Innovative Cities: the Way of Management, Sustainability and Future

Diego de Melo Conti: NEF, Management Program PUC-SP, Brazil  
E-mail: diegoconti@uol.com.br

Gilmara Lima de Elua Roble: NEF, Management Program  
PUC-SP, Brazil  
E-mail: gilaroble@terra.com.br

Julyana Moreira Santos: NEF, Management Program PUC-SP, Brazil  
E-mail: jullyhill@hotmail.com

Renata Martins Corrêa: NEF, Management Program PUC-SP, Brazil  
E-mail: renatamartinscorrea@hotmail.com

Abstract
This article aims to discuss what the parameters for the development of an innovative city, through planning and sustainable development traced from four themes: economic, political, environmental and social. Thinking the future is the only way to develop a social equality, fighting poverty and rescuing human values. Innovating means do differently and break with old paradigms, bringing prospects of future, technology and management. For this, we performed a literature review, and the introduced some practical examples. This way, there is shown the necessity of an appropriate strategy for the development of cities.

Key words: Innovative cities; Management; Sustainability.

1 Introduction
It is increasingly common worldwide see the organization of forums, seminars and meetings to discuss the future of cities. This concern is mainly because most people spend most of their lives in large urban centers, since it concentrates most of human activities (Ferreira, 2004). By the way, cities are full of environmental, social, financial and management problems, which reinforces the need for this study. Thus we see that problems like these drive us to search for a better quality of life and also sustainable development. We must seek balance.

It is fact that the major international meetings and agendas address these and other issues linked to the future of humanity in the global level, however, in this article we will discuss it in the local level, as the idea of democracy of Alexis of Tocqueville, we see that the
great revivals and social changes happens from the bottom up - from the participation and popular will. In a logical order, we can say that the transformation of cities, we can change our states, our country and ultimately our planet.

We should also consider the idea of Thomas Hobbes, brilliant English philosopher and political theorist who saw the state as a reflection of its population, in other words, the behaviors of government are like the society in which it is inserted. Thus, we see that all local and global efforts to build a more humane and sustainable society, must first undergo a change of consciousness, where individuals must realize (or learn) that each of their attitudes affect the development a whole.

From this perspective, we can illustrate the levels of human consciousness and its stage of maturity through the graph ‘Expansive Calculation of self-interest’, drawn up by the British futurist Hazel Henderson (1996).

Knowing this, we will also see that human needs are highly diverse, as in the idea of Chiavenato (1998) referring to the individuals – “a need satisfied, another arises in his place, and so on, continuous and infinitely” – which leads us to determine that the public administration must be holistically oriented, with a holistic view of society, considering the numerous different human perspectives.

In the field of sustainability, we will see that the policy permeates many areas of humanity such as: science, religion, education, sociology, economics, and many others. In this way, we will break with the classical vision of the Triple Bottom Line, including the policy on their axes, getting the fourth “P” of sustainable development - People, Planet, Profit and Politics. Bringing and developing a more harmonious vision of the sustainable development.

In this context, this article will seek to define strategies that cities can take to become sustainable, innovative and competitive, bringing knowledge and theories from the private field to the public administration, as in the work of David Osborne and Ted Gaebler, it is time to reinvent the government, to face the global and contemporary issues.

Then, we will realize that the sustainable public administration is shown as an alternative to the redesign of cities, which is nothing more than the need to repair the damage, the awareness to optimize use of resources, to combat waste and the search for better quality. It must maintain harmony with the design of eco-efficiency, where a new institutional culture includes social and environmental criteria in investment, procurement and contracting. It is apparent the need for public administrations to commit themselves and the commitment of ensuring the conservation of natural resources and environmental quality.

2 Problems of the Large Urban Centers and a New Integrated Vision of Public Management

Today we face a crisis of governance in large urban centers, a process resulting mainly from the numerous problems of economic, social and environmental order, which makes metropolis management a great challenge. Urban problems are not recent, occurring since the beginning of the urbanization process in the eighteenth century during the Industrial Revolution, resulting in a cumulative long-term.

