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CITIES OF THE FUTURE; THE GENESIS, GROWTH, DYSTOPIAAND UTOPIA REFLECTIONS

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Abstract

Cities were birthed without preparation, growing without pruning, and degenerating without remedy. Rapid and irreversible urbanization has changed the faces and destinies of cities, calling philosophers and scholars alike into action. The scenario has raised two voices; dystopian and utopian. Dystopia sees today's cities as bad, agonizing, and can only offer dreadful quality of life while utopia envisages a 'perfect city' as a sustainable solution. Hence, a smart city is a way forward; smart technology, smart people, smart governance, smart economy, smart environment, smart infrastructure, and smart living. No matter how cities are viewed, however, they still offer tremendous opportunities for human capital development, and economic and administrative hubs for better and prosperous life.

Keywords*:* Dystopia, Utopia, Smart City, Future City, and Information Technology

1. Introduction

Primitive men lived not in cities; they wander and gather to meet their daily needs. They later graduated to cultivation and domestication of crops which resulted in sedentary life. This sedentary lifestyle that marks the beginning of settlements is known as **Neolithic Revolution (**Childe,1892-1957). In no time, the mortality rate in these settlements increased and **Neolithic Demographic Transition** ensued (Johnson, 1966, and Smailes (1970).

Ever since settlements have passed through developmental stages. According to Lewis Mumford's book published in (1962) "*The Cities History",* they have developed from *Eopolis*; when the economy is based on agriculture to *Polis;* when some crude mechanization and specialization are coming-up, *Metropolis* when cities or towns are assuming administrative responsibilities or serves as capitals of states or regions and to *Megalopolis;* when towns or cities show signs of decline and deterioration as a result of inefficient infrastructure and services and to drastic deterioration of cities known as *Tyranopolis;* and *Necropolis,* the worst stage when towns/cities force people out because of threat to life and economic breakdown.

The notion that cities and towns have achieved better economic, political, and social mileage compared to the rural areas has drawn many people into them resulting in the progressive increase in the number of people living in towns and cities to enjoy *"privileged"* social and economic services and benefits. Cities, 'the magnets of hope' are seriously pulling able-bodied rural dwellers without being ready to accommodate them (Oyeniyi et al, 2015; UN-Habitat (2023). The presence of these migrants creates new problems or aggravates existing ones (Mabogunje,1976). The consequences of this, among others, include inadequate housing, urban poverty, food shortage, insecure tenure, increased crime rate, overcrowding, high mortality rate, poor service delivery, inequality and development of informal settlements, traffic problems and transportation inefficiencies, poor basic amenities and urban decay, overcrowding or inadequate living space, housing, and unemployment problems, inadequate safe water and sewerage management problems, high cost of living, noise and air pollution, overstressed and inefficient infrastructural facilities.

1.2 Dystopia and Utopia Reflections

The word Dystopia has a Greek root meaning "bad place". It is an imaginary place of extremely bad condition, from deprivation, oppression, or terror. It is a hypothetical place/society, or situation in which conditions and the quality of life are dreadful. It is a miserable and dysfunctional state. A state or society that has a very poor standard of living, is simply the opposite of utopia. Critical factors of a dystopian state include the nature of governmental control, environmental destruction, and the effects of man's quest for survival.

The picture that conjures up in our minds, when we talk about current cities, especially in developing countries is that of a dirty, unhygienic, clustered, impoverished, crowded, gloomy, dingy, dark dismal, filth, blighted, and squalor. Unfortunately, human residence continues to shift from rural to urban centers that are already huge and deteriorated (Davis 2004; Borja 2007; Nelson, 2010 and Oyeniyi et al, 2015).

A United Nations report on Migration in 2022 stated that by 2030, the global population would have grown to over 8.5 billion people and 60% of this number would live in cities and one in every three people will live in a city with over half a million inhabitants. By implication, the large cities will keep getting larger and the problems will continue. For instance, The Cable News online on July 4, 2016, reported that Akinwumi Ambode, the then governor of Lagos state, Nigeria, said 86 immigrants who have no plan to return enter Lagos every minute, 123,000 every day –the highest in any city in the world (The Guardian).

