Vancouver, located in North America; Paris, London, Dublin and Munich, as the European representatives, alongside Scandinavian capitals like Oslo and Copenhagen, and Asian cities like Tokyo and Seoul. However, as we have mentioned already, this group is especially subject to the "top of the ranking" effect that was described above



Conclusions

The synthetic CIM index makes it possible, using an objective methodology of calculation, to produce a ranking of cities which takes various aspects about the cities into account. The ten dimensions analyzed herein offer a broad, all-encompassing overview of what a city represents, while at the same time allowing for a better understanding of what comprises a city and how it evolves over time. Meanwhile, this index, because it is not biased by any dimension in particular, offers greater consistency when it comes to analyzing the results. In this sense, a comparative, in-depth analysis of the various city profiles shown in the ICIM makes it possible to reach the following conclusions:

- There is no single model for success. The cities which lead the ranking are not identical, but rather prioritize different dimensions (see the Graphic Annex). There are different paths through which a city can come to be placed at the top of the index. This means that cities must flee from a "one-size-fits-all" focus. The evidence presented in this report is consistent with the message which our platform conveys to city administrators: the first step towards achieving a better city is to define what type of city you want to have and what dimensions you wish to seek improvement in.

- It is not enough to be good in just one dimension. There are cities placed at the top of the ranking in certain dimensions. This is the case with Riga, in terms of The Environment (4); Bangkok, in International Outreach (3), and Florence, in Social Cohesion (7), which in the overall ranking are placed 87th, 66th and 57th, respectively. Those cities which intend to play in the big leagues must be able to achieve acceptable minimums in the full set of dimensions.

- It is important to take the whole into account. Related with the preceding point, and consistent with the proposed

model, it is important to promote a general overview of the urban management process. Separating the ten dimensions is useful as a tool which facilitates analysis. However, the elements are related to each other in practice. For example, the models of Mobility and Transportation which a city chooses have an impact on the dimension of The Environment, in the same way that Governance and Public Management are not independent from one another. One of the main responsibilities of urban administrators consists of understanding what the relationships are between the different dimensions which make up a city, as well as the advantages and disadvantages which they entail. In this sense, the city's structure must reflect these relationships while preventing improper relationships between the different departments of municipal governments and reaching a proper balance.

- The perfect city does not exist. It is very difficult for a city to maximize all of the dimensions. Even those which are placed in the top ranks have weaknesses. For example, the top three cities in our ranking (Tokyo, London and New York) have a long way to go in terms of the dimension of Social Cohesion.

- Changes are slow. Our time-based analysis of the ICIM indicates to us that, in general, the changes in a city's placement within the ranking were not significant from one year to the next. For example, Tokyo, London and New York placed in the top ranks in 2013, a list which was repeated in 2011 and 2012, as well. In large part, this is due to the time which major projects require in order to take hold. Therefore, if they wish to produce the changes necessary to become smart, sustainable cities, cities should adopt long-term policies as soon as possible–especially those which are ranked lowest–.

- Use of the ICIM as a planning tool. This report offers a conceptual framework and empirical evidence that can be used to help both the cities included in the index and those which were left out. The first are offered an X-ray image of their current status, indicating what aspects show room for improvement. For the others, this report can be used to identify the relevant dimensions to consider in their urban planning, as well as defining the group of cities which they might wish to emulate. In this sense, the point of reference which the ICIM may provide must be viewed simply as that, a reference, and not as a road map which must be followed word for word.

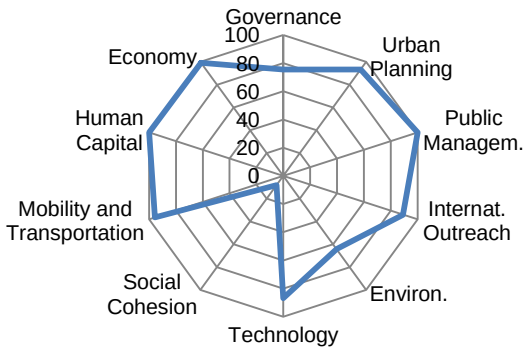
- Cities do no always have the reputation that they deserve. The comparative study of what cities actually offer (ICIM) and the perception which the general public has about the cities (IR) demonstrates that there are cities which must work better when communicating their virtues (for example, Seoul, which is ranked number 9 in the ICIM, but number 71 in the IR). At the same time, there are cities which enjoy a reputation which is above what the ICIM indicated (for example, Florence, which is ranked number 57 in the ICIM, but number 6 in the IR). These cities should be careful, because, if the distance between "what a city really is" and "what that city says it is" becomes too great, this may have a negative effect on its legitimacy.

- Cities do not operate in isolation. Each city is different, but none is operated in isolation from the reality of the country where it is located. In this sense, urban administrators must be capable of identifying the threats and opportunities which exist within the national context to protect themselves from the former and take advantage of the latter.

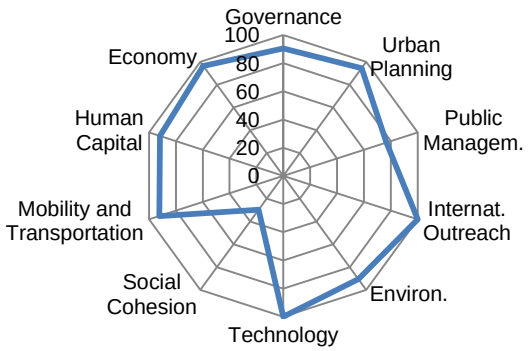
Graphic Annex. Profiles of 135 cities

The following is a graphic analysis of the 135 cities included in the ICIM, based on the 10 key dimensions. These radar-style graphics are an attempt to make it easier to interpret the profile of each city by identifying the values calculated for the different dimensions. At the same time, they make it possible to compare two or more cities in one quick glance.