Urbanize essentially means transforming what was nature in city, that is, if we could turn back time we would see that in the past all came down into plants, trees, animals, insects, as a final point, characteristics of an environment without human intervention. However, the man
took his place today with cities up to 25 million people, skyscrapers, water supply, sewage, electricity and transport networks. Nevertheless, not all people have access to this urban infrastructure, being born there one of the biggest problems of modern life, the huge social division.

In a city is possible to observe at once the most different people, from different social classes. In Brazil, for example, one of the countries with the worst income distribution in the world, we can see in the same street or avenue, high standard properties next to slums, as shown in the image below.

Figure 1 - Expanding Calculus of “Self-Interest” (Henderson, 1996)
Figure 2 - Favela of Paraisópolis

Through this image we can see the big social gap existing in urban centers, especially in underdeveloped or developing countries, revealing the dark side of the capitalism. As a result, we will face even worse problems such as violence and crime, losing quality of life and freedom.

Therefore, we believe that the public manager must address the causes without fear, founded on democracy, through a systemic view of the government. In this way, we find the principles of “Integral City”, who seek the integral development of a city, exploring the city as a hive of bees, which seeks to restructure the city, which is durable, harmonious and balanced.

Figure 3 - ‘Integral City’

Through the image number 3, we can see that the “Integral City” develops a systemic view of the metropolis, bringing diverse perspectives to public administration, as: 1) Integral Intelligence; 2) Emergent Intelligence; 3) Ecosphere Intelligence; 4) Living Intelligence; 5) Inner
Intelligence; 6) Outer Intelligence; 7) Cultural (or Storytelling) Intelligence; 8) Structural Intelligence aka Social or Building Intelligence; 9) Inquiry intelligence; 10) Meshworking Intelligence; 11) Navigating Intelligence; 12) Evolutionary Intelligence. Thus, bellow we will give a brief explanation of each of the elements.  

- **Integral Intelligence** - looks at the city, as a whole system, that includes (but is not limited to) discursive, political and religious/spiritual contexts together with a specific natural environment (such as mountain, sea or prairie), climate and natural ecology. As such an Integral City is dynamic, adaptive and responsive to its internal life conditions and external life conditions.

- **Emergent Intelligence** - looks at the city as a whole, through the lenses of aliveness (it survives, adapts and regenerates), survival (the city survives through the bio-psycho-cultural-social behaviors, intentions, relationships and systems of its citizens), adaptness (the city adapts through differentiation and integration — through the responses to life conditions by its conformity enforcers, diversity generators, resource allocators and inner judges.), regeneration (occurs through biological reproduction and inner renewal, shared learning and teaching and coaching others in roles, competencies and capacities), sustainability (embraces sustaining order, strategic planning, caring and sharing and systemizing) and emergence (is a characteristic of living systems, that arises from the resonance and coherence of the system).

- **Ecosphere Intelligence** - is an awareness and capacity to respond to the realities of a city's climate and eco-region environment. Just as honey bees adapt themselves to different geographies, Integral Cities in different locations must adapt different solutions to the same infrastructure problems.

- **Living Intelligence** - relates to the aliveness of each citizen through each of its lifecycle stages and the aliveness of the city through its lifecycle stages. Living intelligence asks how can we align and optimize the life of people in the city at each stage of life? How can we align and optimize the lifecycle stage of the city with its people?

- **Inner Intelligence** - is the “I” space of each citizen. It is the seat of intentional consciousness, attention, interior experience and intelligences or lines of development, e.g. emotional, cognitive, spiritual.

- **Outer Intelligence** - is the biological “It” space of the citizen — the space where the body acts and behaves. Behaviors demonstrate our intelligence in action. Demographics are key determinants of our intentional, cultural and social capacities, because they represent the bodies through which our intentions, cultures and systems are delivered. To understand the city we must understand citizen behaviors; to understand citizen behaviors we need to understand them as individuals in the context of the many.

