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A New Paradigm[1]

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ABSTRACT

China's aged population has increased dramatically. Because of the one child policy, China now has fewer and fewer children able to support the elderly. The care of China's elderly is a huge challenge which requires the exploration of all kinds of elderly care models through intelligence and information management technology advances. With the evolving field of Information Management and with the development of newer and cheaper technology, the time has come for a paradigm shift to be explored. A shift in the way China is managing its technology and culture expectations is necessary to address this unique need. This paper carefully explores possible paradigm shifts which include the combination of cultural expectations, integrating technology, government involvement, health care providers and information management.

The paradigm shift uses the work of Davila, Epstein and Shelton (2006) to help develop a Service Innovation paradigm working along with Business and Technology Innovations for the elderly in China.

Keywords: China Elderly care, Paradigm Shift, Technology, Knowledge and Information Management, Government

INTRODUCTION

Knowledge management has been building on theoretical foundations from information economics, strategic management, organizational culture, organizational behavior, organizational structure, artificial intelligence, quality management, information management and organizational performance measurement for the past decade (Baskerville & Dupliovic, 2006). Technology innovations can strengthen the growth and productivity of a country and increase national productivity through the creation of new ideas and opportunities (Wahid, Ismail, Wanarat, & Laohavichien, 2013). The World Health Organization declared in their constitution in 1946 that "Health is a fundamental right of every human being, without distinction of race, religion, political belief, economic or social condition" (Kennedy, 2009). Caring for the elderly is managed differently in countries throughout the world. In China, health care is both a fundamental human right of elderly humans, but also reflects the social civilization (IBM, 2006). China is unique,

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especially when compared with Western civilization, because of the traditional components. For the first time in its history, China is experiencing a major social transformation. This transformation precipitated because of the one-child policy almost 30 years ago. As we all know, China is the largest populated country in the world. Its elderly population is rapidly increasing which results in China's population structure undergoing major adjustments. At the end of 2014, China's elderly population (over 60 years) has reached 212 million or 15.5% of the total population. According to the National Health and Family Planning Commission, "Chinese Family Development Report 2015", "empty nest" or people living in their homes after the children leave, account for half of the total elderly population. The aging population in China is facing an accelerated increase. It is predicted that by mid-century, the number of elderly will peak, more than 400 million. That is a ration of three adults for each elderly person. China's care for the elderly is facing increasingly more problems and challenges. At the same time, China's care paradigms are constantly experiencing with new adjustments to meet the needs of the elderly and resolve this concern.

CHINA'S ELDERLY CARE PARADIGM SHIFT

The first thing to understand is the impact and importance of the traditional Chinese family care. In Western civilization, due to the strong individualistic culture, the basic starting point for the elderly people is focused on the individuals and their choice. This care is then supplemented by the unified national care system and/or the differentiated business insurance services. Of course, this is founded on the basis of the developed economic wealth and social service capabilities (Sharp, 2006). China is changing from an agriculture society to an informational society with the goal to achieve "modernization" found in the Western world (Chinese, 1998). China was once "a state with filial Ruling." Home is viewed as the center of their daily activities. Additionally, "country" and "home" are regarded the same, thus cultivating a Qijia Zhiguo Pingtianxia. In China's small-scale peasant society, the family is the foundation of society and is the most basic unit (Martin, 2009). Moreover the old man has a very special place in the Chinese family and culture. The elderly put all their dedication into the "home" and care of the children during their senior years and then they rely on "home" to provide care for them, see Figure 1. Basically, the care for the elderly has been left to their children (Custer, 2009). China is the world's most populous country and the social system for child care has been the elderly family members who are very social and greatly enjoy being involved in the lives and instruction of their grandchildren. This "family care" mode has been dominant throughout the history of China.
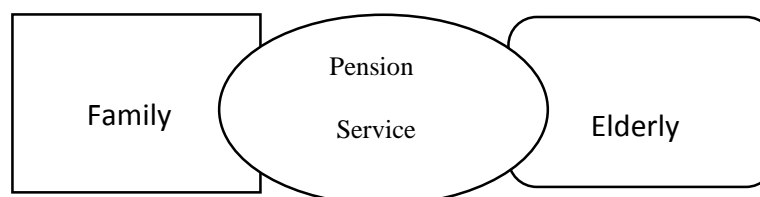

Figure 1: The family care paradigm.

