

# Chinese Aging Population: System's Paradigm for Ideal Elderly Practices

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## Abstract:

*The growing elderly phenomenon is seriously affecting social and economic development issues in China. Even after having implemented ample favorable laws, Chinese elderly are still suffering. Due to longstanding childbirth policy, increasing elderly population and imbalance rural-urban treatment of the elderly, the current intensifying situation senses China in a spider web. Confucius taught ethics losing its roots, and elderly population tends to become an additional burden. This paper math out a general broadly viewed Elderly Peace Space System (EPSS) framework that may have answers to the frantic difficulties. It aims to change the current psycho-social practices of the elderly in China. It puts an idea of a government controlled centralized institutional framework having integrated services and having Elderly Welfare Cottage Industry (EWCI), which contributes in transforming imbalance elderly services to balanced services, shifting perception for the elderly from being an economic burden to economy supporter, and changing the elderly "material and money" support to cultural support of filial piety.*

## Keywords

*Elderly care; Dependency burden; Integrated services; Economy supporter; Social identity; Welfare cottage-industry.*

## 1. Introduction

According to recent statistics, the estimation of the elderly population aged 60 and above in China was 222 million (16.15% of the total population) in 2015, that could reach 248 million by 2020 (17.17% aging level). It is further assumed to stretch to 300 million elderly population in 2025, making China a super-old country. Considering the increase in family planning measures since the late 1970s, it is predictable that by 2040 China's aging inhabitants will reach its peak before it moves on a deceleration epoch, [1, 2]. Please refer table 1 for a more clear understanding of the increasing elderly population and their dependency ratio.

**Table 1: Elderly population with dependency ratio**

Age	Category	1980	1990	2000	2010	2020
65 and over	Population (10,000)	5968	8679	11894	15003	137702
	Proportion <sup>1</sup> (%)	5.4	6.9	8.9	13.1	17.2
	Dependency <sup>2</sup> (%)	8.3	10.2	11.9	15.0	21.0

\*Highest numbers of population and proportion are considered as in decades and approximation is taken for the year 2020.

1 It indicates the total elderly population in China.

2 It indicates the older adults proportion of total Chinese population.

The signs of the aging population are not old. Considering the developed countries around the world, many have entered the stage of the aging population; Japan is the most top-ranked aging country with the fastest aging pace in the world. However, problems due to aging population differ from country to country due to its government policies, cultural norms, and ethical values. For detail understanding of the effects of aging on developed countries around the world, please refer to Senaka Fernando et al.; Aaltio et al.; CIIN (a,b,c) [1, 3, 4, 5, 16]. An undeniable fact is that China's population is aging rapidly; nearly 25,000 people cross the age of 60 every day. By the year 2030, China will experience the peak of aging that may last nearly for forty years. Around 2024 to 2026, the Chinese aging society growth will roughly have the same pace as Japan. It is estimated that by the year 2050, the dependency ratio will be changed to 1.5 from the current three to one retiree, [1].

The causes of the aging population in China are complicated. On the one hand, from the 1970s till now "the one family one baby" policy has reduced the fertility rate. On the other hand, due to the rapid economic development, the living standards have been improved. Due to the advancements in modern medicine, the average expectancy of old life has been improved, although not all tend to avail these advancements because of imbalanced development in rural regions, [7]. Hence the demand for old age services is gradually increasing further. Moreover, China is at the end period of the demographic dividend and is entering a stage of mild aging; the accumulation of material wealth is relatively insufficient. It is difficult to meet the growing

demand of aging with the total amount of existing pension facilities in China, [1, 4].

The speedy aging population has brought tremendous pressure on economic and social development. Due to poverty, aging at home has become another issue, and the elderly cannot afford better treatments. Lack of elderly care co-ordinations cause high readmission rates and build pressure on hospitals. Especially in underdeveloped regions, developments cannot meet the need of the elderly. The prediction for the next 40 years tells; when China will reach the peak of the aging population; it will also be a period of maximum pressure on the economy and social development, [7].

Nowadays, the trend of old age institutions is increasing. There are many welfare institutes in China working hard to cope with elderly miseries; the government has also taken proper steps by rewards and giving perks to these institutes to expect in return superior services for Chinese elderly. However, the fact is, where the aging population of China is becoming a significant issue in terms of health care and economy burden, many take it as an opportunity to make more money. The care of the elderly is becoming materialistic, that is money support instead of traditional care that involves emotions. On the other hand, it does not matter how good the institutes and their services are. The confusions concept that the Chinese are raised with stays alive. The feeling and sorrow of their children not around causes great difficulties to the elderly who has mental illnesses like short memory, and dementia. If we have a glance of natural human phenomenon, Elderly parents had controlled their stomach for the sake of raising their children in a better way, now what they expect in return is their time, which makes them happy. Not everyone but some elderly understands that they should not disturb the lives of their adult children and they try to be happy with alternate solutions, [7, 23].

