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**Review Article**

# Preliminary Study of Smart Cities' Development

Olusoyi Richard Ashaye[1] and Husam Helmi Alharahsheh[2*]

[1]Freelance lecturer at the Brunel Business School, Brunel University London and University of Wales Trinity St David, London Campus, UK

[2]Faculty of Business Management, University of Wales Trinity Saint David, UK

***Corresponding Author**
Husam Helmi Alharahsheh
Email: husam.helmi1@yahoo.com

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**Abstract:** Smart city has become a global trend in the development of advanced cities in the 1st century. The concept is a new concept, which is still in its infancy stage as the idea was first initiated by IMB in the USA in 2008. Therefore, this paper is brief paper is aiming to provide further understanding and clarity on smart cities with inclusion of several initiatives and examples already applied in practice within the UK and across other countries. The research is mainly including secondary sources from the literature to review smart cities. Key recommendations are provided for policy developers, local authorities, academics and students interested in the field. Recommendations include further development of public policy and investment allocation to further utilize the concept of smart cities in key areas such as development of a business-friendly environment, regulations, cleaning and implementation of health and safety measures. The concept of smart cities can be applied and further developed to pursue cost saving measures by reducing waste and increase of technology application as well as tackling unemployment. Furthermore, local authorities should aim to enhance public – private partnerships with interested parties such as educational institutions to deliver key smart initiatives and programmes, as well as in the aim of enhancing knowledge exchange within the field.

**Keywords:** Smart cities, technology, policy development.



## INTRODUCTION AND BACKGROUND

Smart city has become a global trend in the development of advanced cities in the 1st century. The concept is a new concept, which is still in its infancy stage as the idea was first initiated by IMB in the USA in 2008 to study how the functions of a city could be optimised in order to promote development of talented-based economy as well as improve the quality of life.

There is currently no standard definition of smart city, although practitioners and researchers have made attempts to describe the concept. Whilst it has been described as a city smarter than traditional areas and capitalising on new technology and insights to transform and enhance its systems, operations and service delivery; other academicians have classified smart city by a vision that includes five key factors: digital technology, environmental sustainability, civic initiatives, mobility and businesses (IBM 2010; Cavada *et al.,* 2015)

Thus, smart city can also be described as the use of modern technology to improve urban space, as well as interacting with citizens to increase quality of life. It covers every aspect of society's and people's livelihood, from monitoring of public space to public transport services, home automation, cloud storage and electronic public and business services

Cities like Singapore and Copenhagen are believed to be on top of their game in using technology to enable their citizens to enjoy a better quality of life. Whilst Singapore focuses on people using technology – wireless communications and energy efficient appliances or vehicles to help them reduce the need to move cleanly; Copenhagen concentrates on 'green' economy by engaging people, companies, and government top create a green economy and ensuring that urban planning enables the city to develop in a creative way that would improve the quality of life.

Prof Rogers in 'Smart cities better defined by new research', University of Birmingham (2016) stated that, "Singapore and Copenhagen demonstrate that each smart city adopts solutions that fit its own circumstances. It's vital to learn from these global examples and understand how they became smart – understanding these key factors will help smart cities to fulfil their potential. Smartness is a complex and ever-changing concept, but can be expressed as 'talent-green-technology'. It's important to have talented people and a citizenry that is receptive to working towards all of the goals of a smart, sustainable and resilient city.

"This will involve innovative use of new technology, but it must equally support the delivery of smart low carbon dioxide initiatives that both improve the quality of life of citizens and enhance the natural environment."

Smart cities are generally believed to share a common goal: the use of innovative ideas and methods or the application of ICT in various aspects of the city for better synergy as well as more efficient use of resources with a view to improving the management of city and impact on service delivery including the quality of life of the citizens. More so, there is the need to reduce

environmental footprint to support innovative development and a low-carbon economy.

## Rationale

The advancement and global practice of in information and communication technology (ICT) have led to its fundamental consideration in the development and navigation of cities. This has called for the need to have innovations using technology to improve the quality of life and enhance natural environment. For instance, initiatives to reduce carbon dioxide emissions are a core part of work promoting environmental sustainability.

There is limited research on smart city since it is a new concept, and researchers have not fully incorporated into the smart citizens agenda, necessary for 'smart city' to become truly smart. There is therefore the need for further research on this concept.

Since local authorities/Councils have the unique ability to understand and shape services to local circumstances and needs, and the tremendous ability to reach to the local communities, particularly through housing and social care services; this calls for focus on the public sector organisations to create a business-friendly environment especially in the areas of business regulation, street cleaning, commodity safety and planning. The Councils are therefore well placed to broker the links between job seekers and innovative programmes for the citizens.

