Qualitative Approach: Business Scenarios for Sustainable Smart Cities Development

Taehoon JEONG[1], Jaewoong WON[2]

Abstract

Purpose: Smart city has been observed to benefit most urban areas in different nations. Despite its advantages in the promotion of environmental sustainability and improving business competency in the current context, various literature review papers should be introduced to analyze its drawbacks. The present research aims to provide valuable suggestions for sustainable smart cities development. **Research design, data and methodology:** Using the qualitative content analysis (QCA), the current author could understand the target audience's motivations and habits by gathering data. This implies that the author may predict the kinds of future initiatives. As a result, the current researcher could ensure developed pertinent research questions and a well-planned method for analyzing the replies. **Results:** The implementation of green city development suggests encouraging the greening of public spaces and reducing heat from the atmosphere caused by the emission of gases from vehicles and companies. Smart cities are offering a new industrial paradigm that is based on the convergence of information technology. **Conclusions:** The projection illustrates that most people are migrating to the cities, which calls for an immediate transformation to overcome the immense pressure of making the city accessible, sustainable, prosperous, and safer. Therefore, implementing smart cities within the current world promotes efficiency and increases business sustainability.

Keywords : Smart City Planning, Business Sustainability, Urbanization Development

JEL Classification Code : F64, Q01, R11

1. Introduction

The current technology has positively impacted the development of society in the current century. However, technology since industrial revolution has contributed to a severe impact on the environment. This is because the society has been experiencing systematic sustainability issues. Despite the challenges, various sustainable interventions have been put in place to assist most countries, specifically cities, in achieving environmental sustainability while spreading changes in human behavior (Sokolov et al., 2019). Similarly, global urbanization shifts have created an agency for finding technologically smarter techniques for managing the rising challenges that have become rampant in society. As a result, the development of sustainable cities has been desired for the future of urban development and business scenarios. The United Nation report indicated that approximately 68% of the world population will be living in the metropolises in the year 2050. The projection illustrates that most people are migrating to the cities, which calls for

1 First and Corresponding Author. Ph.D. Student, Department of Smart City Planning and Real Estate, Graduate School of Kyung Hee University, Korea. E-mail: tkjeon8316@naver.com
1 Second Author. Professor, Department of Real Estate, Graduate School of Tourism, Kyung Hee University, Korea. E-mail: jwon@khu.ac.kr

an immediate transformation to overcome the immense pressure of making the city accessible, sustainable, prosperous, and safer.

Implementing smart cities within the current world promotes efficiency and increases business sustainability. Smart cities refer to the development of urban areas that apply unique technology to improve individuals' living standards and conditions, modernize services, drive sustainability, increase economic development, and promote accessibility. More so, smart cities positively impact the development of the country's infrastructure by allowing proper healthcare services and the provision of adequate food supplies (Saravanan et al., 2019). The overall objective of establishing smart cities in the current society is to improve the quality of individuals' life by applying technology to create efficiency among the residential people, hence fostering eco-friendly jobs for business development. The current technology has driven city management officials to interact with the community and develop the infrastructure significantly.

The application of the real-time control system and sensors allows the management of the cities to gather adequate information in tackling the crucial inefficiencies that result in optimizing related technology systems used in creating a sustainable smart city (Sharma et al., 2018). These results in most municipalities' regions providing technological solutions to the issues in the urban areas and how the metropolis is evolving. Therefore, despite the increased population within urban areas, the introduction of smart cities has created a conducive environment that favors every person, thus maintaining a healthier society.

The previous study foreshadows that smart city were enforced as an effect of the research into smart organization environments. This is after most cities in different countries experienced the pressure that contributed to rapid urbanization that needed to be addressed to overcome the negative impacts appropriately. Some challenges experienced were air or water pollution, congestion, insecurity, and traffic within the metropolitan area. These particular problems exerted pressure on the government in terms of providing healthcare services and business operations.

