

SMART CITY DIMENSIONS: A STUDY OF SMART TOURISM AND SMART GOVERNANCE FOR BUILDING A CONCEPTUAL FRAMEWORK

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ABSTRACT

Nearly one-third of the human population worldwide is expected to live in urban areas by 2050, up from over fifty per cent in 2010, According to **Bakc, T. et al. (2012)**. Rapid growth in population pushes cities to discover more effective solutions to deal with problems like congestion, pollutants in the air, high crime rates, hazardous waste management, exorbitant energy use, and other issues. As an intelligent reaction to the urbanization crisis facing the city, the notion of the smart city is proposed. For an urban area to operate effectively and be articulated by modern communication and information technologies in its many different verticals, it must provide ongoing effective services to its population in order to build a smart city, according to **Anavitarte&Tratz-Ryan's (2010)** study. Still, The concept is currently unidentified, and it requires an elaborate theoretical model that could potentially be used to properly explain it, harmonized the setting, and to create a framework that could assist with putting it into practice. The purpose of the current study is to understand the ideas underlying the smart city and provide an analytical framework for future research in this area. The goals of this research were to establish a conceptual framework for the idea of a smart city and uncover relevant aspects. To achieve these goals, a systematic examination of the applicable literature of chosen works by multiple researchers in the field was utilized. The research's conclusions **include the beliefs of smart tourism and smart governance, which are crucial indications for a city's transition into a smart city through the use of smart internet technologies**. These two aspects of a smart city are also known as smart management and smart tourism destination.

KEYWORDS: Smart city, Smart Governance, Smart tourism, Smart city dimension, Internet of things

CONCEPTUAL FRAMEWORK

Worldwide demographic growth and persistent transitions from rural to urban exert tremendous stresses on infrastructural facilities, consumption of energy, and other various services provided by the cities. As stated by Golubchikov&Thornbush (2020), urban management built around the smart city thoughts is expected to apply revolutionary technologies and structures that tackle urban obstacles such as crowded modes of transport, a high-carbon energy network, infrastructural service and repairs, and urban safeguards and policy. The expression "smart city" alludes to a city which utilizes ICT (information and communication technology) to boost quality performance as well as effectiveness in urban functions, including transportation, power, and amenities, in order to pare down on the utilization of resources, waste products, and overall expenditures. The basic goal of a smart city is to make use of innovative Technology in order to enhance the quality of life for its inhabitants. A city can better enhance its resources, schedule its preventive maintenance initiatives, and observe safety factors while improving the amenities available to its citizens if it

monitors and incorporates the conditions of all of its critical infrastructures, which includes roads, bridges, tunnels, rails, subways, airports, seaports, communications, water, and power. This encompasses major buildings along with them (Hall, R. E., et. al. 2000). According to the Smart States Mission's objective it is crucial to support urban areas that supply an adequate quantity of structures and facilities, along with an elevated level of lifestyle, a conducive atmosphere, and "smart" technological solution to the issue of management of the smart city. The intention is to look into restricted environments and development an identical structure that performs as a lighthouse in cities with a concentration on environmentally friendly and equitable growth in the urban area. Smart governance, smart mobility, smart transit, smart tourism, and smart waste management are just a few of the dimensions that make up a smart city. The current research focuses on the two aspects of smart cities—smart governance and smart tourism—that have the greatest influence on their creation. The goal of the present work is to analyze relevant literature in these dimensions for a deeper comprehension of these aspects and to provide an exhaustive structure to further understand these aspects. Each of these many urban planning concepts has a significant impact on the evolution of the central idea of smart cities. Each of them significantly raises the quality of life and boosts business growth in the urban region.

