



The Pseudo Smart City in Morocco Possibilities, Potential and Opportunities for a New Regional Development Model

Omar ALLAKI¹, Ismail EL GHANNOUCHI¹, Abdeslam EL MOUDDEN²

¹Doctoral student in Economics and Management, National School of Business and Management, Research Laboratory in Organisational Management Sciences, Ibn Tofail University, Kenitra – Morocco

²Professor-Researcher, National School of Business and Management, Research Laboratory in Organisational Management Sciences, Ibn Tofail University, Kenitra – Morocco

Abstract: Morocco, like other countries in the world, is on the one hand facing a number of challenges linked to the growth of its population and the extension of its urbanisation (mobility, housing, environment, etc.) and, on the other hand, the increasing scarcity of available natural resources, which makes urban management and meeting the needs of citizens an increasingly difficult task.

In such a context, it becomes necessary to rethink the governance of the city and its organisational structure in order to guarantee a better performance of the quality of life of its citizens. The development of new information and communication technologies (NICT) now offers better prospects in the context of Smart Cities, enabling intelligent management of available resources to better meet the requirements of today's cities. Interest in smart cities in Morocco has been growing steadily among both public authorities and private players looking for smart solutions that will enable the development of the territory and the fulfilment of its citizens. Despite the efforts made, the results still fall short of expectations. The development of a Moroccan model that capitalises on the country's assets and takes account of the specific features of the Moroccan model is essential if this experience is to bring real added value to the management of Moroccan territories.

In this paper, we will discuss the conceptual notion of the pseudo smart city, which represents a flexible version of the notion of a smart city, as well as the possibility of its implementation in Morocco while exploring the existing potentialities and opportunities so that we can converge towards an adequate economic and regional development model.

Keywords: Smart City ; Pseudo Smart City ; advanced regionalisation ; Low tech ; Living lab ; territorial governance.

Digital Object Identifier (DOI): <https://doi.org/10.5281/zenodo.8252556>

Published in: Volume 2 Issue 4



This work is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](https://creativecommons.org/licenses/by-nc-nd/4.0/).

1. Introduction

According to estimates by the United Nations, 70% of the world's population is expected to live in cities by 2050¹. The ever-increasing concentration of people in cities is at the root of many of the social and societal challenges facing the regions: increasing scarcity of natural resources, global warming, pollution, mobility, security, etc.

¹ United Nations World Urbanization Report, 2018

Morocco is no exception to the phenomenon of urbanisation. More and more people are now living in cities at the expense of rural areas, in search of a better quality of life and new professional opportunities. The urban population has more than doubled over the last fifty years, reaching 63% in 2019. This national trend will continue to grow, reaching 70% by 2035².

