



WorldWide Observatory for Attractive Cities

2020 Edition

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SMARTCITY
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Foreword

To my family, Conchi, Patricia and Toño, who has allowed me to steal a massive amount of time from them in order to write this. I hope its impact compensates them for these two years of work.

To my company, Microsoft, which kept me up to date on the latest technology, and also taught me how much human values, ethical principles and environmental sustainability can be matched with technology innovation.

To my University, Francisco de Vitoria (Madrid) for supporting an engineer / technologist trying to study the human / social face of cities.

To Fira Barcelona, SmartCityExpo & WW Congress for inspiring this challenge.

To my beloved cities, magical places for human social development and solid foundations for mankind's future dreams.



Index

1.Introduction. City Attractiveness.	4
1.0 Motivation for this Research.	4
1.1 Why Cities Attractiveness. The Competition for talent	4
1.2 Research Objectives	6
1.3 City Attractiveness = City Magnetism x City Profitability (Yield)	6
2. City Magnetism	8
2.1 Components of City Magnetism.	9
3. City Profitability	13
3.1 Citizenship Contract.	13
3.2 Components of City Profitability.	14
4. City Attractiveness Model	15
4.1 Cities Selection Criteria	15
4.2 Set of Indicators.	15
5. City Attractiveness Research	18
5.1 Surveys.	18
5.2 Results.	19
5.3 City Attractiveness Ranking (for SCE2018 Attendees).	20
6. City Attractiveness Findings	23
6.1 City Attractiveness by GeoCluster.	24
6.2 City Attractiveness. Honors Board.	24
6.3 City Attractiveness vs Population vs GDP.	30
6.4 Attractive Cities vs SmartCities.	31
7. Conclusions	34
7.1 Balancing City Magnetism and City Profitability	34
7.2 Cities of Future. What might they look like? Talent race.	35
References	37

1. Introduction. City Attractiveness.

1.0 Motivation for this Research.

I travel often due to my job, and that allows me to visit many countries and observe why people move and what motivates them to go to a particular city.

I love cities; I think they are the most important physical creation mankind has ever constructed. If we were to show an alien the most brilliant man-made realizations, we would include quite a few cities. At the same time, I also see anti-human cities: chaotic, amorphous, meaningless agglomerations that are even an impediment to human development, because rather than stimulate, they block and nullify it.

We talk a lot about SmartCities - but are we helping citizens to become SmartCitizens? My experience with buildings designed by famous architects is poor. They are wonderful on the outside, on the design plane or even in a photo, but uncomfortable and almost uninhabitable inside. Perhaps the problem is that nobody talked to those buildings' end users and asked about their preferences. The same thing happens to me when it comes to city management technology projects. They imply a significant improvement in efficiency and large savings, but few are based on, or take into account citizens' uses, customs or priorities.

This is why I decided to try and to connect a good use of technology with human development within the place where great collective human innovations are cooked; where the social animal that we are, finally manages to be, social: the city.

1.1 Why Cities Attractiveness. The Competition for talent

Cities are the epicenter of human activity, the central nervous system of economic growth, social interaction and innovation. In a context of global stability (both in economy and peace), cities are a hotbed for creativity and human development. We live, indisputably, at the best moment in the history of mankind. Technology allows us to increasingly dominate our environment and enjoy a longer and more comfortable life, yet we must not make an idol of it.

The main challenge for modern cities is how to become *attractive* enough to both retain brilliant brains and draw talented citizens and investors. This will be fundamental for cities that want to play a role in the 4th Industrial Revolution, rather than simply languish from an aging social structure until they eventually disappear.

"People come to cities for the sake of life, and they stay for the sake of the good life" (Aristotle, 596 BC). When Aristotle refers to the 'good life', he does not mean simply enjoying a life full of leisure and pleasure. Instead, he is referring to the good life that is enjoyed by the 'good citizen', someone who makes the most of living in the polis by using their skills and rationality to lead a 'good life' and contribute to the polis. The polis, in turn, offers the necessary conditions to develop and exercise this 'good life'.

All of the most prosperous cities have undergone a profound social transformation due to the past industrial revolutions. In all of them, a surge of new disruptive technology affecting the way we work, manufacture, trade, and develop human activity has attracted talented citizens. In addition, this new technology brings with it the creation of highly qualified and well-paid jobs, which then, pushes any given city's attractiveness to new heights. With rampant new technology in place and talented people developing it, we only have to provide them with a place to connect: a city.



Talent is the key to the city's economic development. Without talent or sufficient talent, the city is not innovative, it does not generate enough wealth or employment, it is not a leader in powerful new initiatives. Even worse, the talent attraction has a positive acceleration feedback: talent calls talent but also the opposite, the lack of attractiveness makes talent migrate, so the chances of being attractive are reduced. It is therefore a fierce competition to achieve this resource: talented citizens.

One of the main factors in making this happen is the exercise of tolerance, the opening of the door to anyone who demonstrates talent and a willingness to contribute to the city's development while respecting local laws and customs. Thus, we can say that the recipe for prosperity of most advanced cities has been determined by the rule of the 3 T's: Technology, Talent and Tolerance (Florida, 2007), with technology being the lynchpin of each industrial revolution and its main enabler.

The 4th Industrial Revolution is all about Artificial Intelligence/Robotics. Simplifying it into another equation, Artificial Intelligence (AI) is made up of Massive Data (from the IoT and social networks) + Computing Power (from large Cloud Datacenters) + Algorithms (coded by talent in order to analyze, to predict, to visualize, and to obtain insight and real-time reactions...). No city leads this revolution yet, but none want to be left behind, so competition for talented citizens is even more crucial.

Western cities need additional human capital. Eastern and emerging countries are working on building up their own human capital (their young populations) and retaining it to serve as the cornerstone of their prosperity.

The main aim of this research is to understand what is being done and what is needed to make a city attractive for these talented citizens. There are many partial studies about employment, safety, happiness, expat treatment, economy, cost of living, etc. but none has attempted to give talented citizens an integrated vision of this new world of cities.

Cities Prosperity Recipe → 3 T's: Technology + TALENT + Tolerance



1.2 Research Objectives

The main objective here is to answer how, within a 4th Industrial Revolution framework, the city is competing to become more attractive for talent, and furthermore to define which elements enhance attractiveness, and what options exist for cities to do so. The practical consequences are twofold:

1.- Help citizens choose the best city in the world for them to realize their full potential, realize their goals as a citizen and as a person, and make the greatest possible contribution to society.

2.- Advise mayors and city managers on how to create the most attractive city possible in order to retain and attract talented citizens, and furthermore build a more prosperous, innovative, fair and human city. Help them design, prioritize and implement a:

- ✓ Long-term Transformational Plan
- ✓ Short/Mid-term Improvement/Integrated Plan



1.3 City Attractiveness = City Magnetism x City Profitability

By how cities are prepared and presented to talented citizens and investors, and on the other side, how citizens decide whether or not to move to another city to improve their quality of life and opportunities, we can conclude that we are ahead of a similar decision process to a marriage or to a purchase. It looks like a marriage because there is a certain compromise between the parties, some love is necessary, or at least attraction, and it is not a decision that lasts a short time. It is not exactly a marriage because one part, the city, simply sets minimum conditions: talent, and perhaps, language skills or a certain period of cadence time until the expected visas are granted, and these conditions are for anyone who wants and can take advantage of them. It is more like a purchase. The talented citizen “buys in” to live in a city and contribute to its economic and human development, and the city “sells” its attractions, advantages, and even offers special advantages, as incentives. There is no economic transaction, although it is clear that a price is paid due to differences in purchasing capacity (net-purchasing power) for the same citizen with the same kind of job, but done in different cities. We have, therefore, that it is a human decision process among many alternatives, where mercantilist/trading benefits are involved, but also aesthetic and ethical questions about the possible destination cities. Do I like that city? And what about that city’s lifestyle? These seem to be previous questions to those related to conditions (wage, safety, taxes, environmental care, services.)

Like any human decision involving a compromise between two parties, the motivation to settle in a city due to its attractiveness responds to two main drivers: the emotional and the rational. (Tybout, Calder, 2010) We will call the emotional component City Magnetism (‘I like it, I feel comfortable, it enriches me, it inspires me’); and we will label the rational component City Profitability (‘it is a good deal, with good city services, well-being is high, cost of living is affordable, conditions match my circumstances, preferences and lifestyle’).

In the rational sphere there are no emotions, only purely functional and economic facts. But humans are emotional beings, so the emotional component is very relevant, often the most.

City Attractiveness = City Magnetism



X

City Profitability (Yield)

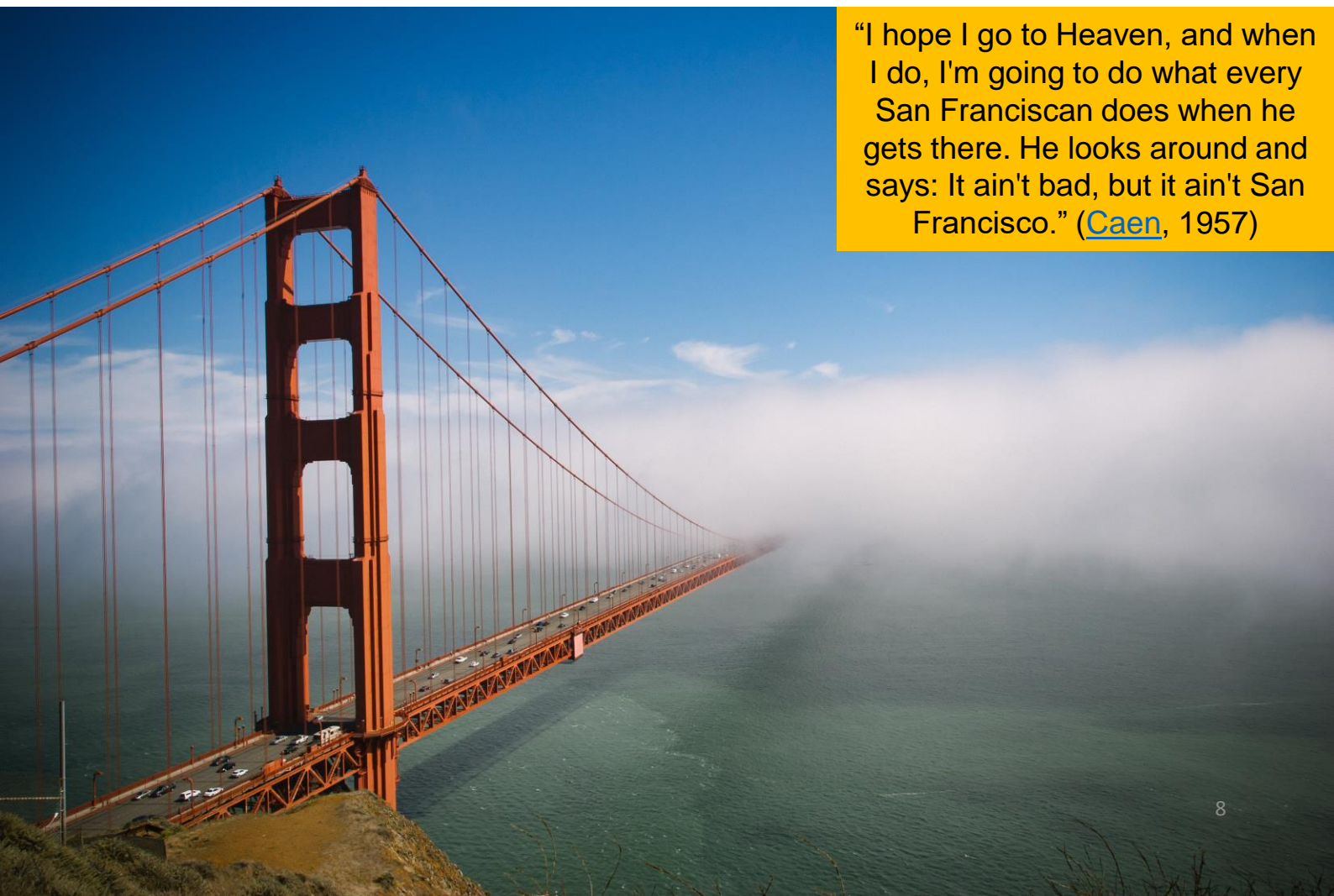


2. City Magnetism

Let's focus on the emotional component, the magnetic part that attracts us to a specific city. Each city's unique appeal is difficult to explain if you have never lived there, so the exercise can be extremely difficult because it is about the emotions conjured, a kind of love affair with our city that is associated with the elements that define it and its essence. Because, in essence, a city is a sum of the collective past and present experiences (Marias, Ridruejo, Chueca, 1983) that make up the city's past identity and present dynamism. This emotional component has a lot to do with our tastes, preferences and feelings, and has to match up perfectly with the city's aesthetic and ethical facets.