Living in these cities for both the rich and the poor is agonizing, dehumanizing, stressful, and unsafe because of social inequality, unemployment and underemployment, poor infrastructure, and dysfunctional security system among others. Residents are increasingly frustrated with the pathetic economic situation and the worsening urban poverty, malfunctioning health, educational, and transportation systems, lack of safe water provision, epileptic power supply, inadequate housing, environmental pollution, and frustration with the enormous potential and opportunity for human development that urban centers offer.

The problems of cities have not just started, they all started at the time of the Neoclassical Revolution when settling down in one place, near animals encouraged the spread of zoonotic and waterborne diseases or since man's disobedience in the Biblical Garden of Eden and has continued in different dimensions. Man has also made efforts without ceasing to find lasting solutions to the ever-growing problems.

Two voices of thinkers and philosophers are loaded, the dystopian and utopia schools of thought. Plato was the first utopian scholar who philosophized and envisaged the ideal city-state in his book, "*The Republic"* published in 380 BC. He laid down concrete parameters as to the activities of every class within society should handle. Thomas Campanella agreed with Plato in his 1602 publication "*The City of Sun"*. He proposed the idea of a city-state that is a harmonious city of genuine communitarianism and governed by beneficent elites in a distant or secluded land. Francies Bacon published his "*New Atlantis"* much later (1626) in which he pictures his ideal state in which technology and scientific experiments will propel the progress of an enlightened future state. Just like Pluto and Becon, he opined that the ideal state/city should be secluded.

Thomas More who lived between (1477-1535) popularized the idea of 'utopia', a word used to describe a perfect imaginary world. More's book envisaged a self-contained society that is situated on an island. He suggested that people should share a common culture and way of life. Thomas More's "*Utopia"* published in (1516) advocated constant inventiveness and; the progressive virtual conception of what an ideal future city should be like. Samuel Butler envisaged how society might be better run with the aid of products of technology in the work titled ***Erewhon*** **published in(1872)**. Utopian ideology is aiming for or models a state in which everything is perfect; having a perfect and

ideal condition of cities as well as social organization. Utopia scholars are futuristic; projecting, depicting, and improving the organization of city and societal life.

Utopia is a social-environmental concept of an ideal society but has been viewed in various contexts in literature; it has been seen as the biblical *Garden of Eden*; an aesthetically pleasing place where the knowledge of good and evil ruled. It has been replicated in *Heaven;* a supernatural place where God, the angel, and the soul of man live in harmony. It was described as *Lost Horizon*; a mystical harmonious valley, *ThePeace Blossom Spring*; a beautiful and secluded place not affected by the rest of the world, and *A Brave New World* among others. Relevant examples of utopia are ecological utopia; where everything will work in harmony, where waste, pollution, and other anthropogenic hazards are unknown. Scientific and technological utopia attempts to combine the products of science and technology to achieve a better and ideal future city.

The Economist Intelligence Unit (EIU) Global Livability Index Report of 2023 analyzed 173 cities of the world into 5 categories using stability, healthcare, education, culture, environment, and infrastructure as yardsticks. Tripoli, Libya, Lagos, Nigeria, Karachi, Pakistan, Dhaka, Senegal, Barely Karachi and Port Moresby of Papua New Guinea, Dhaka of Bangladesh are the globally acclaimed worst live-able cities in descending order, while the most live-able cities are Vienna, Austria, Copenhagen, Denmark. Melbourne, Australia, Sydney, Australia, Vancouver, Canada, Zurich, Switzerland, Calgary, Canada.
We are in the century of utopia but for cities to be abreast of much anticipated enviable future, they must correctly secure political will, harness human and social capital as well as information technology. Sustainable cities of the future should be able to react to the challenges of today's cities, develop, maintain, and sustain efficient infrastructure, run on hi-tech innovation, big data connectivity and virtual information dissemination and Internet of Things (IoT), use ecologically efficient energy, resistant to environmental challenges and secure, attractive and healthy built environment. Hence, the need for a paradigm shift from dystopia to utopia; the ideal future city.

1.3 A Paradigm Shift in City Management

Smart cities; the obvious city of the future is expected to run on technology, the Internet of Things (IoT), and big data. By “Smart”, we mean that the city is more sustainable, liveable, and efficient. A smart city is a city where urban planning is conceived with the ultimate goal of connecting everything using state-of-the-art technologies; artificial intelligence, machine, and deep learning among other technologies. This connectivity which creates a vast amount of data is then used to improve city services and infrastructures as well as improve citizens' environment and quality of life.