However, introducing technology within the cities accelerated business development by eliminating the menace and empowering people to work smart. Recently, smart cities have enabled the provision of fresh water supply and improved the levels of security within the business sector through the implementation of artificial intelligence, the Internet of Things, and cloud computing (Lu et al., 2019). Despite the complexity of smart city development within an area, it has depicted numerous changes by eradicating distress among the community members through the promotion of business sustainability and maintaining a

green environment, thus managing and reducing the negative impacts of globalization, such as global warming. The primary focus of the research paper is to analyze the business scenarios for sustainable smart city development and its impact on the environment within the current society.

2. Literature Review

A city entails a complex system including sewage treatment plants, water systems, utility services, businesses, and residential areas. All these specific concepts require effective planning that will contribute to the efficiency of the city's surroundings. In previous decades, cities have been the center of economic development, social progression, technological innovation, and enhancing human capabilities. Contreras and Platania (2019) noted that most individuals have been migrating to cities for business, employment, education, and career purposes. By the year 2050, the global population has been projected to increase, resulting in many people migrating to cities. The population is expected to rise by over nine billion, representing 80% (Park et al., 2019). The accelerating population within the cities and its disproportionate consumption of social and physical resources are unsustainable. As a result, environmental challenges will also increase, including global warming, environmental degradation, pollution, and congestion, thus affecting people negatively. The emergence of a smart city has been introduced as a possible solution to numerous environmental problems that have become rampant in society.

Various definitions have been made concerning smart cities. In this case, a smart city is a strategy of making the best use of technical data and available resources to improve the planning of the city, service delivery, and enhance accountability that will promote eco-friendly business opportunities (Visvizi et al., 2018). Nonetheless, Pierfrancesco (2021) argues that smart cities have been offering a solution to address the challenges by relying on digital infrastructure, smart urban buildings, public services, and creating efficiency in the transportation system to overcome land pollution. This has resulted in effective business services being conducted in a country while conserving the environment (Bondarenko et al., 2020). The incorporation of smart cities has created sustainability in urban regions by improving the lives of the citizens and increasing competitiveness in the business sector. In other words, a smart city has addressed social, economic, and environmental issues that individuals have been experiencing in the city.

Janik et al. (2020) suggests that sustainability and sustainable city development aspects have been applied to generate awareness of the production and the application of

resources that are needed for industrial transportation, recreational, commercial, and residential processes. It has increased environmental awareness in the application of natural resources among the citizens of our country. The idea related to a smart city has contributed to the development of environmental sustainability and maintaining a conducive environment for every individual living within the city (Turgel et al., 2019). It has numerous characteristics that promote environmental sustainability and increase efficiency within the business sector hence developing the country's economy. Some of its characteristics entail enhancing effective administration that allows the development of individuals' cultures through the utilization of network infrastructure. Besides, it emphasized business-oriented improvement by favoring environmental sustainability (Veselitskaya et al., 2019). Overall, the development of smart cities has positively impacted the maintenance of environmental sustainability and minimized numerous environmental challenges brought by global warming in the previous decade.

The evolution of smart cities has been focusing on creating a friendly environment and livable urban areas through the encouragement of sustainability. A smart city encompasses a technological community that is interconnected and promotes comfortability, sustainability, security, and individual attractiveness due to the eradication of water and air pollution (Burmatova, 2020). Similarly, smart cities have been empowering the increase of new suppliers within the market context by using technological resources for the effective management of urban services. As a result, it has contributed to the creation of a rich environment that is networked and supported by digital applications. Smart cities can be categorized into three dimensions (Vodák et al., 2021). The primary dimension is innovative technology that focuses on both hardware and software infrastructure. The second category includes a population that focuses on diversity, education, creativity, and environmental surrounding. Finally, the institutional group aims at the country's policy and governance. This implies that investment in technology that contributes to the development of smart cities results in the generation of sustainable development and improves individuals' life by promoting responsible management of natural resources. Natural resources allow institutions to maintain competency with innovation and provide better services to their citizens. Therefore, a smart city is currently introduced to maintain a balance between environmental sustainability and growth and development within urban areas. This is because smart cities have contributed to transparency in many countries by creating equity in income, shelter, employment, social infrastructure, transportation, and basic business services within the urban areas.