If we humanize the concept of cities, as a live ecosystem, clearly this emotional component would be the city's soul, while the rational part would be its physical aspects, its body. Cities are not just places and spaces that you can live in, they are living entities with emotional components, they have a 'soul' (Alcalde, 2017). This concept of the soul can be felt, breathed, and appreciated in all cities, it is what makes them 'special'. It is part of their DNA, a series of emotional, intangible, and qualitative elements that make them stand out and distinguish them from the rest. It has to do with the environment and, above all, with the people who live there and their lifestyle. This personification of the city is made patent in several famous literary works (Vanderbeke, 2007) such as Paris, a main character in Victor Hugo's Notre Dame de Paris (1831), Dublin in Joyce's Dubliners (1914) and Ulysses (1922), New York in Tardi and Legrand's novel Roach Killer (1984), London in Ackroyd's book London-The Biography (2000), and more.

The opposite of a Magnetic city is the 'Generic' city (Koolhaas, 1997). An empty city, without history, superficial, sedated, as if it were drugged and numb. A city where the street has died because it is not walked and life happens vertically or in shacks, where the edges are marks of disruption (vertical – horizontal) leaving no opportunity for meeting up, for creative density. A city of fractal repetition where everything that is not strictly useful or functional has no place. A city whose center features formally directed architecture and where the wealth is concentrated leaving a diffuse wide stain of low-income areas around it, accentuating inequality.



"I hope I go to Heaven, and when I do, I'm going to do what every San Franciscan does when he gets there. He looks around and says: It ain't bad, but it ain't San Francisco." ([Caen](#), 1957)



2.1 Components of City Magnetism.

City Magnetism can be assessed through some preconditions and three main city components which are driven by the permanent creation of living history.

PreConditions: Language, Landscape, Religion. A main spoken language or the ability to be understood and talk to locals is a major primary enabler/blocker. Landscape (seashore, mountains, both) is also a strong personal preference. And finally, our personal divine dimension, our own confessions need to match or tolerate those found (Religions) on a local level.

Historical methodology can offer us an accurate analysis of any hypothesis about a city, because in itself, it is a repository of history. (Rossi, 1978). This will help us understand its foundations as a physical structure, as a synthesis of values, as a collective imagination, as if we could see past, present and future intertwined in the city. Cities are living history. They are in constant historical evolution, a reflection of the passage of time. The city must respect and balance the preservation and retention of its historical heritage with modern development. (Pinto, 2009) A city without history is like a man without memory. Humans leave traces of their lives, their experiences, their effort and work, in short, their history in the city. They do it in the form of neighborhoods, monuments, constructions, spaces, parks, libraries, institutions, universities... All this constitutes the city's collective legacy and allows dwellers to understand where they come from and to prepare for the future.

Therefore, City Magnetism is the result of human action, and covers three moments in time: past, present and future, in an ascending line during progress and prosperity and a descending line during destruction and decline, following the human cycles in a perfect and infinite helix. We could say that to the city "nothing human is alien". (Terence, 163 BC).

'Magnet Cities' (Haynes, 2014) have strong leaders, a great ability to raise funds (fundraisers) and attract young wealth creators (talent), to undergo constant physical renewal, and thus generate a new definable city identity.

City Identity (Past): The past marks, defines and writes the city identity in stone. It is like its DNA, the addition of collective contributions from its former dwellers, all adding parts of that DNA, evolving, constantly recombining itself. It can evolve, albeit slowly. It can be transformed, but through a long, complex process.

A city's identity is thus defined by those elements that make up its essence and that have been defined throughout its history, such as its culture, customs, gastronomy, and type of society and government. Also fixed determinants such as geographic location, climate and environment, green spaces, density or the risk of natural disasters come into play. Additionally, a city has to nurture its reputation, its external or projected image, its branding, through the impacts it makes on media, often by organizing cultural or sporting events.

A city's permanent construction or destruction by its citizens throughout history means that the city is a historical archive (Chueca Goitia, 1968a), like a book that has been written day after day since its foundation, with many chapters: happy and sad, glorious and painful, of brilliant splendor and of decay. Cities, more than just being linked to history or to the events that have been happening there, are history in themselves, as part of their essence. The city is a changing physical structure and it is a spirit (soul), so it is a historical being (Chueca Goitia, 1968b). By establishing itself as a historical being, a two-way relationship is developed with history: History is made in the city, and this forces the city to become history. Universal history is urban history (Spengler, 2013). A city's reputation is made on long-built perceptions, but it can easily be ruined in a short time (Reputation Institute, 2017).

City branding is based on three fundamental pillars, which are uniqueness, authenticity and image (Riza, Donatli, Fasliet, 2012). The uniqueness of a city is determined by its culture, its geographical position and its history, by what makes it special, by its hallmarks. For new cities, creating a city brand takes no less than 50 years. That is because it has to build up its authenticity which speaks its truth converting it into a city we can trust, with clear civic and ethical standards. It can become an open, respectful and inclusive city, but without relativisms that may blur its identity; one which welcomes outsiders and integrates them, without modifying its authentic character. And finally, a city needs its own projected image, an advertising claim that is highly imageable (apparent, readable, visible). The goal is to become a city with a high chance of evoking a strong image in an external observer (Lynch, 1960). To approximate a model of measurable variables for a city's projected image, we turn to the different specialization areas that UNESCO attributes to a creative city: "Crafts & Folk Art, Design, Film, Gastronomy, Literature, Music and Media Arts" (UNESCO Creative Cities, 2019). Here, we consider culture as the identity (past) expressed in the city (monuments, museums, events, etc.), not as a service or benefit.

Cities Magnetism

City Identity (Past)
 History
 Govern Basics
 Reputation
 GeoLocation Conditions
 Food/Gastronomy
 Branding

Cities Magnetism

City Dynamism (Present)

Competitiveness
Expats Experience
Ethics
Equality



City Dynamism (Present): ["What is the City but the people?" \(Shakespeare, 1609\)](#) This aspect describes a city's psychology and ethics, how people make a living, and what the relationships among its inhabitants are like... The present represents City Dynamism. If identity lays the foundations of Magnetism, Dynamism marks the actions. A city attracts me because of its identity. When I arrive it delights me, welcomes me, motivates me, encourages me, moves me, helps me, or it does just the opposite all based on its Dynamism or lack thereof. The identity of a city is like a travel agent's brochure; Dynamism is the excursions that I can take at the destination.

City Dynamism is marked by creativity, competitiveness in business and in human activities, by how well it attracts investors, promotes entrepreneurship and generates employment, and also, through its human relationships, participation, accessibility for all, inclusion and integration. You can see Dynamism in the citizens' happiness which grows in cities with ethical values, marked by parameters of equality and tolerance.

In the era of accelerated adoption of new technologies, speed is attractive and immobilism is boring. The main difference between our current societal model and previous ones is the speed of change. A city is a work of art that is in permanent production (Chueca Goitia, 1968c). It aims to balance construction and destruction, respecting history, traditions and identity, but, at the same time, adding dynamism, constant growth at a rate that allows for consolidating its identity without wrecking it.

We divide City Dynamism into four different indicators. First, competitiveness: those elements that measure the action, relationships, city creativity and motion, those elements which turn it into a social and economic hotbed creating complex interrelations of human development. Second, we measure how a city treats those who come, the expatriate, how easy or difficult social integration is in that city. Third, we also measure the city's ethical principles and social equity, inclusiveness and justice. And fourth, we evaluate equality.

City Strategy (Future): How can the future become a driver for a city's attractiveness? What do we expect from a city with a future? We expect it to have a solid plan (a SmartCity Plan), which includes strategies to cope with city challenges.

What makes that plan work? The rule of city prosperity, the 3 T's (Technology, Talent, Tolerance). We need investment in innovation as a fundamental and permanent driver and, of course, talent (human capital), too.



Then, we can conclude that a model for City Magnetism can be approached by studying these three major areas:

- Identity (Past)
- Dynamism (Present)
- Strategy (Future)

Cities Magnetism

City Identity (Past)
City Dynamism (Present)
City Strategy (Future)



3. City Profitability

The world is a marketplace of cities where citizens, depending on their preferences at that moment, decide to 'buy' a city and move there to live, and in this light, it makes sense that they give more value to employability when leaving the University, or to social services when they reach retirement age. Priorities vary based on their family dependencies (children or seniors) as well.

City Profitability is associated with the concept of 'is moving there a good deal?'. This is the non-emotional part, more related to a city's pure merits (economic and performance indicators).

City Profitability consists of: a city performance component (functions, services, variable elements that a city provides to the citizens and that are tangible and valuable) and an economic component (citizens' ability to acquire things or the net purchasing power that a citizen will attain in that city compared to others). It is, in short, a deal. So, City Profitability (yield) is made up of the combination of services offered by a city and the cost of living in that city. We name this implicit, virtual agreement between you and your city the Citizenship Contract.

3.1 Citizenship Contract.

Since the time of the first cities, a series of norms of coexistence, an ethic, have always been established. It is the so-called social contract, where individuals give up part of their individual freedom to the power of the city/state in exchange for protection, opportunities and well-being. Hobbes and Locke studied and debated it notably by the mid-17th C. Later, Rousseau, in his book "*On the social contract*" (Rousseau, 1762), made a completely new assessment of the individual-state relationship as the French revolution was brewing. Hobbes wondered how a serious, predictable, reliable and stable social order could emerge from an enormous mass of isolated individuals, among whom only a few skilled elites are able to coordinate through agreements. Hobbes' proposal, known as the social contract and "*a mutual transferring of right*" (Hobbes, 1651), states that order is produced by the laws and authority of an almighty ruler whose power lies in the use of coercion. Since then, the concept of the social contract has been associated with labor relations between citizens and companies, and workers' rights, all of them highly influenced by 19th Century social revolutions.

It is time to redefine our relationship with the city. Modern cities increasingly resemble Greek city-states. Despite the differences that social achievements have brought to our society during these 25 centuries, cities want to and must redefine the terms of their agreement with their citizens: the citizenship contract. It is a virtual contract that we all implicitly hold with our city. It is the value proposition that our city offers both to us and to the possible talent who wants to become established in our city. It is the list of gives and takes that our city has, like a billboard of city's offerings. It is a contract because the city offers us a series of services, benefits and development opportunities in competition with other cities in the world, in exchange for our contribution to the city's common project. This contribution has many facets, not only our taxes, but our generation of wealth, ideas, creativity, competitiveness, values, experience, co-creation, city development and drive to achieve its future goals. This is what millennials are evaluating now, and what local talented citizens weigh before deciding to emigrate in search of better opportunities.