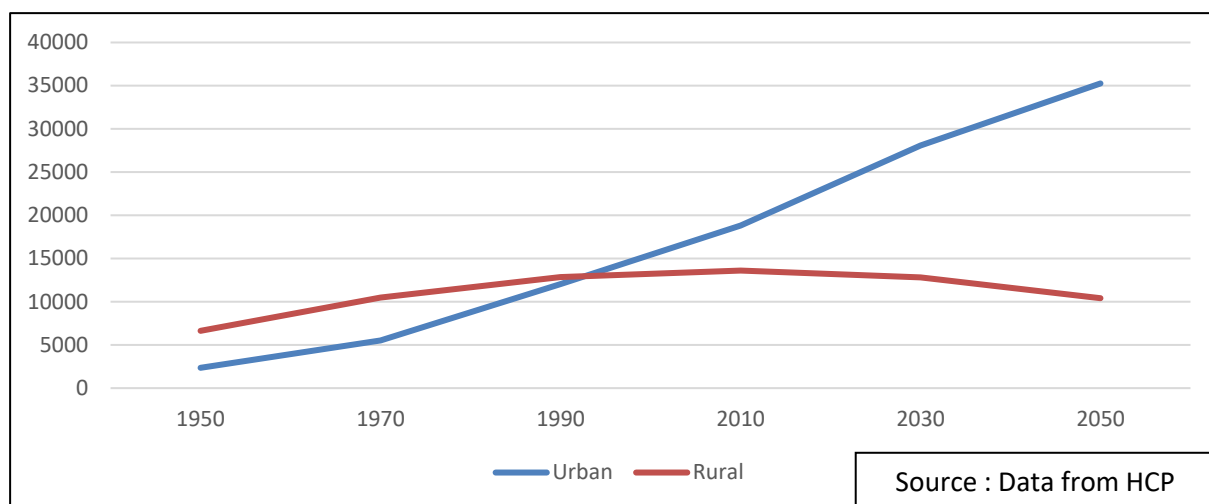


Figure 1: Urban and rural population trends in Morocco

This phenomenon of urbanisation is putting a great deal of pressure on Morocco's territories, particularly in terms of mobility, the environment and the services provided to citizens by administrations. Against this backdrop, Morocco has begun to look for innovative solutions to these problems, and interest in the smart city concept has been growing since 2013. This interest is all the more justified by the evolution of Moroccan society, which has become increasingly connected. Morocco has an internet penetration rate of 85%³, 86% of Moroccans have a smart phone and 99% of all households have at least one smart phone⁴. As far as access to social networks is concerned, 80% of young people aged between 20 and 39 access social networks every day.

This widespread use of connectivity and new technologies among the population provides an ideal framework for the development of new innovative and smart solutions, for better city management. Nevertheless, the results of the Smart City experiment in Morocco, after almost 10 years, remain low in relation to the expectations of citizens and public authorities, which raises the question of the adaptability of the Smart City model in Morocco. Indeed, Smart Cities are a demanding model at several levels (technical infrastructure, governance, financial resources, etc.), and their adoption in Morocco is proving difficult and requires an effort by the city's stakeholders to contextualise the concept and adapt it to the country's economic, technical, social and cultural reality in order to create a national ecosystem made up of the various stakeholders, capable of improving the governance of cities and ultimately improving the quality of life of citizens. The aim is to set in motion a dynamic that will enable Moroccan cities to benefit from the international movement towards Smart Cities and the enthusiasm of major technology groups for this sector, so that they can better meet the expectations of Moroccans, open up new prospects and create a national market that generates high added value.

In this article, we will attempt to define the conceptual framework of the smart city model for Morocco, which we have called the "Pseudo Smart City", and analyse the prerequisites and timeliness of its implementation in order to converge towards an optimal economic and regional development model. To do this, we have adopted the following plan: present the smart city concept (II) and define the new "pseudo smart city" concept (III) and its implementation in Morocco (IV) before focusing on the importance of governance and the role of advanced regionalisation in promoting pseudo smart cities in Morocco (V).

² Data published by the Haut-Commissariat au Plan du Maroc on its website: www.hcp.ma

³ Data collected from the World Bank database: www.donnees.banquemondiale.org

⁴ Annual report of the Autorité Nationale de Réglementation des Télécommunications

2. What is a Smart City?

The COVID 19 pandemic and global climate change have highlighted the importance of Smart Cities. Cities confined for long periods around the world, increasingly scarce water resources, distance learning and working from home are all habit-changing upheavals that smart cities have better adapted to, leaving other urban areas behind.

Since the concept of smart cities first emerged, a number of academics and practitioners have sought to define it accurately. For the Smart City Institute, a smart city is an ecosystem of stakeholders, in a given territory, committed to a process of sustainable transition while using technology as a facilitator to achieve these sustainability objectives and carry out related actions.

For the Organisation for Economic Co-operation and Development (OECD), smart cities refer to initiatives or approaches that effectively leverage digital transformation to improve the well-being of citizens and deliver more efficient, sustainable and inclusive urban services and environments as part of a collaborative and multi-stakeholder process (OECD, 2018a).

New technology companies, for their part, advocate a more technology-based definition. According to the Smart City Council⁵, a smart city collects data from devices and sensors embedded in its assets - road infrastructure, electricity grids, buildings and so on. This data is then shared via intelligent systems to produce useful information and services enhanced by digital functions.

Rudolph Giffinger highlights 6 dimensions of a Smart City.