The incorporation of technology within urban centers

has achieved a great balance between social equity, economic growth, and environmental conservation. Particularly, smart city has improved safety (Hajduk, 2020). Public safety in a different country is not about criminal activity. However, it entails the management of traffic congestion and response to crucial emergencies. Managing traffic congestion is an appropriate strategy that many nations have been aspiring to achieve. This is because traffic congestion has contributed to the emission of chemical gases that pollute the environment and increase the negative impacts of global warming (Szafraniec, 2017). Information communication technology is a vital tool that has been introduced due to the invention of smart cities in different countries. The tool plays a vital role in reducing greenhouse gas emissions, eradicating the volume of solid waste, and lowering water consumption within urban areas (Khudyakova et al., 2020). This implies that smart cities maintain the environment by lowering electric consumption and shifting transportation patterns within the area.

For instance, different countries have developed automation systems that reduce the emission of chemical gases. Some smart features incorporated within the industries entail smart thermostats, optimizing lighting, and smart appliances that use detectors to control air pollution. The city planning management is currently using technology to make water use more efficient. Previously, water wastage has been an issue in many cities due to pipe leakage. However, the application of technology developed due to the invention of smart cities can work effectively to minimize the challenge. This is because the technology will apply sensors and analytics in detecting losses while optimizing pump pressures to overcome any leakage in the future. In the United States, city planners have reduced the volume of solid waste by implementing genuine programs based on technology (Kim et al., 2021). Some of the vital programs introduced include recycling waste materials. This has reduced water pollution and conserved the environment significantly. As a result, most citizens enjoy the ecological environment of urban areas due to energy management efficiency and a conducive environment.

2.1. Research Gap

Smart city has been observed to benefit most urban areas in different nations. Despite its advantages in the promotion of environmental sustainability and improving business competency in the current context, various literature review papers should be introduced to analyze its drawbacks. The research gap, in this case, focuses on the disadvantages of the implementation of smart cities in the current society. This specific research should be conducted to add more insight to the literature. Most literature materials only focus on the benefits of smart city invention in different countries

but fail to provide an overview of the disadvantages. Analyzing its disadvantages will create awareness, thus allowing every person to identify the negative sides of a smart city in improving business scenarios and maintaining efficiency within the urban regions. Ultimately, analyzing the disadvantages of a smart city will allow individuals to criticize its invention by providing their views on the issue.

Table 1: Research Gap and Supporting Previous Studies

Prior Studies	Research Gap
Contreras & Platania (2019); Park et al. (2019); Visvizi et al. (2018); Pierfrancesco (2021); Bondarenko et al. (2020); Janik et al. (2020); Turgel et al. (2019); Veselitskaya et al. (2019); Burmatova (2020); Vodák et al. (2021); Hajduk (2020); Szafraniec (2017); Kim et al. (2021)	- Most literature materials only focus on the benefits of smart city invention in different countries but fail to provide an overview of the disadvantages. Analyzing its disadvantages will create awareness.

3. Research Design

The technique evolved as it was used to address diverse research difficulties. The interaction of numerous literary elements, as well as the context of production and reception, were incorporated. Phrases or words that only appear once in the text are referred to as "single-occurrence indicators" or "non-frequency indicators" (Han & Kang, 2020; Harwood & Garry, 2003). According to Berenson, there is a distinction between qualitative and quantitative research, and some topics demand a qualitative approach.

Using the qualitative content analysis (QCA), the current author could understand the target audience's motivations and habits by gathering data. This implies that the author may predict the kinds of future initiatives. Accurate data makes it much easier to determine how to maximize how customers interact with your business at each touchpoint. As a result, the current researcher could ensure developed pertinent research questions and a well-planned method for analyzing the replies.