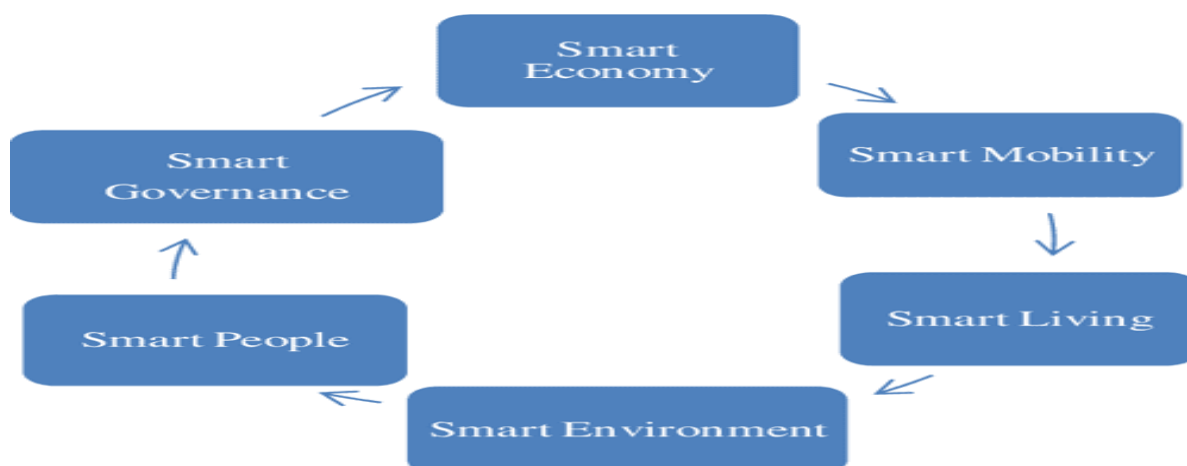


IMAGE 1. Source: Jasrotia, Aruditya&Gangotia, Dr. (2018). SMART CITIES TO SMART TOURISM DESTINATIONS: A REVIEW PAPER (ISSN 2249-7307). 1. 47-56.

OBJECTIVE OF THE STUDY

The growth of the urban area has exciting novel prospects attributable to the smart city. When a city's information and communication technology (ICT) infrastructure is capable of satisfying the functional requirements of Smart city basic domains, a city area is said to be "smart." For the city to develop sustainably and to improve the level of living for its residents, coherent coordination and resources are essential for all services provided by the city. As a result, this study was done with the intention of achieving the following aims, taking into account the rising relevance of developing the areas with smart Technology for the aforementioned difficulties:

1. To Understand the basic idea of the smart city concept
2. to provide a model framework for the development of two smart city dimensions, i.e. smart tourism and smart governance.
2. To identify the smart city literature vacuum and build the stage for the formulation of a theoretical framework for further development.

METHODOLOGY FOR THE STUDY

For the better management of the city problem through the use of modern technologies the basic element is the Smart governance of the city. Governments are reconsidering the contribution they should perform in an experience and understanding of societal structure in light of the expanding role that Technology are serving in the operation of urban systems. The term "**smart governance**" was employed to describe this function. Another function of the "smart city" concept is Smart tourism. Smart tourism is tourism that encompasses an array of ICT-related attributes and components. It is a more sophisticated form of the informationization of tourism. It comprises of digitized and artificial tourism centred around Technology for the tourist that provides a range of end-user devices to visitors, organizations, and institutions.

LITERATURE RECAPITULATION REALTED DIFFERENT DIMESION OF SMART CITY:

1.SMART TOURISM

2. SMART GOVERNANCE

1. SMART TOURISM

Lunardo R. et. al. (2019) explored how product attributes, including originality, complementarity, and expediency strongly affect the functional or apparent effectiveness and emotional consequences influencing tourists' service experiences. The study aims at how these influence smart tourism tourists' service experiences. The study was focused to the link involving perceived usefulness and reported satisfaction of the tourist in the smart tourism destination. The results of this research would help managers construct techniques that successfully attract visitors and retain visitor numbers by providing value propositions that match tourist wants by offering insights into the delivery of customer service through improved quality. **Suanpang, P. (2021)** presented a study that is conducted on the idea of smart tourism destinations. The primary goal of the study is to assess how much influence of smart tourism locations would benefit visitors' inclinations to return to that destination in Thailand. 400 domestic visitors in Thailand were chosen as a non-sampling source of data for the study. The data were acquired via a questionnaire, and the author used SPSS, Exploratory Factor Analysis (EFA), and Confirmatory Factor Analysis (CFA) techniques to evaluate the data. The results of the study of the causal relationship model indicate that the Smart Tourism Destination had directly influenced the Travel Experience (magnitude = 0.954), Satisfaction (impact = 0.870), and Intention to Return (influence = 0.731) as shown by the result of the model. According to the results of the chi square approach, tourists were more worried about travel safety because of the pandemic shown by the (chi value= 4.79, SD=0.56). The report also recommended that the tourism sector should stress on the variables like values, attitudes, requirements, and behaviour of tourists and should improve service quality and foster an inviting culture for tourists coming. **Li, C., et. al. (2021)** performed a study on the services offered by businesses in Smart-Tourism destinations impact the pragmatic and psychological consequences for visitors who visit those locations. The study made use of the primary information gathered in Taiwan from KKday travellers. A total of 345 respondents were surveyed through the questionnaire designed for the study. The data were analyzed using confirmatory factor analysis and chi square techniques. According to the study's findings, perceived enjoyment had a significantly beneficial impact on perceived usefulness, as depicted by ($p=0.01$, $r=0.45$). Roughly comparable to this, travellers' perceptions of the service's usefulness considerably improved their

