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Legal assessment of smart cities under WTO: TRIPs regulations

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Abstract
Smart cities mission is the next generation cities phenomena. The Makeover from an ordinary city to a smart city also demands the interaction of technological modules with political and institutional modules. Political modules represent various political elements, policy agendas and politics that may affect the outcomes of Information Technology initiatives. Institutional modules are always inclined to remove legal and regulatory barriers. This research paper is an attempt to shed some light on what type of contribution such technologies may offer as well as on how their potential may be turned into reality i.e. vision of smart cities. The research paper intentionally attempted to draw the plight of 9/11 terrorist attack; how an attack thrashed the international trade; its larger impacts not only within a country rather than across countries; how an attack pull the consideration on the issues of safety, security and privacy of human race worldwide. Finally, the researcher finds the solution in smart cities mission; it is a city where information technology is the principal infrastructure for achieving a high quality of life for all citizens, maintaining international trade promotion and protecting the natural environment. Then researcher draws the link how the legal assessment of related legislations is prerequisite for the success of smart cities vision. The best part of this research paper is smart cities needs smarter laws to make them smart knowledge habitat.

Keywords: WTO, WTC, 9/11 plight, IOT, ICT, IT Act, 2000, cyber security

1. Introduction

9/11 was, and remains, above all an immense human tragedy. But 9/11 also posed a momentous and deliberate challenge not just to America but to the world at large. The target of the terrorists was not only New York and Washington but the very values of freedom, tolerance and decency which underpin our way of life.

Tony Blair [1]

"The world that was behind me when I went into school that morning was gone forever, and the new one waiting for me that afternoon was wildly different. From all points in Manhattan one could look to the South and see a huge plume of smoke hovering over the rubble where two towers once stood, two majestic American symbols representing both commerce in the free world and Democracy. Buildings that transcended width and height, real estate value and a prestigious office address. These towers spelled America; they spelled your name and mine. The air was exceptionally thick with the smell of pungent smoke from smouldering rubble. I'll never forget the acrid smell, the fearful and numbed look on people's faces, the sounds and the sour taste in my mouth." That morning terrorists gave their lives to cause those attacks [2].

Fig 1: 9/11 attacks the World Trade Centre [3]

In the year of 2017, 9/11 has become a forgotten story; today's world is prepared to prevent further ones. WTC association facilitates the services of all World Trade Centers throughout the globe. WTC have only concentrated on the delivery of trade assistance services and global trade promotion [4]. On the other hand, World trade organisation (WTO) [5] account for 90% of world trade. The WTO and its trade agreement such as TRIPs agreement explicitly faith in

WTC association's motto "Peace and stability through trade." These are not just amere physical structure rather more than a building or an organization, their businesses involved in international trade from around the globe. Thus the technical, physical and security features of maintaining, preserving, restoring and rehabilitating buildings, structures, and landscapes is essential in the free world and democracy [6].

The researcher here intentionally quote the 9/11 plight of WTC. The overall cost of loss in low estimate is approximately $35 billion dollars and the high estimate is approximately $109 billion [7]. This attack is the set example of mole in intelligence clearance. The cross purpose of drawing this picture is how an attack can trouble the entire international trading system and its impact on different economies of the world. The attacks were relatively small but could have been diminished further. This incident is a lesson for future efforts to reduce the economic consequences of such threats. So the researcher realised that to smoothen the path of international trading system from every kind of attacks and threats smart cities are the only solution. Now the time has come to lit the ideas and look into the concept of smart knowledge habitats to make a better and safer world. One World Trade Center [8] sets an example to combat the future destructions/ disasters and reach to trade prosperity worldwide.

Fig 2

2. Smart Cities are the Future of Tomorrow?

The concept of smart cities originated at the time when the entire world was facing one of the worst economic crises [9]. By the beginning of 2009, the concept had mesmerized the imagination of various nations across the globe. Smart cities are no longer the wave of the future. They are growing quickly as the Internet of Things (IoT) [10] expands and impacts municipal services around the globe. The smart city industry is projected to be a $400 billion market by 2020, with 600 cities worldwide. These cities are expected to generate 60% of the world's GDP by 2025.

While there are many definitions of a smart city, in general, a smart city utilizes IoT sensors, actuators and technology to connect components across the city and it impacts every layer of a city, from underneath the streets, to the air that citizens are breathing. Data from all segments is analysed, and patterns are derived from the collected data. In short, smart infrastructure enables smart cities [11].