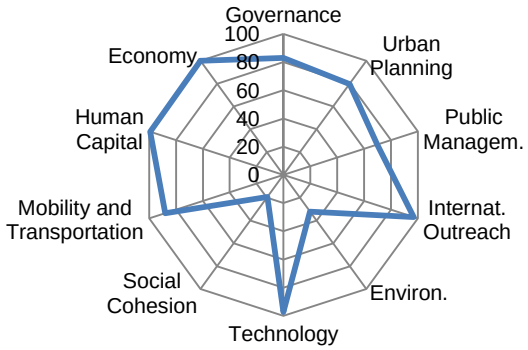
Japan-Tokyo



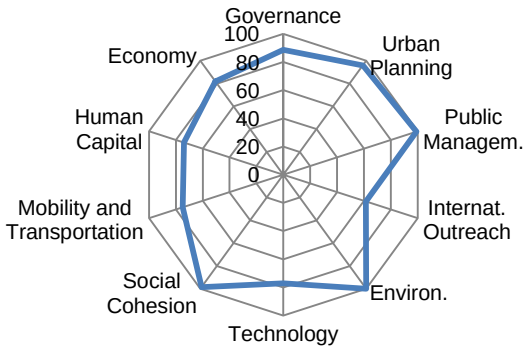
United Kingdom-London



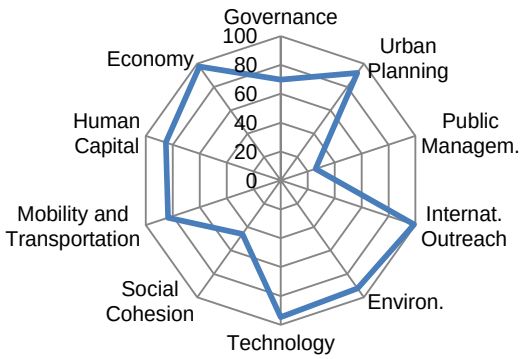
USA-New York



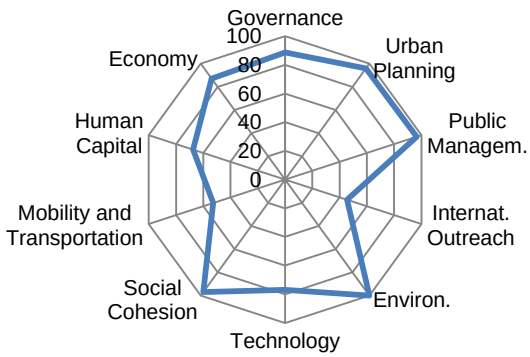
Switzerland-Zurich



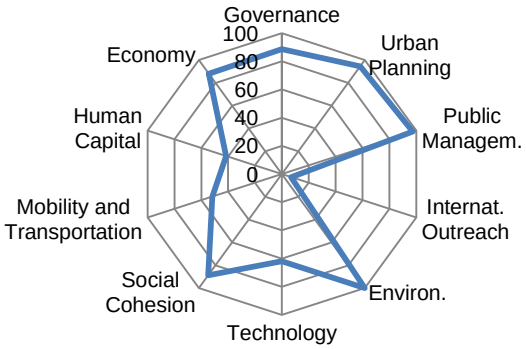
France-Paris



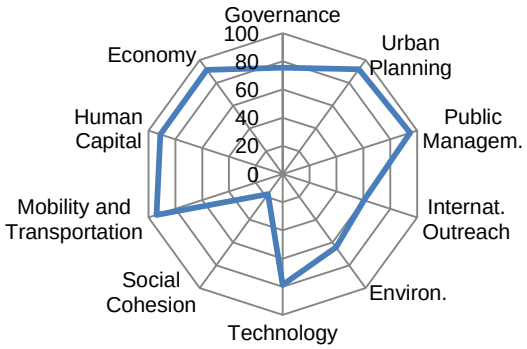
Switzerland-Geneva



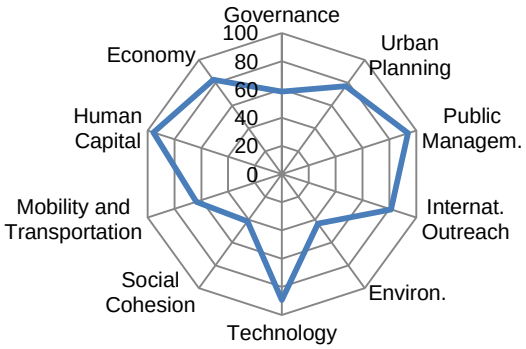
Switzerland-Basel



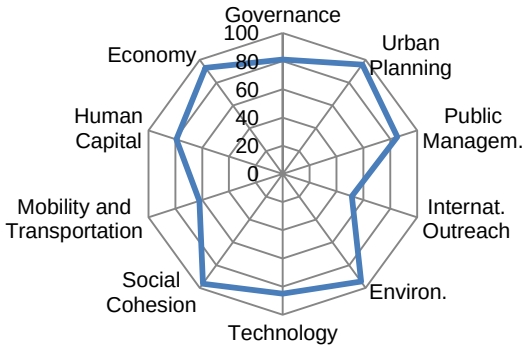
Japan-Osaka



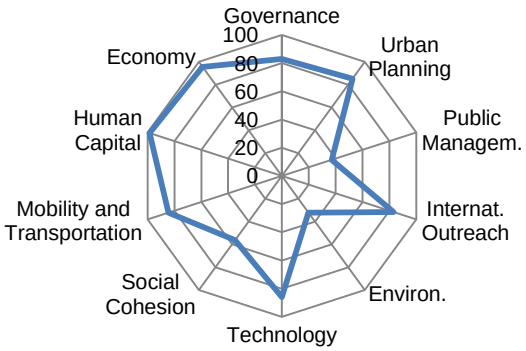
South Korea-Seoul



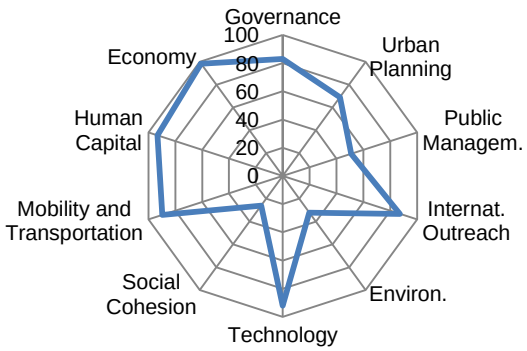
Norway-Oslo



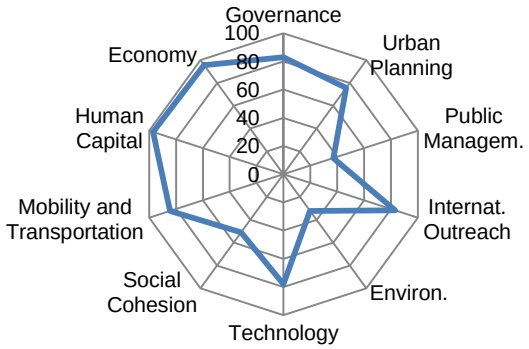
USA-Philadelphia



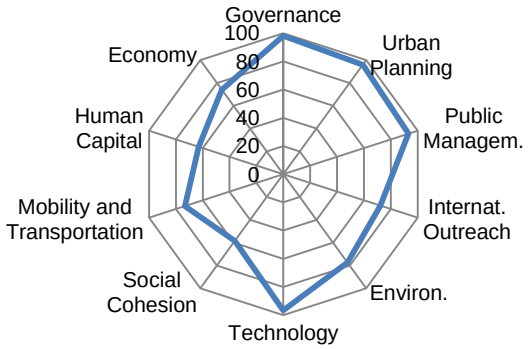
USA-Los Angeles



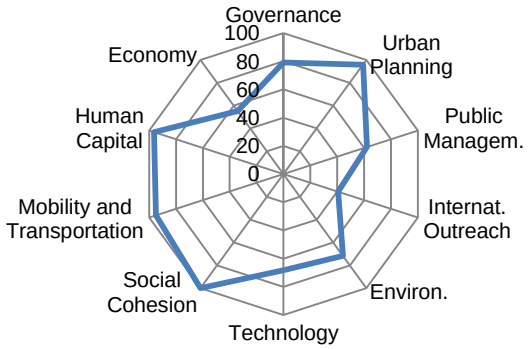
USA-Dallas



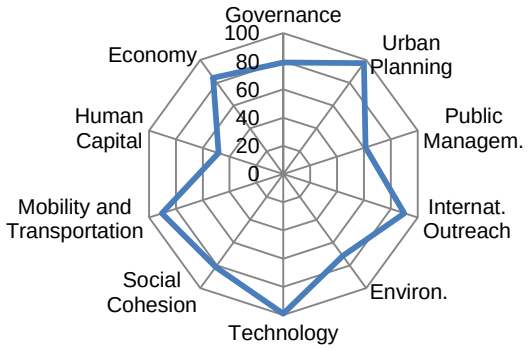
Denmark-Copenhagen



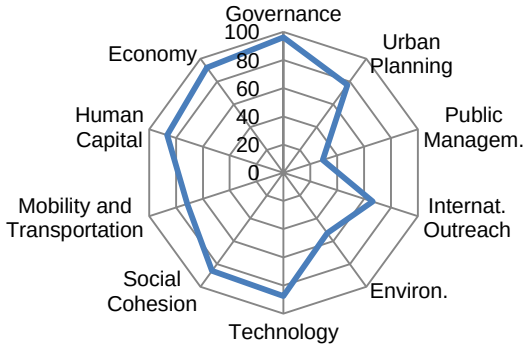
Netherlands-Eindhoven



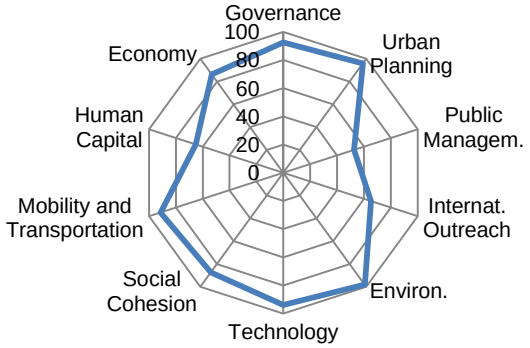
Netherlands-Amsterdam



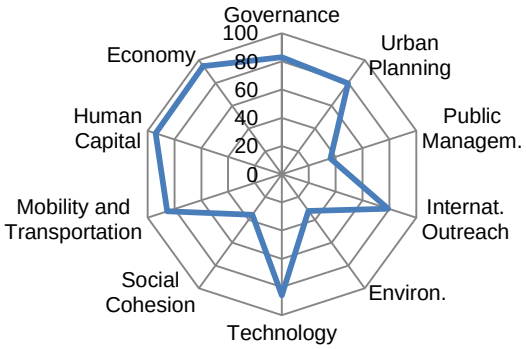
Australia-Sydney



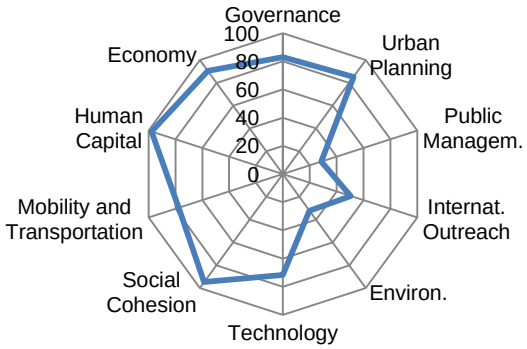
Sweden-Stockholm



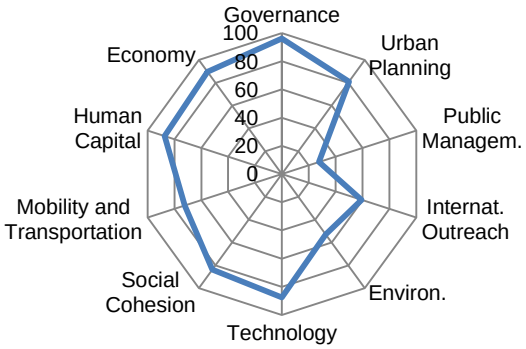
USA-Chicago



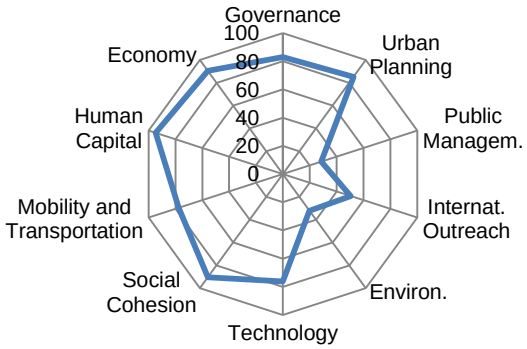
USA-Baltimore



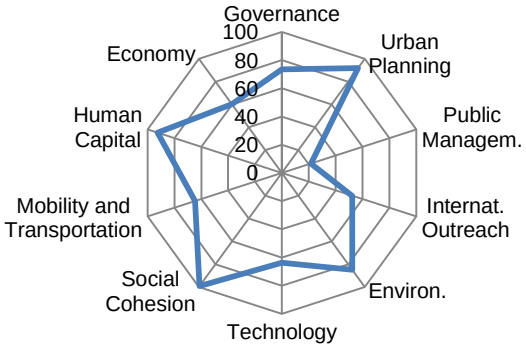
Australia-Melbourne