In summary, the citizenship contract sets the "gives": the long list of city services, all with different levels of performance and different opportunities to improve your life, realization and wellbeing. But there are also the "takes"; when you decide to live in that city, you make a wage from your job according to the city's salary standards (compared to the same job's wage in other cities), you pay direct taxes and make social contributions. With the final net income in your pocket, you use it to buy your preferred things. At the moment of purchase, you pay indirect taxes and depending on which city you live in, you have different net purchasing power, i.e., depending on your city choice, at month's end, you can obtain different things in quality and quantity. That's the price you pay for living in that city. Additionally, you pay for the cost of opportunity based on different cities' potential. So, the question is: Would it be a good deal for me to move to that city? That is the short evaluation of the proposed citizenship contract. Locals use the same evaluation but are better informed, comparing their own city's list of gives and takes with the attractive propositions from another. A good deal matters, but as we explained before, this decision is also emotional, and the Magnetism component matters too.

3.2 Components of City Profitability.

To define the citizenship contract, we must detail the series of benefits and services the city offers us. That contract does not include aesthetics, customs or emotional components, which we already addressed in City Magnetism, instead it includes quantifiable rational benefits. This is the list of performance indicators to evaluate in which we group all the quantifiable services that a city can offer us into 10 areas:

DIGITAL GOVERNMENT: A democratic, efficient, transparent, participatory, digitalized city government. Digital government as a service.

EDUCATION: Lifelong training. Quality business schools, professional training and development.

EMPLOYABILITY: The demand for talent.

CONNECTIVITY: Internet infrastructure. 4G / 5G deployment.

HEALTHCARE / SOCIAL SERVICES

ENVIRONMENTAL SUSTAINABILITY: Water and energy efficiency. Air quality. Carbon emissions reduction, carbon neutral plans. Circular city.

CULTURE-TOURISM: Culture as a city service, not traditions or emotions, but valuable services.

URBAN MOBILITY: Traffic, public transportation. Mobility as a service.

URBAN PLANNING: Urbanism as a city service.

SAFETY: Physical and virtual safety

Then, we have to weigh these aspects against the cost of living in that city, or, in other words, the final net purchasing power (amount of things that I could buy with my final, after-tax income). Therefore, it is about comparing (multiplying) what I get from the city with what I get from my professional activity. The higher the result, the more profitable it will be for me to move to live in that city.

City Profitability (Yield)

PERFORMANCE (Services obtained from City) / COST of Living
Citizenship Contract

City to provide:

- ✓ Governance
- ✓ Education
- ✓ Employability
- ✓ Health/Social SVS
- ✓ Sustainability
- ✓ Connectivity
- ✓ Urban Planning
- ✓ Culture
- ✓ Urban Mobility
- ✓ Safety

You: Cost of Living

4. City Attractiveness Model

4.1 Cities Selection Criteria

We study the world's top 140 most attractive cities according to international studies in a model made up of more than 100 indicators.

City selection criteria: Top cities in the Quality of Living Ranking (Mercer, 2018) and IESE's Cities in Motion (Berrone, Ricard, 2018) and cities scoring over 50 (no personal risk or severe living restrictions) on the Global Liveability Index (The Economist, 2018). The first two are superior quality reports featuring a wealth of details and indicators, coming from very well-known, highly reputable sources, while the Liveability Index's minimal threshold corresponds to a basic fact: nobody wants to go and live in a city where their life will be threatened, or basic living conditions are severely restricted.

4.2 Set of Indicators.

67 indicators selected from international bodies, previously published key studies/analysis, and our own work will be used for this research. Each of the 140 cities selected is also analyzed with data taken from city websites and their published SmartCity plans.

33 indicators make up the model for City Profitability (selected from international bodies, already published studies/analysis, and the author's own work).

The total number of evaluated indicators is 100, but many of them include a large number of subindicators, raising the total number of analyzed city dimensions to around 500. The selection of indicators to use follows the metanalysis methodology: researching all available indexes, then choosing those best matching previous criteria while avoiding biases. See the full list of used indicators and components in Figure 1

Our objective is not to create yet another ranking of cities. Cities hate rankings, unless they come out on top. As the concept of attractiveness is quite personal, the most attractive city for me may not be as attractive for another person depending on the different scale of values we use to weigh a city's performance indicators, different aesthetic, personal preferences (mountains or seashore or both, spoken languages, religion...), and personal status (family dependencies, children, elder people in their care...). The model we present allows for comparisons between cities in the same geo cluster, and obtains each city's "attractiveness radiography" which helps prioritize areas that are in need of improvement, and also provides a list of cities that best fit a particular citizen's values and preferences.



Main	W	Area	W	Subarea	W	Class	Indicator	Subindicator	Entity
City Attractiveness	50	Magnetism	User Input	Identity	History. Culture	Age	Foundation	Wikipedia	
						UNESCO	World Heritage	UNESCO	
						Top Museums		Wikipedia	
					Government Basics	Democracy Index		The Economist	
						Safe City Index		The Economist	
					Reputation	Reputation		Reputation Institute	
					Space. Density	% Natural Space		World Cities Culture Forum	
						Density (inh/km2)		Demographia	
					Climate	Avg. Temperature Desviation	Gradient	Climatemps	
						Avg. Precipitation Desviation	Gradient	Climatemps	
				Avg. Daily Sunshine			Climatemps		
				Geo Risk	Natural Disaster Risk		WorldRiskReport		
				GeoEconomics	GDP Proximity	%WW	Own Work		
				Gastronomy	RK Food Index		OXFAM		
					Michelin Guide	#Rest/Minh	Via Michelin		
				Branding. External Image	Movies		Wikipedia		
					Sports	Soccer	Football Database		
						Basketball	NBA		
						Other Sports Events, Marathons	Topendsports		
					Main Events	Olympics	Olympics org		
				Universal Expo	Wikipedia				
				Cultural Events	Day Zero Project				
			Dynamism	Competitiveness	Creativity Index		Martin Prosperity		
					Global Competitiveness	Economic	World Economic Forum		
					Cities In Motion		IESE		
					Global Talent Competitiveness	Talent	INSEAD - GTCI		
				Expat Social Experience	Life Style - Quality		HSBC Expat Explorer		
					People Around		HSBC Expat Explorer		
					Relationship - Social Life		HSBC Expat Explorer		
				Ethics. Well-being	Happiness		Happiness Report		
					World Giving Score		Charities Aid Foundation		
					Civic Engagement		OECD. Better Life Index		
			Work-Life Balance			OECD. Better Life Index			
			Equality	GINI Index		WorldBank			
				Gender	Female Graduates	INSEAD - GTCI			
					Gender Development Gap	INSEAD - GTCI			
					Leadership opportunities for women	INSEAD - GTCI			
				Tolerance	Tolerance Minorities	INSEAD - GTCI			
					Tolerance Immigrants	INSEAD - GTCI			
			Poverty		IndexMundi				
User Input	Strategy	Human Capital	Population Age Average Per Country	Wikipedia					
			Ranking Human Capital	IESE Cities Motion					
	Smart Cities Plan Innovation	Plan Smart Cities	15 Areas	Own Work					
		R&D (% GDP)		INSEAD - GTCI					
		Global Innovation Index		Cornell INSEAD WIPO					
Innovation Cities		2ThinkNow							

Figure 1a. City Attractiveness Indicators. Magnetism. Source: Author



Main	W	Area	W	Subarea	W	Class	Indicator	Subindicator	Entity		
City Attractiveness	50	Profitability		Services	User Input	Digital Government	Online Service Index	eGovernment Survey	United Nations		
							eParticipation Index	eGovernment Survey	United Nations		
							Digitalization of Government	SmartCities Index	Easy Park Group		
						User Input	Education. Lifelong Training	Quality of Management Schools		INSEAD - GTCI	
								Prevalence of Training in firms		INSEAD - GTCI	
								Employee Development		INSEAD - GTCI	
						User Input	Employability	LinkedIn Talent Hiring Demand	Talent Insights	LinkedIn	
								Employability		INSEAD - GTCI	
						User Input	Connected City	4G LTE	SmartCities Index	Easy Park Group	
								Internet Speed		INSEAD - GTCI	
								Wifi Hotspots	SmartCities Index	Easy Park Group	
								ICT Infrastructure		INSEAD - GTCI	
						User Input	Health/Social SVS	Social Expenditure (% GDP)		OECD	
								Life Expectancy at age 60	WHO	United Nations	
								Physicians (per 1k)		INSEAD - GTCI	
								Public Health Expenditure (%GDP)		World Health Organization	
						User Input	Environmental Sustainability	Sustainable City Index	Planet	Arcadis	
								Environment		IESE Cities Motion	
						User Input	Culture-Tourism	Culture Creative Jobs %		World Cities Culture Forum	
								City Destination		Euromonitor International	
						User Input	Urban Mobility	Smart Parking	SmartCities Index	Easy Park Group	
								Car Sharing Services	SmartCities Index	Easy Park Group	
								Traffic INRIX Congestion		INRIX	
								Mobility and Transportation		IESE Cities Motion	
						User Input	Urban Planning	Urban Planning		IESE Cities Motion	
								Safety		The Economist	
						User Input	Safety	Safe Cities Index		INSEAD - GCTCI	
								Personal Safety			
						Cost Of Living. Net Purchase Power		Net Real Income	Avg Wages/month	SINGLE, No CHILD	UNECE, ILOSTAT
									Direct Tax + Social Contributions		OECD
									Indirect Tax		OECD
								Cost Of Life	Purchase Power Parity Plus Rent (NY=1)		Numbeo
ADDITIONAL PRE-CONDITIONS:							Landscapes		Own Work		
							Language		Wikipedia		
							Religion		Wikipedia		

Figure 1b. City Attractiveness Indicators. Profitability. Source: Author

Would you like to give it a try? Take either of these apps and enter your city preferences / scale of valued performance to get your short list of best fitting cities:

(If you can't install it, then look for AttractiveCities in your Apps store)

Android Store. <https://play.google.com/store/apps/details?id=com.barrabes.attractivecities>

IOS Store. <https://apps.apple.com/es/app/attractive-cities/id1487782051>

Attractive Cities, wanna try?

Get list of top 15 WW Cities better matching your preferences



<https://play.google.com/store/apps/details?id=com.barrabes.attractivecities>



<https://apps.apple.com/es/app/attractive-cities/id1487782051>

Smart with a Heart Research: What makes a City Attractive?

Nordic Edge Expo is pleased to introduce a research study, in cooperation with Jose A. Ondiviela to better understand what our attendees consider an irresistible city to live in. The study is part of a wider PhD research by Mr. Ondiviela based on citizen involvement from people living in 140 Smart Cities worldwide. The research will give insights into citizens' preferences and help authorities develop even more attractive cities, which people wish to live in.

Please feel free to complete this short survey. It only takes 30 seconds. Participation is anonymous. If you wish to receive a copy of the results we ask that you submit your e-mail address. This will not be used for any other purposes. The results are expected towards the end of 2018.

THANK YOU VERY MUCH FOR YOUR TIME AND HELP.



SMARTCITY EXPO WORLD CONGRESS

Research: What's making a City Attractive to LIVE IN?

SmartCityExpo & WW Congress is very pleased to introduce a research study, in cooperation with Jose A. Ondiviela to better understand what our attendees consider an irresistible city to live in. The study is part of a wider PhD research by Mr. Ondiviela based on citizen involvement from people living in 140 Smart Cities worldwide. The research will give insights into citizens' preferences and help authorities develop even more attractive cities, which people wish to live in.