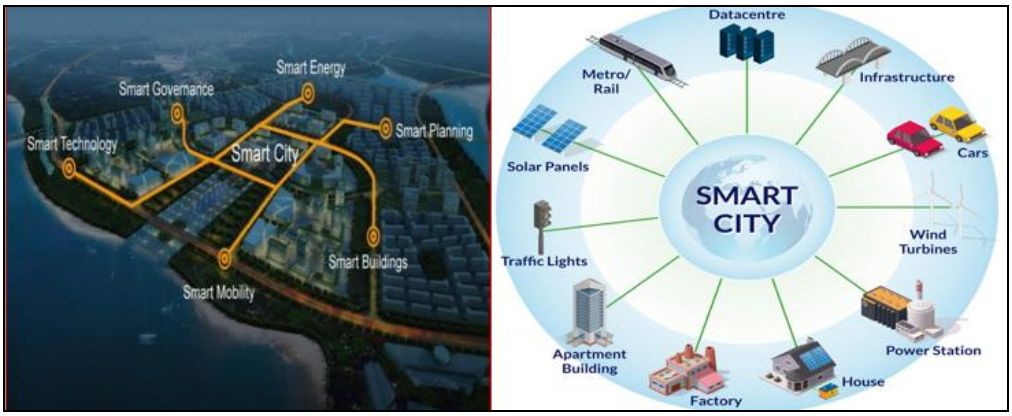

Fig 3: Migrating from a Traditional city management to a smart city management [12]

2.1 An Integrated Framework for Developing Smart Cities

An integrative framework is essential to explain the relationships and influences of smart city initiatives. Each of these factors is important to be considered in assessing the extent of smart city. The factors provide a basis for comparing how cities are envisioning their smart initiatives, implementing shared services, and the related challenges. This set of factors is a tool for success of different smart city initiatives implemented in different contexts and for different purpose.

Fig 4: Smart city initiatives framework [13]

It is expected that while all factors have a two-way impact in smart city initiatives. Outer factors (governance, people and communities, natural environment, infrastructure, and economy) are in some way influenced more than influential inner factors (technology, management, and policy) before affecting the success of smart city initiatives. Technology may be considered as a meta-factor in smart city initiatives, since it could heavily influence each of the other seven factors. Due to the fact that many smart city initiatives are intensively using technology, it could be seen as a factor that in some way influences all other success factors in this framework [14].

2.2 Role of ICT in the governance of Smart Cities

Information and communication technology (ICTs) [15] are key drivers of smart city initiatives. In the governance of urban areas, city managers are faced with the challenge of balancing three overriding concerns: achieving a high quality of life for all citizens, maintaining economic competitiveness and protecting the natural environment. It shows that more and more, ICT is becoming a vital tool in the governance of these concerns. The real smart city in fact will have to learn how to reconcile individual and collective needs, in other words to channel individual aspirations towards the creation of value for society at large through the attainment of economic, social and environmental objectives [16].

Despite proclaimed advantages and benefits of ICTs use in cities, their impact is still unclear indeed, they can improve the quality of life for citizens, but they can also increase inequalities and promote a digital divide [17]. Thus, city managers should consider certain factors when implementing ICT outlined some of the challenges of using technologies in smart cities [18]

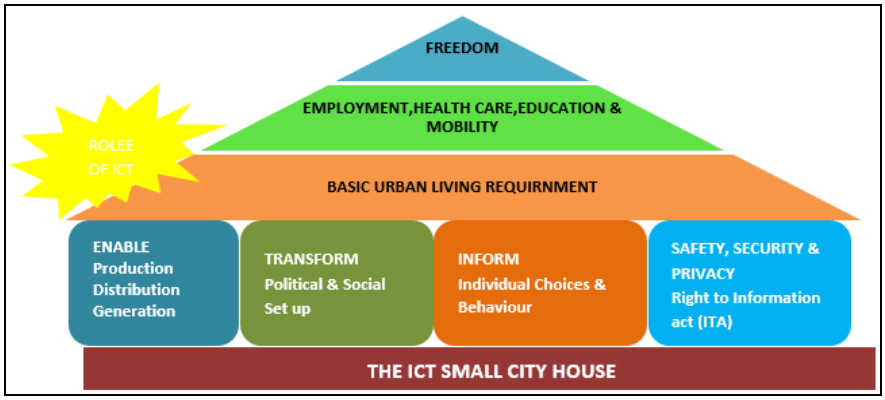

Fig 5: The ICT Small City House

3. Legal assessment of smart cities

The smart law plays a vital role to get ultimatum of smart cities. The operational framework of any smart city project is guided by the Companies Act. It envisages setting up of a Special Purpose Vehicle (SPV) [19] registered under the Companies Act. The SPV, incorporated at the city level, will have the state or Union Territory and the urban local body as promoters, having 50:50 equity shareholdings. As most projects in a smart city are going to be run on a public-private partnership mode, there are questions over access to citizen data and its security under current laws but still it is not sure if they would get explicitly covered under the Right to Information Act ? [20]