- **Cultural (or Storytelling) Intelligence** - represents the “We” life of the city. It considers the relationships in the city which transcend boundaries that both contain and separate including: the individual and the group voice; multiple levels of values; and city cultures and rural cultures. City cultures depend totally on the quality of relationships.
• **Structural Intelligence aka Social or Building Intelligence** - represents the “Its” space of the city. This intelligence connects us to the realities of the city, that we see, feel, hear, smell, touch and taste. It gives us the capacity to structure and systematize our environment. City structures are made up both from the collective of people of whom we are a part and also the built environment.

• **Inquiry intelligence** - asks key questions that reveal the meta-wisdom of the city: What is important to you? What’s working in your life, family, community, school, health system, city? What’s not working in your life, family, community, school, health system, city? What is your vision of the optimum in your life, family, community, school, health system, city? Where do your source your bio-psycho-cultural-social energy in the city? The answer to Vision inquiry usually leads us to frame the change we need to unlock the potential of our city.

• **Meshworking Intelligence** - creates a “meshwork” by weaving together the best of two operating systems — one that self-organizes, and one that replicates hierarchical structures. The resulting meshwork creates and aligns complex responsive structures and systems that flex and flow. It uses imagination, courage and powers of attraction. It articulates designs from the meshing of the diversities in people and thereby releases and reorganizes new intelligences that are currently locked and blocked in silos of sameness an it catalyzes a shift in the system, so that new capacities emerge and the system reorganizes itself into something more internally resonant and externally coherent with life conditions.

• **Navigating Intelligence** - monitors and discloses the wellbeing or general condition of the city. It uses a vital signs monitor as a reporting mechanism or protocol which monitors and discloses the health of the city. It includes five key indicators for an integral dashboard: 1) Climate change; 2) Environmental health; 3) Society’s responses to environmental problems; 4) Positive economic relationships; 5) Incongruent neighbors.

• **Evolutionary Intelligence** - is the capacity to transcend and include the intelligences we currently showed, in order to allow new intelligences to emerge. Evolutionary intelligence looks backward at our evolutionary history and forward to our evolutionary future. It assumes that life conditions will continue to change and the human species will change and adapt and evolve with such changes.

Therefore, we see how important is the systemic vision for the public administration, because only through it, it is possible to harmonize and combine many different elements of a social system and its environment. So, then delve in with regard to public planning, as a management tool for cities.

### 3 Strategic Planning for Cities

The Strategic planning for cities is nothing more than business management for the public sector (Oliveira, 2001). However, within the Brazilian perspective, it is a field that is in great need of well-defined theories and practical examples, unlike the private sector, which has a broad theoretical framework.

In such a way, the public sector not using strategic planning misses the opportunity to use an excellent management tool, wasting opportunities to improve their administrative and financial efficiency, and especially its effectiveness in solving public problems.
In this sense, we can see that strategic planning is fundamental to the public administration build short, medium and long term plans, integrating actions in different areas of government, contributing to the increase of solutions and innovations that make the city an area of democracy and freedom.

There is no consensus among several authors and consultants in strategic planning and the sequence of steps of its process. However, its main steps are: a) Orientation b) Establishment of the Directorate; c) Diagnosis; d) Strategic Plan. Below, through the figure number four, we can observe the basic structure of a strategic planning:

![Figure 4 - Strategic Planning (CHIAVENATO, 1998)](image)

We will realize that the methodology of strategic planning can be easily adopted for the municipal administration, but, naturally, as larger the city is, more complex will be the development of diagnostic and the strategic goals. Thus, we see that both steps can be further developed through the formation of knowledge networks in partnership with civil society organizations.