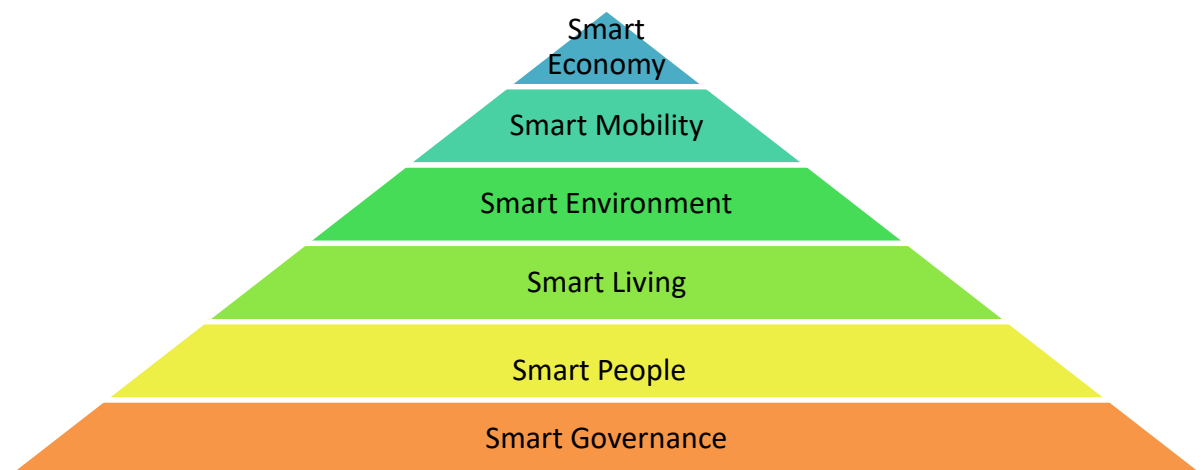


Figure 2 : Classification criteria for smart cities

- ❑ **SMART GOVERNANCE**: Services and interactions that link and integrate public, private and civil organisations in a more transparent and open decision-making process, through the use of new technologies such as e-services, intelligent data management (Big Data Management in particular) and citizen participation ;
- ❑ **SMART PEOPLE**: An inclusive society using new technologies and innovation to improve knowledge management and social capital ;
- ❑ **SMART LIVING**: Is concerned with improving the quality of life and safety in the city through the range of services on offer, changes in citizens' lifestyles, social cohesion and tourist appeal. It also covers everything to do with e-health, culture, social services and the availability of better quality housing ;
- ❑ **SMART ENVIRONMENT**: Includes the thoughtful and sustainable management of natural and heritage resources, the use and production of green and renewable energies, and the use of new technologies in resource management (energy, air, water, waste, etc.) ;
- ❑ **SMART MOBILITY**: Includes a modern and sustainable transport system, integrated into a plan that emphasises collective modes of transport and multimodal options ;

⁵ Smart City council is a group of major companies specialising in smart city technologies, including Cisco, IBM, intel and qualcomm.

- ❑ **SMART ECONOMY:** Involves innovative economic models supporting sustainable economic competitiveness, innovation and interconnections between local and global economic ecosystems.

While there is no single definition or model of a smart city, with each city developing its projects according to its own vision of its future, three main characteristics stand out: Smart cities are cities that use smart technologies (technology axis), that use smart people (citizen axis) and cities with smart collaboration (governance axis)⁶.

The growth of smart cities around the world has been driven by the rapid development of technology and the exponential growth of data produced by connected objects and various systems. In 2018, when the world's population was at 7.593 billion, 4.021 billion people were internet users, 3.196 billion were active users on social networks and 5.135 billion were users of mobile devices, producing a global volume of 64 zettabytes, compared with 2 zettabytes in 2010 and 180 zettabytes forecast for 2025⁷. This digital world opens the way for new possibilities in innovation, based essentially on artificial intelligence, big data and the Internet of Things, which could significantly improve city services and citizens' quality of life.

These highly sophisticated and demanding smart cities are still a difficult model to implement. Indeed, smart cities are based on an "intelligent state" with the following characteristics :

- ❑ Interconnected, digital administrations that foster intelligent urban collaboration ;
- ❑ State-of-the-art infrastructure and technology (Internet of Things, artificial intelligence, big data, etc.) for optimal data processing and high-quality services ;
- ❑ A democratic system in which citizens are very much involved in the management of the city, and are at the heart of all the city's strategies and one of the main players in developing them.

