Report on :

The influence of sustainable attitude and planning on smart city

Prepared by : Ali Mawlood

Field :Architecture

Engineer ID number :10202

Abstract

Sustainability efforts mainly focus on achieving a balance between production and consumption, as opposed to prioritizing economic growth. It thus involves a set of constraints on major activities regulating the human economic subsystem, including the use of renew- able and non-renewable resources, pollution and waste assimilation. The preservation of natural capital and maintenance of resources is integral to the concept of environmental sustainability**,** The idea of a smart city is that by having the right knowledge at the right time, citizens, service providers and city government alike will be able to make better decisions that result in increased quality of life for urban residents and the overall sustainability of the city. and, the idea of “smart” cities have gained increasing attention as an a path for addressing the challenges of urban management. There is an outright need to understand the influence of smart cities on urban environmental, social and economic sustainability. thus the information that we get from smart city,

it allows service providers (such as utilities and transit companies) and city government to provide more efficient and sustainable services also it shifts the social behavior of citizens towards a more efficient and sustainable utilization of city resources.

Keywords: Smart City, Sustainable Behavior, Sustainable Planning, Urban Sustainability

Introduction:

The idea of a smart city is that by having the right knowledge at the right time, citizens, service providers and city government alike will be able to make better decisions that result in increased quality of life for urban residents and the overall sustainability of the city (Mostashari, Arnold, Maurer, & Wade, 2011) . There is an outright need to understand the influence of smart cities on urban environmental, social and economic sustainability.

This paper discusses the role of the smart city as a route for inhabitants to contribute to the decision-making process, and explores the mechanisms by which information sharing changes the structure of urban governance and citizens' behaviors towards more sustainable behaviors.
Also This paper explores the influence of smart city technologies on urban sustainability. Conceptual systems' diagrams are provided, which map the relationship between smart city and different aspects of sustainability as outlined in the literature, and identify the gaps that will need to be addressed in order to robustly understand the full impact of smart city on urban sustainability.

The article has the following organization:

-**The first** segment is related to discusses the concept of urban sustainability and investigates its process in economic, social, and ecological contexts.
-**The second** segment is related to the concept of smart cities.
-**The third** segment is related to The impact of smart cities on urban sustainability, as well as the role of information technologies in citizens' behavior and city planning, is presented
-**The last** segment is related to The conclusions.

Urban Sustainability:

Human desires are not simplest met within the brief term, however remain met inside the long term by holding and allowing the generation of the natural environment. although the time period of sustainability has different interpretations. in general, “sustainability” refer to a harmonious relationship among human and environmental structural (Alberti, 1996).
In another word for both present and future generations sustainable should meet the needs of

whole people across long time periods **(Khansari, Mostashari, & Mansouri, 2014).**

Sustainability is defined as a multi-dimensional idea which is related both , the natural environment and society with economy(Walsh, 2011) (Cutcher-Gershenfeld et al., 2004)

“Nowadays the Universe is going through expanding community. About half of the earth’s population now lives in town and urban center” **(Fund, 2016,october 3)**.according to a new United Nations data set launched today. 55% of the world’s population lives in urban regions a proportion that is expected to increase to 68% by 2050. Projections show that urbanization, the gradual shift in residence of the human population from rural to urban areas, combined with the overall increase of the world’s population could add another 2.5 billion people to urban areas by 2050**(Nations, 2018,may 16)**.The deferential approach of sustainability like quality of life of residence and urbanization with environment will be influence by increasing of population directly **(Prado-Lorenzo et al., 2011).**In another hand increasing the size of population

effect the environment and we can say that this is one of the extreme crucial challenges for the control of sustainability(Alberti & Susskind, 1996) (Maiello, Battaglia, Daddi, & Frey, 2011) .We can achieved urban sustainability by using non-renewable resource at the lower level with meeting basic human needs also staying with the absorbing capable limits of local and universal waste (Choguill, 1996).The goal of sustainable cites is to fight such issue in order to achieve ecology development and economic , social , culture (Alberti and Susskind, 1996).The relation and interaction between some approach such as natural resource , culture and human , Social will lead to growth economic , social equity , and environment protection. (Munda, 2004), (Beck and Stave, 2011).Thus a multi- dimension of framework is important in the state of urban sustainability that will drive with the operation of urbanization in social , economy , environmental , ecological , culture , political , engineering , and technical context (Munda, 2006) (Choguill, 1996) (Huang, Yeh, Budd, & Chen, 2009) (Keirstead & Leach, 2008) (Mega, 2010) (Choguill, 1996) (Gibbs,

1997) (Sahely, Kennedy, & Adams, 2005).The goal of economic sustainability for cities is to manage and build resource and wealth through upgrade products and competition in the market (Castells, 2000) .And the economic improvement also support to growth social capital such as education and health , and which is leads to future growth (Spangenberg, 2005) (Anand & Sen, 2000).