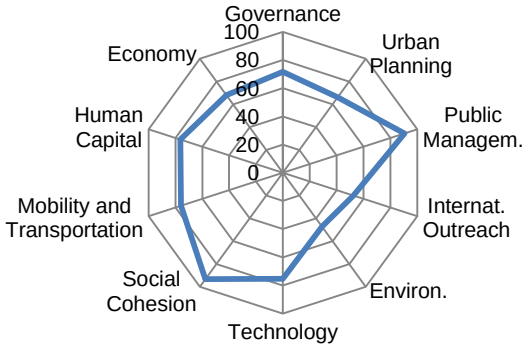
USA-Minneapolis-Saint Paul



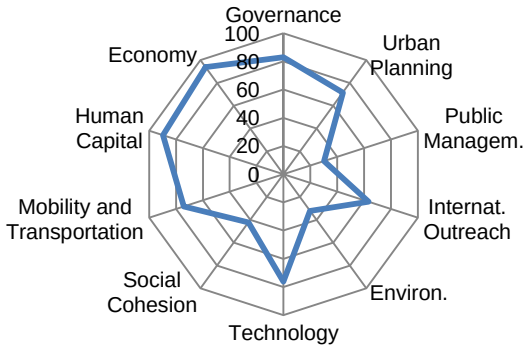
Austria-Linz



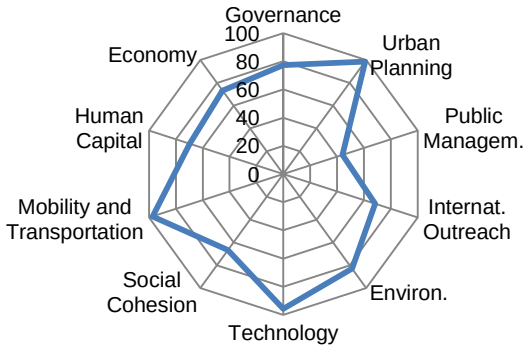
Israel-Haifa



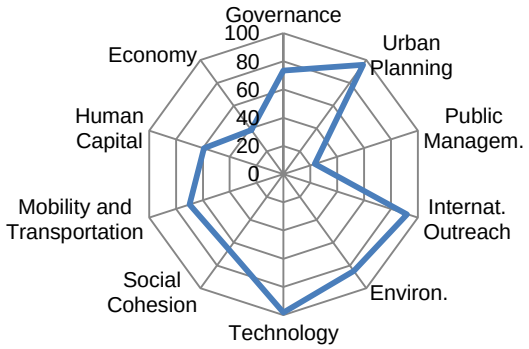
USA-Houston



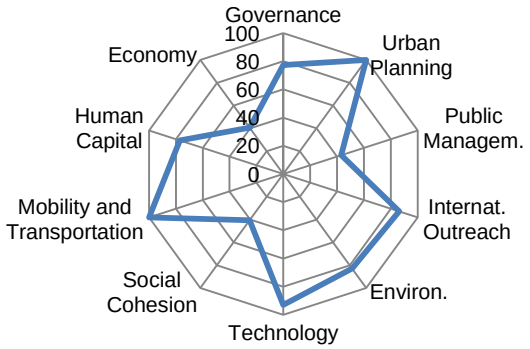
Germany-Munich



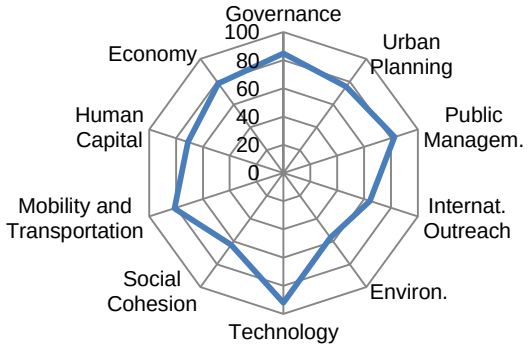
Austria-Vienna



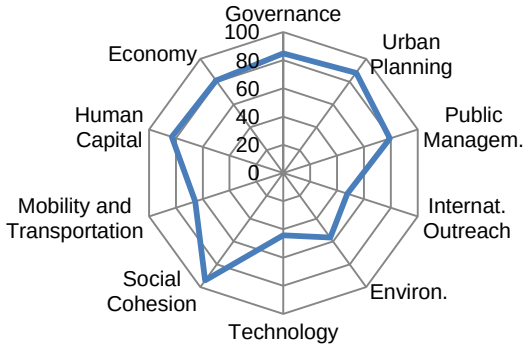
Germany-Berlin



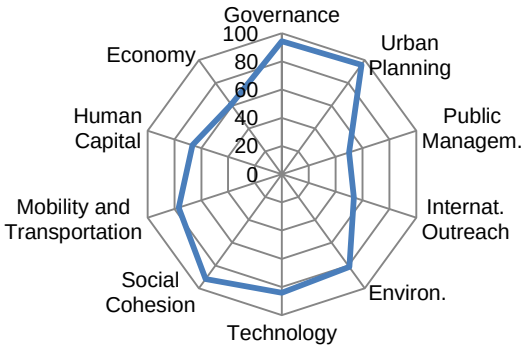
Canada-Toronto



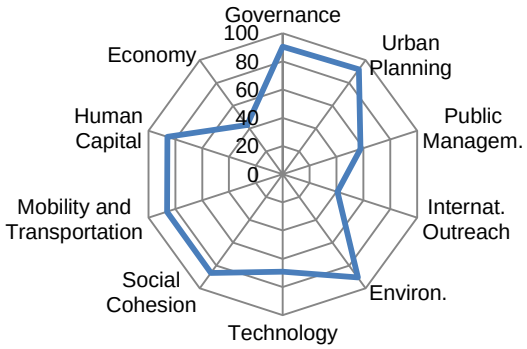
Canada-Ottawa - Gatineau



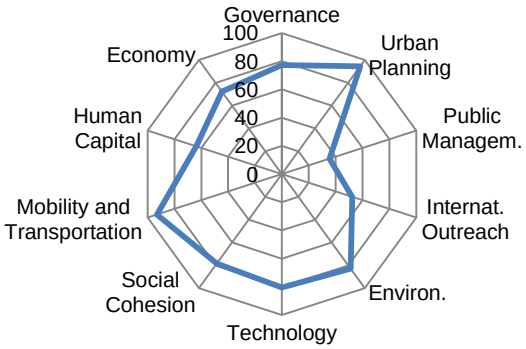
Finland-Helsinki



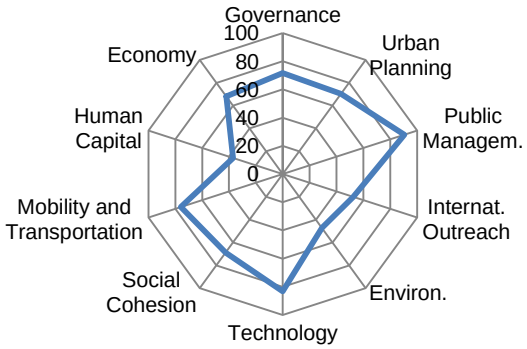
United Kingdom-Nottingham



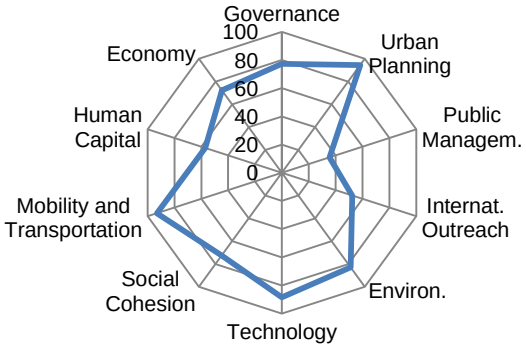
Germany-Cologne



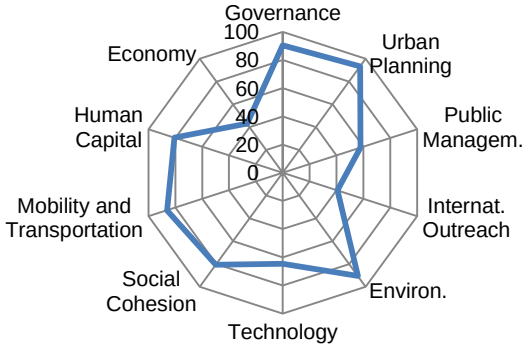
Israel-Tel Aviv



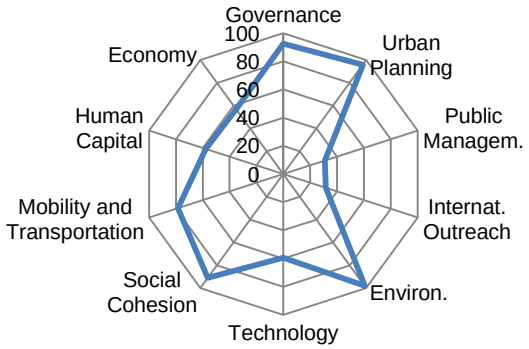
Germany-Stuttgart



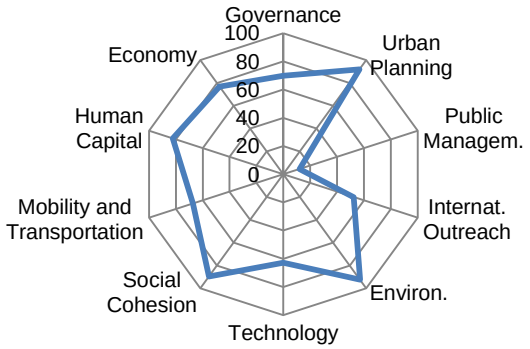
United Kingdom-Liverpool



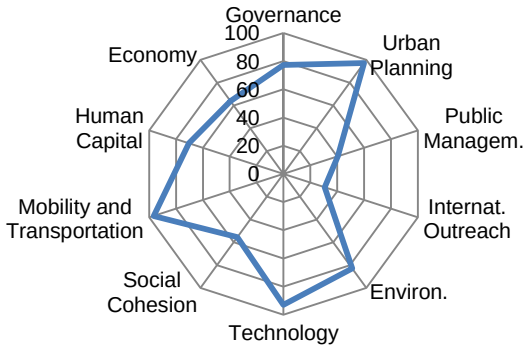
Sweden-Gothenburg



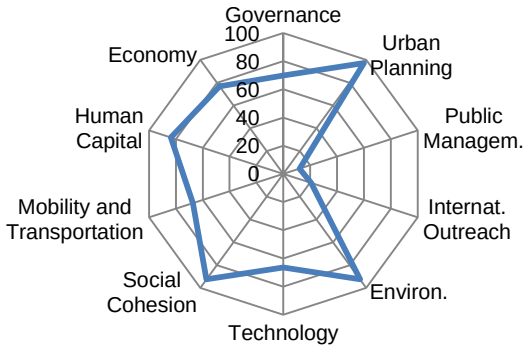
France-Lille



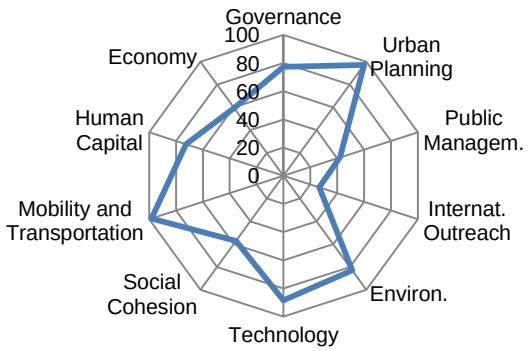
Germany-Frankfurt am Main



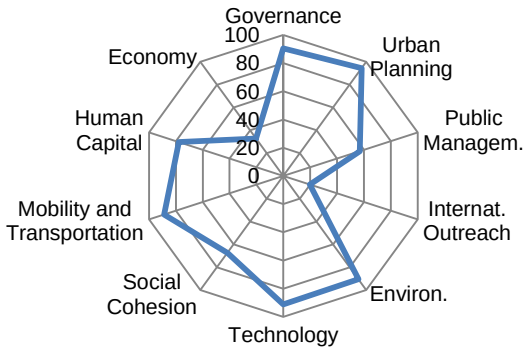
France-Nice



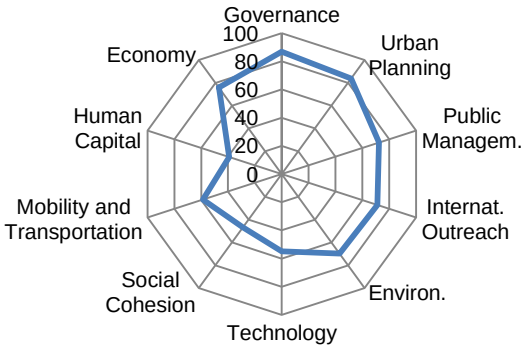
Germany-Hamburg



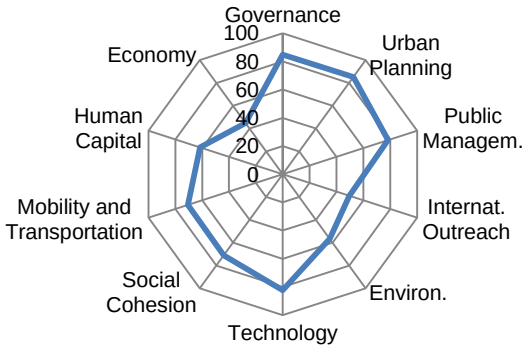