perceptions of enjoyment (p value =0.001, $r=0.61$). The tourist's assessment of the service experience in smart destination was favourably influenced by the utility received by them, as demonstrated by the value of 0.53 and the p -value of 0.001. The study's management implications include the requirement for managers to offer services that can address issues faced by visitors or enhance the efficacy of travel planning as a whole. **Johannes, J. et. Al. (2022)** examined a study on the tourist destinations' local population's behaviour towards smart informational Technology used to boost tourism. The research was carried out in the five districts with the intention of gathering information on their perceptions of the of the respondent on introduction of Technology in the tourist sector. The data was gathered from the 112 respondents, who were residents of the five districts of the smart tourist destination, using a structured questionnaire and a google form. PLS 3.0 was utilized in the study for data processing and analysis. The sample mean was 0.862, and the t -value was 24.317, which indicates that the desire to share tourism information has a favourable impact on information-sharing behaviour. The findings also shown that the technology environment has a favourable impact on communities' intentions to provide tourist information (t value 13.196). The results of the PLS technique (impact value=2.535) show that the respondent also had a favourable attitude towards the incorporation of Technology for the development of smart tourist destinations. In the travel to different segments, Zhang et al. (2022) explored the value production and design process on desired location's online platforms. The various smart tourism destination s deliver a technology-based infrastructure with reliable online detail and integrate cutting-edge metrics to assist tourists in making properly prepared choices when considering the context of smart tourist destinations. Tourists' emotional and practical judgments of an organization are determined by the value it they had created for delivering to the tourist, which in turn affects the manner in which they are treated. More significantly, it is still not attainable to fully understand how tourists utilize Technology to ito discover and select tourist destinations for their travel, which is the main cause in developing tourist-friendly technologies for them. **Wang (2015)** performed an investigation on the use of cloud technology as well as computing in the hospitality sector. The study's objective is to come up with a model of the integration of Technology and tourism in order to streamline tourist management. According to the study's author, transportation support, innovative guides, and modern area administration are the three primary components of smart tourism. A computerized map with updated information distribution for better transport facilities is one of the study's objectives. constructing a management platform with numerous sensors and apps for intelligent advertising and assistance. The author also supports the sustainable growth of tourism as a whole with the aim of providing visitors with a safe, pleasurable, and technologically monitored travel experience. **Gretzel, Sigala, Xiang, and Koo (2015)** came up with the expression "smart tourism," a term they identify as "tourism backed by coordinated attempts at the destination in order to gather and accumulate data gathered from the infrastructure itself, interpersonal relationships, organizational sources of information, and individuals minds combined with the use of modern Technology in order to transform this information into real-world experiences and operations benefit-propositions with an unambiguous emphasis on effectiveness, sustainability, and social accountability.

2. SMART GOVERNANCE

. In their research, **K. S. Ramya (2016)** looked at the relevance of electronic administration in the city area of the smart city. The aim of this research is to investigate teachers at secondary schools in the south Canara District's opinions on environmentally friendly development and their understanding of electronic government. To test its preconceived notions, the investigation used a descriptive survey strategy. A randomly selected group of 60 secondary school teachers were