Substantially, the achieving of new path of social and economic and demographic with output technological directly related to the economic sustainability that will enhance the column of the urban in the long term (Basiago, 1998) .**Social sustainability means** the capably to recognize plural characters, maintain a strategic distance from social prohibition, make co-activity and rivalry good inside society, follow a conscious arrangement of social preparation against auxiliary viciousness, and structure practical (responsible) governments (Castells, 2000) . And The significant subjects of this social measurement are equity, wellbeing, instruction,

home, security, and populace (Hutchins & Sutherland, 2008) .

In particular, social sustainability reacts to human needs including nourishment, home, garments, sexuality, medicinal services, sound condition, safe drinking water , insurance in case of sickness, mature age and social hardship, and considerably more extensive needs, for example, training, relaxation, social connections, and self-satisfaction (Griessler & Littig, 2005) .Social sustainability likewise alludes to trans-generational prosperity that incorporates present and people in the future. For example, diminishing social disparity improves personal satisfaction over a country, gives impartial development chances to people in the future and fits the living condition for all. Here, work assumes a basic job since continue capable salary improves social relations and the enthusiastic prosperity of people, along these lines lessening divorce, suicide, liquor abuse, neediness, social rejection, welfare reliance, and the frequency of mental issues (Chan & Lee, 2008).
In total, from a sociological point of view, urban social sustainability has three primary markers.

The first marker alludes to the urban populace's essential needs and personal satisfaction including proportions of individual pay, destitution, pay appropriation, joblessness, instruction and further preparing, lodging conditions, wellbeing, security, and work fulfillment. And The two markers, social equity and social intelligence (Griessler & Littig, 2005). leads to decency in dissemination, individually, and opportunity, and the nearness of social administrations, for example, wellbeing, training, sexual orientation value, political responsibility and support (Assefa & Frostell, 2007).Also according to (Davidson, 2010) .there are an extra parts of social in order to be sustainability are: "1 fundamental needs, for example, lodging and adequate salary that must be met before limit can create,2individual or human limit or open door for learning and self-improvement ,3 social or network limit with regards to the advancement of network associations, organizes that cultivate collaboration" (Davidson, 2010).

Ecological sustainability battles the irreversible weakening of the earth and manages land improvement and protection (Castells, 2000) (Basiago, 1998) .The protection of natural and upkeep of assets is fundamental to the idea of ecological sustainability and Environmental sustainability endeavors basically center around accomplishing a harmony among creation and utilization, rather than prefer economic development. It along these lines includes a lot of limitations on significant exercises controlling the human financial subsystem, including the utilization of recharge capable and non-sustainable assets, contamination and waste osmosis. Thus keeping the natural capital with maintenance of sources is related to the idea of environment sustainable (Goodland, 1995) .

Environmental sustainability efforts mainly focus on achieving a balance between production and consumption, as opposed to prioritizing economic growth. It thus involves a set of constraints on major activities regulating the human economic subsystem, including the use of renew- able and

non-renewable resources, pollution and waste assimilation. The preservation of natural capital and maintenance of resources is integral to the concept of environmental sustainability(Goodland, 1995) .