In such cases, the creation of a network of social actors may be the most effective way to promote development at the local level, in order to better understand the reality, creating proposals, laws, rules and actions that work best for the evolution of that group people or community. Dowbor (2006):

There is a set of studies that define progressively this area of economy for the local developing. The works of Manuel Castells about the networked society point to the greater ease of local regulation, enjoying the horizontal connectivity of the set of social actors who participate in the development process.

Also in relation to strategic planning, the contemporary cities are embedded in an environment of uncertainty about the future, as well as a group of strong certainties, such as: economic globalization, the competition between the municipalities and the need for new relationships between public and private sectors (OLIVEIRA, 2001).
Another important issue in the strategic field is the separation of levels of decision making, thereby, the management can be effective and also work in a technical way. When we think in Brazil, we see a big problem in this field, because politicians often decide what should be done and how it should be done, when this second stage should be responsibility of the government area, which includes the technical department. Then, through the figure number five, we will see the ideal model of decision making:

**Separation of the strategic from the operative level**

- **Elected political representatives**
  - Strategic level
  - Deciding what has to be done
  - Set target and timeframe
  - Define budget
  - Example: Provision of school buildings

- **Contract Management**

- **Public administration**
  - Operative level
  - Deciding how things have to be done
  - Deliver
  - Reporting
  - Example: Building and maintaining school buildings

Figure 5 - Separation of the Strategic from the Operative Level (CONTI, 2010)

**Problem Identification** → **Agenda Creation**

- Continuation, improvement or extinction
- Formulation of alternatives

**Evaluation** → **Decision Making** → **Implementation**

Figure 6 - Public Policy Cycle (SECCHI, 2010)
Thus, we see that the use of strategic planning is fundamental to public administration, because through it is possible to detect strengths and weaknesses, threats and opportunities, define an agenda and the organizational vision of government.

However, it is not enough implementing the plan, the cycle of public policy and government programs should go beyond, monitoring and evaluating the management and its results continuously, to constantly fill up with information and update itself according to various situations, changes and social transformations. So, dealing with public policy, we would have the following cycle:

Finally, we can say that several other instruments of private management should be used in public administration, such as the PDCA cycle (Plan - Do - Check - Act) quality. The state manager must keep in mind that with better quality of public services, more tax the taxpayer will be willing to pay, making the management competitive and entrepreneurial. For this purpose, strategic planning is essential.

4 Sustainability: People, Planet, Profit and Politics

Several ideas have been associated with the notion of sustainability since the Brundtland Report in 1987, such as the following examples: a) efficiency, which aims to combat waste, extending the rationale to the means of production and attitudes day-to-day, b) scale, which imposes a limit to economic growth and the pressure that it exerts on environmental resources; c) ethics, which shows the interactions of the material basis of development with the conditions to continuity of the planet life (Acselrad, 2001).

Then, from this point, we realize that various government agencies, nonprofit entities and international agencies began a real ideological battle against old economic paradigms, in an attempt to imbue capitalism with social values; companies with “green” aware; and citizens with a global and futuristic look. Imposing the world a new management model oriented towards sustainable development. Authors Castro and Oliveira (2007, p. 4 cited SECCHI, 2009, p. 8) observe that:

Life on earth depends on the preservation of ecosystems. Through the use of practices that do not harm the environment is possible to ensure the fundamental characteristics of ecosystems and ensure their productivity for future generations.

Concerning the development of cities, guide the public management to the sustainability can bring many innovations and harmony to the urban space, as well as meet social and environmental problems, through the re-articulation of public policies, in order to give durability to the development, in accordance with the principles set out in “Agenda 21”, resulting from the UN Conference on Environment and Development.

