

Muhammad the potential of the community to bounce



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Muhammad Zulkifli Amiruddin Architecture Department , Faculty of Design and Architecture, Universiti Putra Malaysia 43400 Serdang, Selangor, the modern days, Internet has always been an essential part of the daily life. It would help or aid human daily activity. Recently, there has been a new breakthrough in the tech world where the world has been introduced to the Internet Of Things.

It is a new kind of technology which integrate with sensors and microchip with their environment, where it is capable to adjust and adapt to the suitable conditions. This technology is apart of the new dimension of technology where it would help to enhance the user`s experience and also it would increase the quality of the usage itself. In this writing, it would discuss on how IoT would help to make the community more resilient. Specifically in the field of architecture, This technology would help a lot in many aspects. In creating a resilient community, it is important to create more job opportunities to strengthen the needs of becoming a self-sufficient community. This technology has many great potential in becoming the new platform of creating a resilient city and community. Keywords: Internet of Things, Resilient, Human Capital, Social Inclusive, Mechanism 1.

Introduction According to (Aravena, 2016) in a recent article, there will be 2 billion people migrating to urban area by the year 2035. This 2 billion people will be among 7 billion population of the earth in the future. The huge crowd shows the increase of density in the city by time, and this will eventually be a serious issue in the future. Certain cities are incapable of handling the stress of urbanization, making it less resilience or in other word, fragile. The consequences of the problem faced could immediately affect the people

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majorly in 4 dimensions; social, economy, political and institutional (Nosal, Patel &, 2016). The social aspect of upbringing a resilient community or city is fully reliable on the potential of the community to bounce back and recover from stress.

The highlight of discussing the subject matter of resilient is to discover the many possible ways to cope with the city downturn. Interestingly, in the era of modernization and digital, the entire impossible outcomes are seemingly becoming possible. Many new breakthroughs in terms of technology have been discovered and it has become a platform to aid us facing the challenges in becoming resilient. In this writing, the main agenda is to discuss on the possible solution in creating a resilient city in the dimension of social, through the digitalize platform. The paper would discuss on the uses of internet of thing specifically to the specific group user in a social community. Going through briefly, Internet of Thing is a technology involving microchip sensors are embedded in other technology devices, where it works in transmitting output data to the main server data for it to respond as the output. Interestingly, we are living in the time where most of the things are equipped with the technology without even noticing.

The first attempt of using this technology would track back to the invention of the Automated Teller Machine, a device which was once a complicated one which aims to aid people in their money transition business. Nowadays, we can see IoT is widely use in various field of life, things from smart watch, phones, smart home products and many more are now integrated to this technology. According to General Electric (GE) Internet of Thing would be a multi trillion business in the nearest future. This is an indication on how this <https://assignbuster.com/muhammad-the-potential-of-the-community-to-bounce/>

technology would have a major influence in daily life. By using this new breakthrough, there are possibilities to tackle the issue of Malaysia deficit in human capital, especially in the field of IT.

This paper would further discuss the correlation of internet of thing and how it would maximize human capital in many ways. 2. Literature Review 2.

1 Defining Resilient City “ Resilience originates from the Latin *resilio*, *resilire*, *reseller*, meaning to bounce back or bounced-forward” (Manyena et al, 2011). This is resilience define literally. But in the context of resilience city, there are many authors proposed a more specific and detail definition. Petal & Nosal (2016) stated that resilient city is associated with the city being resilience to any shock and stresses events. Initially, resilient city is measured by the ability of the city to cope with natural disaster and climate related hazards.

UN-Habitat (2016) highlighted the issue as one of the main major issue for United Nation`s New Urban Agenda. By addressing this matter, United Nation has firmly believe on the initiative of strengthening the resiliency of cities in matters related to climate-related hazard and natural disaster (United Nation, 2015). As time goes by, the concept of resilient has evolve and adapted to the status quo. When discussing resilient nowadays, there are several new dimensions or aspects has been add up other than just natural disaster. The scope of resilient has become vast in order to achieve a holistic concept of resilient city. Patel (2016) stated that other than natural disaster, there are certain journals and reports have also included political, social and economic aspect in the discussion to make it a more reasonable discussion.