Our contributions in this paper are that we bring a paradigm shift in current elderly services along with an idea of the Elderly Welfare Cottage Industry (EWCI), which in return supports the integrated medical and social services for elderly. This paper thus proposes a new Elderly Peace Space System (EPSS) framework that consists of four stages. We refer them as 4P stages; these are Pre-Knowledge, Pre-Determined, Permission and Pleasure. This framework includes a broader but stronger integrated system that contributes in three ways: 1. Shifting elderly population to economy supporter instead of them being an economic burden; 2. Shifting elderly psycho-social imbalance care services to actively integrated balanced services and 3. Transforming old age care from "material and money support" to "traditional cultural care of filial piety." Furthermore,

This framework demands policies that attract and enable three sides - the government, the welfare cottage industry and the elderly - to play their role in order to reach the pleasure of healthy life and social recognition of the elderly.

This paper initially reviews the current literature of elderly sufferings, attitudes towards aging, and current practices for the elderly. Different frameworks have also been studied. Then a new EPSS framework is designed, and its practicality is discussed. The later of this paper consists as follows: The importance of paradigm shift, home and abroad literature, the design approach, practical framework and its benefits, and conclusion.

### **1.1. Why Paradigm Shift is Important in Current Elderly Practices**

To discuss why there is a need for a shift in current elderly practices in China. First, we must know our target age of people who are the working class now, but soon, they will become pensioners. Second, we need to understand what is quality of life, and what are the issues that arise with aging; which will ultimately let us understand the importance of paradigm shift proposed in this paper.

**Quality of Life:** Generally, the quality of life also vary from country to country as per its values, goals, and socio-cultural trends. The adopted standards that contain the level of the expectations of an individual or a society will be subjected to a useful life, which will ultimately result in life satisfaction. Every generation grows up in a different financial climate with evolving technological advancements, and they have particular preferences. Which effects their financial attitudes and their transforming opinions of institutions, [30].

**Technological Awareness:** Today's Chinese elderly are of mixed expertise, some are very much mature and expert user of today information technologies, but many are not aware or do not bother to get aware of today's advancements (mostly the rural regions elderly). Because the elderly in country sides and rural districts are mostly the ones who face imbalance development of societies and because this paper is meant to provide a platform that offers equal opportunities to all elderly. It is essential to know our today's young adults, who will be in the old age category in the next 5 to 10 years. Moreover, they are the generation that can adapt quickly to any computer technological implementation.

We have to consider the portion of generation 'X' and generation 'Y' of China to understand that this is the right time to adopt a framework that can provide

economic support and better elderly care services at the same time. Because 2030 will be the year when China will have the most elderly and less working-age people around. In 2020, China will have the maximum population with the age of 30-34 years, accounts for 4.7% male and 4.4% females. This age group will hit to the age of around 45 years, leaving behind only 2.9% males and 2.6% females of age 30-34 year in 2030, [29]. Hence there is a need of technological information system that offers a beneficial shift in current practices; that contributes to make the elderly an economy supporter while giving them back the best social and care services in return.

**Lack of Ownership:** While there are many features of aging issues in China, that is building immense pressure socially and economically on young adults, on elderly and on the country itself. The primary reason is lack of full ownership in protecting the rights and interests of the Chinese elderly (rural elderly in particular). The social competition is intense, and hence it is beginning to realize that the responsibilities are three-phase. After the government responsibility there comes family responsibility and then it lies on the elderly to choose a more healthy lifestyle, if there are services that claim full ownership with strong integration along with social reforms and economic support, [6, 28]. According to WHO (2018), The Societies that adapt to its changing demographics and invest in healthy aging can enable individual elderly to live both longer and healthier lives. Which then allow societies to reap the dividends.

**Need for Significance:** It is of the view that aging is the general decline in health, which is simplistic and not accurate. It cannot be denied that the elders are weak groups in society. As they age, the immune system gradually declines, and physical activity reduces. On the darker side of aging, the most common diseases among the elderly are recorded as Alzheimer, Cardiovascular, Cerebrovascular and Rheumatism, [6]. However, ignoring the sufferings do not lessen its effects. It makes sufferings more painful and worse. Treating sufferings can be a substitute with pain. Also, the social advantages reduce its applicability. Hence a framework with significance that allows the elderly to choose more healthy lifestyle could deny the claim of unbearable. It is more of psychological thinking, people do not want to work in old age, and they prefer to stay home. Even most of them are taking care of grandchildren while their adult children are at work, which is also a kind of full-time job. Elderly mostly get a mindset that they are not a working body of society anymore and they cannot make any

difference. Hence their qualities and specialties fade away. There are cases where many young adults also do not want their elderly to work. Even they are healthy and firm; they are somewhat involved in orderly's community social programs. On the contrary, many old elders have to work also in order to avoid poverty.