The second important care paradigm is Government Care .The family care paradigm is compatible with China's agricultural society and efforts not to place a burden on the government and to help to promote social morality and social governance. So it is long-term presence in Chinese society. But since the 1980s, China has begun to reform and open policy. More and more people began to

go out to outside of the agricultural society and simultaneously the government began to promote government care in order to reduce the resistance to the one-child policy. Therefore, a new kind of care paradigm emerged in China. The government and family jointly support the elderly. This was the first time that care began to become a responsibility of the government which added another layer of security for the elderly, see Figure 2.
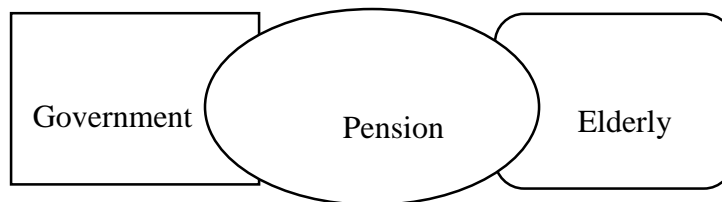
Figure 2: The government care paradigm.

The third important care paradigm is Government Care. Government Care never really formed as a separate care system. It is very limited and was enacted to help initiate the one-child policy. In the 1990s, the government began to establish a market economy where individuals were considered to be more responsible for their own care. So a large number of older workers were pushed into the market because of the state-owned enterprise reform, government and enterprises no longer accepted responsible for their care. In the absence of the traditional welfare system, the basic needs of the elderly were no longer being met. The elderly needed not only money, but a variety of other services. So the institutional   care paradigm emerged, see Figure 3.
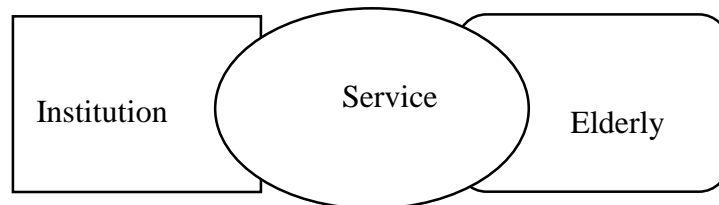
Figure 3: The institutional care paradigm.

The fourth important care paradigm is Community Care. The Institutional Care for the elderly provides professional services and greatly improves the efficiency of care services. But it is inconsistent with the traditional Chinese culture of family and it is viewed as very inhumane because the elderly patriarch's care is being met away from the home. This aging generation is not familiar with these care institutions and they have never been a part of their cultural expectations. Often these facilities lack professional oversight, training, and care management. Reports of elderly abuse have been documented. More and more elderly people prefer to stay in their familiar communities and families rather than care institutions. So, the Community Care paradigm emerged, see Figure 4.
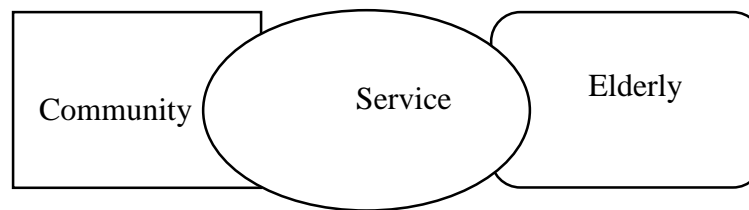
Figure 4: The Community Care paradigm.

As we had mentioned earlier, with the social transformation, China had developed diverse pension paradigm on the base of Family Care. They have developed a "family care" (very small amount of money) for the elderly and which is one of the few social care models available to the people (Cares, 2012). With the further development of the market economy, social changes, and Chinese-style "family care" model, a new model of "community care" and "institutional care", etc. has evolved (Custer, 2009).   With this evolution has come great hope for transformation in the care of the elderly.

However, the changes have not moved quickly enough. Demographic movements in China are changing far more rapidly than in other countries with a sharp increase in the aging society. Despite the success with current reforms and advances in the economic and technological fields, there are still many areas of concern. Especially in the changing care of the elderly, there have emerged new and unprecedented challenges. The Chinese tradition of caring for the elderly that has been in place for thousands of years has begun to experience grave challenges. There is also a sharp reduction in the working-age population.   Since 2012, the percentage of the working-age population (ages 15-59) experienced an annual two million reduction in size from three million. In 2012, individuals over the age of 65 accounted for nearly 15% of the population.   In 2050, this age group is expected to reach 33%. Efforts to modify or change the "one child" policy have been very difficult to initiate due to the increased concerns regarding changes in the traditional family supervision of the young children. Additionally, Medicare payments are facing a deficit due to the declining labor force, yet the demands have continued to increase for medical and health care providers. These concerns will only hinder the availability of medical services. The children of these elderly also find themselves facing challenges such as the necessity of moving to new places for employment, the high cost of living, jobs requiring a greater commitment of time, etc. These considerations limit their ability to care for the elderly in their home. The elderly are also requiring more services, such as nursing, which depletes the family's financial resources. China is faced with the challenges to provide a new home care model that may include in home services or institutionalized care that is financially feasible.