In emerging countries, territorial governance still suffers from a number of shortcomings, meaning that cities are not yet ready to adopt the smart city model. In Morocco, the Conseil Economique, Social et Environnemental (Economic, Social and Environmental Council) points out in a study⁸ that cities in Morocco suffer from a number of problems, including the following :

- ❑ A system of governance considered deficient and unsuited to the challenges and requirements of the sustainable city, particularly for metropolises ;
- ❑ A lack of a culture of sustainable development and education in urban issues ;
- ❑ A lack of innovation and research & development, which deprives it of important levers for development.

Against this backdrop, it is very difficult to talk about smart cities, and we need to think about a model that is suited to Morocco.

3. Pseudo smart city, a timely model for Morocco

Morocco is one of the emerging countries that have shown great interest in the smart city concept. The Casablanca Smart City project is the first experiment in this direction, with the creation of the "e-Madina" Cluster in 2015 as a think-tank for this transformation and the organisation of the "Casablanca Smart City" forum, an annual meeting on the subject. In October 2015, Casablanca also became the first African city to join the network of twenty-five smart cities selected by the Institute of Electrical and Electronics Engineers (IEEE), the world's largest association of digital and information technology professionals.

This momentum has led to the launch of a number of initiatives. The Zenata Eco-cité project, which covers an area of 1,830 hectares, is an example of a Smart project launched to improve services in the city of Casablanca. Zenata Eco-cité has been equipped with an intelligent infrastructure for recharging

⁶ Albert Meijer, Manuel Pedro Rodriguez Bolivar (2016) The governance of smart cities, a review of the literature on smart urban governance. International Journal of Administrative Sciences.

⁷ We are social and hootsuite. Digital in 2018.

⁸ Conseil Economique, Social et Environnemental, Réussir la transition vers des villes durables. Auto-saisine n°32/2017

electric cars, intelligent solutions for managing the drinking water, wastewater and public lighting networks, and the installation of remotely-read meters for innovative services and a better quality of life.

Despite all the efforts made, the concept has still not managed to find an important place in the management of Casablanca and other Moroccan cities, nor has it had a significant impact on the quality of life of citizens. It is therefore necessary to rethink this initiative by developing a model adapted to the specific cultural, financial and technical infrastructures of Moroccan cities. A model that will trigger a positive dynamic around the concept in Morocco's regions and among its citizens, founded on due to low-cost projects that make use of existing infrastructures and produce added value for citizens.

The pseudo smart city concept presented here is a model that lies between the traditional city and the Smart City, as recognised internationally. The model is based on the use of low-tech techniques, such as Crowdsourcing, Open Data, Open Source solutions and Living Labs, to create a sharing economy and a collective intelligence capable of pulling the city upwards and improving the living conditions of city dwellers (mobility, administrative services, environment, etc.).

We can then define the concept of the pseudo smart city, still based on the 3 characteristics of the smart city, i.e. governance, technology and the citizen, but with levels of requirements adapted to the context of emerging countries in order to find the optimum formula for triggering a real change in the governance of cities. We present the characteristics of the pseudo smart city as follows :

- ❑ **Technology** : the pseudo smart city is essentially based on low-tech technologies that are widely available and require little investment. Building a high-tech infrastructure requires significant investment and a lot of time. A model built around the widespread use of the internet and smart phones, combined with the use of solutions developed or adapted by national start-ups, is more likely to succeed;
- ❑ **Governance** : the pseudo-smart city aims to improve governance compared with the situation currently prevailing in emerging countries, without raising the bar to the level of an 'intelligent state'. In this case, we are talking about administrations that are open to citizens, offering quality services based on digital technology. They are also administrations that share the urban data needed to develop smart solutions;
- ❑ **Citizen** : the pseudo smart city aims to involve citizens in the digital transformation of the city through the consumption of these services and by being a source of data for the development of solutions. The data will be collected using the internet and smart devices. Placing the citizen at the centre of the city's strategy and as a major player in its development will be a further stage in the wider transformation of civil society and the city's governance processes.

The table below shows the main differences between the smart city and the pseudo-smart city through a comparative analysis of the three pillars: technology, governance and the citizen.

	Pseudo Smart City	Smart City
Technology	• Use of low-tech technology ; • Low investment and use of existing technologies and infrastructure;	• Use of high-tech technology ; • High investment and use of highly sophisticated infrastructure;
Governance	• Improved governance with administrations open to citizens; • Collaborative governance with the participation of city stakeholders;	• Digitised city services with interconnected administrations; • Intelligent urban governance with a citizen-centred strategy.
Citizen	• Stakeholders in the city's strategy; • Major producer of data for the development of digital services	• Centre of all city strategies; • Major producer of data for the development of digital services.