The “Agenda 21” is a global development program which combines environmental protection, social justice and economic efficiency across the planet. This is defined in 40 chapters and 115 priority areas for action (Catalisa, 2005). Formerly in its preamble, it states that: The “Agenda 21” addresses the pressing problems of today and also aims to prepare the world for the challenges of the next century. It reflects a global consensus and political commitment at the highest level, regarding to development and environment cooperation. (Agenda 21, 1992)

It is highlighted that “Agenda 21” has as one of the cornerstones of sustainability, strengthening of democracy and citizenship, through participation in the process of development, combining the ideals of ethics, justice, participation, and satisfaction of needs.
Thus, according to the Instituto Ethos (2009), it is understood that a just and sustainable city is that which: a) the demands of the current inhabitants are met without running out with resources that will serve the future inhabitants, b) promotes the economic development respecting the environment, c) are offered the same rights – mobility, education, health, leisure, participation in management – to all inhabitants.

![Figure 7 - New Bottom Line](image)

In this sense, we must define the concept of sustainable development, therefore it can provide different perspectives. Trivially, sustainability has three main areas: 1) ecology and environment, 2) social development, 3) economic growth. In other words, breaking up into three “P” of sustainability – People, Planet and Profit. However, as researchers, it is our mission to redesign concepts and theories.

In such a way, dazzle the insertion of the fourth “P” of sustainability, represented by politics, which in this sense would has the function to harmonize and balance the interests and needs of the three “P”, and the responsibility to the consolidation of representative democracy, with decentralized and participatory systems, giving greater autonomy to local governments. In a comparison chart, we would have the following image:

As a result, we can explain this new perspective through a practical example, the use of renewable energy. Electricity and fuels are essential to our lives, are also one of the major forces driving economic and technological development in the world, without it would be impossible the existence of cars, airplanes, computers, and even the simplest object, such as a lamp.

Each year there is a significant increase in world population, making evident the increasing demand for energy and fuel around the planet, whether for personal consumption, for instance, carry a notebook or drive a car, or with the impetus of the industrial sector, by opening new factories, companies and shops. All this brings to us one major concern: energy shortages.

In this sense, the energy shortage becomes a public problem. So, we can use the figure of
the “New Bottom Line ‘to solve it, as a new energy matrix driven by planetary values, guaranteed by politics instruments through its authoritative, in a way that people could have access to clean energy, protecting the environment from the pollution of companies and power plants. In the same way, we realize that our current energy matrix is unsustainable, as Dowbor (2009) warns:

The market mechanisms are simply inadequate, because in terms of market is cheaper to spend oil that is already done in the ground, burn sugar cane in the field and fill our cities with cars. And the two main losers of the process, the nature and future generations, are silent partners.

Energy matrixes, which eliminate materials harmful to human health or the environment, can greatly affect the Earth and life, often causing irreversible damage to our biosphere. Now is the time to put human values over economic values, because, as the idea of Peter Senge, no route to the future ignores the needs of the future generations, which will certainly depend on a full world to develop and enjoy a healthy life. Thus, Schenini and Birth (2002) argue that:

The sustainable public management has as a basic premise the use of activities and tools of the clean technology that allow optimizing sustainably the techniques and procedures for its operations.

At the global level, as an attempt to contain the emissions, international treaties have been established for cooperation between nations. Among them we highlight the Kyoto Protocol, which is an international commitment among many countries to reduce greenhouse gases that exacerbate global warming. Discussed and negotiated in Kyoto in Japan in 1997, was opened for signature on 11 December 1997 and ratified on March 15, 1999.

The Kyoto Protocol expires in 2012, and already there is an UN commitment to the delineation of a new international agreement, or what is more likely, an amendment to the current treaty, which would set new goals to be achieved in the years to come, both to reduce CO2, and for the establishment of rules that limit trade of carbon credits.

Given the above, it appears that the broader definition of sustainable development is founded on the integration of social, environmental, economic and political.

5 Innovations for Sustainable Development

With a global market and increasingly competitive, whether in public or in private sector, the innovation exert an increasing influence in the process, because without it, could mean the end of the organization. However, we see that, especially in Brazil, the government gives small steps in this direction, due to excessive bureaucracy.