United Kingdom-Manchester



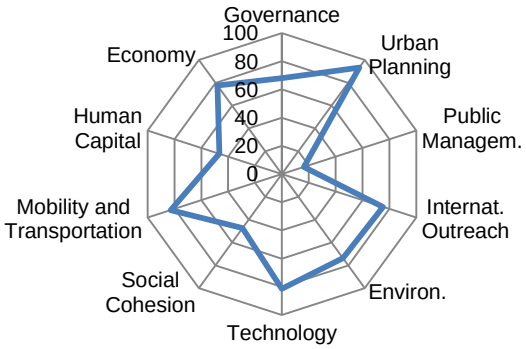
Ireland-Dublin



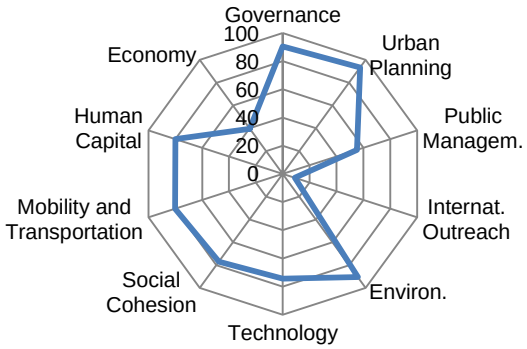
Canada-Vancouver



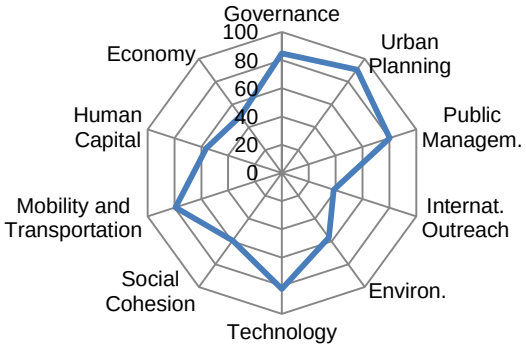
Belgium-Brussels



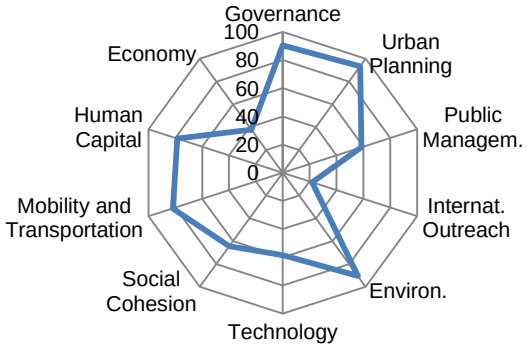
United Kingdom-Glasgow



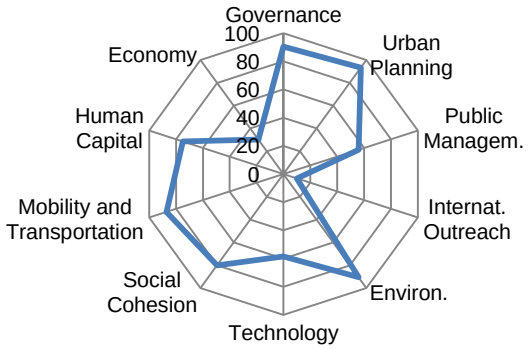
Canada-Montreal



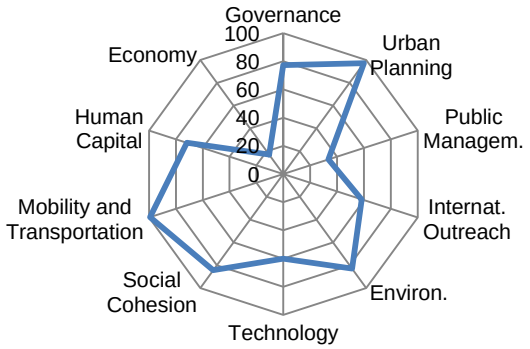
United Kingdom-Birmingham



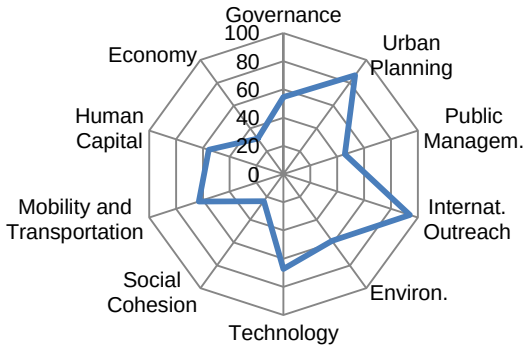
United Kingdom-Leeds



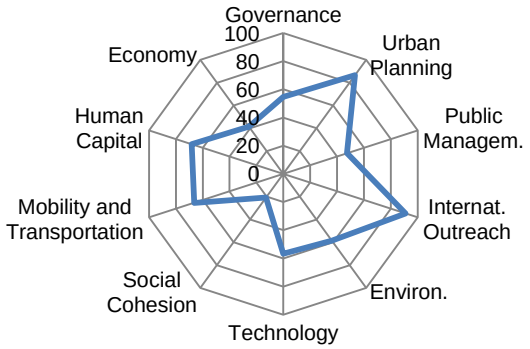
Germany-Duisburg



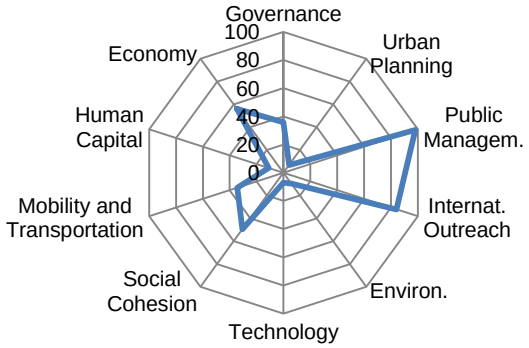
Spain-Barcelona



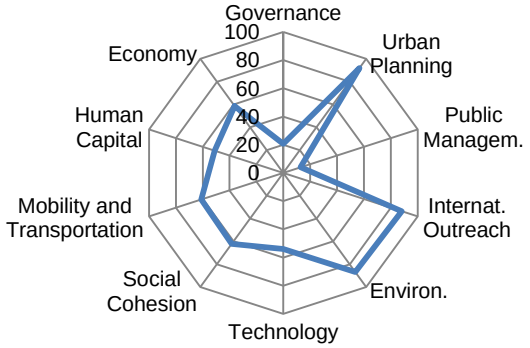
Spain-Madrid



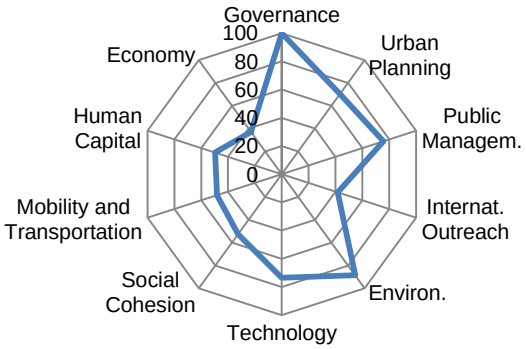
Saudi Arabia-Riyadh



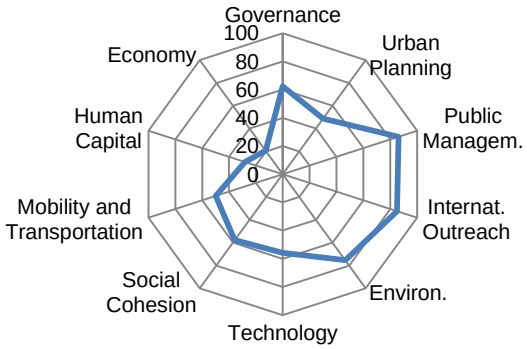
Italy-Rome



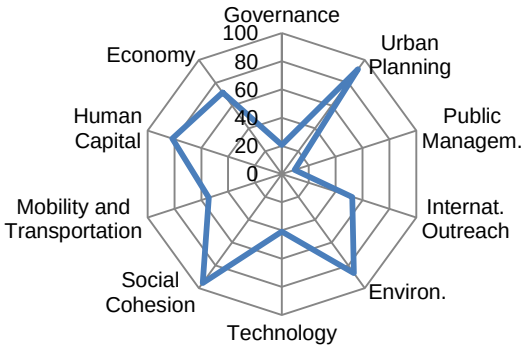
New Zealand-Auckland



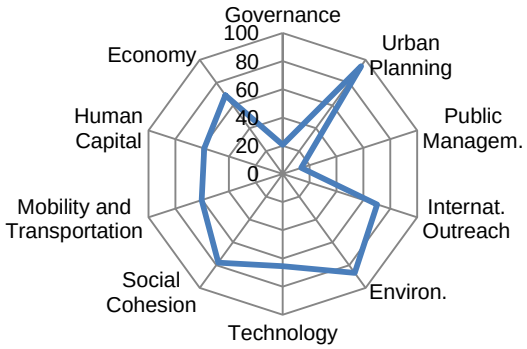
Malaysia-Kuala Lumpur



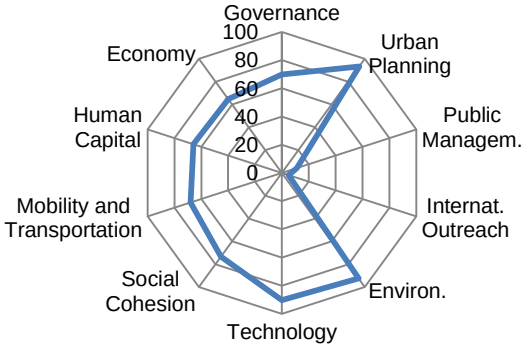
Italy-Florence



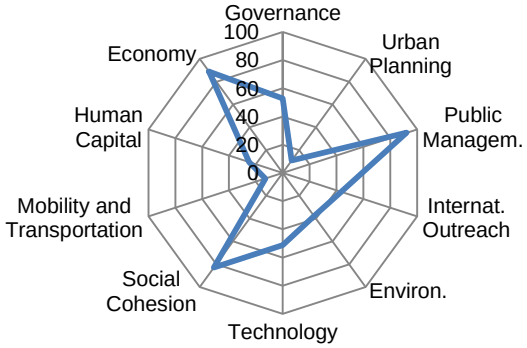
Italy-Milan



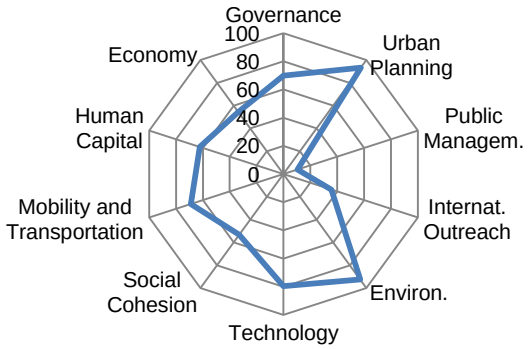
France-Lyon



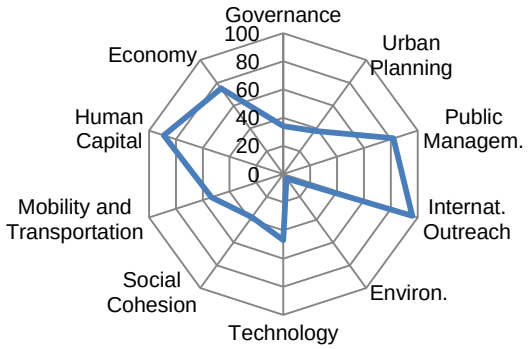
Qatar-Doha



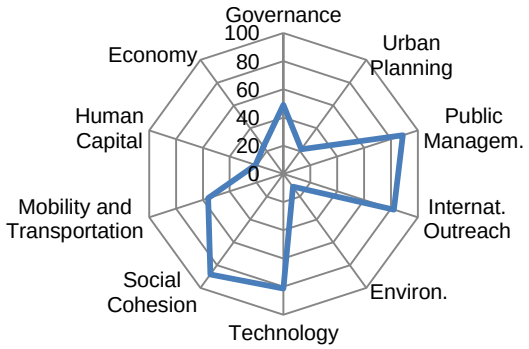
France-Marseille



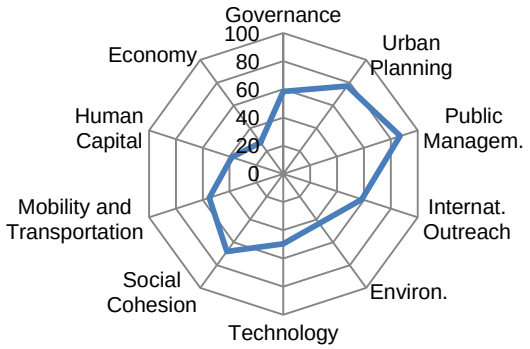
China-Beijing



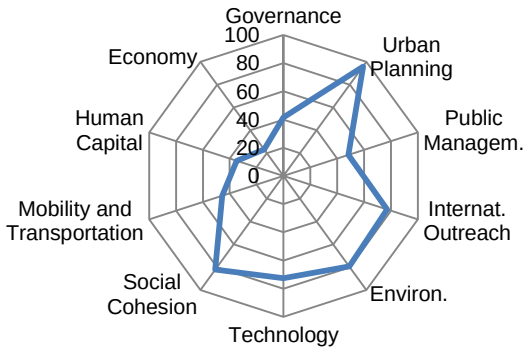