4. Setting up the Pseudo Smart City in Morocco

In practical terms, the implementation of the pseudo smart city should be an organised and orderly process that will enable a methodical, fluid and structured transition. The model should be built around the following axes :

1. **The pseudo smart city is a community objective:** in order to make it a successful experiment, the pseudo smart city must be managed using an integrated and comprehensive approach. The collaboration and involvement of all stakeholders (regional council, city council, citizens, non-governmental organisations, etc.) is a key factor in the success of the project and the transformation of the city. It is therefore necessary to encourage an open and collaborative approach with cities that are independent in terms of management and finances. In this respect, the implementation of the advanced regionalisation project is an important step in the development of pseudo-smart cities in Morocco. It will enable the transfer of the prerogatives needed for decision-making and the elimination of bureaucratic obstacles. Sustainable urban development necessarily involves genuine decentralisation, with a governance model that respects the specific characteristics of each city and enshrines diversity and complementarity between cities ;
2. **The citizen at the centre of the model and a source of value creation:** In order to set in motion a dynamic towards a sustainable and intelligent transformation of the city, it is essential to establish collaborative governance in which the citizen has an important place and a central role. This model of governance is based on the transition from the traditional PPP (Public-Private Partnership) to a PPPP model (a Public-Private-Person-Partnership) involving public authorities, businesses, universities and civil society. Involving citizens throughout the entire pseudo smart city project, from design to implementation, ensures that the project is consistent with the needs of the city and facilitates citizens' acceptance of the solutions.
Access to the internet, social networks and smart devices in Morocco makes it easier for citizens to get involved, making them a key player in this ecosystem. They are also a major source of data, making it possible to develop low-investment services thanks to the data produced by citizens, which will also be consumed by them ;
3. **The pseudo smart city as a project:** the pseudo smart city must be implemented as a project. Once the vision has been determined in consultation with the various stakeholders, and open communication has been established with the city's citizens and key players, the next stage is implementation. There are three main approaches to managing this project :
 - ❑ **Strategic planning** : each city will have to make an in-depth diagnosis of its situation and determine its priorities. The diagnosis will then lead to a roadmap with a set of clear, concrete projects ;
 - ❑ **Implementation** : for each of the projects identified, a charter will need to be drawn up with the various stakeholders, the resources to be deployed and the deadlines for completion. One way of getting the Roadmap up and running quickly is to launch "Quick Win" projects that respond directly to local needs. Indeed, given that a pseudo Smart City strategy is a lengthy process, the starting point needs to be carefully thought through. The first successful Smart City projects around the world were projects that had a rapid impact on the population and required limited financial resources ;
 - ❑ **Monitoring the pseudo smart city project** : to ensure a successful transition and avoid deviating from the objectives set, it is important to monitor the pseudo smart city vision established at the outset. In addition to monitoring each project, it is essential to monitor the vision. The results of performance measurements can be used to compare the state of progress of one city with another.
4. **Urban data that is structured and accessible to the public:** the development of new technologies and the masses of data generated by connected objects (IOT) offer new opportunities for innovation. By processing, opening up and analysing all this data, it is possible to provide effective solutions to city management issues and improve city governance. This important feature of the smart city is an important aspect of the pseudo-

smart city, since it can be applied without major investment. In Morocco, a national charter should be drawn up to determine the model for urban data, how it should be made available online in usable formats and how often it should be updated, in order to encourage the development of Moroccan start-ups capable of offering simple, high added-value applications. This charter should guarantee the following points

- ❑ Availability and access: the data must be available in its entirety, downloadable via the websites of the producing establishments at a reasonable reproduction cost. They must also be available in a practical and modifiable format ;
- ❑ Reuse and redistribution: data must be provided under a licence that allows reuse and redistribution, as well as cross-referencing with other datasets ;
- ❑ Universal participation: everyone must be able to use, re-use and redistribute the data without discrimination. Data interoperability is essential to guarantee the development of more and better services.

Due to the various digital strategies adopted by Morocco, a number of administrative services have been dematerialised, which has helped to increase the volume of data available. Add to this the data produced every day by the various connected objects in circulation in the country, and you have an unprecedented opportunity to make a success of the transition to intelligent territories.