The bureaucracy, according to Max Weber’s idea, should be an management tool for organizations to be essentially impersonal and formal, eliminating individual interests on administrative processes. But what we see today is a great dysfunction of all this, where the bureaucracy comes down to paper and stamps, making the processes inflexible and time-consuming.

The policies toward a model of globalized and contemporary society should also be established with a new political vision. Equally, we cannot have within these management sectors only politicians, but political leaders. So, realize that changes for an innovative and sustainable management run through of two central issues: organizational culture and leadership style.
Organizational culture can be seen as a cultural universe formed by the assumptions, beliefs and values shared by members of an organization, being derived from a specific social environment (Hofstede, 1991).

Likewise, we see that leaders or heads of government are the mainly responsible for a certain style of organizational culture at the public administration, determining the success or failure of the organization. Thus, we see that change efforts may be hampered quite significant to consolidate, being necessary to act directly on the basic assumptions of the organization and its power relations, which of course would provoke strong resistance (AKTOUF, 1993).

Therefore, we will see the need to adopt a new attitude in the public sector, with the centrality on the citizen, equally if they were customers of one company (Kotler, 2008). Thus, through a new pipeline, we will get to the organizational culture of innovation based on research and technology changes.

The cities of the future must be based on the principles of sustainability discussed in this article, coupled with an innovative, transparent culture and human enhancement. In addition, they must build partnerships with civil society and the private sector, who share the same public interests. As Hazel Henderson’s idea, build a win-win world.

In the world, we can find several examples of innovations and sustainable initiatives in public sector. In Sao Paulo, the largest city in Brazil, for example, in May 2011 was organized the ‘C40 Large Cities - Climate Summit’ that brought together 40 mayors of major cities worldwide. Together, the mayors of these cities represent the interests of 560 million people, account for 21% of global GDP and account for 12% of global emissions of greenhouse gases.

The Climate Summit 2011 discussed and brought projects from worldwide, in order to illustrate what can be done in public administration to solve public problems. The focus of the meeting was to discuss the future of cities that because of the high rates of urbanization and population growth, are increasing challenges for the sustainable development of municipalities.

Inside the panels were discussed programs for the replacement of cars onto bikes and hybrid public transports, the use of solar and other renewable sources, use of green technology in construction, creation of digital cities and e-governments, plans to collect and recycle solid waste, relocation of public spaces and sustainable architecture, sustainable public procurement program, ideas for reducing consumption of electricity and drinking water,
depollution of seas and rivers, laws and other projects. Permitting public managers have a
global view of the evolution of public administration worldwide; renewing the mission that
government has with the society and the planet.

Looking at the future is extremely important, because human life depends substantially
on that. Education for sustainability can be one of the best alternatives for this, because a new
generation, imbued with new values and a culture of peace can make the difference.

6 Concluding Remarks

In the last century happened various debates that polarized the political world – capitalist
x communists, liberals x socialists, left against right – however, we realize that the real battle which
was fought between political ideologies, putted away the public administrators from the pragma-
tism and reality, building the world we live in today.

In this way, we realize that only new leaders fitted with sustainable value may build a
new reality, solving the mistakes of the past, developing a quality society, building a bridge to
what we will have in the future.

Furthermore, we believe that strategic planning of cities, as well as the preparation
of master plans to guide the public administration is extremely important for the efficiency
and effectiveness of governments. We believe that public administration should be directed to
human and sustainable values, also founded by the objectives and goals of the UN Millennium
Development Goals.

Among the various powers, local government has the greatest responsibility for the
future generations, as the great lawyer Helio Beltrão (1984) said “the people living in the city.
Nobody lives in the Federal Government.” Thus, we conclude that we must further strengthen
the role of cities in public administration, decentralizing resources and enabling self-sufficiency
of the municipalities.

Notas

1 Source: Integral City. The complete material could be found at: www.integralcity.com.
References