Please feel free to complete this short survey. It only takes 40 seconds. Participation is anonymous. If you wish to receive a copy of the results we ask that you submit your e-mail address. This will not be used for any other purposes. The results are expected towards the end of 2018.

THANK YOU VERY MUCH FOR YOUR TIME AND HELP.

5. City Attractiveness Research

5.1 Surveys.

Surveys. To prove that the model works and that all its components are relevant, we have carried out two surveys at two SmartCities events, so our audience brought twofold advantages: they are quite familiar with the concept of city performance, and we can designate them all as talented citizens.

- Survey of 4,500 participants at an event (NordicEdge, 2018), Stavanger (Norway). Sep2018 attendees. The largest SmartCities event in the Nordic countries.
- Survey of 21,334 participants (SmartCity Expo & WW Congress, 2018), Barcelona (Spain). Nov2018 attendees. The largest SmartCities event in the world. Due to the large response (n=1550), the data obtained will be used to fine tune weights on Magnetism and Performance for global analytics and main ranking reference.

Reliability: High. The intention is not to develop a scientific analysis, but a human sciences study. Results will vary from citizen to citizen or for different life statuses (age, dependencies). The model obtained from the two surveys reaches 95% Confidence, <2% error.

5.2 Results.

Our target average respondent-age was 42 years old, half of them with children (51%) and a quarter of them with elder people in their care (25%). It is an unbalanced gender sample with 67% male, however that is consistent with a very male-driven technology market.

On Magnetism: Dynamism (present) rules, then come Identity (past) and then Strategy (future). Identity and Dynamism are significantly more important than Strategy, confirming the trend that a city's future and potential are less valued than its present facts or its experience gained from identity. This result is easily associated with the Southern European Latin lifestyle, which is most interested in the present moment, with a loving eye for the past and less emphasis on the future. However, the differences are not so large as to consider Strategy (future) as irrelevant seeing as this survey was world-wide in nature. Identity (past) becomes more and more appreciated as people get older (the over-50 crowd). And in terms of gender, men and women agree on Magnetism, which means they have essentially the same preferences for aesthetics, education and customs.

On Profitability. In city services (see figure 2), we can very clearly identify three zones: high (positions 1 through 4) scoring more than 8.30, then mid (positions 5 & 6), then low (7 through 10). There are appreciable changes among the different age ranges studied, but these services always fall within these general zones. All 10 areas studied are relevant, as all scored a minimum of 3.5 out of 5 on average in our original survey on importance, meaning that we can say that none are irrelevant and none have a much higher score when compared to the rest.

The main top area is Urban Mobility, as everybody recognizes this city service is crucial to keeping a city alive. As such, we have named it the 'city blood'. Since we define a city as a point in space/time where people meet with and encounter each other, and this service makes that possible, we are not surprised that it is the most appreciated. Then Health/SocSVS, Environmental Sustainability and Safety follow, all grouped together, separated by a small variation in scores. Safety is the top factor for those over 60. After those come the Education and Employability group; it is a little surprising that they are not rated even higher. To help interpret the data, we assume that our attendees are so talented that they face no challenges in these aspects. In any case, Education jumps up to position 3 for younger citizens, which seems reasonable. Employability falls to the bottom position for those aged more than 60, as they are about to retire. Urban Planning, Governance, Connected City, and Cultural Services occupy the lowest positions. I was personally expecting to see Connected City finish higher; maybe the audience did not understand the concept and the disruptive implications that 5G will bring, or maybe they consider this as a static, obvious service like water or energy, and see little to no difference among cities. Governance and Urban Planning are not perceived as star city services, but rather as business as usual, as regular tasks that must be guaranteed, not as brilliant services that citizens perceive as new, innovative or disruptive.

CITY SERVICES - SCALE OF VALUES	RK	1-10
URBAN MOBILITY / TRANSPORTATION	1	10,00
SOC SERVICES / HEALTH	2	9,04
ENV. SUSTAINABILITY	3	8,95
SAFETY (PHYSICAL/VIRTUAL)	4	8,37
EDUCATION	5	7,67
EMPLOYABILITY	6	7,11
URBAN PLANNING	7	4,78
GOVERNANCE	8	2,85
CONNECTED CITY	9	1,83
CULTURAL SVS / TOURISM	10	1,00

Figure 2. City Performance/Services Ranking for SmartCityExpo Attendees. Source: Author

By gender, we find almost the same rankings with only a few differences near the top, for instance, women position Health/SocSVS at number 1 and men situate EnvSustainability at number 2. Those with children give more consideration to EnvSustainability (thinking about the planet we leave for them, perhaps); those without follow the average. People with someone elderly in their care put Health/Social Svs on top, as expected; those without boost the score of EnvSustainability. Finally and sadly, Culture/Tourism is the least appreciated city service. This is clearly a major pending issue for most of our cities: how to serve as a kind of permanent university for citizens by constantly offering, incentivizing and promoting cultural services. A more skilled society is always a more prosperous one, and the opposite is true, too.

5.3 City Attractiveness Ranking (for SCE2018 Attendees).

If we apply these survey scores to our model, (see figure 3 with full list of top140 cities) we find the Top 15 among several world cities from Australia, Switzerland, and Nordic countries, as well as Berlin, Vienna, Amsterdam and Phoenix (AZ, US). Extraordinary Profitability with good wages and reasonable taxes push some of them into those top positions, while cities with excellent scores in Magnetism (like in Stockholm, Vienna and Amsterdam) compete from another angle. We can perceive a balanced summary of results with no surprises on which cities come out on top (based on the SmartCityExpo attendees' opinions). Given the vast number of answers and its small margin of error, we can conclude that the model works, is easy to understand and correctly reflects the complex reality it describes.



City	Country	MAGNETISM	IDENTITY	DYNAMISM	STRATEGY	PROFITABILITY	PERFORMANCE	COST LIVING	ATTRACTIVENESS
Melbourne	Australia	9	48	9	7	7	42	5	1
Adelaide	Australia	22	70	11	29	2	48	2	2
Stockholm	Sweden	2	18	16	4	12	2	31	3
Zurich	Switzerland	23	10	45	50	3	12	9	4
Berlin	Germany	12	26	22	15	11	3	25	5
Bern	Switzerland	50	30	55	75	1	39	3	6
Sydney	Australia	6	34	7	11	15	33	17	7
Montreal	Canada	24	54	2	56	8	25	11	8
Oslo	Norway	11	25	10	39	13	5	34	9
Gothenburg	Sweden	35	60	18	34	9	8	18	10
Basel	Switzerland	54	37	54	74	4	26	7	11
Vienna	Austria	7	6	26	26	27	9	47	12
Canberra	Australia	63	96	11	66	5	30	6	13
Phoenix	United States	65	104	50	16	6	46	4	14
Amsterdam	Netherlands	3	22	8	10	42	1	66	15
Copenhagen	Denmark	10	49	17	1	35	11	52	16
Hamburg	Germany	30	35	28	40	18	15	32	17
Rotterdam	Netherlands	15	47	14	30	26	14	40	18
Geneva	Switzerland	57	29	56	91	10	42	8	19
Toronto	Canada	14	66	1	17	36	23	44	20
London	United Kingdom	1	1	40	9	57	4	74	21
Manchester	United Kingdom	16	16	62	8	34	51	30	22
Cologne	Germany	27	43	31	33	25	52	21	23
Frankfurt	Germany	44	38	30	61	20	10	37	24
Wellington	New Zealand	39	72	5	51	22	40	24	25
Ottawa	Canada	48	91	4	53	17	37	19	26
New York City	United States	5	12	24	5	56	6	72	27
Edinburgh	United Kingdom	31	23	61	31	32	41	36	28
Luxembourg	Luxembourg	45	46	27	58	23	31	29	29
Eindhoven	Netherlands	21	50	15	41	40	28	43	30
Munich	Germany	32	31	20	55	33	17	50	31
Los Angeles	United States	20	44	38	18	44	47	38	32
Chicago	United States	29	64	39	6	39	52	35	33
Seoul	South Korea	13	8	70	2	53	37	54	34
Dallas	United States	68	106	46	22	19	61	12	35
Valencia	Spain	28	14	36	54	45	33	46	36
Atlanta	United States	49	85	53	19	28	72	14	37
Houston	United States	70	107	48	28	16	62	10	38
Helsinki	Finland	17	66	13	12	52	16	62	39
Barcelona	Spain	8	5	25	37	63	29	65	40
Dusseldorf	Germany	73	62	29	101	14	23	20	41
Stuttgart	Germany	59	58	32	64	24	35	28	42
Vancouver	Canada	40	78	3	47	41	35	39	43
Auckland	New Zealand	53	84	6	70	29	31	33	44
Miami	United States	62	92	49	27	30	60	22	45
Boston	United States	37	64	34	20	49	52	42	46
Paris	France	4	4	23	32	67	12	78	47
Liverpool	United Kingdom	61	42	63	62	31	68	16	48
Tokyo	Japan	38	19	66	35	48	7	64	49
Madrid	Spain	19	3	19	86	62	21	69	50
Dublin	Ireland	26	15	35	48	58	59	49	51
Washington, D.C.	United States	33	57	43	23	55	57	48	52
Birmingham	United Kingdom	66	59	64	44	37	58	26	53
Lyon	France	36	17	47	57	60	45	57	54
Philadelphia	United States	69	73	57	52	38	73	15	55
San Francisco	United States	18	53	33	3	66	26	73	56
Málaga	Spain	41	33	37	59	59	63	45	57
Seattle	United States	51	89	52	24	50	56	41	58
Baltimore	United States	77	97	58	67	21	67	13	59
Singapore	Singapore	47	85	21	25	61	18	71	60
Linz	Austria	56	31	42	95	54	50	51	61
Antwerp	Belgium	64	52	68	43	51	22	60	62
Marseille	France	42	9	60	76	65	66	56	63
Yokohama	Japan	75	83	72	38	46	20	58	64
Nice	France	34	13	59	60	68	64	63	65
Osaka	Japan	78	71	75	63	43	19	53	66
Brussels	Belgium	67	27	65	84	64	44	61	67
Bilbao	Spain	46	20	41	72	69	64	67	68
Milan	Italy	25	7	69	42	75	52	92	69
Rome	Italy	43	2	71	96	79	76	82	70