This situation has led to numerous conflicts. Most notably in rural areas faced with the tragedy of suicide among the elderly. The career focused Chinese society is faced with the reality of the aging population who, in turn, feel pessimistic about their future care. It is estimated that by the year 2050, that there will be some 400 million people over the age of 60 from the current 128 million elderly (Custer, 2009). The elderly have traditionally resided with one of their children. But this is no longer feasible resulting in the need for a paradigm shift to take place. With the emergence of knowledge management and with new information and integration of network technology,

change within China's care model is not only attainable, but necessary. This figure represents the government providing monies (care) to the elderly to manage their own care. However, these provisions are often insufficient.

CHINA'S NEW ELDERLY CARE PARADIGM SHIFT

China's modernization coupled with the emergence of a new network of information technology (including the Internet, social networks and other technology-based service models,) allows for a modern care program with networking that includes: radio frequency identification technology, infrared sensors, global positioning systems, laser scanners and other information sensing devices. In 2012, China began to implement the concept of a "smart city" which is focused on the care of the elderly using technology (Xi, Ren, & Zhai, 2014). The idea is to use networking to help in intelligent identification, positioning, tracking, monitoring, management, and ultimately intelligent networks with the automatic exchange of information between all parties. These networking programs will share a common set of protocols specifically to meet the needs of China's care model for their aging population. Additionally, the designs of social networking will bring these resources to the individual with an increase awareness of available services, software, and websites. This will allow for the monitoring and increased services to meet the needs of the elderly in remote area. This use of advanced management and information technology, such as sensor networks, 3G/4G mobile communications, cloud computing, WEB services, intelligent data processing and other IT tools, will provide the link between the elderly (families and relatives), and the government, community, medical institutions, medical personnel, etc. The capacity to meet the care services in these communities will greatly increase through the integration of these internal and external resources, see Figure 5.
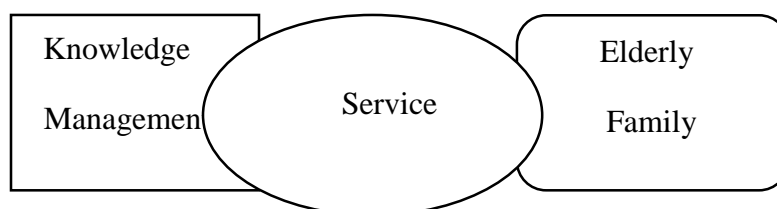

Figure 5: The knowledge and information management paradigm.

It is important that China's elderly feel empowered in order to meet their personal needs. Integrated technology allows the elderly the same affirmative function in decision making as the young. Technology integrated service systems can instantly find and identify the needs of the elderly through risk signals that allow them to meet their own needs and select a variety of life factors at their disposal to enhance their basic self-care and maintain successful independent living. Technology can provide support for the independent elderly by transmitting signals to service providers for specific needs along with quick feedback. This enables to elderly to make decisions for themselves based on immediate and vital information regarding their health needs.

Thus, using the framework of Davila, Epstein and Shelton (2006) it is readily apparent that innovation performance can be controlled and improved upon when properly managed. The idea is to "Bridge the Gap" with the concept of Service innovation (see Figure 6) while controlling and improving upon the business model and use of technology. In this new paradigm, the Chinese Government and Healthcare Providers represent the Business Model Innovation ideas, while the

Elderly and Family side represent the Technology Innovation ideas. Thus, by managing the Business Model side and the Technology side with Knowledge and Information Management concepts, the elderly will have better care.
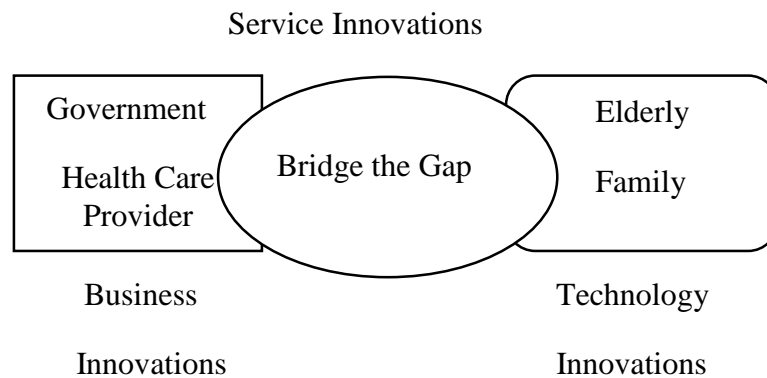
Service Innovations

Figure 6: The service Innovation paradigm for the elderly. (Source: Davila, Epstein & Shelton, 2006)

THE PARADIGM SHIFT BY INTEGRATING KNOWELDGE AND INFORMATION MANAGEMENT

To better understand the new paradigm, the service innovation area is further explained. The idea is for Service Innovation to concentrate on taking care of the elderly by looking at these six areas (Davila et al., 2006).