United Arab Emirates-Dubai



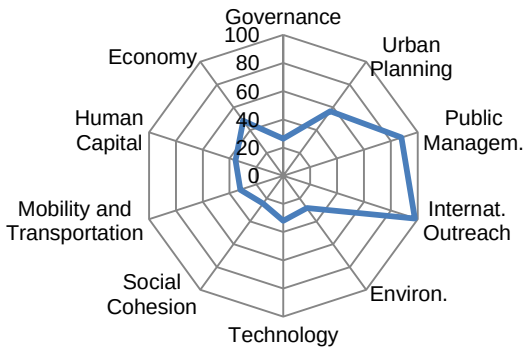
South Korea-Daejeon



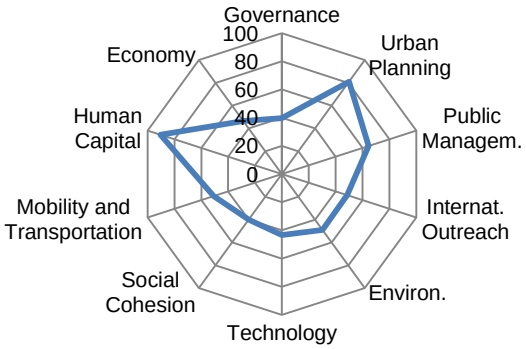
Czech Republic-Prague



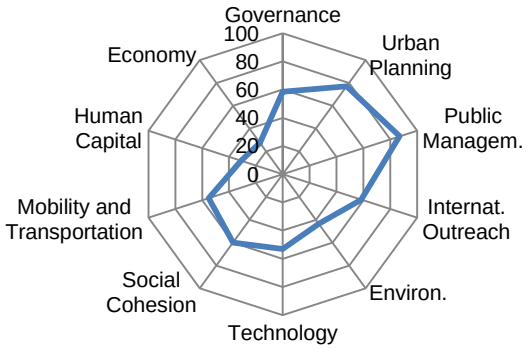
Thailand-Bangkok



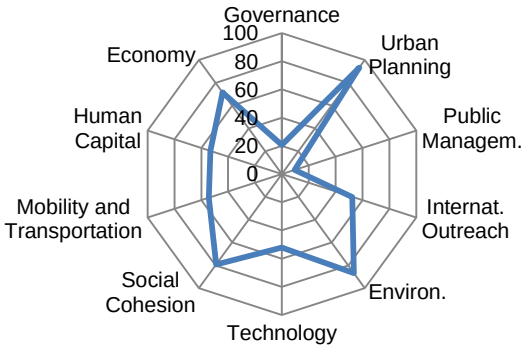
Portugal-Porto



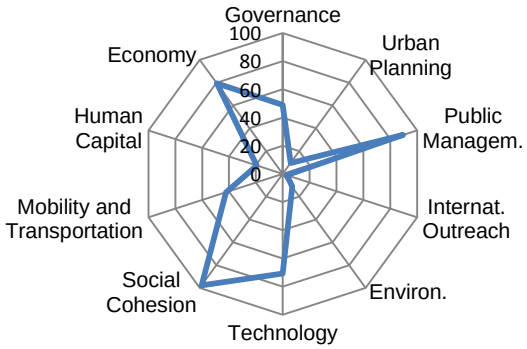
South Korea-Daegu



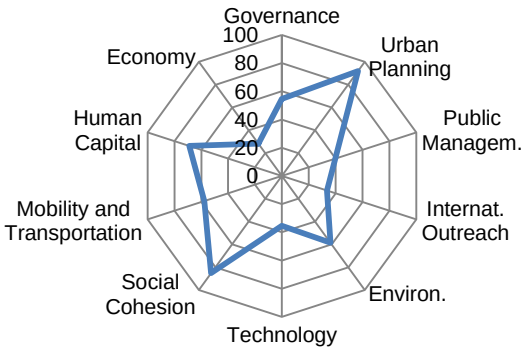
Italy-Turin



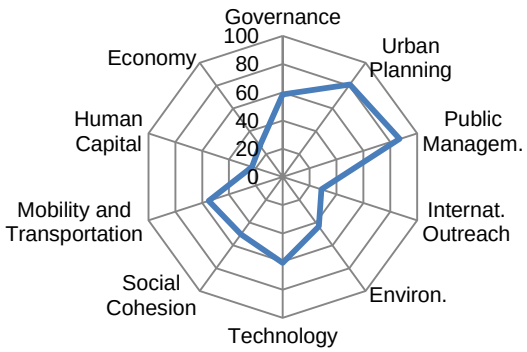
United Arab Emirates-Abu Dhabi



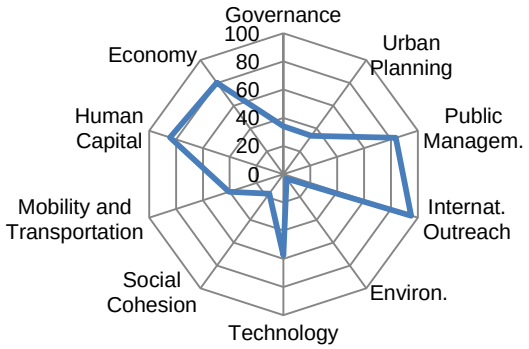
Spain-Valencia



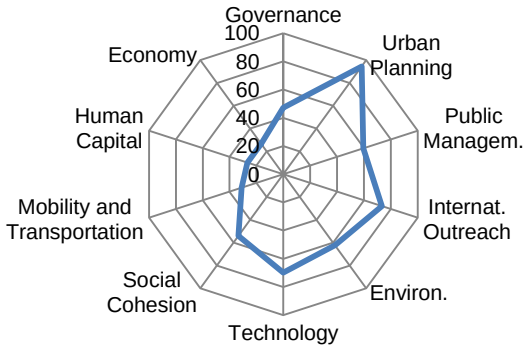
South Korea-Busan



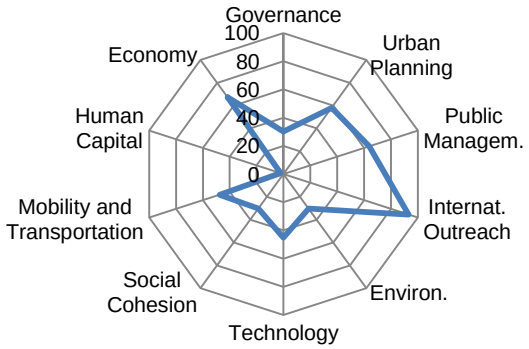
China-Shanghai



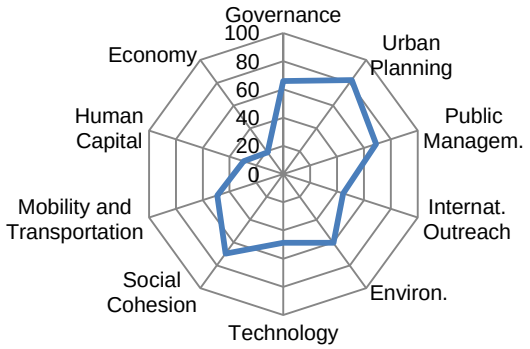
Hungary-Budapest



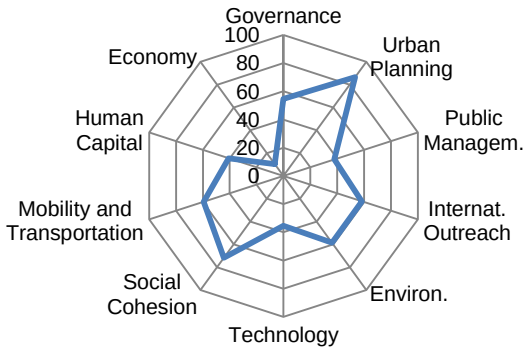
Turkey-Istanbul



Poland-Warsaw



Spain-Seville



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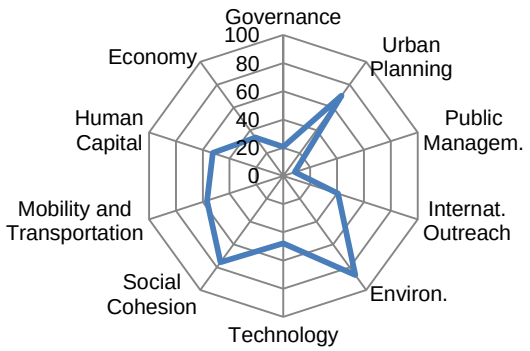

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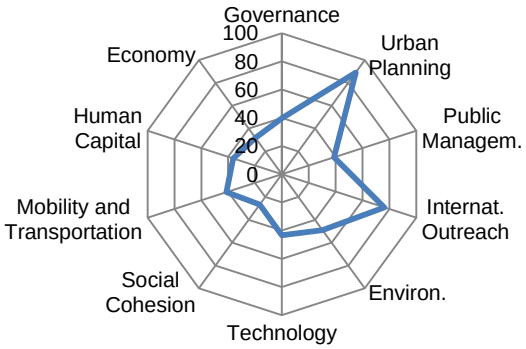

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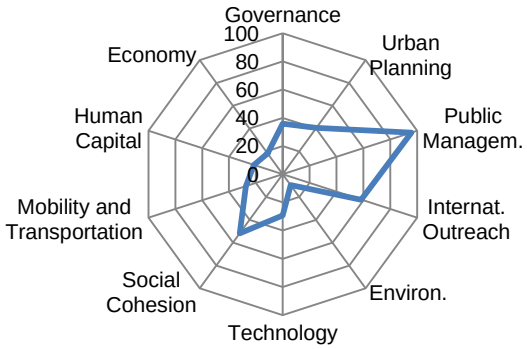

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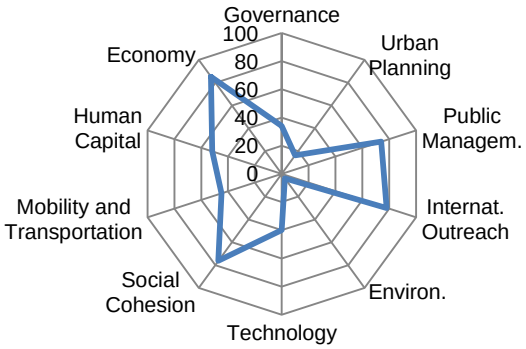
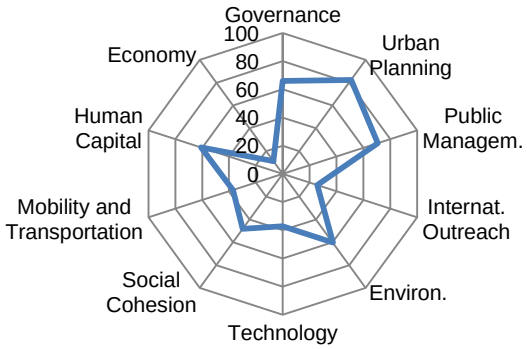
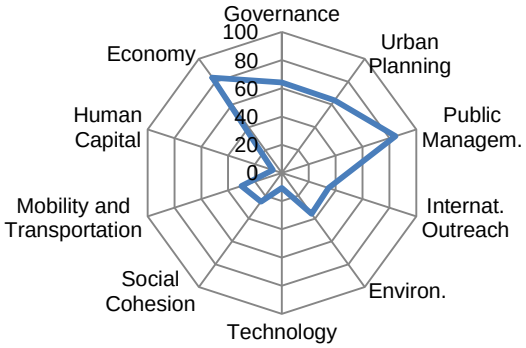