City (cont.)	Country	MAGNETISM	IDENTITY	DYNAMISM	STRATEGY	PROFITABILITY	PERFORMANCE	COST LIVING	ATTRACTIVENESS
Tel Aviv	Israel	74	99	77	13	70	75	70	71
Jerusalem	Israel	71	45	81	45	73	89	55	72
Hong Kong	Hong Kong	58	40	85	21	76	49	99	73
Florence	Italy	52	11	73	68	81	79	80	74
Porto	Portugal	60	27	51	97	84	69	98	75
Prague	Czech Republic	72	41	67	81	80	74	84	76
Lisbon	Portugal	55	23	44	100	88	70	100	77
Tallinn	Estonia	82	82	87	49	74	71	79	78
Ljubljana	Slovenia	79	68	74	78	83	81	81	79
Santiago	Chile	94	122	80	69	71	85	59	80
Taipei	Taiwan	76	111	76	14	87	77	90	81
Dubai	United Arab Emirates	86	109	78	65	78	86	75	82
Wroclaw	Poland	83	61	86	77	85	83	85	83
Vilnius	Lithuania	89	85	91	87	86	79	88	84
Athens	Greece	85	21	109	108	92	91	89	85
Budapest	Hungary	81	38	94	92	95	82	104	86
Abu Dhabi	United Arab Emirates	100	130	79	79	77	92	68	87
Warsaw	Poland	88	75	82	105	89	78	97	88
Doha	Qatar	112	137	101	73	72	105	23	89
Bratislava	Slovakia	93	63	88	125	91	87	91	90
Buenos Aires	Argentina	90	80	89	99	96	97	95	91
Riga	Latvia	101	93	99	110	90	84	94	92
Zagreb	Croatia	97	76	112	103	93	94	93	93
Córdoba	Argentina	102	90	95	121	94	106	77	94
Shanghai	China	80	36	121	46	114	88	128	95
Moscow	Russia	84	97	93	36	113	100	119	96
Kuwait City	Kuwait	137	136	132	136	47	112	1	97
Sofia	Bulgaria	92	51	114	102	108	100	114	98
Istanbul	Turkey	98	56	113	120	105	121	83	99
Mexico City	Mexico	91	77	102	85	112	113	102	100
Bucharest	Romania	105	95	111	113	99	107	87	101
Montevideo	Uruguay	109	117	105	107	100	92	110	102
Rio de Janeiro	Brazil	87	79	90	89	117	122	105	103
Sao Paulo	Brazil	96	102	83	104	116	111	111	104
Beijing	China	99	69	123	80	115	95	125	105
St Petersburg	Russia	104	121	98	90	111	109	109	106
Kuala Lumpur	Malaysia	120	138	96	83	97	90	103	107
Belgrade	Serbia	95	55	110	123	118	99	130	108
Shenyang	China	118	93	128	114	101	102	101	109
Chongqing	China	115	88	127	115	102	102	106	110
Guadalajara	Mexico	111	124	108	105	109	122	86	111
Brasilia	Brazil	110	111	92	131	110	110	108	112
Monterrey	Mexico	114	120	107	117	106	114	96	113
Ankara	Turkey	124	110	118	134	98	119	76	114
Chengdu	China	119	74	126	135	102	102	106	115
Shenzhen	China	125	129	125	98	107	96	118	116
Bogota	Colombia	103	113	97	88	123	126	124	117
Kiev	Ukraine	107	103	100	119	121	108	131	118
Guangzhou	China	130	115	124	132	104	98	112	119
Panama City	Panama	116	123	106	122	119	120	115	120
Medellín	Colombia	121	133	104	116	120	117	120	121
Bangkok	Thailand	113	130	84	111	128	118	132	122
Cape Town	South Africa	106	105	116	82	138	136	138	123
New Delhi	India	129	133	131	94	122	125	121	124
Quito	Ecuador	126	113	134	112	125	124	127	125
Durban	South Africa	122	135	119	93	132	127	133	126
Johannesburg	South Africa	117	108	117	124	135	132	135	127
Lima	Peru	127	119	133	109	130	137	116	128
Mumbai	India	131	126	129	118	129	128	129	129
Bangalore	India	132	128	130	128	124	131	117	130
Manila	Philippines	123	118	103	137	133	130	139	131
Jakarta	Indonesia	108	125	115	71	140	138	140	132
Riyadh	Saudi Arabia	140	139	135	138	82	115	27	133
Hanoi	Vietnam	128	116	122	133	136	133	134	134
Tunis	Tunisia	134	81	137	140	127	129	126	135
Casablanca	Morocco	133	100	139	127	134	139	123	136
La Paz	Bolivia	138	132	138	129	126	135	113	137
Ho Chi Minh City	Vietnam	136	140	120	126	131	116	137	138
Cairo	Egypt	135	101	140	130	139	140	122	139
Asuncion	Paraguay	139	127	136	139	137	133	136	140

Figure 3 Full list of top 140 Attractive Cities for SmartCityExpo attendees. Source: Author

6. City Attractiveness Findings

Looking at the list of the top 140 cities worldwide, we can group them in 4 areas:

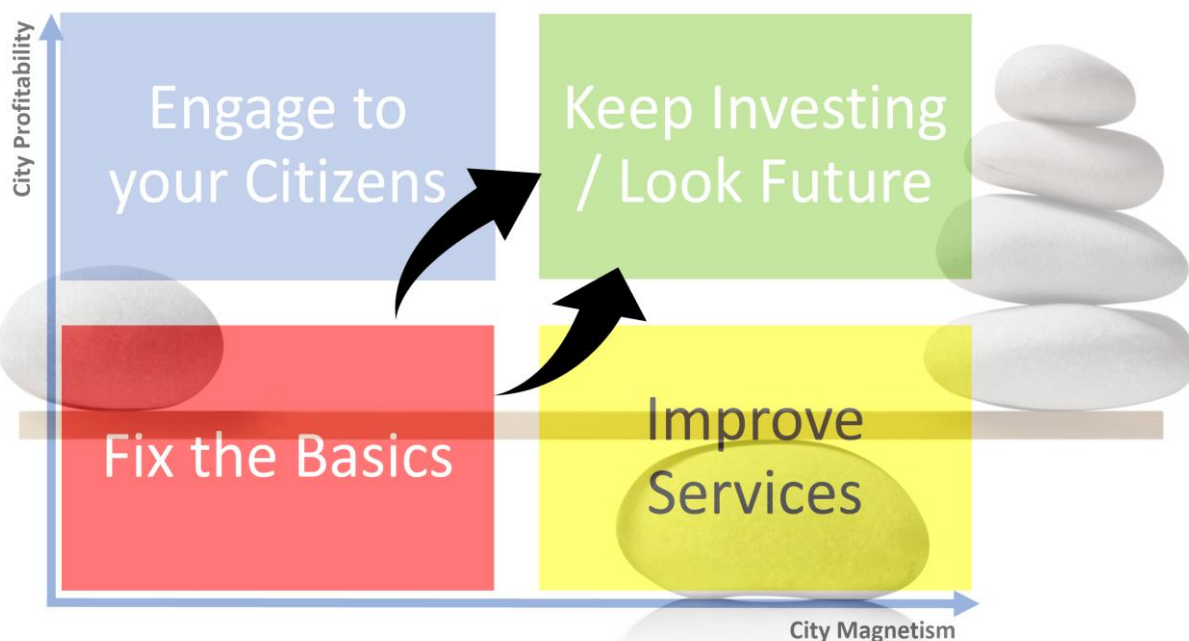
Advanced: From position 1 to 70, we find the advanced, western civilization. Australian cities lead with all 4 of their cities studied ending up in the top 13 positions, including Melbourne coming in at number 1; nearby Wellington, New Zealand is also on the list (25). As for Western Europe, Stockholm came in at number 3 and other Nordic cities fared well, too. Central European cities such as Zurich (4), Vienna (12) or Amsterdam (15) showed well, with the British capital, London (21) close behind. Other notable European cities placed as followed: Paris (47), Barcelona (40), Madrid (50), Dublin (51), and Antwerp (61) with Milan (69) and Rome (70) closing out the list. Turning to North America, its top-rated city is Montreal (8) and Toronto (20) also makes a strong showing for Canada. The US list is led by Phoenix (14) and then NYC (27). From Asia, only the main tigers can compete on this leading squad: Seoul (34), Tokyo (49), Singapore (60) and Hong Kong (73). Competition in this leading group is fierce. Climbing a few positions requires strong investments, solid, well-executed plans and dedicated teams with a generous budget and some international influence. Southern European cities may fall into the next, lower group if they don't accelerate smart investments. Their magnetism and quality of life are very high, but they won't be in that top group much longer without a strong component of innovation as well. We especially see Italy on the brink.

Challengers: In this area, we group cities from positions 70 to 90 which are progressing rapidly, competing to join the leading group, following the example of the Asian tigers. Among the Challengers, we find the Middle East, led by Israel Tel-Aviv (71) and including Istanbul (99); Eastern Europe with Prague (76); the Emirates with Dubai (82) and the Gulf. Any of these cities can join the top-tier group as soon as they gain prestige and consolidate the interesting advances they have made in recent years.

Emerging: Positions 91-122. Here we find most of Latin America, led by Buenos Aires (91); then Mexico City (100); Montevideo (102); Rio de Janeiro and other cities in Brazil (103-112); and Bogotá (117) and Medellín (121) in Colombia. Much of China is represented in the positions between Shanghai (95) and Shenzhen (116). And finally, Moscow (96). It is like a BRIC group, but without India, which needs strong urban transformation (they already have an ambitious 100 SmartCities plan). Malaysia has Kuala Lumpur (107) although with obvious different dimensions. The cities in this group have plans, recognize this global competition, and are making rapid progress.

Starters: Positions 123-140. Among the Starters are South Africa's CapeTown (123), India's Delhi (124), Northern Africa's Tunis (135) and Cairo (139), Southeast Asia's Bangkok (122), Manila (131), and Hanoi (134). These cities are beginning to plan their strategies for the global competition for talent although they continue to be burdened by unresolved, basic social and economic issues.

Attractiveness: Balancing City Magnetism & City Profitability





6.1 City Attractiveness by GeoCluster.

AREA	n	MAGNETISM	PROFITABILITY	ATTRACTIVENESS AVERAGE
Africa	5	122	133	129
Asia-Pacific	17	69	64	66
CE Europe	17	90	96	92
China Ext	9	102	101	103
India	3	131	125	128
LatinAmerica	17	110	112	112
Middle East	10	108	84	98
NorthAmerica	18	43	34	38
WesternEurope	44	34	41	38
	140			

Figure 4. Average positions. Attractive Cities by Geographic Area. Source:Author

Figure 4 shows the average position attained by each geographic area. It is curious to see the face to face competition between North America and Western Europe, both with the same average position (38). Western Europe enjoys more Magnetism, history, culture, and human values, but it pays a high price in taxes to maintain its welfare policy programs causing its Profitability to worsen. North America does the opposite: it makes up for a lack of history and cultural and human flavor with strong economic and competitiveness traits where they rank high in—and win at— everything, offering high profitability, high wages, moderate taxes and a reasonable cost of living.

6.2 City Attractiveness. Honors Board.

Using the weights provided by the SmartCity Expo survey, we have assembled the following honors board. See figure 5.

Honors Board. Magnetism IDENTITY

HISTORY/CULTURE



1	Rome
2	Athens
3	Paris
4	London
5	Milan
6	Seoul
7	Florence
8	Jerusalem
9	Istanbul
10	Tunis

GOV-BASICS



1	Oslo
2	Montreal
3	Toronto
4	Ottawa
5	Vancouver
6	Helsinki
7	Stockholm
8	Copenhagen
9	Gothenburg
10	Sydney

REPUTATION



1	Tokyo
2	Stockholm
3	Gothenburg
4	Helsinki
5	Sydney
6	Zurich
7	Geneva
8	Bern
9	Basel
10	Oslo

SPACE/DENSITY



1	Hong Kong
2	Oslo
3	Singapore
4	Mumbai
5	Shenzhen
6	Vienna
7	Chengdu
8	New Delhi
9	Bogota
10	Sydney

CLIMATE



1	Jerusalem
2	Johannesburg
3	Montevideo
4	San Francisco
5	Lisbon
6	Washington, D.C.
7	Nice
8	Madrid
9	Marseille
10	Cape Town