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By including these new aspects or dimensions to the discussion, the context of resilient could be widen but specialized based on each dimension. In addition of the given definition, Vale (2014) also add up the argument by stating that all the dimensions of resilient city is been measured based on the response of disturbance towards the dimensions itself. The term resilient was originally derived or discussed as fragile city. De Boer, Muggah & Patel (2016) had developed some important framework and indicators for fragile city.

The vast rapid of over population of certain fourth world country or undeveloped countries does compromise the urbanization of these countries, as they are not capable to cope with the shock and stresses(De` Boer, 2015). Harris, keen & Mitchell (2013) urged for a significant change for these fragile countries to cope with the urbanization affect as by the year 2050, a projected number of 80% people would be living in the main city area. Fragile city and resilient city would both work hand in hand in other to describe the resilient of a city.

Resilient and fragile city are both relatable, and are required to support each other in defining what a resilient city really is. Initiatives to invest in resilient city are important. (Muggah & Savage, 2012) highlited the issue of Urban Disaster and Violence are in the agendas of humintarian and development agencies. This indicates for resilient programs to be implemented in countries nowadays. 2. 2 Social Dimension in Resilient City Patel and

Nosal (2016) suggested that there are several other key components in social dimension which include Human Capital, Lifestyle and Community Competence, Society and Economy, Community Capital, Social and Culture
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Capital, population and Demographics Environmental and Risk Knowledge. According to The Rockefeller /Arup framework`s, City or municipal leadership is crucial in driving the city towards the status of resilient. World Bank(2015) agreed on the statement by adding the role of a strong civil society and community networks.

World Bank (2015) outlined some important aspect in measuring the success of the social aspect such as income equality, low poverty rates and high access to markets and employment. 2. 3 The Role of Internet of Thing (IoT) in today`s society. Boulos, Tsouros & Holopainen (2014) claimed that nowadays, the society happiness level are influence by the internet speed. Internet of Things (IoT) is a self configuring and adaptive system consisting of microchip, networks of sensors of smart objects interconnected to each other objects ingiving responds to the manufacturer and humans (Boulos, Tsouros & Holopainen, 2014). The idea of Internet of Thing Is to make the city more smart, efficient and enable to respond towards crisis effectively. By having a smart sensors technology in smart homes and cities, it is able to provide a maximum health and social care services, and are able to create an active living opportunities that meets the requirements of the public (Boulos, Tsouros & Holopainen, 2014). IoT is seen as an effective medium in creating awareness for the public in many aspects, that is why, there are many cities nowadays in Europe especially had already practice this technology.

Places such as Nice in France, Hamburg in Germany and Milton Keynes are in the stage of development of this new technology aiming of making the city more resilient (Boulos, Tsouros & Holopainen, 2014). This can also be <https://assignbuster.com/muhammad-the-potential-of-the-community-to-bounce/>

proving by the implementation of IoT technology in Barcelona. Boulos(2014) wrote on how Barcelona has started to use IoT in increasing the quality of the city especially aking the city more greener.

2. 4 Managing IoT The important factor for the implantation of this technology is to have a superfast internet connection. Boulos, Tsouros & Holopainen (2014) stated that smart cities related programmes require superfast internet infrastructure.

Superfast internet connection is the backbone for the implementation of the IoT programmes. To have this ultra superfast connection, an amount of money must be invested. As for an example, United Kingdom`s government has invested an amount of £ 146 million in the Highlands and Islands (Boulos, Tsouros & Holopainen , 2014). Other than that, a specialized bandwith management in order to catter specially for critical emergency or health applications (Boulos, Tsouros & Holopainen , 2014). 2.

5 Social inclusive through IoT platform All parties including the community, government, NGO and etc supposed to work hand in hand in order to achieve the resilience city status, (Petal & Nasal, 2016).

Deakin(2014), stated the issue faced by Craigmillar city, which was one of the fragile city listed. The main issue was the exclusion of the community in the city. Knowing so the problem, It is an interesting to implement the idea of IoT in the society of Craigmillar, as it could be one of the best possible solutions. IoT is able to response to the adversity faced by cities (Boulus, 2016). It is possible to implement any appropriate IoT programmes, to the city so that it could positively respond to the problem. 3.

Methodology The topic is more to a conceptual study. The whole idea of the research is more toward a perspective view and prediction. To anchor any of the views, many research and readings have been carry out in order to come out with a hypothesis of the research. The most appropriate methods to carry this study are to have a qualitative approach.