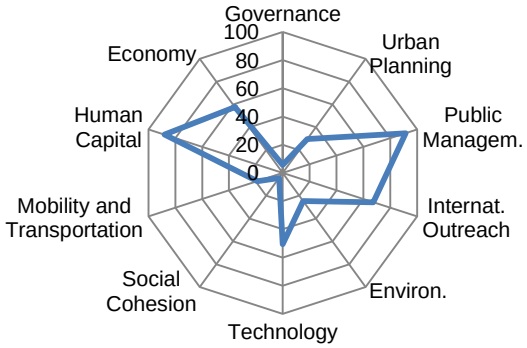
Poland-Wroclaw



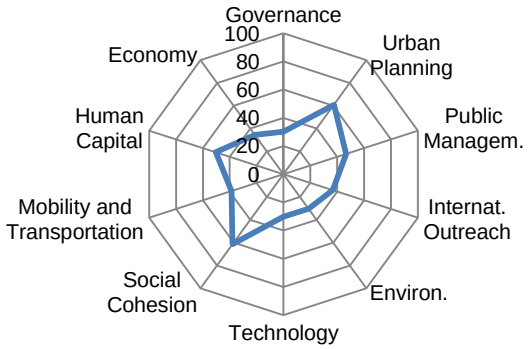
Chile-Santiago



Russia-Moscow



Turkey-Bursa



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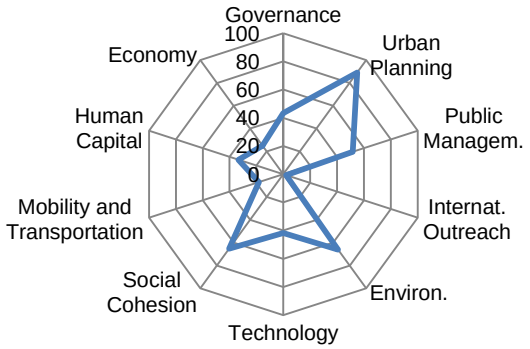
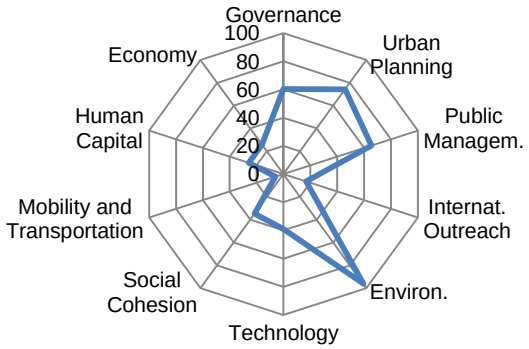
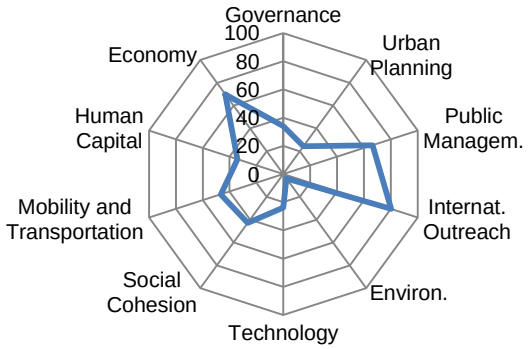


Latvia-Riga



China-Guangzhou



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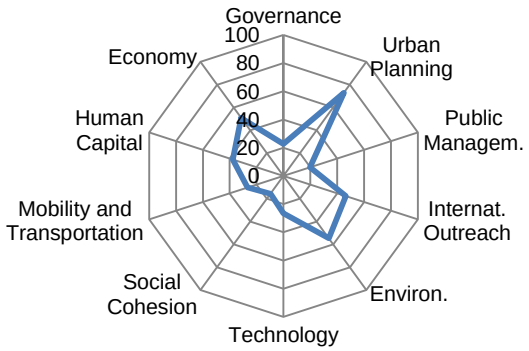

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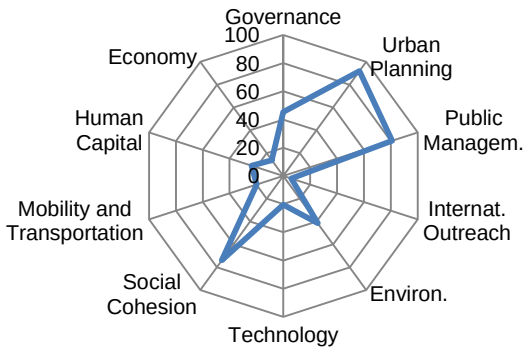
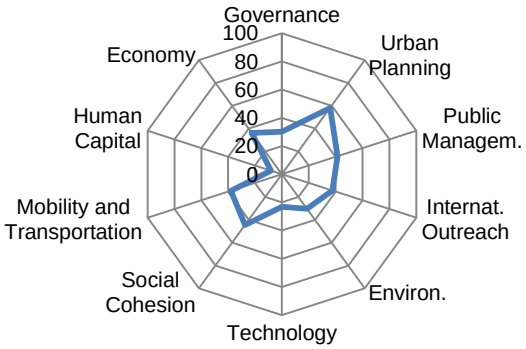
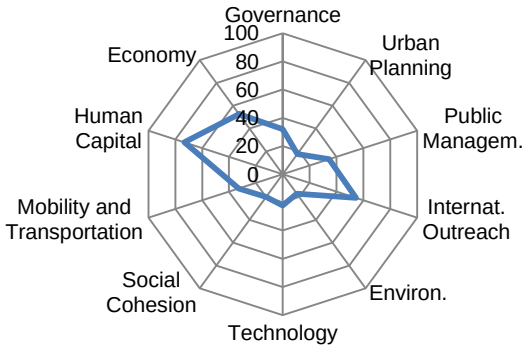