GeoRISK



1	Doha
2	Riyadh
3	Cairo
4	Helsinki
5	Tallinn
6	Geneva
7	Basel
8	Zurich
9	Bern
10	Gothenburg

GeoECONOMICS



1	Prague
2	Shanghai
3	Seoul
4	Vienna
5	Linz
6	Budapest
7	Bratislava
8	Osaka
9	Yokohama
10	Tokyo

GASTRONOMY



1	Bern
2	Zurich
3	Geneva
4	Basel
5	Nice
6	Eindhoven
7	Amsterdam
8	Luxembourg
9	Brussels
10	Antwerp

BRANDING



1	London
2	New York City
3	Paris
4	Barcelona
5	Los Angeles
6	Melbourne
7	Milan
8	Rome
9	Madrid
10	Montreal

Honors Board. Magnetism

Magnetism DYNAMISM

Magnetism STRATEGY

COMPETITIVENESS



1	New York City
2	London
3	Singapore
4	San Francisco
5	Boston
6	Los Angeles
7	Chicago
8	Amsterdam
9	Copenhagen
10	Paris

EXPAT EXPERIENCE



1	Madrid
2	Lisbon
3	Porto
4	Bilbao
5	Málaga
6	Valencia
7	Barcelona
8	Wellington
9	Auckland
10	Toronto

ETHICS WELL-BEING



1	Amsterdam
2	Rotterdam
3	Eindhoven
4	Melbourne
5	Wellington
6	Copenhagen
7	Sydney
8	Adelaide
9	Canberra
10	Toronto

EQUALITY



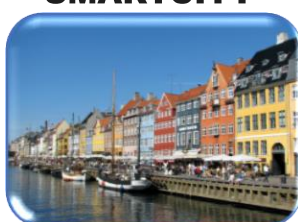
1	Helsinki
2	Oslo
3	Stockholm
4	Gothenburg
5	Toronto
6	Montreal
7	Vancouver
8	Ottawa
9	Melbourne
10	Sydney

HUMAN CAPITAL



1	Jakarta
2	Los Angeles
3	New York City
4	Boston
5	London
6	Washington, D.C.
7	Moscow
8	Chicago
9	San Francisco
10	Paris

SMARTCITY



1	Copenhagen
2	Stockholm
3	Tel Aviv
4	Helsinki
5	Manchester
6	Melbourne
7	Amsterdam
8	Taipei
9	Sydney
10	Antwerp

INNOVATION



1	New York City
2	Seoul
3	Tokyo
4	Los Angeles
5	San Francisco
6	Chicago
7	Boston
8	Seattle
9	Dallas
10	London

Honors Board. Profitability. Performance

DIGITAL GOV.



1	Copenhagen
2	Helsinki
3	Washington, D.C.
4	Amsterdam
5	Paris
6	New York City
7	Stockholm
8	Gothenburg
9	Seattle
10	Phoenix

EDUCATION. LIFELONG TRAINING



1	Zurich
2	Geneva
3	Bern
4	Basel
5	Washington, D.C.
6	New York City
7	Seattle
8	Phoenix
9	San Francisco
10	Philadelphia

EMPLOYABILITY



1	Washington, D.C.
2	New York City
3	Seattle
4	San Francisco
5	Boston
6	Chicago
7	Baltimore
8	Dallas
9	Atlanta
10	Amsterdam

CONNECTED CITY



1	Singapore
2	Vienna
3	Budapest
4	Auckland
5	Seoul
6	Antwerp
7	Montreal
8	Sydney
9	Eindhoven
10	Madrid

HLC / SOCIAL SVS



1	Lyon
2	Paris
3	Marseille
4	Nice
5	Stockholm
6	Gothenburg
7	Vienna
8	Linz
9	Oslo
10	Milan

ENV.SUSTAINABILITY



1	Stockholm
2	Montevideo
3	Auckland
4	Copenhagen
5	Gothenburg
6	Helsinki
7	Vienna
8	Oslo
9	Asuncion
10	Zurich

CULTURE/TOURISM



1	London
2	Hong Kong
3	Paris
4	Tokyo
5	Seoul
6	Bangkok
7	Los Angeles
8	Rome
9	Amsterdam
10	Milan

URBAN MOBILITY



1	Amsterdam
2	Hamburg
3	Berlin
4	Cologne
5	Vienna
6	Basel
7	Frankfurt
8	Stockholm
9	Málaga
10	Valencia

URBAN PLANNING



1	Toronto
2	New York City
3	Vancouver
4	Kiev
5	Chicago
6	Ottawa
7	Montreal
8	Hong Kong
9	London
10	Washington, D.C.

SAFETY



1	Tokyo
2	Singapore
3	Yokohama
4	Osaka
5	Oslo
6	Seoul
7	Eindhoven
8	Copenhagen
9	Sydney
10	Montreal

Honors Board. Profitability. Net Purchase Power

MONTHLY WAGE (AVG)



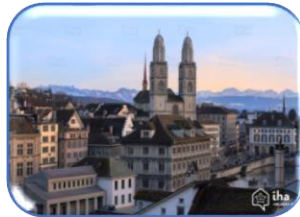
1	Zurich
2	Geneva
3	Bern
4	Basel
5	Luxembourg
6	Oslo
7	Copenhagen
8	Berlin
9	Munich
10	Dusseldorf

INCOME AFTER DIR TAXES



1	Zurich
2	Geneva
3	Bern
4	Basel
5	Luxembourg
6	Oslo
7	Dublin
8	Kuwait City
9	Sydney
10	Melbourne

NET REAL INCOME



1	Zurich
2	Geneva
3	Bern
4	Basel
5	Kuwait City
6	Atlanta
7	Phoenix
8	Washington, D.C.
9	Baltimore
10	Philadelphia

COST OF LIFE



1	Córdoba (ARG)
2	Bangalore
3	La Paz
4	New Delhi
5	Tunis
6	Medellín
7	Ankara
8	Guadalajara
9	Bogota
10	Cairo

Honors Board. ATTRACTIVENESS

IDENTITY



1	London
2	Rome
3	Madrid
4	Paris
5	Barcelona
6	Vienna
7	Milan
8	Seoul
9	Marseille
10	Zurich

DYNAMISM



1	Toronto
2	Montreal
3	Vancouver
4	Ottawa
5	Wellington
6	Auckland
7	Sydney
8	Amsterdam
9	Melbourne
10	Oslo

STRATEGY



1	Copenhagen
2	Seoul
3	San Francisco
4	Stockholm
5	New York City
6	Chicago
7	Melbourne
8	Manchester
9	London
10	Amsterdam

PROFITABILITY



1	Bern
2	Adelaide
3	Zurich
4	Basel
5	Canberra
6	Phoenix
7	Melbourne
8	Montreal
9	Gothenburg
10	Geneva

MAGNETISM



1	London
2	Stockholm
3	Amsterdam
4	Paris
5	New York City
6	Sydney
7	Vienna
8	Barcelona
9	Melbourne
10	Copenhagen

ATTRACTIVENESS



1	Melbourne
2	Adelaide
3	Stockholm
4	Zurich
5	Berlin
6	Bern
7	Sydney
8	Montreal
9	Oslo
10	Gothenburg
11	Basel
12	Vienna
13	Canberra
14	Phoenix
15	Amsterdam

PERFORMANCE



1	Amsterdam
2	Stockholm
3	Berlin
4	London
5	Oslo
6	New York City
7	Tokyo
8	Gothenburg
9	Vienna
10	Frankfurt

NET PURCHASE POWER



1	Kuwait City
2	Adelaide
3	Bern
4	Phoenix
5	Melbourne
6	Canberra
7	Basel
8	Geneva
9	Zurich
10	Houston

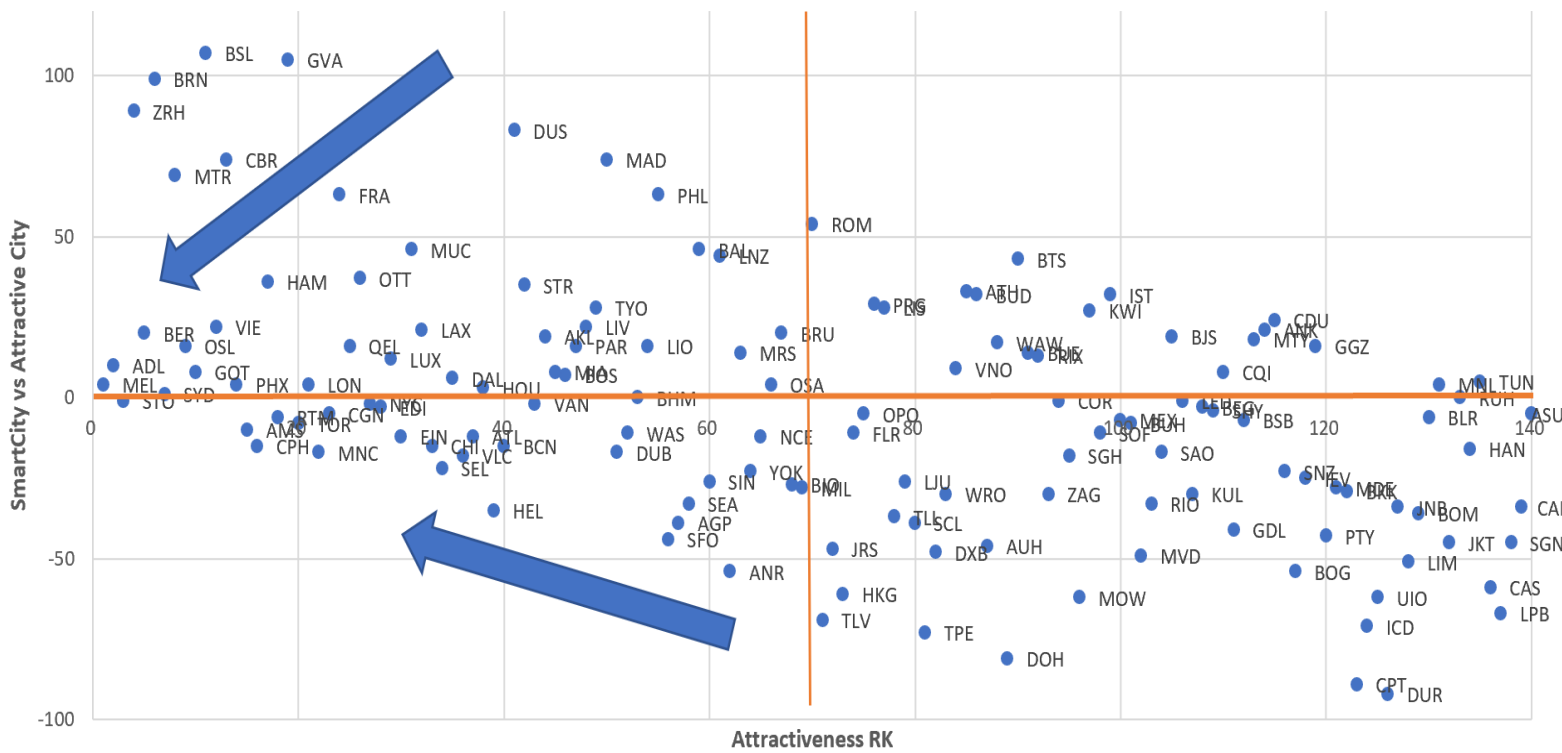


Figure 8. City Attractiveness Ranking vs Gap (SmartCity vs AttractiveCity). Source: Author

The horizontal line at zero: Over that line, cities more Attractive than Smart; under that line, they are more Smart than Attractive.

On the vertical axis, the orange line marks rank 70, or the midpoint in Attractiveness, so to the left are the cities classified as Advanced; to the right the Challenging, then Emerging, then Starters.

To the left, above the top arrow we find the Swiss cities, much more attractive than smart, with poor smart city plans, but they don't need them either! However, they are reacting and realizing that they need to invest in technology to maintain that leadership. Just below that arrow and to the right we find many German cities, with very good attractiveness, but that should improve their SmartCity plan. Next, we find American and European cities such as Madrid with SmartCity plans that can be improved. We then reach the orange line that marks Rome, on the border with the challenging cities. On this same left side, at the bottom, we find the leading cities in SmartCity, those investing heavily to improve positions in Attractiveness (Copenhagen, Amsterdam, Helsinki, Barcelona...) Here is where the main battle for Attractiveness is fought nowadays, with large investments in Sustainability, citizen services, etc.