5. **The university as an innovation laboratory at the service of the city:** collaboration between city and research and development laboratories should be strengthened and form a basis for launching national, low-cost, high added-value solutions. With limited budgets, Moroccan cities cannot invest in costly systems whose return on investment may be long. Instead, they should be opting for open source solutions, customised and adapted by researchers in university laboratories.

This model, combined with open data, will make it possible to develop an ecosystem of start-ups capable of offering innovative, low-cost solutions for city governance and the well-being of its citizens.

Collaboration and the sharing of experience between Moroccan cities on the one hand, and between start-ups on the other, will help to create a national market for new technologies.

5. Advanced regionalisation, an imperative of the pseudo Smart City

Urban governance includes intelligent decision-making processes, intelligent administration and intelligent urban collaboration⁹. The concept of governance in pseudo smart cities is closely linked to the intelligent and efficient management of resources and services. Pseudo smart cities require a transformative change in terms of governance, with an evolution away from centralised decision-making towards a collaborative and participative model. This participatory governance implies a close partnership with the private sector and civil society players to develop policies and projects that meet the needs of citizens. Public-private-person partnerships (4Ps) enable a more balanced sharing of risks and benefits while maximising resources to achieve common goals. This participatory governance can be optimised through the use of new information and communication technologies, which facilitate access and exchange between the various stakeholders.

In this context, the advanced regionalisation project adopted in Morocco in 2011 provides a reference framework for moving towards a governance model that is conducive to the development of pseudo-smart cities. The regions/cities will therefore have more room for manoeuvre and greater freedom to draw up their own development strategies based on the needs of their citizens, their specific characteristics and their resources. Advanced regionalisation also makes it possible to strengthen the role of elected representatives and local representatives in political decision-making.

The effective implementation of advanced regionalisation would offer numerous advantages by improving management efficiency and strengthening citizen participation :

⁹ Albert Meijer, Manuel Pedro Rodriguez Bolivar (2016) The governance of smart cities, a review of the literature on smart urban governance. International Journal of Administrative Sciences.

1. **Ensuring better coordination between provinces** : Advanced regionalisation enables more effective regional coordination, thereby improving the cohesion of the provinces and regional development. It enables regional authorities to better understand and respond to the specific needs of each province ;
2. **Promoting citizen participation** : Advanced regionalisation can encourage citizen participation and improve public decision-making. Decisions that directly affect citizens can be taken by regional authorities in consultation with local stakeholders, giving greater weight to decision-making processes and contributing to greater acceptance of decisions ;
3. **Reducing regional inequalities** : Advanced regionalisation enables a better allocation of resources and a more efficient use of national investments. This can help to reduce regional disparities in development ;
4. **Fostering regional economic development** : Advanced regionalisation can help to stimulate regional economic development by enabling regional authorities to develop economic strategies and development plans, and to adapt them to local needs and opportunities ;
5. **Improve citizens' quality of life** : By enabling better management of resources and more effective planning, advanced regionalisation can help to improve the quality of life of citizens in the regions. This includes improved access to basic social services, better planned urban development, and stronger and better infrastructure.

By combining advanced regionalisation and pseudo smart cities, it is possible to create sustainable and resilient socio-economic ecosystems, as a result of more appropriate approaches and high-performance technological innovations. This can benefit citizens, who will be able to access services and resources that are optimised for the specific characteristics of their region. Ultimately, these two concepts aim to foster the development of smarter, more sustainable cities, for the benefit of all.

6. Conclusion

Accelerating urbanisation coupled with increasingly scarce resources poses a number of challenges for the governance of Morocco's regions. Managing these issues requires the Moroccan authorities to be creative and look for innovative solutions to make the territory competitive and pleasant to live in for its citizens. The pseudo smart city concept presented in this article offers a number of advantages for Moroccan cities in terms of the technologies to be used, the resources to be mobilised and the support provided by the creativity emanating from university laboratories, making it easier to implement and better suited to the country's specific characteristics.

The transition to pseudo smart cities in Morocco requires adaptations at the level of governance in order to provide the necessary tools and resources for their management. Accelerating the implementation of advanced regionalisation remains a key factor that will enable Moroccan cities to better design their action plans in line with their priorities and the expectations of their citizens.