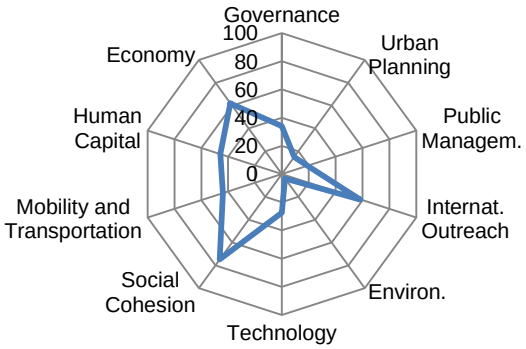
Turkey-Ankara



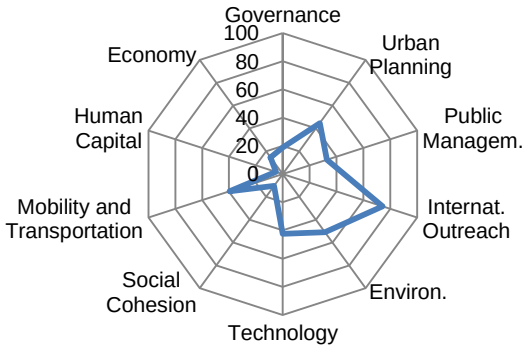
Mexico-Monterrey



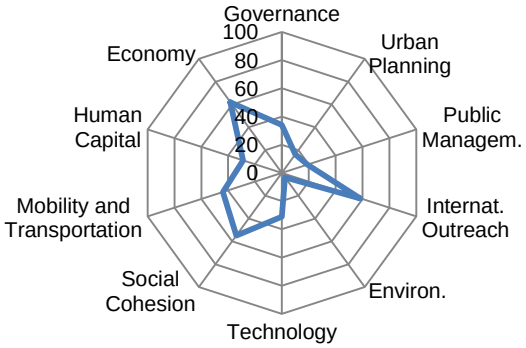
Taiwan-Tainan



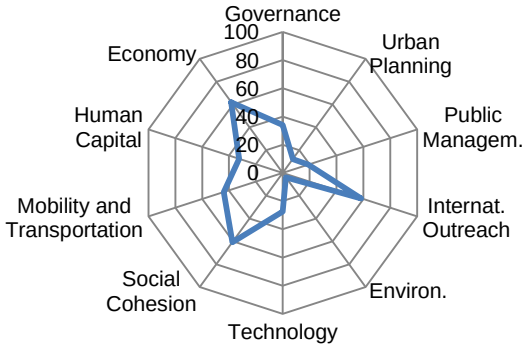
Brazil-Sao Paulo



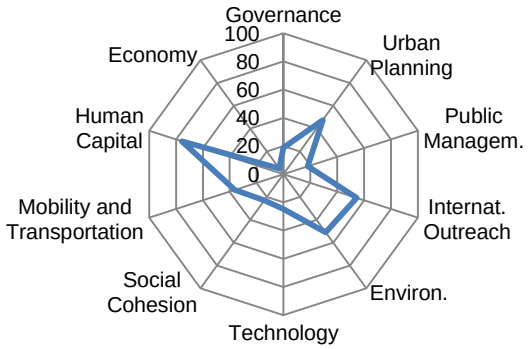
Taiwan-Kaohsiung



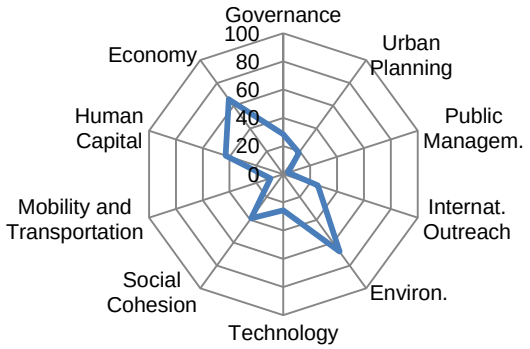
Taiwan-Taichung



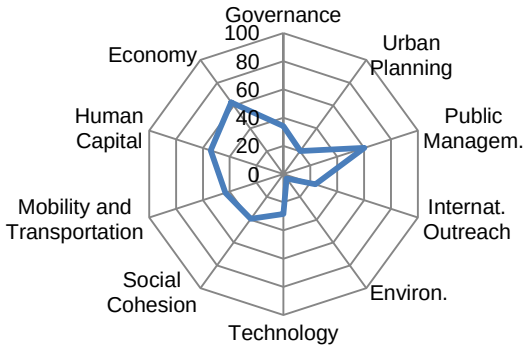
Brazil-Curitiba



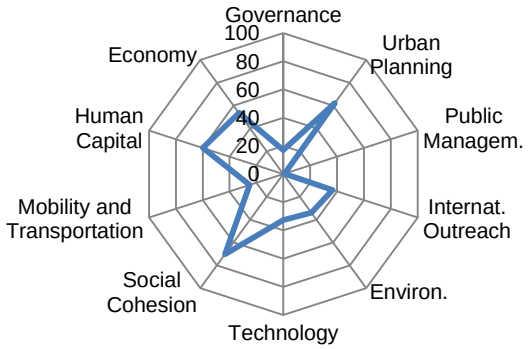
Colombia-Cali



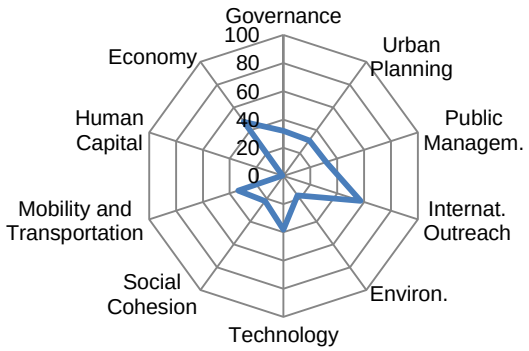
China-Tianjin



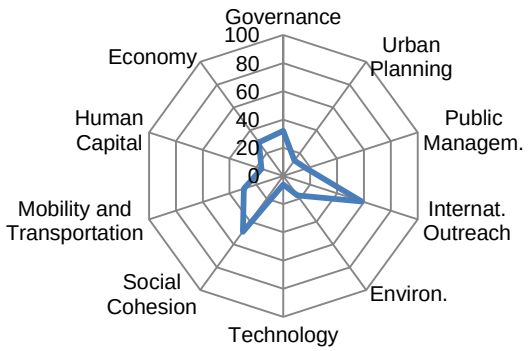
Argentina-Rosario



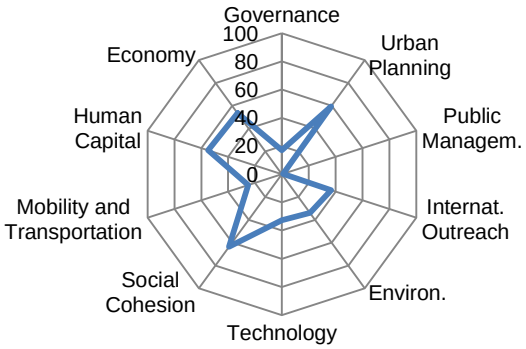
Mexico-Mexico City



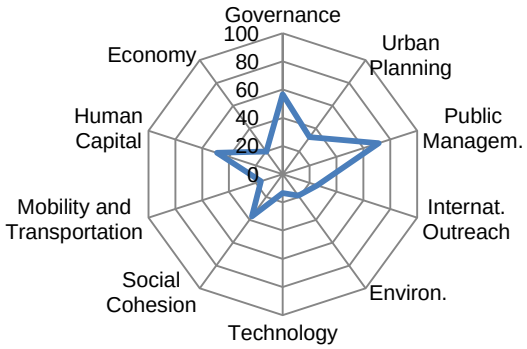
Mexico-Guadalajara



Argentina-Cordoba



South Africa-Durban



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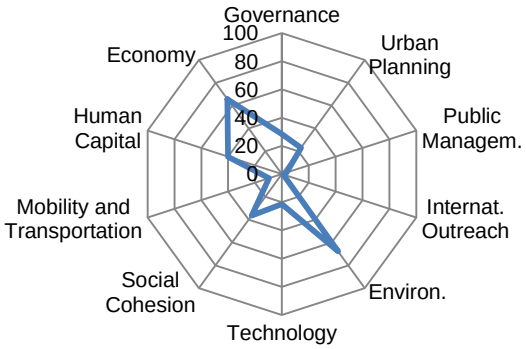

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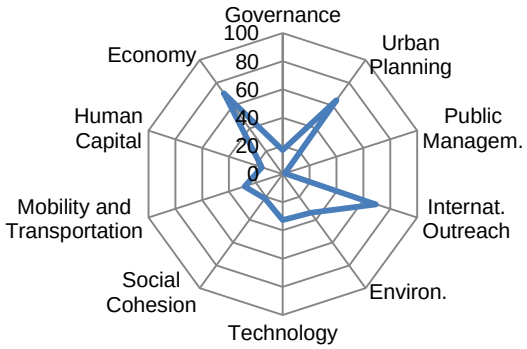

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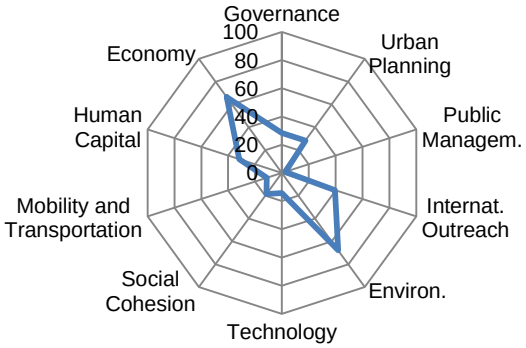
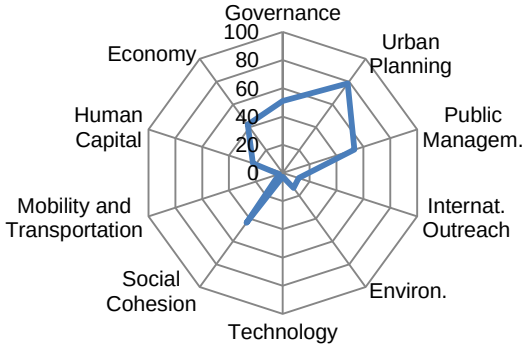


Uruguay-Montevideo



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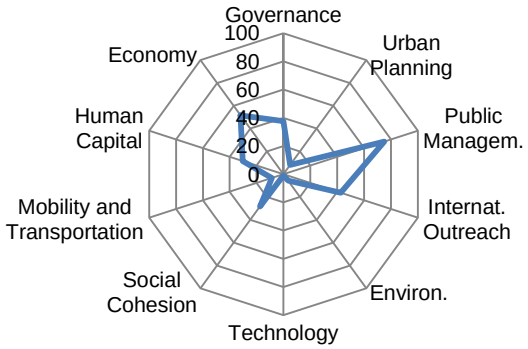
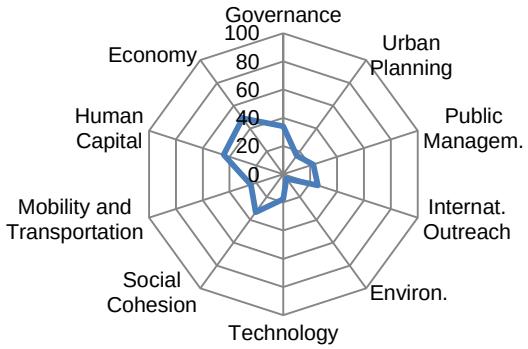
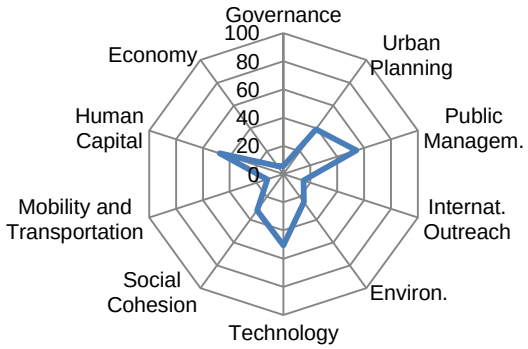