Since qualitative research focuses on complex concepts rather than quantitative calculations or rules for analysis and performance, this level is substantially more challenging and requires critical thinking. The final step is the generation of the data report. Based on the data analysis findings, researchers must ensure that the research questions are adequately addressed in the report. The significance of need reveals the futility of essentially unchanging circumstances. Skewed data may become less responsive to consistency and coverage equation changes, particularly for condition-focused research (Hong, 2021; Woo, 2021; Woo & Kang,

2021). A case-based approach to QCA can provide more moderate theories than huge ones. More generalizable claims can be made in exploratory, condition-focused, large-N QCAs with excellent external validity. Regardless of case orientation, formal theory evaluation enables researchers to evaluate set-theoretic claims against empirical data rigorously.
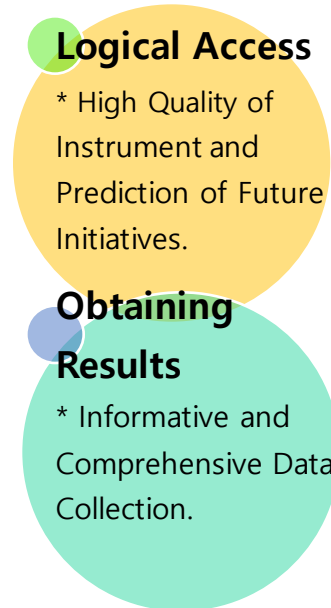

Logical Access

* High Quality of Instrument and Prediction of Future Initiatives.

Obtaining Results

* Informative and Comprehensive Data Collection.

Figure 1: QCA Anaysis Approach

4. Findings

Heidari et al. (2022) discovered that since technological innovation in the previous decades, industrialization has continued to develop rapidly. For instance, the previous technology regarding internal combustion or steam engine influenced mass production, economic agglomeration, and urbanization in the development of many urban regions. Recently, technology has improved due to the invention of artificial intelligence and the internet of things that accelerate the global economy through uplifting business transfer and operations (Cioara et al., 2019). As a result, more urban regions have introduced the concept of smart cities, which act as a leading industrial innovation within the fourth industrial period.

For instance, countries like the United States and Korea have introduced an information communication technology tool related to the smart city to maintain competency and enhance their industry value chain, which increases the

levels of production through industrial ecosystems (De Falco, 2019). This implies that a smart city continues to receive public attention as a universal model that fosters new value creation, sustainable development, and technological innovations that improve business practices and increase the quality of life among citizens (Sodhro et al., 2019).

Similarly, Yigitcanlar et al. (2021) discovered that the invention of smart cities has contributed to positive impacts on physical infrastructure management, such as security, city sewage treatment, water supply, and transportation within urban areas. Therefore, smart cities are offering a new industrial paradigm that is based on the convergence of information technology and building environmental sustainability that will favor the existence of humankind.

4.1. Analysis of Smart City Development

Xu and Geng (2019) notes that smart cities have become an emerging trend for policymakers across the world. This has resulted in many countries developing economically, which increases their GDP. The primary objective of economic development in different countries is to eradicate unemployment, reduce poverty, and increase individual income, which leads to a better life (Nižetić et al., 2020). Lately, the population within urban areas has been increasing tremendously, posing many challenges to sustainable economic development. Some of the challenges include congestion in cities that results in the inadequate supply of clean water, traffic jams, inadequate infrastructure, and lack of basic necessities.

This calls for the city's seniors and managers to boost economic development and expand access to healthcare, improve housing conditions, and create jobs for every citizen in the city (Belli et al., 2020). This is why smart city development was introduced to provide a smart solution that will improve the livability of urban areas and enhance economic development effectively, which reduces resource consumption.