included in the study, selected at random from the population. and an assessment system was implemented to evaluate the study's conclusion. A rating scale was employed for evaluating the study's data, incorporating responses from 60 secondary-level teachers who had been chosen at random as the sample of participants. According to the study, household members in rural locations have daily earnings shortages and incur important travel costs when they try to take advantage of the restricted government services that are made available to them in their final days for instance, documentation, belongings records, and other services offered by the government. According to study findings, secondary school teachers demonstrated a relatively low level of beliefs regarding environmentally friendly development as well as knowledge of electronic governance. The study also discovered a strong correlation between secondary school teachers' attitudes regarding environmentally friendly development and the understanding of digital government. Smart governance could possibly be considered to be an underpinning for intelligent, accessible, and inclusive administration, according to **Scholl and Scholl (2014)**. These could predict that Information and Communication Technologies (ICTs) are going to have an important function in smart government as a component of the bigger concepts of smart governance, considering that these notions are fundamental to the developing discussion on the smart cities concept. It also suggests that the term "smart" denotes context- and particular to the location mixes of ICT, technological advances, and creativity, as well as some type of democratic dimension. **DewiMutiarra et.al. 2018** studied research concerning the utilization of information technology for smart city government. The study's objective is to describe the state of e-government by evaluating key performance metrics for Indonesian cities throughout 34 provinces. The author used an empirical-legal research approach to evaluate the legal appropriateness of the empirical results of the study. The empirical information was collected from the webpage in 98 Indonesian cities. The study's results demonstrate that: (1) Influential national structures of politics that support private business development, democratic governments, the legal system, and human advancement are the main constituents of the good governance in a city. (2) The researchers concluded that the public's right of to access government information is largely dependent on the accessibility of publicly available data which is a most defining factor for smart governance. The investigation additionally found that good governance is a prerequisite for e-government. Only 8 of Indonesia's 98 cities, according to the survey, have high levels of e-government usage, while 29 cities have medium levels. Moreover, 62.24% of local governments were determined to have a low degree of e-governance in the city. **Azzari, M., et. al.(2018)** investigated the research of the Smart City Governance Strategies. The study's objective is to draw closest to the principles and goals of the smart cities governance project GHOST, which was being carried out by the Italian Ministry of Education in the context of smart tourism. The study makes use of information gathered by Km4city, a big data platform created in Florence, for assessing facets of the city's urban and tourism strategies. The study found that the Km4City data collection tool was useful in strengthening the critical to the successful implementation of smart city initiatives. It was doing this by examining various perspectives, viewpoints, and behaviour patterns with a focus on the tourism sector specifically because visitors have been seen as an active sensors for responding to general city services. The conclusion of the two case studies also showed that other platforms, such as the social network Twitter, may be included for data gathering in the interest of disseminating information in real-time, in addition to data from the Internet and from smartphone apps. **Wahyuni, S., Alwi, A., &Indar, N. I. (2022)** focused on the Case Study research on the approaches used in Makassar City to construct smart governance in the city. The study's objectives are to investigate the smart city's smart governance component and analyze how well Makassar City has implemented its smart governance framework. In order to examine the problems arising in

the research conducted, the study used the data gathered from primary and secondary sources through interviews, observations, and literature as well as federal regulations and academic papers. The study's findings showed that: (1) The use of internet technology is vital to the growth of smart governance as evidenced by the result of case study in the Dukcapil Office of Makassar City, which used smart governance to provide services. It was regarded as successful because it reduced the inherent problem of people queuing and the selection of knowledge when delivering assistance. The research stated that smart governance's vision element is its second-most essential element since it provides the framework for accomplishing the goals, as seen by the outcomes of a case study that was done in the city. Adopting a business model approach, **Perätalo, S., Mohamed, M., & Iivari, M. (2022)** presented a study on smart city governance. The study's objectives are to improve communication across the city region and to create a platform governing framework for the urban growth of the city. The six components of city e-governance were determined by the study. For the city's governance, the researchers constructed a business model structure made up of connection, the material, context, and commerce layers. ICT and physical infrastructure provided by the study constitute Layer 4, or connections, which was thought of as the foundation for the digitization of communication in smart cities. Layer 3 is made up of a substantial quantity of data and information and is referred to as content. This layer is essential for decision-making. The final two layers of the context are made up of business services for citizens and businesses, as well as transportation and health-related activities. The report also recommended that instead of seeing the city's growth from a sectoral viewpoint, consider it from a layered perspective. **Ncamphalala, M. (2022)** provided research on how information and communication technology may strengthen municipal service delivery. The purpose of the research was to investigate the state of municipal service delivery in the South African City of Ekurhuleni Metropolitan Municipality. This qualitative study involved 16 IT professionals who were chosen using the purposive sample approach and data was collected through the use of interview method about a range of ICT and smart city concerns to collect the primary data. The study's conclusions include the following: (1) The respondents believe that ICT will encourage more proactive, transparent, and representative government in the municipality. Besides it, Technology will speed up the provision of public amenities and act as a catalyst for the construction of infrastructure. 2. The data analysis's findings show that the participants were in consensus that ICT will bring about a high level of anticipated benefits since the software has several benefits in relation to more effective service delivery, reducing the queueing problem etc. The study's results also revealed that the respondents were aware of one such business, Applied Technology Research Centre (ATRC), which educates and supports clients with improving indigenous for enhanced worker performance. The research also looks at issues including inadequate ICT policies, a lack of leadership for using ICT tools, and a shortage of technical expertise for using smart Technology.