4. Provisions of the Information Technology Act, 2000 measure up to the challenges smart cities

Smart Cities entangled three Cyber security challenges i.e. Safety, security and privacy. Although Information and Communications Technologies (ICTs) have greatly enhanced consumer's capacities to collect, store, process and communicate information, it is ironically these very capacities of technology which make consumers vulnerable to intrusions of their privacy. The IT Act is only one of the various laws which safeguard citizens from violations of online privacy. In addition, in the domain of finance, for instance, various RBI regulations mandate strong security protocols with respect to data held by financial institutions [21].

4.1 Electronic Privacy

IT Act defines a 'computer resource' includes a "computer, computer system, computer network, data, computer database or software". It is evident that this definition is wide enough to cover most intrusions which involve any electronic communication devices or networks including mobile networks [22]. IT Act provides for both civil liability and criminal penalty for a number of specifically prescribed

activities which impinge on privacy directly or indirectly [23]. The instances of money laundering through e-channels for terrorist funding have assumed menacing proportions. Internet is being used as a secure means for internal communication among terrorists and also for hate campaigns through social networking sites. The potential damage on account of such attacks to the national security is immense [24].

4.2 Cyber security policy

Smart City Cyber Security is a National Security Concern. Authorities at the national level in numerous countries have also begun to take the threats to smart cities seriously. Cyber Security ensures that technologies and procedures intended to safeguard computers, networks, and data from unlawful admittance, weaknesses, and attacks transported through the Internet by cyber delinquents [25]. The Ministry of Communication and Information Technology under the government of India provides a strategy outline called the National Cyber security Policy, 2013 [26].

There was no statute in India for governing Cyber Laws involving privacy issues, jurisdiction issues, intellectual property rights issues and a number of other legal questions. With the tendency of misusing of technology, there arisen a need of strict statutory laws to regulate the criminal activities in the cyber world and to protect the true sense of technology i.e. Information Technology Act, 2000 was enacted to protect the field of e-commerce, e-governance, e-banking as well as penalties and punishments in the field of cybercrimes. The Act was further amended in the form of IT Amendment Act, 2008 [27]. The purpose of the government body is to protect the public and private infrastructure from cyber-attacks. Cyber security policy is a developing mission that tailors to the entire field of Information and Communication Technology (ICT) users and providers. Therefore, the aim of this policy is to create a Cyber security framework, which leads to detailed actions and programs to increase the security carriage of cyberspace [28].

5. Conclusion

We are eagerly waiting for the day when India will be called smart India as the smart Columbus. Smart Columbus has a vision that starts with the reinvention of mobility, which will lead us to a future beyond what anyone has yet imagined. The statement from India's Prime Minister about the 100 cities is keen interesting. Smart Cities too soon become a reality in India. But of course they may not be like Singapore, Sydney, San Francisco, New York, Hong Kong or Helsinki [29].

Smart cities schemes (SMS) Lagging now? - Smart cities schemes (SMS) are a set ahead to make India more economically brighter. These are not mere cities rather trading hubs for economic growth and sustainability through investment and innovation. There has to be better cohesion between the various organizations for urban development and planning. Technology can go a long way in helping realize the creation of smart, safe and sustainable cities. Every urban plan will need to have a long-term view only then will economic growth happen. A prejudiced approach can prove terrible.

The road ahead- The private construction companies have to come forward and developed or proposed to develop smart cities. The central government identified this issue and gave it a national thrust brought cheer to the general public. Public and private bodies must join hands and come up with smart, sustainable and long-term solutions. Flourishing and self-sufficient urban spaces will not only ensure inclusive growth but also contribute to overall economic advancement. The future of India lies in cities and if the country has to prosper.

In this paper the researcher does not intend to propose a definition of Smart City rather focusing on utility of Smart Cities in international trading parlance. The researches attempt to drag the focus on the safety, security and privacy of Smart Cities and that is possible only with the effective implementation of smart laws for Smart Cities to make them Smartest Cities.

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