4.2. Urban Environmental Pollution

Ipsen et al. (2019) found out that air pollution and the traffic jam was vital issue that resulted in environmental degradation. Specifically, it affected the majority of the citizens living within the urban areas. Some of the countries that are affected by air pollution and traffic jam entail the United States, China, Japan, and India (Szpilko, 2020). Despite the challenges, the series continues to grow in terms of individuals migrating to look for employment and other activities. The exponential growth of the population within the cities has added stress to the city's environmental resources and consumption. The World Bank found out that the primary causative agent of pollution within the cities

include industries and numerous cars, which negatively impact business sectors and the environment as a whole. For instance, air pollution has been causing approximately 6.5 million deaths globally (Hoang & Nguyen, 2021).

Also, many deaths have been caused due to road traffic injuries in the past decades. All the challenges have been experienced within the cities depicting that the urban areas face numerous problems. This requires federal partnership to create innovative solutions to mitigate the problems and create a sustainable future for the people living within the city. The collaboration will minimize air pollution and maintain a conducive environment that favors human existence (Kylili et al., 2020). Overall, traffic jams and air pollution from vehicles and industries may be solved after introducing smart city technology within the urban regions in different countries, which may impact positively on their growth in the business sector and other activities.

As aforementioned, traffic jams and industrial air pollution negatively impact the environmental condition of the city. The World Health Organization report discovered that environmental pollution increases climate change, which could potentially increase the number of deaths between 2030 and 2015 globally (Samih, 2019). The report illustrated that approximately 95% of the global population consumes harmful and dirty air from the atmosphere. Similarly, traffic jams have hindered business operations within the city hence reducing business profitability among companies, organizations, and individuals. From the findings, transportation plays a vital role in maintaining competency within the business sector. It allows individuals to move from one point to the other. Some people have migrated from rural areas to urban areas with the aim of acquiring better jobs and living conditions (Dogo et al., 2019).

Surprisingly, the increase in population due to the rapid rate of migration from rural to other areas has increased traffic jams within the cities, thus resulting in conjunction. The specific challenges have been contributing to the lack of business transformation and minimizing the city's economic development. However, introducing a green city development initiative will be the best business scenario to enhance environmental sustainability and improve the quality of lifestyle among the people living within the city (Shorfuzzaman et al., 2021). This is because the initiative will eradicate traffic jams and air pollution from companies and maintain a conducive environment.

4.3. Positive Impacts of Smart City

Smart city technology has a profound effect on the prosperity of business operations and the living standard of people living within the urban region. This has resulted from economic growth among main cities globally by

establishing an economy of scale (Mora et al., 2021). Particularly, the application of information technology within the business sector in producing goods and services has reinforced productivity and economic development. Various policies have been introduced in different countries to minimize the relief of chemical gases in the atmosphere, which affects the environmental process negatively (Li et al., 2020). The application of big data technology promotes efficiency within the business sector in cities' health, contributes to prosperity, and reduces environmental degradation.

According to the United Kingdom Government Department for Business, a smart city is being introduced to apply digital technologies to enhance the well-being and performance of business operations and individual activity while reducing cost and resource consumption which maintains efficiency (Chang et al., 2020). This is because technology eradicates human errors, which is a stronger motivation force that is behind smart city technology. The majority of individuals refer to technology as being reliable. This is why most urban designers implement the concept of smart cities, which is an idea that eradicates uncertainty.

4.4. Impacts of Green City Development

It is imperative to note that introducing a green city development initiative will manage the concept of urbanization and climate change by maintaining and improving most urban centers. It may provide numerous advantages to biodiversity, air quality, climate, and wellness (Barletta et al., 2020). According to the findings, linking green city development initiatives with the smart city will ensure that every urban area has appropriate road infrastructure that reduces traffic congestion and air pollution. As a result, the cities will be able to become better in offering conducive environment to work and live. The concept will provide and encourage innovative ideas and information based on scientific research in addressing health, biodiversity, social cohesion, and climate (Yigitcanlar, 2018). Conversely, the dangers of climate change are vulnerable and require the introduction of green city initiative to minimize its negative consequences and improve the living conditions of the people within the urban regions. Implementing the green cities development initiative will focus on assisting the professionals that play a decisive role in planning cities, hence reducing traffic emissions significantly.