Smart cities

The root of the idea of Smart Cities can be followed back to in any event the Smart Growth Movement of the late 1990s(Smart Sustainable Cities: Definition and Challenges) A transmission from the previous to the last might be upheld by smart computing: another age of integrated hard-ware, programming, and system data innovation frameworks with ongoing attention to the encompassing scene that can assist residents with settling on progressively smart choices. Savvy figuring changes urban areas from their conventional structures into brilliant urban areas means in to the smart cities (Nam & Pardo, 2011).The urban communities so as to improve open security and give sufficient framework based services, for example, safe drinking water,

dependable power, and maintainable, protected and reliable transportation and correspondence are requiring exact and ongoing data about the status of urban services However, customary urban areas means traditional cities can't upgrade this arrangement of services because of always evolving conditions. Significant authorities are not ready to get to the essential data for basic leadership in the correct structure, and at the ideal time (Khansari et al., 2014).Therefore, a smart city gives the necessary infrastructure to residents to settle on progressively canny choices means intelligent decisions. In doing as such, it assumes a fundamental job in managing challenges identifying with ecological, culture, social, and financial manageability (economic sustainability)(Caragliu, Del Bo, Kourtit, & Nijkamp, 2011).The technology, human, with institutional are the three related dimensions of information centric city features which the technology dimension incorporates digital, wise, pervasive, wired, , and data components. Then again, innovativeness is a primary driver to smart city. Human dimension factors contain people,

training, learning, and information, have key jobs in smart city. At long last, the function of government, the connection between government organizations and non-government parties, and their administration are crucial to the plan and usage of smart city activities and are considered as institutional components of a data driven city (Nam & Pardo, 2011) .We can get an smart city by connecting software with telecommunication network (Mitchell, 2007) .In a streamlined plan, the idea of the wired and advanced city depicts information and communication technologies (ICTs) that empower organize advances to associate numerous clients, for instance, residents, organizations and offices (Yovanof & Hazapis, 2009) .The objective of a digital city is portrayed as "making an environment for data sharing, coordinated effort, between operability and consistent experience for every one of its occupants anyplace in the city”(Yovanof & Hazapis, 2009) .And this can be depict a smart space which is based on firm IT with innovation system that promote productivity between the inhabitance(Komninos, 2006).The

Intelligent cities target to pool advanced information and involvement with the type of electronic government, arranging frameworks and resident participation. They empower residents and partners to get to nearby services by using new technologies (Kingston, 2005).

In entirety, smart city can be characterized as "domains with high limit with regards to learning and development, which is worked in the innovativeness of their populace, their establishments of information creation, and their digital framework for correspondence and knowledge management . In another meaning a smart city is a city which works in a sustainable and astute manner, by incorporating every one of its foundations and services into a firm entire and use intelligent tools for checking and control, to guarantee sustainability and efficiency " (Tranos & Gertner, 2012) (Hancke, Silva, & Hancke Jr, 2013).

The impact of smart cities on urban sustainability, behavior and city planning

To accomplish multi-dimensional urban sustainability, both base up resident conduct and top-down government basic leadership must turn out to be progressively proficient, efficient and sustainable (Cutcher-Gershenfeld et al., 2004) .This segment in the literature discuss on how smart city influence sustainable behavior on the pieces of citizens and sustainable planning on the part of who work on set up rules and standards , All occupants, including poor people, ought to have the option to play a role in decision making. all citizen ought to basic entitlements need to create a living. All inhabitants ought to approach low cost, reasonable and applicable data, from which viable responsibility and clear laws, guidelines and policies can be given (De, 2010) .In the interim, the interconnected frameworks of land use, water, vitality and transportation frameworks that contain the urban foundation all influence decision-making process. At last, the usage of socioeconomic and ecological strategy

influences the decision-making process for sustainable urban communities (Minne et al., 2011) .

Sustainable Citizen Behavior

Human behaviors, for example, overpopulation and overconsumption may bring major ecological dangers, including a dangerous atmospheric (global worming) and ozone layer devastation destruction (Oskamp, 2000) .According to this in order to achieve the aim of sustainability behavior change is required In exercise, psychologists can assume a basic role in helping residents to embrace sustainable examples of living and improve their commitments to the natural, financial, and social parts of sustainability (Oskamp, 2000) (McKenzie-Mohr, 2000) (Vlek & Steg, 2007) .Since human behaviors are established in social circumstances, institutional settings and social standards(Shove, 2010) .To accomplish the objectives of sustainable urban advancement, human behavior change is important including political and environmental activities. Entertainers incorporate authorities,

occupants, non-administer mental associations, action gatherings, network activity gatherings, private segment firms, ladies, and specialists. In another meaning, the support of government, yet all sections of society - including the active cooperation of residents - is important to accomplish sustainable advancement through decentralization of basic leadership and execution of power (Hoon Moon, 2006) .In the smart cities the use of communication technologies services and smart administration using tools like e-governance and e-democracy, thus improves viable political participation among occupants and authorities (Giffinger & Gudrun, 2010) .All inhabitants ought to know about the technique for lessening energy consumption in family units. Schools and libraries can likewise function to support residents' mindfulness. Also, colleges, financial establishments, telecom and ICT organizations, and transport and waste management organizations can assume fundamental role (Brinkman, 2011) .