From the vertical orange line to the right, we see that most cities are at under the horizontal line: they are the Challengers, investing heavily in SmartCity plans to get promoted to the advanced group (Tel-Aviv, Hong Kong, Doha, Taipei and many from Eastern Europe...) If we advance to the right, then we enter the Emerging group first and the Starters at the right end. We see that they all obtain better positions in SmartCity than in Attractiveness (most under the horizontal line), which indicates that they all use investments in SmartCity to improve their services for citizens, their image of modernity and their Attractiveness in general.





Therefore, as a general guideline, the SmartCities' Plan fulfills its mission of improving citizen services (Profitability), while helping in strategy, reputation, modernity (Magnetism) and becoming the most powerful tool to improve in Attractiveness. Little can be done about fixed issues like geolocation. Investments in changing or improving Identity are slow and always in the medium-long term. It is difficult to quickly improve economic conditions and net purchasing power. Therefore, the obvious lever, with more short-term results (even in a four-year legislature) is to invest heavily in a solid SmartCities plan. The cities that fail in this, have either fallen asleep in the leadership glory, (and are now waking up, like the Swiss) or are losing positions and do not take advantage of excellent Magnetism to improve positions (Southern Europe). On the other hand, cities with handicaps in Magnetism, either due to a lack of history (U.S.), weather conditions (Nordics) or long distances (AUS) compensate with good SmartCity & Services plans that improve their attractiveness to leadership positions.

Finally, at figure 9 Attractive Cities vs SmartCities by GDP, we can see that investing in SmartCities is quite independent from GDP, so all cities can invest resources on creating and executing a compelling SmartCity Plan. This will improve Attractiveness, and if investment is done rationally, progress can be very significant with a moderate cost (we have seen great progress in Latam Cities with very reasonable budgets, but wise investments). On the other hand, Attractiveness is more directly dependent on GDP, so everything that could contribute to improving it counts and is welcome (including the improvement in talent and investors' investment because of an increase in awareness due to a brilliant SmartCity plan). So, we are circling around same concept. As a conclusion, all areas are intertwined, and a balanced plan will touch the most-effective levers.

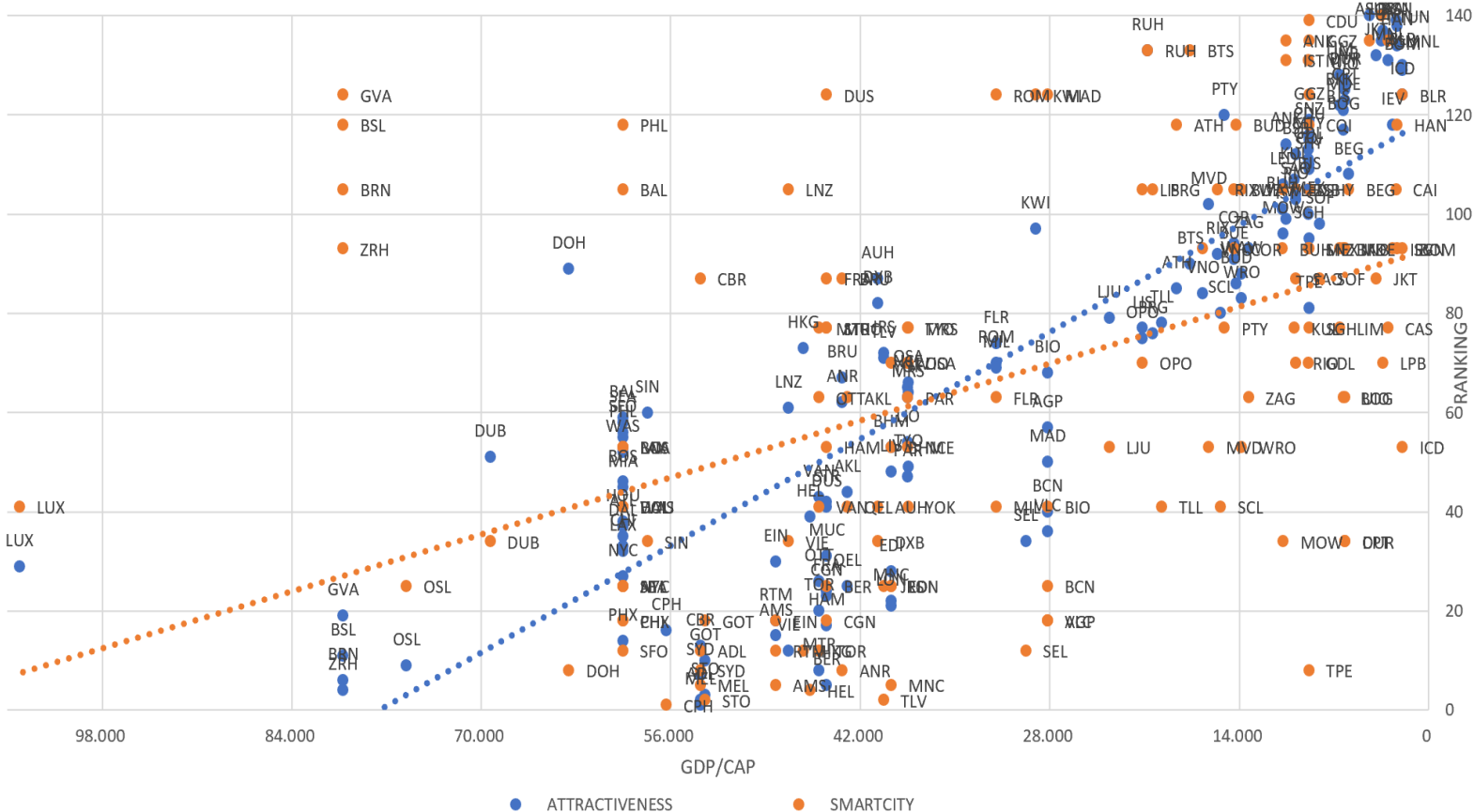


Figure 9. Attractive Cities vs SmartCities by GDP. Source: Author

7. Conclusions

7.1 Balancing City Magnetism and City Profitability

The key is to find a balance between transforming the essence of the city (its physical and virtual shape) while improving its benefits and services. The two aspects feed off of each other. A city's essence determines how the services provided should improve, while the new services have an impact on transforming the city's essence. The transition to an information- and knowledge-based economy represents both a revolution, due to its new acceleration and blistering speed, and a challenge as we try to balance the concept of an attractive and accessible city with social and environmental progress. (Van den Berg, Van de Meer, Oligaar, 2006)

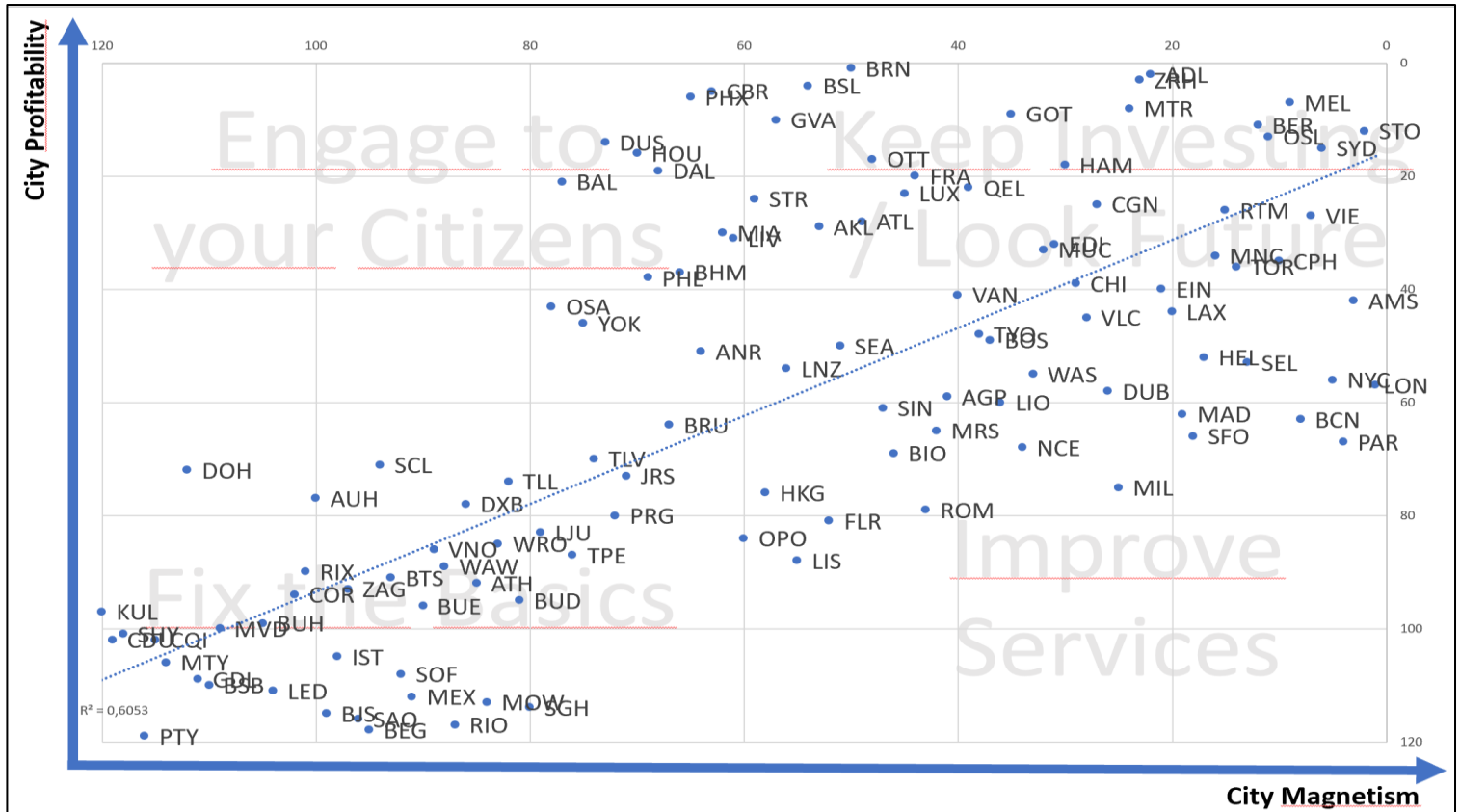


Figure 10. Balancing City Magnetism and City Profitability. Cities in UNLOCODE three letters nomination. Source: Author

The magic quadrant is in the upper right (see figure 10) where we find cities with high Magnetism and Profitability. These are mainly cities in the Advanced & Challengers levels of the ranking. These cities compete hard day after day to stay there, to gain positions step by step, making a huge investment. The message for them is clear: keep investing, keep progressing.

