인구 고령화에 대응한 스마트시티의 함의 탐색
Implication of Smart City in Adaption to Silver Population

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ABSTRACT

The research proposes theoretical recommendations for Smart City that targets elderly citizens. The elderly citizens in question are people currently in their mid-50s to early 60s, in order to adequately employ futuristic technologies into four major sectors: healthcare, post-retirement employment, community-based governance, and environment-friendly infrastructure. The research concludes that the technical application of welfare to the elderlies through constructing a purposeful Smart City is desirable, environmental consideration should come in prior concern as a sustainable foundation.

I. INTRODUCTION

Redevelopment of old cities is trending around the world, where implementation of Smart City technologies is becoming more frequent. It is important to note that those technologies are primarily installed with a purpose, which is to improve and enhance citizens' life and to inform them of necessary data more coherently and concisely. As ageing population is a new and upcoming trend that the global population is anticipated in a matter of a few years, many technologies that are geared towards supporting the elderlies are already in place. Therefore, special needs that emerge especially for the elderlies, such as health, transportation, and eco-friendly environment must be combated through the means of appropriate technology. Within this research, a Smart City that targets ageing population or silver population as their main citizen group will most likely to serve as an alternative solution for the future society. This research investigates the implications of existing Smart Cities in theoretical terms in order to reinforce and enhance any ambiguities the definition of Smart City currently has. Through such investigation, this research will construct a strong foundation of a new Smart City design that targets the ageing population.

Ⅱ. BACKGROUND

1. Smart City

Smart City is an entity that pertains to the four characteristics; urban infrastructure, sustainable development, modern communication channel, and autonomous governance[1]. Urban infrastructure is a basic component for all human living environment/ civilized environment, however, its efficiency and quality can vary depending on how developed the environment is. Sustainable development refers to a new balance between the use and the preservation of nature's potentials and resources[2]. Modern communication channel is a term used to describe a mode of communication that facilitates participatory action an engagement in a modern way. These can include video conferencing, live web chatting, email, texting, phoning, and social media[3]. Autonomous governance is a central concept of Smart City. Many of Smart City definitions include this concept of autonomy and cooperation that includes active engagement of the citizens from within.

2. Ageing Society

In Korea, people that are 65 or older comprised of 11% of the population in 2011. What this demographic show is that Korea is in great need for strategies for supporting and aiding the ageing society. As the most advanced country in terms of ICT and technology,

identifying the most vulnerable sectors of ageing population and attempting to solve them through the utilization of digital intelligence seems to be the most urgent task at hand. It is important to note that the age group in the target are those who were born during 1955-1963, so called 'Baby Boomers' Baby boomers will be able to handle the forthcoming turbulence of change, that is not only limited to technological aspect, but to every single sector of human society, increasing the need to expect new customs of life that no longer mirrors that of their parents. They are especially significant in that they will be one of the major agents that will be able to freely experiment with forthcoming changes with the assets they have accumulated up until now. The amount of assets baby boomers accumulated during 1990-1997 amount to 65% of the total economy, indicating their financial capacity to invest in the future economy[4].

Ⅲ. HARMONIOUS SMART CITY

Health and Wellness: The major social problem the ageing population is faced with health-related issue. In this context, collaboration between bio industry and Smart City is needed. The most needed health care system in future Smart Cities targeting the elderly citizens will be the monitoring system that allows the elderlies to collect real-time data on their health status and get recommended what actions are to be taken. The remote technologies and prediction of future health and its costs are important in that it reduces the dependency on doctors and allows the elderlies to manage him/herselves.

Post-Retirement Employment: The increase of life expectancy and the decrease of fertility rate demonstrated huge economic challenges, that is, reduction of working age population which leads to higher dependency ratio. A rapid and drastic movement in demographic model yields for structural change in society. This shows that an extending the mandatory retirement age and devising post-retirement job plans are necessary. Smart City, in this context, can serve great opportunity for elderlies to participate in social works and education-related markets. Community-based Governance: It is the cornerstone of Smart City. It is only when a citizen-driven control is achieved the concept of Smart City is fully established. There are three generations of Smart Cities[5]. The third and the most advanced version of Smart City had the outstanding characteristic of citizen co-creation, meaning it aims to integrate citizen involvement into the bigger picture. This is significant in that the nature of individual cities can transform according to the major needs of the citizens that live inside of the city. City for elderlies, therefore, would be generated by the elderlies into a more applicable city for their own needs.

Ⅳ. CONCLUSION

This research successfully outlines the internal and infra-structural needs of Smart City that targets silver citizens. Through an elaborate study on Smart City and ageing population, it was possible to deduce four sectors that should be in great consideration when planning for Smart City for elderlies. Those sectors are as follows: health and wellness, post-retirement employment, community-based governance, and environment-friendly infrastructure. It is integral to note that environmental concern should not be overlooked by the adoption of rapid technological advancement.

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