Yigitcanlar (2018) find out that the ingenuity will reduce traffic emissions and the production of chemical gases within companies located in urban regions. Previously, the emission of gases in the atmosphere has been accelerating environmental pollution and degradation globally. Also, Yigitcanlar points out that the majority of

vehicles within the municipal regions have been producing chemical gases that have been affecting the environment negatively. The emission of gases has increased climate change and global warming issues within the atmosphere. Greenhouse gases refer to any compound emitted in the atmosphere that can absorb infrared radiation, hence holding and trapping heat within the atmosphere (Yigitcanlar, 2018). This implies that frequent emission of greenhouse gases by vehicles and Industries increases heat within the atmosphere and promotes greenhouse effects that lead to global warming, which affects the majority of the citizens negatively. The situation has been occurring because the sun strikes the radiations that reflect back to the atmosphere in the form of ultra-ray lights. The issue may increase flooding in some parts of the cities and droughts.

The specific situation requires the implementation of green city development that will encourage the greening of public spaces and reduce heat from the atmosphere caused by the emission of gases from vehicles and companies. The initiative will lessen the environmental impact by reducing recycling waste, increasing house density, lowering emissions, and motivating the growth of sustainable local businesses to maintain and conserve the environment in the urban region (Samih, 2019). The initiative can be achieved by the city planners living space for green plants and tree planting. Besides, the city's management should provide policies and rules that will mitigate the emission of chemical gases to the atmosphere within companies, thus maintaining clean air. The regulation may promote environmental sustainability and improve individuals' lifestyles effectively.

Table 2: Results Derived from Privious Contents

Results	Prior Resources: Total 20 Resources Founded
4.1. Analysis of Smart City Development	Xu & Geng (2019); Nižetić et al. (2020); Belli et al. (2020); Heidari et al. (2022)
4.2. Urban Environmental Pollution	Ipsen et al. (2019); Szpilko (2020); Hoang & Nguyen (2021); Kylili et al. (2020); Samih (2019); Dogo et al. (2019); Shorfuzzaman et al. (2021)
4.3. Positive Impacts of Smart City	Mora et al. (2021); Li et al. (2020); Chang et al. (2020); Cioara et al. (2019)
4.4. Impacts of Green City Development	Barletta et al. (2020); Yigitcanlar (2018); Yigitcanlar (2018); Yigitcanlar (2018); Samih (2019)

5. Conclusions, Implications, and Limitation of the Research

The study has focused on analyzing the business scenarios for sustainable smart city development and its impact on the environment within the current society. For

instance, global urbanization shifts have created an agency for finding technologically smarter techniques for managing the rising challenges that have become rampant in society. From the paper, the issues have resulted to countries developing sustainable cities, which has been desired for the future of urban development. The united nation report indicated that approximately 68% of the world population will be living in the cities in the year 2050 (Nikitas et al., 2020). The projection illustrates that most people are migrating to the cities, which calls for an immediate transformation to overcome the immense pressure of making the city accessible, sustainable, prosperous, and safer. Therefore, implementing smart cities within the current world promotes efficiency and increases business sustainability.

Sustainability and sustainable city development aspects have been applied to generate awareness of the production and the application of resources that are needed for industrial transportation, recreational, commercial, and residential processes. It has increased environmental awareness in the application of natural resources among the citizens of our country. The idea related to a smart city has contributed to the development of environmental sustainability and maintaining a conducive environment for every individual living within the city. It has numerous characteristics that promote environmental sustainability and increase efficiency within the business sector hence developing the country's economy (Wang et al., 2019). The overall objective of establishing smart cities in the current society is to improve the quality of individuals' life by applying technology to create efficiency among the residential people, hence fostering eco-friendly jobs for business development.

The current technology has driven city management officials to interact with the community and develop the infrastructure significantly. The application of the real-time control system and sensors allows the management of the cities to gather adequate information in tackling the crucial inefficiencies that result in optimizing related technology systems used in creating a sustainable smart city. Smart city improves individuals' life by eliminating environmental challenges.