3. 1 Written report and Data The starting point of this research is going through some reading materials. This enables to have the bigger picture of the issue. There are two different field of study in this research. One is related to architecture and another one is digital technology. What triggered the study is the lack of research or study on the potential of Digital Technology integrated to the design in coping with resilient city issues especially in the dimension of social. Although the intention is an ideal concept but if break it down to smaller elements, it is possible to search for the related resources.

Other than journals, there are also some reliable sources of information obtained from the printed and digital materials. The gist of the search is mostly to search for information regarding Information of Thing (IoT), Resilient city, and also architecture. By obtaining the information regarding the three subject matters, a further discussion has been made to correlate the three subject matters.

3. 2 Precedent study Acknowledging the status quo of certain cities which has implemented Internet of Thing (IoT) in making a resilient city would ease the research. Cities such as Barcelona, and London has put the technology up to test in making the city more resilient. The focus of studying the cities is to see the Standard of Operation

(SOP) to conduct the technology in the cities, knowing whether it would work well or not in any conditions.

Going deeper into the readings, there will be certain matter that would have impact the research later on, especially in adjusting the technology into Malaysia`s Landscape. Based on the research, European countries offer a better Wifi connection compared to here. The fact would lead to the difficulties in optimizing of IoT holistically in cities in Malaysia, especially in the Klang valley. The information obtain would later be discuss in the discussion. 3.

3 Site Analysis The main objective of site analysis in this study is to study the macro and micro level of the proposed site. By having this information, it would later be classified into chunks of related information which would help to further in the research in terms of adjusting the IoT in cities. 4.

0 Results and Discussion The data obtained is to show and prove how IoT would be a great medium in creating a more resilient community. The first data is to show in general how IoT are capable in shifting the current market trend maximizing the business industries and also help to reduce carbon footprint. In general IoT is the new thing. It is something which is integrated with microchip sensors to ensure that machines or objects respond accordingly and effectively. This technology is predict to be one of the most important inventions in the future apart from Virtual Reality and Augmented reality. In general the, below infographic is summary of data on what is capable to be achieve by the usage of IoT.

Figure 1 (Contributor, How Internet of Things Increase Efficiency Across Industries) In terms of architecture aspect, IoT is mostly used in buildings in the aspect of energy efficiency. This is mostly the main aspect where this technology is applicable. Relating to the topic of maximizing human capital through the usage of Internet of Things, people are able to actually be inclusive in terms of the implementation of this technology. Either being the consumer or even the producer. There are many possibilities in this new breakthrough of technology, and there are many great opportunities for people to venture and explore in this field. There are also some great ideas on how this technology are capable in generating income. This would be one of the ways on how to increase human capital, as they are many social and economic potential in this field. Other than that, the usage of IoT is linked to the smart building system.

This technology has a wide opportunities to be explore. And this would lead to more great potential in maximizing human capital. In smart buildings, it is been integrated with sensors and microchips. This microchips and sensors could be explore and further study so that the quality could be improved and for various more reasons. In this context, the main concern is to study the capacity to cater the needs to implement and improve this technology. This means that it requires more human capitals and this would create more job opportunities. This condition would mean that more people are able to be employed in this field thus making a society which are financially stable.

This would create a city of resilient social group, Or in other hand, it would make a resilient city. On another aspect, IoT is consider as a

technology which is able to be used as a socially inclusive medium. This <https://assignbuster.com/muhammad-the-potential-of-the-community-to-bounce/>

means that the technology is able to be access and used by the public. The idea of inclusive is a very wide and broad concept, but at this part, it would be more on consumer based products, meaning that, the IoT proposed is more towards the concept of people controlling the objects or machine. A simple example for this idea is the concept of flexible technology, meaning that the consumer are able to control any items or objects such as furniture according to their needs. This is another branch of smart buildings concept but it is more complex from the previous discussion. 5.

0 Conclusion In the nutshell, IoT is a technology which offer great opportunity and prospect for the future. It is believe to be one of the most important breakthrough as it would help to make on the daily life more efficient. In making the city more resilient in terms of social dimension, IoT is believe to be a medium to enhance the social community. Even though there are many restrictions and difficulties in carrying out this technology in terms of the mechanisms and also financial aspect, it would still give a positive impact for the community in making a more resilient social community group.

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