The increasing pressure and cuts in the budget to local and central governments justify the call for new approaches to help tackle the costly social challenges arising from the long-term youth unemployment and vulnerable and troubled families who are observed to be living in places that hindering their progress and quality of life. As a result, local authorities have begun to think differently and creative the space for alternative solutions in order to alleviate the risks and maximising expectation and set realistic outcomes for the citizens.

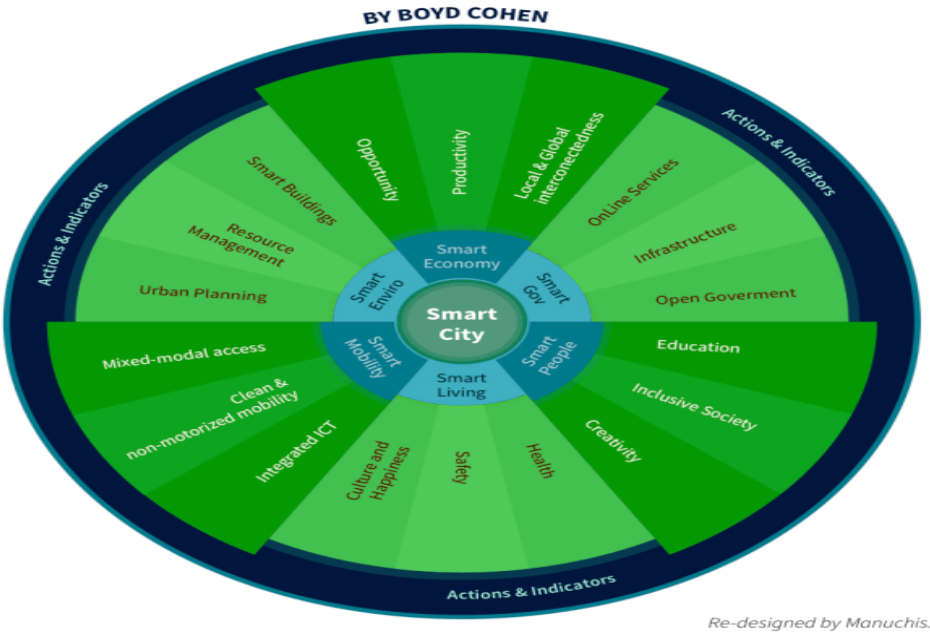
Further, local authorities have realise they are in a trap and there is need for strategies to escape the taps all over the sectors. Hence, the only way is to work differently with public services, communities and users to achieve better outcomes, with radical innovation and creative programmes by the local authorities. There is thus the need for sustainable, programmed approach to partnership and knowledge exchange in order to embrace change, and build partnership.

## Smart City Wheel

The smart city wheel was initiated by Boyd Cohen in 2012. It outlines the functions and goals of a smart city with reference to major indicators and rankings; it also listed 6main components, as follows:

1) Smart Economy
2) Smart Environment
3) Smart People
4) Smart Mobility
5) Smart Living, and
6) Smart Government

**The smart wheel also consists of 16 sub-domains and 62 assessment indicators.**




(Extracted from Central Policy Unit, 2015)

## Examples of Smart City Initiatives and Programmes

**The Smart City Concentrates on The Following Are:**

1) Parking and mobility – enables easy navigation using geo-location and LBS (Location Based Services) functionalities
2) Services – all chargeable services offered by the city in one place i.e. purchase of bus tickets or parking spaces
3) Payments – city e-commerce payments for all services and purchases using a single mobile application
4) Retail – also enables easy navigation using geo-location and LBS functionalities
5) Citizenship – It relates to e-governance and a source of tips for handling cases and appointment booking in local councils, hospitals and other public services
6) Entertainment – Also for handling cases and appointment booking in local councils, hospitals and other public services

## Examples Of Initiatives And Programmes To Support Smart Cities In The UK Are As Follows:

1) Creative Industries (CIs) – Relates to study of work-related learning (WRL) opportunities in the creative industries for young people aged 14-19 in the UK. The CIs embody idea, technology and ways of working that characterised the future economy and world of work, for creative businesses,

schools and policy makers. This programme helps to embrace change and to build partnership working.

2) Creative Councils – Based on pioneering work in trialling radical new ways of delivering public services in the UK. It was launched in April 2011and has now moved to the second phase and the programme is being run by a company called Nesta together with the Local Government Authority.