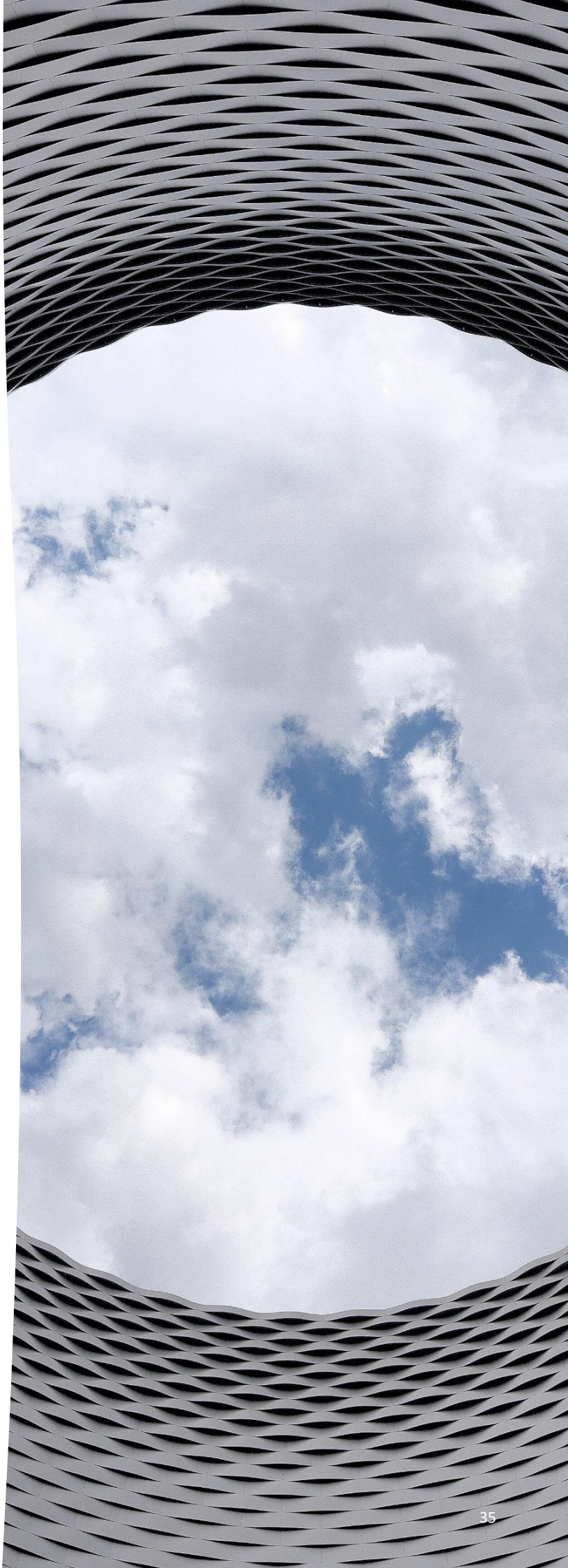
In the lower left quadrant, we see cities with low magnetism and low profitability. These are Emerging and Starter cities. Our message is again clear: 'fix the basics'. In the upper left quadrant, we find cities with low magnetism but high profitability. They are mainly some less-than-magnetic US and Japanese cities, as well as some very industrial, cold German cities, and Kuwait. They have the opportunity to improve and evolve and move into the magic quadrant if they invest in achieving social sustainability, improving their dynamism, cultivating their identity, and designing an attractive future plan that is connected to their citizens. In the lower right quadrant, we find cities with high magnetism but low profitability. Those are cities with a great identity and rich human values, but talent also demands opportunities for compensation and professional success. They must improve the provision of citizen services and the economic equation or they run the risk of falling behind in overall attractiveness. This looks to be true of Italian and Portuguese cities with high Magnetism, but poor Profitability, and of Hong Kong, with declining Profitability during China's integration process.

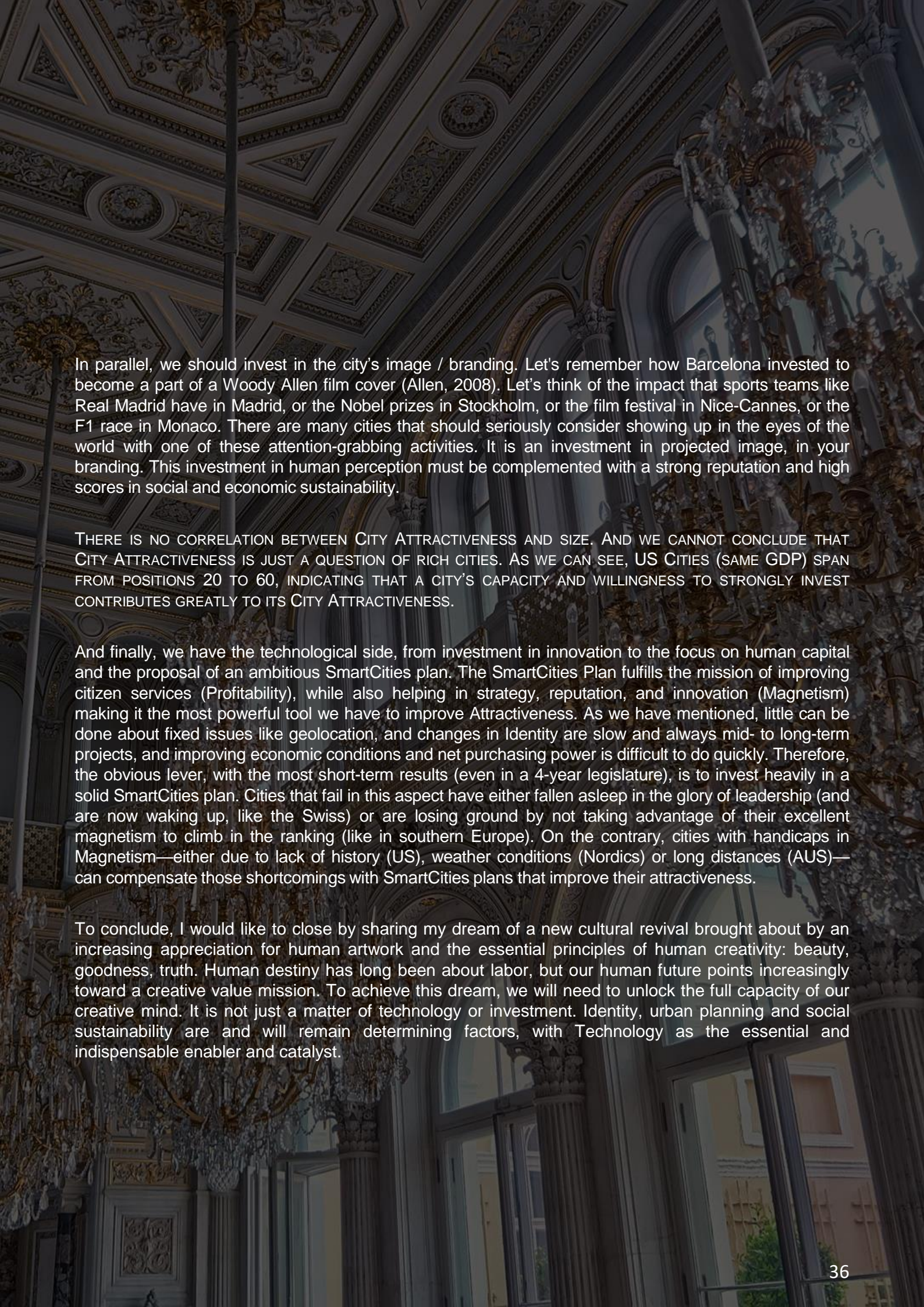
7.2 Cities of Future. What might they look like? Talent race.

Transforming City Magnetism may take 15 years or more. This slow but constant evolution should not discourage us from making the transformation. Before beginning the development of a strategy to transform the City Identity / Magnetism, we must recognize our existing advantages, assets, values, identity, heritage, and culture and use them to build upon, to lean on them to begin to thrive. There are things that we cannot change such as the geographical location, landscape, climate, geo-natural risk, or certain customs. The main language, main religion or ethics, on the other hand, can change but very slowly. Nevertheless, there are many other things that we can change and have an impact on, such as the urban planning of large areas, cultural activities and places, promoting and projecting the city internationally via sporting, cultural and arts events. We should understand which sociocultural areas we are strong in and maximize them, and we should also find out where we are unattractive so we can put a plan in place to fix that. We should think of our city as a house that we want to sell, or rather, that we want to rent to talented citizens. We have to include in that house the most appreciated elements so that talent can live, achieve maximum well-being and develop their full potential, and all this with a reasonable income or cost of living (citizenship contract). Magnetism is the house itself; Profitability is the services available in that house combined with its rent price.

We must balance the preservation of our identity, history and culture with strong investment in the future, in innovation and in projected image. Let's take exquisite care of our reputation, we must avoid populisms and manipulations, otherwise our city image will be hurt. Let's pay attention to those lower-Magnetism secondary cities in countries that already have a widely recognized and strong capital city. They can transform themselves and stand out globally if the right political decisions are made and their citizens contribute.

The transformational plan must be the long-term, consensual result of an all-parties debate. A combination of the three fundamental axes is also a must: Urbanism, Humanism and Technology, with urbanism leading and the others supporting and complementing. It is possible to tackle a fundamentally urban transformation like the one carried out in Bilbao (Spain) in the 90s, changing the city center which was a devastated industrial environment. Today, Bilbao is a very attractive city with very high standards of well-being and quality of life (Haynes, 2014). Since urbanism is pivotal, we can consider a strong urban action, develop a new neighborhood, transform and regenerate an area, build a new sports stadium, reconvert an industrial area, clean up a devastated natural area, recover a river walk, build a famous museum, design a huge park, etc.



The background of the page is a photograph of a grand, ornate interior space, likely a museum or a historical building. The ceiling is highly decorated with intricate patterns and gold accents. A large, multi-tiered chandelier hangs from the ceiling, casting a soft glow. The walls are lined with classical columns and arches, and the overall atmosphere is one of historical grandeur and architectural detail.

In parallel, we should invest in the city's image / branding. Let's remember how Barcelona invested to become a part of a Woody Allen film cover (Allen, 2008). Let's think of the impact that sports teams like Real Madrid have in Madrid, or the Nobel prizes in Stockholm, or the film festival in Nice-Cannes, or the F1 race in Monaco. There are many cities that should seriously consider showing up in the eyes of the world with one of these attention-grabbing activities. It is an investment in projected image, in your branding. This investment in human perception must be complemented with a strong reputation and high scores in social and economic sustainability.

THERE IS NO CORRELATION BETWEEN CITY ATTRACTIVENESS AND SIZE. AND WE CANNOT CONCLUDE THAT CITY ATTRACTIVENESS IS JUST A QUESTION OF RICH CITIES. AS WE CAN SEE, US CITIES (SAME GDP) SPAN FROM POSITIONS 20 TO 60, INDICATING THAT A CITY'S CAPACITY AND WILLINGNESS TO STRONGLY INVEST CONTRIBUTES GREATLY TO ITS CITY ATTRACTIVENESS.

And finally, we have the technological side, from investment in innovation to the focus on human capital and the proposal of an ambitious SmartCities plan. The SmartCities Plan fulfills the mission of improving citizen services (Profitability), while also helping in strategy, reputation, and innovation (Magnetism) making it the most powerful tool we have to improve Attractiveness. As we have mentioned, little can be done about fixed issues like geolocation, and changes in Identity are slow and always mid- to long-term projects, and improving economic conditions and net purchasing power is difficult to do quickly. Therefore, the obvious lever, with the most short-term results (even in a 4-year legislature), is to invest heavily in a solid SmartCities plan. Cities that fail in this aspect have either fallen asleep in the glory of leadership (and are now waking up, like the Swiss) or are losing ground by not taking advantage of their excellent magnetism to climb in the ranking (like in southern Europe). On the contrary, cities with handicaps in Magnetism—either due to lack of history (US), weather conditions (Nordics) or long distances (AUS)—can compensate those shortcomings with SmartCities plans that improve their attractiveness.

To conclude, I would like to close by sharing my dream of a new cultural revival brought about by an increasing appreciation for human artwork and the essential principles of human creativity: beauty, goodness, truth. Human destiny has long been about labor, but our human future points increasingly toward a creative value mission. To achieve this dream, we will need to unlock the full capacity of our creative mind. It is not just a matter of technology or investment. Identity, urban planning and social sustainability are and will remain determining factors, with Technology as the essential and indispensable enabler and catalyst.

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