Smart cities integrate various technologies that can deliver sustainable socio-economic development of an urban area, develop and rely on smart city application that sustains and improves the lives of urban residents Donepudi, 2015, UN-HABITAT Report 2022. According to Voda and Radu (2018), the use of technology in smart cities should be able to improve the quality of life of the people, stimulate growth in the economy and improve urban management.

1.4 Smart City Dimensions

The smart city development context has various dimensions. The dimension includes people, community, and technology. A smart city can only be smart when it highlights people, communities, and technology but not technology only. (Pozdniakora, 2016).

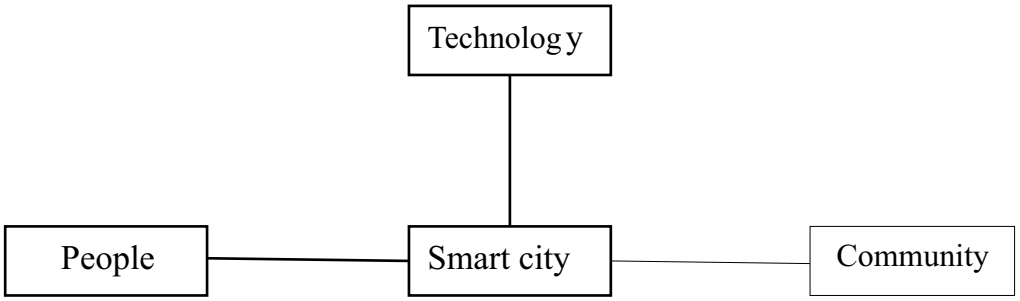


Fig. 1: Smart City Dimension

The presence of technology allows the smart city to have more creativity, improve governance and promote quality of life. The people's dimension/ segment includes a human city, a knowledgeable city as well as human and social infrastructures necessary for the development of smart cities (Pozdniakora, 2016). To have a coherent smart city the learning, cultural and business aspects of smart people are necessary. They play an essential role in upgrading competitively of an urban areas context by helping to develop an information economy workforce. Smart people are also to lead a life founded on better education and a skilled workforce (Arroub et al, 2016). Finally, smart communities aim at integrating the necessary number of city dwellers into information technology to improve their quality of life.

2. Conceptual Framework

At its core, a smart city framework leverages the existing legal, economic, and technical environment and impacts the social and management aspects sustainably. Setting a smart city vision and effectively moving towards it with a system-based approach is imperative to ensure optimum resource efficiency and security along with preserving socially inclusive growth.

Drawing from the factors considered above, we conceptualize an integrative framework that explains the relationship between these factors in a more coherent fashion. We have named it as SMELTS framework (Social, Management Economy, Legal, Technology, and Sustainability). Each of these factors enables both public and private sectors to plan and implement smart city initiatives more commendably. These elements provide a basis for matching how different cities are envisaging their smart initiatives, employing shared services, and the related challenges. This framework also analyses the actual impacts of different factors on the success of smart city initiatives. The framework indicates that each factor is both affecting and getting affected by each other factor. It also indicates that some factors may be more influential than others depending on the context.

The framework can be bifurcated into two levels. The level consists of the factors which have a greater impact on smart city initiatives. This also consists of technology which is the foundation of smart cities. The outer level factors are the ones that might get influenced by the inner level before impacting the smart city initiatives. This includes governance and the socio-balance of the community apart from sustainability which should be the basis of any development.