### There Are Six Creative Councils Recognised For Pioneering Innovations, Such As:

a. Cornwall – Implementing 'Shaped by Us', a technology platform and open innovation approach that makes it easier for local communities to come with creative ideas in solving the county's biggest challenges
b. Derbyshire – Developed 'Uni-fi', a bespoke package of support aimed at developing aspiration among young people in care
c. Monmouthshire – Initiated practical 'Your County Your Way' programme, a cultural transformation within the council to listen and respond more creatively to the needs of its communities through 'Intrepreneurship School' - internal training programme
d. Rotherham – Developing 'Rotherham Ready', council-based social enterprise that works with the teachers of students aged 4-19 to engage them and their schools in the development of an enterprise-based curriculum and ensuring young people have skills relevant for the future
e. Stoke – Developing an efficient 'Great Working City, programme aimed at pushing boundaries of energy supply and reimagining the role of the council as a strategy broker of resources
f. Wigan – Creating a new economic model for social care whereby they meet their services and financial challenged through harnessing of underutilised and unexploited resources within the local community though volunteering and micro-enterprises development.
g. Westminster City Council – Supported the development of 'Hub Westminster', an affordable space in the heart of London for social business to work, collaborate, and access business support and investment. The Hub enables social enterprises to build closer links with local authorities to help grow their ventures. There is also franchising work that supports unemployed people into sustainable work by helping them to access franchising opportunities (Cavada, 2012; Nesta, 2012, 2013)

### Conclusion

The work provided in this paper reflected several key aspects in relation to smart cities in which can be summarised as the following: Firstly, the rapid advancement of technology in its all forms have certainly contributed to the initiating phase and continues development of smart cities, and technology enabled policy makers at senior levels to start initiatives and programmes to improve key aspects in cities such as quality of life and promotion of environmental sustainability. Secondly, there is limited research on smart cities as a concept. Therefore, there is an increasing need to further understand and explore the concepts with appreciation of its interconnection with other key aspects included in the rational of the review. Thirdly, it was established that local authorises at city of even district level can further develop their public policy and allocation to further utilize the concept of smart cities in key areas such as development of a business-friendly environment, regulations, cleaning and implementation of health and safety measures. Fourthly, Smart city as a concept can lead to cost saving measures as it aims to reduce waste and increase application of technology-oriented solutions bringing benefits for residents and tackling unemployment. However, further research in this area can be conducted to establish further clarity. Fifthly, Local authorities also can work in partnerships with other parties such as educational institutions and the private sector to exchange knowledge and embrace change in developing SMARTER CITIES.

## REFERENCES


1. Central Policy Unit. (2015). Research Report on Smart City. *Government of Hong Kong Special Administrative Region, September 2015.*
2. Comarch. (2016). 'Smart City: Driven by Innovation' [online] *<https://smartcity.comarch.com/?gclid=EAIaIQobChMI2NmLoK11AIVoxbTCh1kXAcXEAAYASAAEgJnwPD_BwE#about> Accessed: 11 June 2019*.
3. IBM Institute for Business Value. (2010). 'Smaller cities for smarter growth' *Executive Report.*
4. Cavada, N., et al.,(2015). 'Do smart cities realise their potential for lower carbon dioxide emissions' Proceedings of the Institution of Civil Engineers - *Engineering Sustainability, 169(6),243-252.*
5. Nesta. (2012). 'How councils can make their economy grow' Creative Councils *[online] <http://www.nesta.org.uk/blog/how-councils-can-maketheireconomygrow#sthash.jzVUQwEr.dpuf > Accessed: 11 June 2018.*
6. Nesta. (2013). 'Six Creative Councils recognised for pioneering innovations' Creative Councils [online]<*http://www.nesta.org.uk/news/six-creative-councils-recognised-pioneering innovations#sthash.laZFt4jo.EdMELxLf.dpuf> Accessed: 11 June 2017.*
7. Rutherford, K. (2008). 'Creative Opportunities' [online] *<http://www.nesta.org.uk/publications/creative-opportunities> Accessed: 11 June 2019.*
8. Tom Fleming Creative Consultancy., & Nesta. (2013). 'Six Creative Councils recognised for pioneering innovations' Creative Councils [online] *<http://www.nesta.org.uk/news/six-creative-councils-recognised-pioneering-innovations#sthash.laZFt4jo.EdMELxLf.dpuf> Accessed: 11 June 2018.*
9. University of Birmingham. (2016). 'Smart cities better defined by new research' [online] *<http://www.birmingham.ac.uk/news/latest/2016/02/Smart-cities-better-defined-by-new-research-100216.aspx> Accessed: 11 June 2018.*