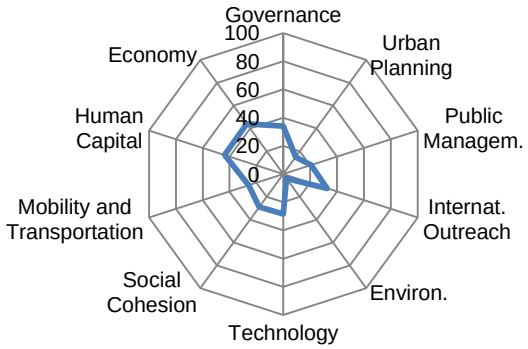
China-Shenyang



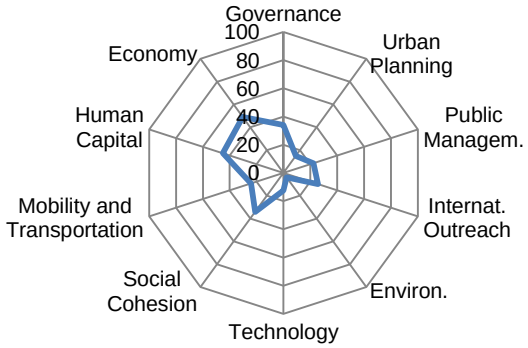
Russia-St Petersburg



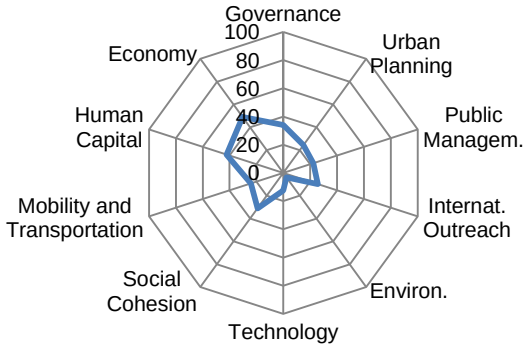
China-Wuhan



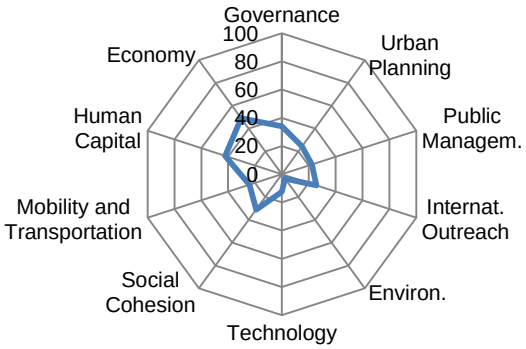
China-Harbin



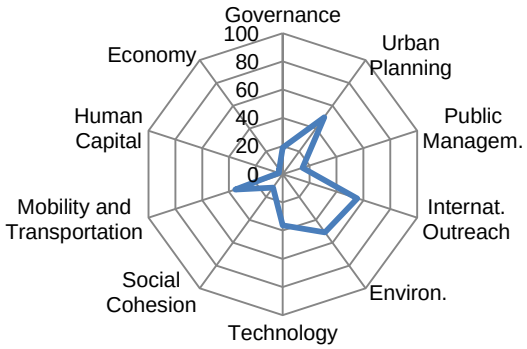
China-Chongqing



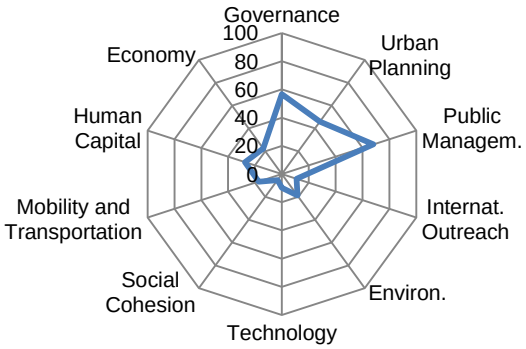
China-Chongqing



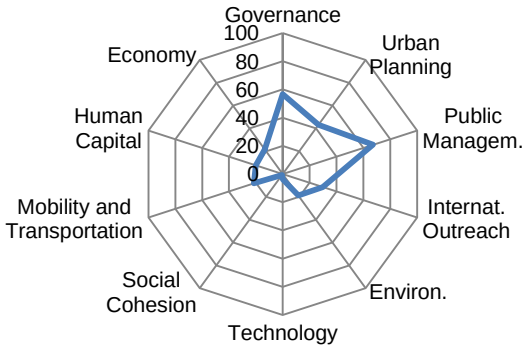
Brazil-Rio de Janeiro



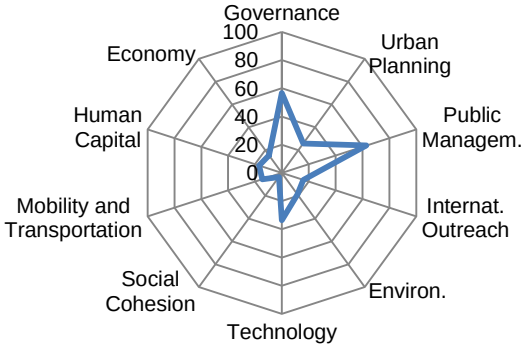
South Africa-Pretoria



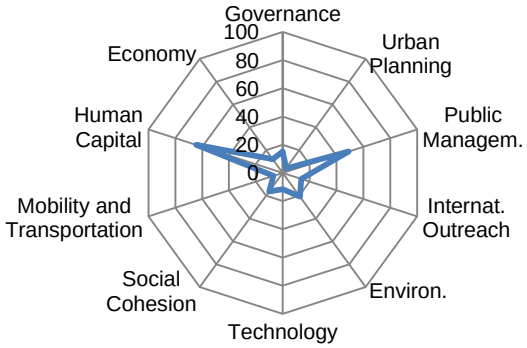
South Africa-Johannesburg



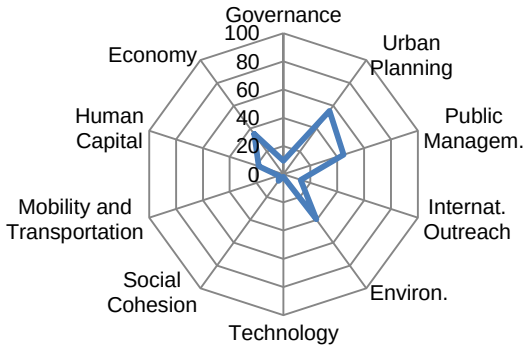
South Africa-Cape Town



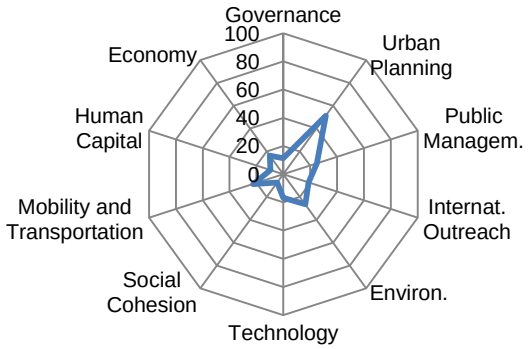
Philippines-Manila



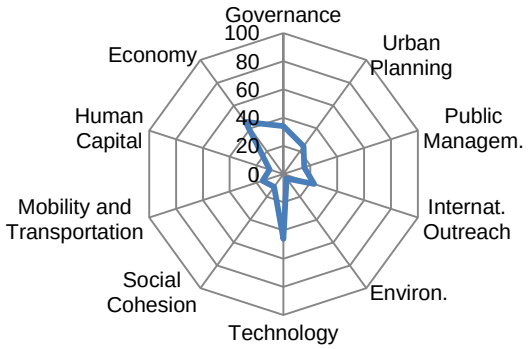
Ecuador-Quito



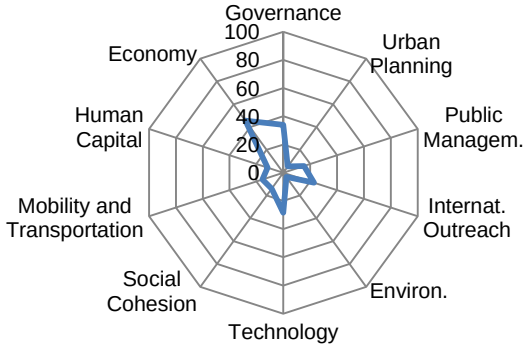
Egypt-Cairo



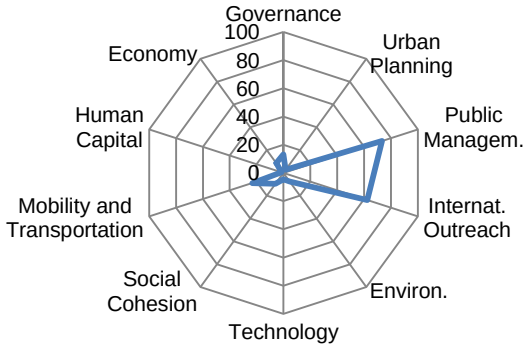
China-Shenzhen



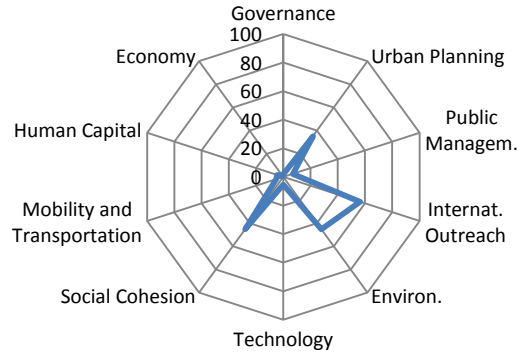
China-Suzhou



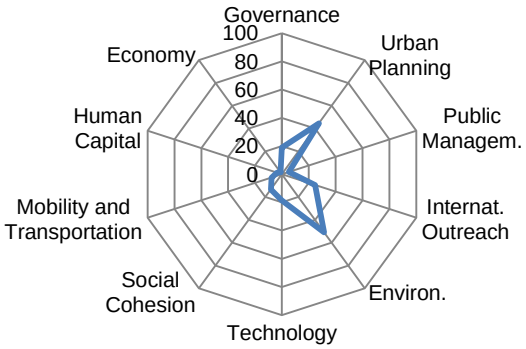
Indonesia-Jakarta



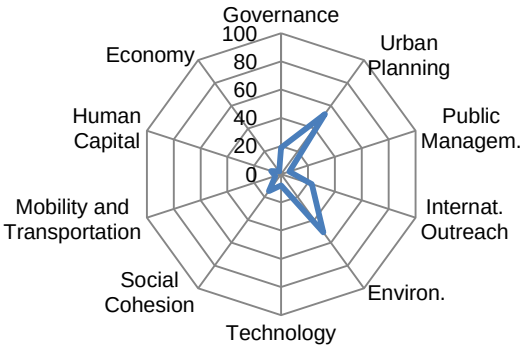
Venezuela-Caracas



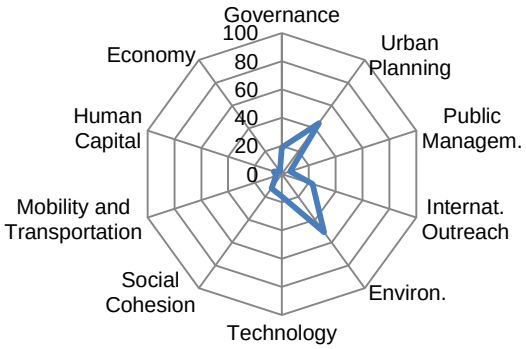
Brazil-Salvador



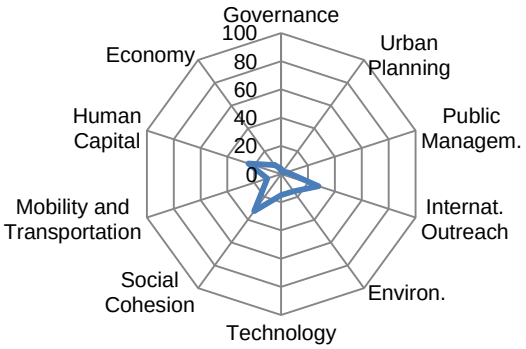
Brazil-Porto Alegre



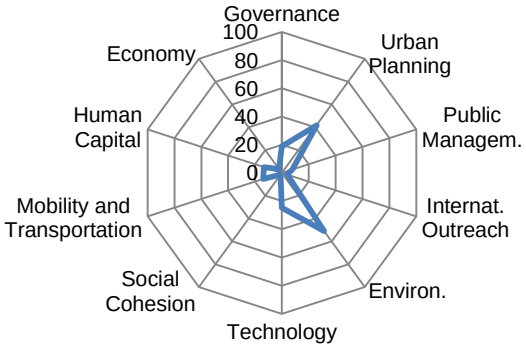
Brazil-Belo Horizonte



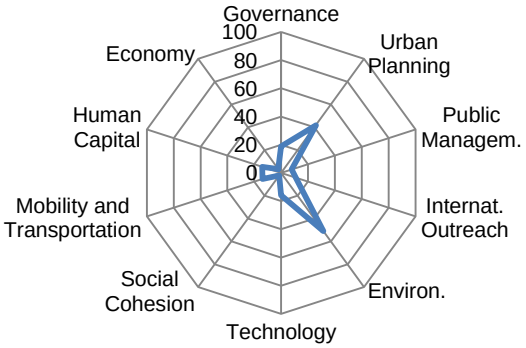
Bolivia-La Paz



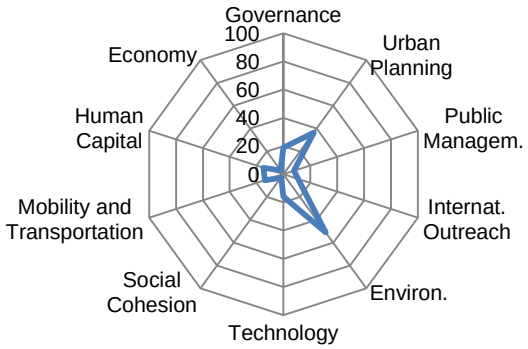
Brazil-Brasilia



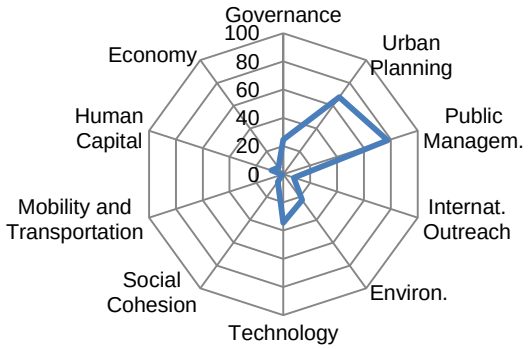
Brazil-Recife



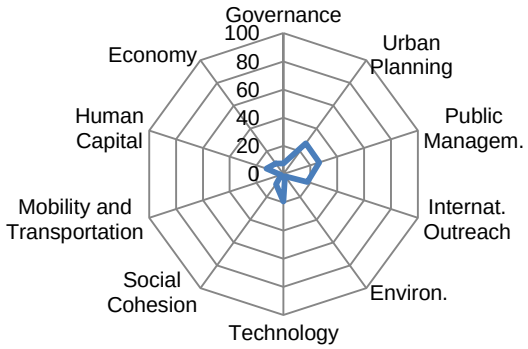
Brazil-Fortaleza



Bosnia-Herzegovina-Sarajevo



Dominican Republic-Santo Domingo



IESE Business School
University of Navarra

Center for Globalization and Strategy

Av. Pearson, 21
08034 Barcelona, Spain
Tel.: +34 93 253 42 00

Camino del Cerro del Águila, 3
28023 Madrid, Spain
Tel.: +34 91 211 30 00

165 W. 57th Street
New York, NY 10019-2201 USA
Tel.: +1 646 346 8850

www.iese.edu