LITERATURE GAP AND CONCLUSION OF THE STUDY

Nearly one-third of the human population worldwide is expected to live in urban areas by 2050, up from over fifty per cent in 2010, According to **Bakc, T., et al. (2012)**. Rapid growth in population pushes cities to discover more effective solutions to deal with problems like congestion, pollutants in the air, high crime rates, hazardous waste management, exorbitant energy use, and other issues. As an intelligent reaction to the urbanization crisis facing the city, the notion of the smart city is proposed. Effectively The term "smart city" refers to technological, economic, and social advancements that are furthered by ICT revolutions that rely on sensors, data, and novel forms of communication and data sharing. The vast ecosystem reconfiguration brought about by ICTs, which have made enormous amounts of data accessible, has altered the patterns of functioning of almost every component of a metropolis. Understanding the ideas underlying the smart city and providing

an analytical framework for more research in this area are the major objectives of the current study. The goals of this research were to establish a conceptual framework for the idea of a smart city and uncover relevant aspects. To achieve these goals, a systematic examination of the applicable literature of chosen works by numerous scholars in the field was employed. Two key indications for a city's transition into a smart city through the use of smart internet technologies are the research's conclusions, which are the two dimensions of a smart city. Smart government and smart tourism are examples of these aspects. By utilizing contemporary Technology and the proper IOT strategy for each component of the smart city, these components will operate more smoothly and effectively. According to **Wahyuni, S., Alwi, A., & Indar, N. I. (2022)** study findings showed that the use of internet technology is vital to the growth of smart governance as evidenced by it and it also stated that smart governance's vision element is its second-most essential element since it provides the framework for accomplishing the goals, as seen by the outcomes of a case study that was done. Similarly **DewiMutiarra et.al. 2018** studied research concerning the utilization of information technology for smart city government. The study's results demonstrate that: (1) Influential national structures of political that support private business development, democratic governments, the legal system, and human advancement are the main constituents of the good governance in a city. One of the most influential developments in the modern tourist industry is smart tourism. The phrase highlights on the employment of numerous advanced techniques and Technology to attract tourists. The conclusion is that Since innovative technologies have been providing visitors with useful services and advantages, making investments in these technologies to attract tourists is beneficial for boosting the competitiveness of the tourism businesses. Consequently, tourism destination administration organizations need to have specific laws to prohibit the dissemination of erroneous details regarding the location in order to enhance the trustworthiness of tourists. Taking responsibility for the knowledge given to tourists, especially that provided on internet-based channels, should fall on the management of destination organizations, tourist firms, and local residents.

The literature study also identified an analysis gap that originated in the lack of empirical research regarding the model framework for smart tourism and smart city governance, resulting in them being poorly implemented in a number of categories and differences of the smart city. Unregulated technologies are additionally restricted in terms of their scope and comprehensive adoption. Additionally, artificial intelligence must be able to coordinate numerous city elements in an intellectually appropriate manner on its own. Additionally, an infrastructure that will promote the engagement of several distinct stakeholder communities in the development of an ideal future for the smart city concept is of the utmost importance with the development of the building coordinating policies for smart tourism and smart governance management for the city. One of these methods is excitement, which may be used to create potential goals for the locale and businesses located there engaged in the providing tourism services.

As a result, the study's two aspects can offer respond to problems with city growth in the tourism sector and administration that are required to meet inhabitants' requirements for employment and effective services. By focusing on the factors that might make smart cities technically sophisticated cities, it will be possible to complement the present framework and aid in guiding future research to stimulate the formation of smart cities.

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