Since the industrial revolution, countless global social, environmental, and economic challenges have been affecting our community. As a result, most metropolitan areas have introduced practical initiatives to maintain urban infrastructure and eliminate health challenges by conserving the environment. Some of the strategies that have been incorporated includes smart city concept (Angelakoglou et al., 2019). The previous study predicts that smart city was introduced as an effect of the research into smart organization environments. This is after most municipalities experiencing pressure due to most people migrating within

the cities from rural areas. The analysis indicated that the rapid migration was due to people looking for employment, business, expansion, and other activities.

This implied that the urban planners should look for an effective to be addressed the issue instantly. The population increased urban challenges including air pollution, congestion, insecurity, and traffic within the metropolitan area. These challenges exerted pressure on the government in terms of providing healthcare services and business operations. However, introducing technology within the cities accelerated business development by eliminating the menace and empowering people to work smart. The incorporation of technology within urban centers has achieved a great balance between social equity, economic growth, and environmental conservation (Nayyar & Kumar, 2020). Particularly, smart city has improved safety. Public safety in a different country is not about criminal activity. Despite the complexity of smart city development within an area, it has depicted numerous changes by eradicating distress among the community members through the promotion of a green environment, thus managing and reducing the negative impacts of globalization, such as global warming. Smart city achieved a great balance between social equity, economic growth, and environmental conservation.

The concept also reduces traffic congestions that had become rampant in the previous decades. Managing traffic congestion is an appropriate strategy that many nations have been aspiring to achieve. Previously, traffic jams increased the emission of chemical gases that pollute the environment and increase the negative impacts of global warming (Bhattacharya et al., 2020). More so, smart cities maintain the environment by lowering electric consumption and shifting transportation patterns within the area. For instance, different countries have developed automation systems that reduce the emission of chemical gases. Some smart features incorporated within the industries entail smart thermostats, optimizing lighting, and smart appliances that use detectors to control air pollution. The city planning management is currently using technology to make water use more efficient. Previously, water wastage has been an issue in many cities due to pipe leakage. However, the application of technology developed due to the invention of smart cities can work effectively to minimize the challenge.

This is because the technology will apply sensors and analytics in detecting losses while optimizing pump pressures to overcome any leakage in the future. In the United States, city planners have reduced the volume of solid waste by implementing genuine programs based on technology. Some of the vital programs introduced include recycling waste materials (Bhattacharya et al., 2020). This has reduced water pollution and conserved the environment significantly. As a result, most citizens enjoy the ecological

environment of urban areas due to energy management efficiency and a conducive environment. Finally, incorporating a green city development initiative will manage the concept of urbanization and climate change by maintaining and improving most urban centers. This is because it will maintain biodiversity, air quality, climate, and wellness, thus conserving the environment.

Environmental sustainability has become a necessity in different cities globally. In this case, a study focusing on smart cities maintaining a sustainable environment was the major topic of discussion. Various literature materials were selected to answer the research question and provide various ideas that are relevant. Some of the information acquired from the research materials was unclear during the research. This implies that some of the sources that were used to answer the research question had their limitation, which will be analyzed in this part. The primary limitation is the lack of a primary data collection method.

The study used secondary data and collected information to answer the research question. The lack of a primary data collection method was due to inadequate time to conduct the research study. The application of secondary materials to answer the research question was due to accessibility and availability to minimize time consumption. Also, the study lacked previous materials to answer the research gap. Some of the research findings made it difficult to come up with a conclusion to answer the research question. For instance, some of the information gathered from the secondary materials provided misleading information on the impacts of smart cities within urban areas. Besides, inadequate statistical information was also missing in most literature materials used. This made it difficult to provide the exact time frame of the events being experienced in the research study.

Another research lacked an abstract. This made it hard to analyze the primary aim of the research material before using the sources in the research study. After analyzing the data collection method, I found out that some of the research materials did not have proper methods of collecting relevant data. Finally, some of the literature material did not offer all the information on the impacts of smart cities on urban development.

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