Sustainable Planning

New urbanism, smart growth, and the ecological city are three sustainable urban development approaches. Smart growth refers to natural resource protection, regional collaboration, and economic development based on local capacity and resident participation. New urbanism addresses itself more to" architecture of community", that is, it focuses on the structure of places and open spaces to improve the quality of life. In the eco-city, land-use policies reflect the use of renewable energy, diverse transportation options, short travel distances, and urban density (Jepson Jr & Edwards, 2010) .For planners, the city should be considered a complex system consisting of both economic and environ- mental subsystems. Accordingly, planners require tools to manage natural resources, pollution, information, and trade (Campbell, 1996) .In order to achieve urban sustainability, government employs information technologies, including inter- net and mobile computing, to enhance its relation- ship with citizens, businesses, and other govern- mental sectors. This enables the delivery of more services to citizens, improved interactions with

businesses, and more efficient governmental management. Other benefits of e-government include less corruption and cost along with greater transparency, convenience, and revenue growth. Meanwhile, citizens themselves are empowered by this improved access to government information and services (Palvia & Sharma, 2007) (Yildiz, 2007) .The use of technology helps leaders inform and connect people, while giving officials the ability to make immediate and informed decisions. In this way, a city is transformed into a connected network system, that is, a smart city (Moss Kanter & Litow, 2009) .Smart cities are characterized by an increased use of knowledge networks and integrated e-services to improve the quality of life for their citizens. This occurs through the delivery of better services and goods, as well as enhanced creative relationships among local officials, professionals and residents, which enable them to come up with the right set of strategic policies (Paskaleva, 2011) .The ability to produce smarter, lower-consumption energy based on renewable sources such as hydropower, solar, wind, biomass and biofuels, geothermal, and ocean and tides

represents a fundamental step towards a sustainable energy future and offers special opportunities for cities (Mega, 2010) .
An intelligent transportation system allows for an integrated view of real-time traffic data through the use of devices installed on roads such as traffic signals, cameras and sensors. The provided data is processed with the purpose to establish an intelligent and adaptive traffic management system that empowers drivers through dynamic messaging and other methods, to choose optimal routes and avoid accidents or street problems, thereby increasing safety. This will also empower transit network operators to make better decisions regard- ing traffic signals, locations of new roadways, and problems with existing roadways (Vaa, Penttinen, & Spyropoulou, 2007) .Another component of urban infrastructure is land use. To improve urban sustainability, land use strategies that rely on public transportation and compact living, and are aimed at reducing natural resource consumption, should be encouraged. Officials should, therefore, pursue a walkable, mixed-use model integrating high-

performance buildings and infrastructures. Two important values of urban sustainability are compactness (density) and biophilia (human access to nature) (Minne et al., 2011) .

Conclusion

Access to the right information at the right time allows citizens, service providers and city government to make better decisions that result in increased quality of life for urban residents and overall sustainability of the city. To achieve multi-dimensional urban sustainability, citizens' behavior and government decision-making must each become more efficient, effective and “sustainable”. Smart cities offer a very promising solution to this need, by helping citizens and officials to develop sustainable behaviors and planning. The new information made available from such implementation can shift the social behavior of citizens towards a more efficient and sustainable utilization of city resources, while allowing service providers and city government to

provide services more efficiently and sustainably. In other words, smart cities will require innovation when it comes to planning, management and operation of their infrastructures and resources if they are to cope with the future demands of their citizens (Naphade et al., 2011). Smart cities are thus capable of altering the environmental and social behaviors of citizens, whether this means providing information about mechanisms for reducing energy consumption, or updates on travel routes. In addition, they facilitate smart governance and political participation among citizens and officials through the use of ICTs like e-governance and e-democracy.

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