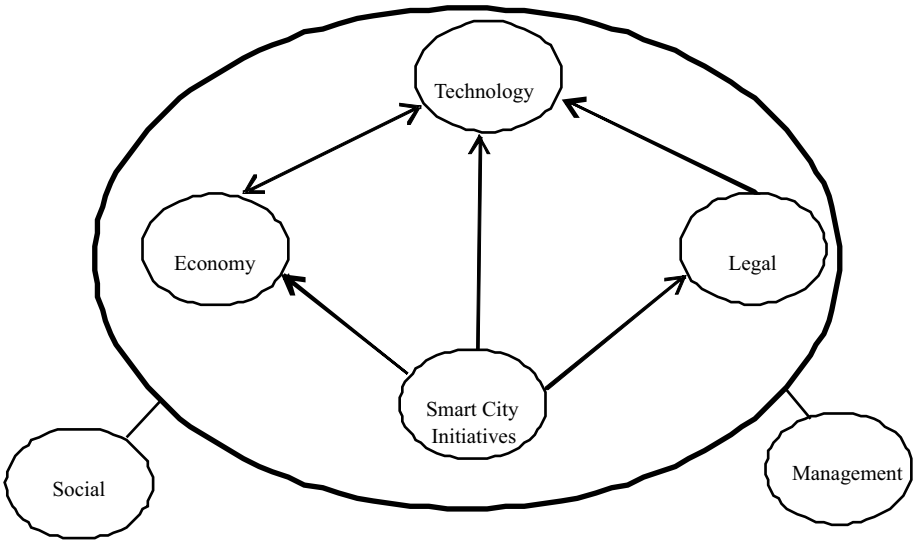


Fig. 2: Framework for smart initiatives

Models and Pillars of Smart City Initiatives

To make smart cities real, various leading stakeholders such as government, businesses, and professionals are to work on effective smart city models. Although most developed cities around the world have made significant progress in the development of smart cities, small cities face numerous challenges as they work on implementing the new and disrupting smart city concept. According to Arroub et al (2016), the Smart city model should be based on a comprehensive examination of current success stories of smart city implementation. Additionally, smart city implementation should consider the implementation of various smart city paradigms which consist of aspects such as smart economy, smart mobility and transport, smart environment, smart living, smart governance, smart people, and smart economy.

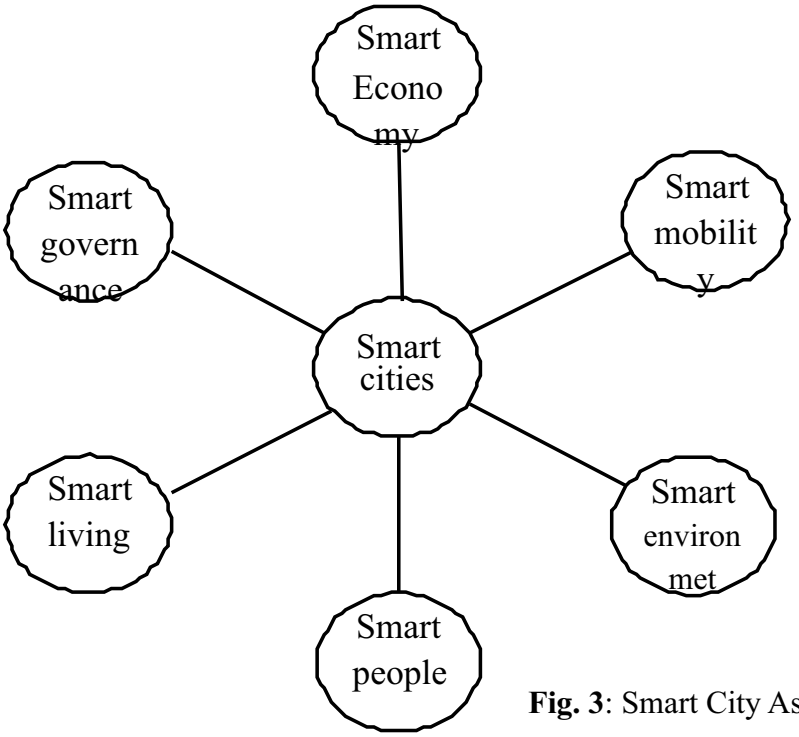


Fig. 3: Smart City Aspect

Smart Governance: Smart cities involve multiple stakeholders handling different projects to improve the management of smart cities' projects; the level of governance should be of high quality. Traditionally, the management of urban center projects was done manually. Today, information technology help improve the management of smart city projects through enhanced communication networks, improved communication system, innovative policies, and better business models (Mohanty et al. 2016). Additionally, with smart governance, stakeholders can collaborate and operate on projects, have improved leadership models, and solve issues efficiently.

Smart Economy: The most important thing in a smart economy is the presence of smart companies that can produce innovative ideas on resource optimization and improvement of the price-quality ratio (Arroub et al 2016). The idea should be able to improve productivity and reduce the cost of production. Additionally, smart companies should be able to achieve high levels of competitiveness through higher profits, good quality products, and efficient cost of production.

Smart Environment: Due to the increased population in urban centers, cities must work on achieving a smart environment. A smart environment involves the usage of green and natural energy resources with less pollution to the environment (Mohantry et al, 2016). Waterway sewers and green spaces should be managed more smartly.