1. Customer Experience
2. Brand Value
3. Value network in the Supply chain
4. Ecosystem of value offerings
5. Buyers and influencers
6. Marketing methods

These six areas can be grouped together in their respective areas of Business or Technology innovations down to three manageable concepts as shown in Figure 5.

The Business innovation side provides the nucleus for such concepts as "Value Proposition," Value Network," and Target Customers." The Value Proposition is to help manage the Customer Experiences in the care of the Elderly Patient. Brand value is to help develop recognizable images for the government. With the Value Network, the business innovations are to be concerned with a constant supply of healthcare professionals who can help with the problem and a General System or Ecosystem in place to meet the demands of the supply. Target Customers are concerned with the marketing to those who are responsible for the healthcare in their system. Thus, the business innovations include areas of specific consideration for the Chinese government.

In the Technology innovation side, the primary focus is with the "Service", "Process Technologies," and "Supporting Technologies." The Services area is to help the Elderly to take care of themselves with the use of new technologies. Process Technologies is concerned with all of the new innovations that are being developed year-by-year with the ability to see how the technologies can be integrated into usable formats in each of the value chains in the knowledge management based service systems. Supporting Technologies are devices which can be integrated into the system along with the new developments in healthcare to support elderly's social and medical needs.
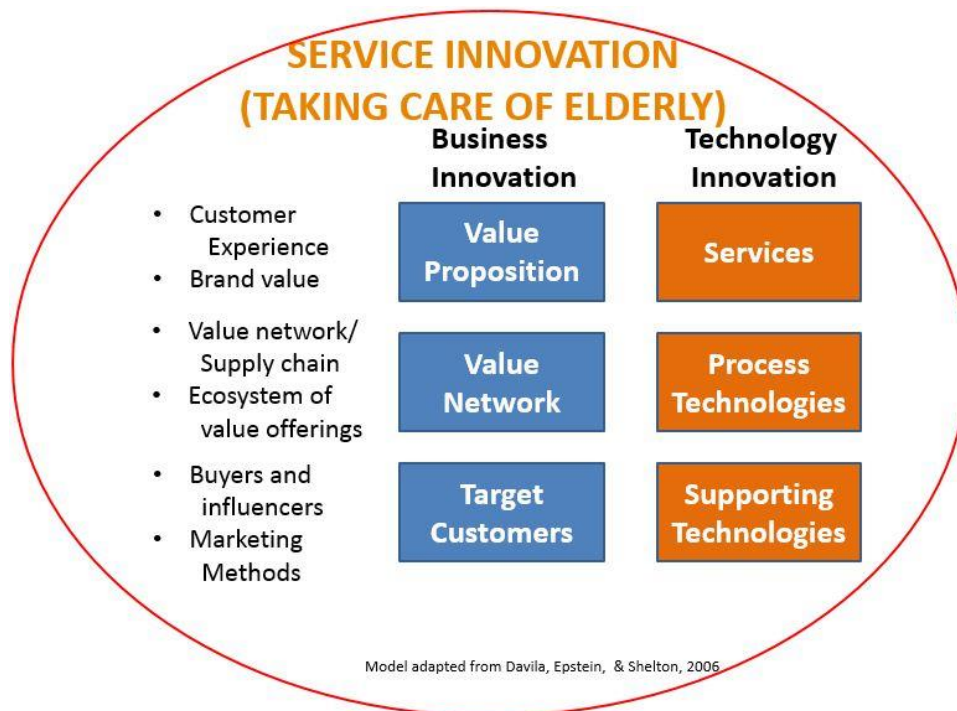

Figure 7: The Service Innovation paradigm shift in greater details.

CONCLUSION

Knowledge management is a combination of many theories and ideas from many disciplines to help solve various problems with the use of technology and is based on General Systems Theory (Alter, 2001; Ackoff, 1971; Chung, Fisher & Wand, 2005). The younger generation has been taking care of their elderly parents for generations, but now the number of elderly is increasing and the number of children has been decreasing in China. Over the past few decades, knowledge and information management have been used to help solve problems in the social structure of society with the innovation of technology (Alstyne & Brynijolfsson, 2005; Fitzpatrick, 2000; Mingers, 1980). The time has come to apply these theories and technologies to the problem in China for the care of their elderly. Using the works of Davila, Epstein and Shelton (2006), a paradigm is proposed which help to emphasize a conceptual framework. The paradigm looks at the problem from a Business and Technology innovation problem. The paradigm presents a service innovation concept for taking care of the elderly. Six different elements are suggested for consideration.

The application of knowledge and information management needs to starts helping the society, not only business. With 128 million elderly now in China with the prospects of going up to 400 million in the future, innovations need to take place at an increased pace. Now is the time for researchers and presenters to address this need and successful outcome options.

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