The development of pseudo smart cities will present the authorities with new social challenges linked, on the one hand, to the ability of citizens to keep up with the changes brought about by the use of NICTs and, on the other, to the need to introduce laws and regulations to protect citizens' privacy and data security. These social challenges must be included in the charters for the creation of pseudo-smart cities in Morocco so as to ensure an inclusive development that respects privacy.

Bibliography

- [1] Albert Meijer, Manuel Pedro Rodriguez Bolivar (2016). La Gouvernance des Villes Intelligentes, Analyse de la Littérature sur la Gouvernance urbaine Intelligente. Revue Internationale des sciences Administratives.
- [2] Dr Johannes Steinbrecher, Julian Salg, Julia Starzetz (2018). La ville intelligente comme solution aux défis municipaux ? KfW Research
- [3] Nations unies, Département des affaires économiques et sociales, Division de la population (2014). Perspectives de l'urbanisation dans le monde.

- [4] Giffinger et al. (2007) : Smart cities ranking of European medium-sized cities, Final Report, Vienne.
- [5] e-medina. Livre Blanc (2016). CHAÎNE DE VALEUR DES SMART CITIES.
- [6] Jessica Clément, Giovanni Esposito, Pauline Naisse. (2020). COVID-19 : Quel impact sur nos communes? Rapport de recherche de la Smart City Institute -HEC Liège.
- [7] Table Ronde OCDE (2020). Villes intelligentes et croissance inclusive.
- [8] Documentation des événements Smart City organisés lors du 12e Congrès fédéral sur la politique nationale de développement urbain (2018). "Partager la responsabilité sociale pour les zones urbaines et rurales" 17-19 septembre 2018, Francfort-sur-le-Main. Ministère fédéral de l'intérieur, de la construction et de la communauté.
- [9] Henri Tcheng, Jean-Michel Huet (2016). Le Maroc, pionnier de la smart city en Afrique ? BearingPoint.
- [10] Milan Kubina, Dominika Šulyová, Josef Vodák (2021). Comparaison des normes, de la mise en œuvre et des modèles de regroupement des villes intelligentes en Amérique du Nord et en Europe. Sustainability Journal.
- [11] R. Giffinger, C. Fertner, H.Kramar, R. Kalasek, N. Pichler-Milanovi'c, E. Meijers (2020). Villes intelligentes : Classement des villes moyennes européennes. Centre of Regional Science.
- [12] Bordeaux, P., Xu, M. & Diallo, 2015 I. Comment mettre en place efficacement une démarche Smart City pour son territoire. (Université de Paris XII (UPEC).
- [13] Barns, S. 2017 Smart cities and urban data platforms : Designing interfaces for smart governance. ELSEVIER
- [14] Livre blanc 3.0 e-medina. 2016 Chaîne de valeurs des smart cities.
- [15] Batagan L (2011) Smart cities and sustainability models. Informatica Economica
- [16] Hiroaki S, Arish D, Sebastian M, Nanae Y, Hinako M. (2010) Eco Cities Ecological Cities as Economic Cities. Banque mondiale.
- [17] Lazraoui GC, Roscia M. (2012) Méthodologie de définition du modèle des villes intelligentes. Energy 47.
- [18] Lee JH, Phaal R, Lee S-H. (2011) An integrated service-device-technology roadmap for smart city development. Technological forecasting & social change.
- [19] Odendaal N. Information and communication technologies (ICT's) and local governance (2003) : understanding the differences between cities in developed and emerging economies. Computers, environment and urban systems.
- [20] Schuurman D, Baccarne B, De Marez L, Mechant P. (2012) Smart ideas for smart cities : Investigating crowdsourcing for generating and selecting ideas for ICT innovation in a city context. Journal of theoretical and applied electronic commerce research.
- [21] Conseil Economique, Social et Environnemental. Réussir la transition vers des villes durables. Auto-saisine n°32/2017.
- [22] DERBAL S. & TAHROUCH M. (2021), " La régionalisation avancée au Maroc, quels apports pour la gouvernance territoriale ", Revue Internationale des Sciences de Gestion " Volume 4 : Numéro 2".
- [23] Conseil Economique, Social et Environnemental (2016). Exigences de la régionalisation avancée et défis de l'intégration des politiques sectorielles.