Smart living: Smart cities should support the smart living of the people. People should be able to develop intelligent ways to live through information technology. In smart cities the interconnection of devices using information technology makes a lot of daily tasks carried out by people easier, safer, and cheaper (Mohanty et al, 2016). For example, a smart building may consist of numerous interconnected devices that allow managers to gather data, analyze the data, and make appropriate decisions aimed at managing the building effectively.

Smart mobility: Transport management is essential in all urban places. Cities experience various transport challenges such as congestion and poor transport network. Smart cities should be able to support various systems such as transport management systems and traffic control systems which have evolved over the years to support effective and smarter mobility in cities (Arroub, 2016).

Smart people: Urban centers can not achieve smartness without people being smart. The people must be educated, learned, and knowledgeable. In most cases, when we talk about smart cities, the people's dimension is forgotten. However, it is important to ensure that the smart people concept is implemented to achieve efficient cities.

Opportunities in the Smart/Digital Cities

The future of the city will continue to be dynamic. Innovations will continue the transformation of the city and challenges of integration of various components of the city as a system will always throw up new challenges. Smart cities provide numerous opportunities for city dwellers.

This is attainable as a result of the efforts of many stakeholders working together in a partnership of different shapes and forms. Some of these opportunities include automobile and transportation, where the future cities' structure, landscape, and efficiency will be defined by innovation in self-driven cars, electric cars, metro line mass transit, etc. Information communication technologies which are the center of smart cities will have innovations in the areas of digital technologies, GPS trackers, smartphones, licensed plate trackers, etc. Digital technologies will help future cities to produce more healthcare, more education, more entertainment, and more of all the other material goods and services.

One of those notable opportunities is a sustainable transportation system which is achieved through the smartification of the traffic system. Future cities smart cities can rely on smart transportation

management systems that can reduce congestion on roads, provide citizens with an improved travel experience and reduce the time taken to respond to incidents, (Donepudi, 2015). A good transport management system for future cities should be able to support various features that include the ability to sense and gather data through road sensors, social media, and the use of cameras. The data collected can be analyzed in real-time, allowing faster-making decisions.

The green environment is another area that smart cities of the future can achieve, there is increased awareness of the bad effects of environmental pollution and the need to use reviewable energy such as solar and wind power. Additionally, smart cities can rely on technologies such as artificial intelligence to make energy generation consumption and management smarter. Efficient energy management can be achieved through the creation of smart grids that can route energy to consumers in smart, effective, and efficient marines.

Challenges of Smart Cities

Both current and future cities are exposed to various challenges, and the ability and mechanism to ameliorate these challenges triggered the emergence of smart cities. However, the main areas that if not well addressed can limit the successful implementation of smart cities include economic, social, demographic, and environmental factors. These aspects must be highlighted when implementing smart cities. Furthermore, it is important to note areas such as transport and health which are the main obstacle to achieving totally smart cities.

One critical area in which smart cities are throwing up a great challenge is the increasing automation and use of robotics to replace manual work which can lead to the disappearance of many traditional jobs. This is creating functional unemployment; this will require that many people acquire new and emerging skills to stay relevant and employable.

The greatest challenge created by smart cities will be in the area of social cohesion and inclusiveness. Cities create avenues where everybody is less concerned about the next person. Worst still, smart cities will create a more divided world and bring to the fore the social segregation that clearly shows the differences between the haves and have-nots.

1. Conclusion

With the ever-increasing population levels and sudden population explosion in the cities occasioned by urban challenges such as pollution, scarcity of resources, traffic congestion, and many more. There have been new different schools of thought on the emergence, growth, and state of future cities; some view cities as a place of opportunities, development, and progress while the other school of thought view cities as a place of crisis underdevelopment, and a place that is not worthy of living. Notwithstanding the views of the school of thought, it's time to leverage technology and establish a smarter system that can optimize the use of limited resources. Many cities have already started. For the cities of the future to be live-able, efficient, and smarter, it is essential to act fast as the need to provide sustainable cities through the smart cities initiative is non-negotiable.

Smart cities will solve the problems associated with large populations in cities with smart cities resources and this will be managed efficiently. New urbanism perspectives in urban governance and planning of cities will be efficient while transport systems, waste management, and health care services will be effective. However, to achieve such benefits cities will need to adopt emerging technologies such as artificial intelligence, the Internet of Things (IoT), deep leaving, and machine leaving. With such technologies, smart cities will be able to deliver sustainable socio-economic development.

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