The monotonous lifestyle becomes suffering itself in old age, [25]. "Need for significance" is one of the motivation factors that make this shift important. Socialization, the joy of learning, the need for time structure and just plain boredom create a desire to obtain an opportunity for well known social identity. If we can change the mindset of people and they are provided with a unique aging work environment, the elderly are the backbone of the society, family, and culture. They are the hidden treasures that can play a leading role with their experience in a populist country like China.

**Pressure on Economic and Social Development:** The aging issue of China is continuously building pressure on the economy. It is hard to meet the pension support of people, while the demographic dividend is going to face challenges in the near future. On the other hand, there is immense pressure on hospitals due to increasing elderly population and lacking care coordination that cause readmission in hospitals. The situation is worse in countryside regions. Not to mention many elderly who cannot afford to move to cities for a better lifestyle. The related literature has been discussed in the next section in detail. Every elderly is different from each other, which demands a framework that offers a platform with multiple integrated opportunities for those elderly who can and still want to contribute; that will enable more pre-planned future-oriented elder care services.

**Lack of Elderly Future Preparation:** The deputy director of the aging committee, [6], refer to the features of aging issues in China as; 1. The high numbers of the aging population in China; 2. The rapid speed of aging growth; 3. Imbalance development between urban and rural areas; 4. Getting old before getting rich and prepared. He explains that the challenges are more significant in rural areas due to less income, limited resources and elderly being left behind by young adults to catch up with the advance lifestyle for social wealth creation. Moreover, even if adult children are with their elderly parents, many challenges are faced by them also including less time and energy for their spouses, house budget variations and depression, etcetera. C. Flower and L. Fisher (2009) has mentioned it with a term fear of filial burden (FoFB) [13], which is

mainly due to the lack of future preparation for elderly care.

**A Weakening Traditional Family System of Filial Piety:** Another reason for this shift being so crucial in today's China is the weakening of the traditional family system of filial piety. Families are becoming smaller due to child policy, empty nest elderly, and single elderly. Today's small family structure have increased the burden of young adults. It is the effect of the pension burden and dominate western culture that is weakening the traditional family system of Filial Piety. It is more severe in rural regions, many villages have become the bachelor villages with 33 million more men than women, as women move to cities in a gain of a better lifestyle. The conditions of the elderly are more severe in eastern China; next comes the central and then western China, [1, 24]. Hence there is a need for a shift to vigorously enforce the cultural root of filial piety keeping in mind the better stance of younger adults.

**To address the imbalance developments:** The bitter fact is that, despite China being the largest growing economy and technological advancement hub. The imbalances in elderly care services remain the problem. The part of it is discussed with detail in the next section. A paradigm shift can be a practical solution to improve care coordination along with the known social identity of the elderly. Which encourage elderly to adopt the system that is in return relieve their boredom and monotonous life and give them a feeling that they are still crucially important to society. The shift is meant to take on board rural and urban elderly both (with their consent of course), for better care coordination that we call centralized care.

## 2. Literature Review

Past researches enlightened us that the issues of the increasing elderly are common around the world and it differs from country to country due to the overall population, cultural beliefs, norms, and country laws. The reason why China is getting so highlighted, in an aging population issue, is because China is one of the most populist countries in the World. Another reason, on a positive note, is China's improved lifestyle and facilities in recent years. According to forecasts, China's total population was 1,369.76 million in 2016, and by 2020 China's population will be 137,702,000; which will expand in the year 2036 with the approximate population of 139,349,000. This extrapolation does not yield into account the changes in the birth rate caused by the ratio of males and females, and the resultant increase in aging has a limiting effect on population growth

[1]. Please refer to figure 1 for the yearly forecast. Let us have a glance at aging studies home and abroad.

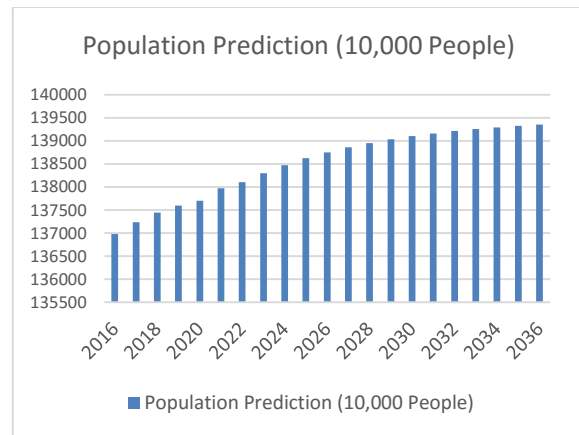


Figure 1: Population Prediction 2016-2036, CIIN 2018a).

### 2.1. Aging Literature in China

The age 15-65 years, is considered the "productive population age," they are the people who can participate in economic activity. China, being the most populist country, tend to have growth potential; This is called "demographic dividend," [1]. The full use of demographic dividend helps China to catch up with developing countries, but now it is important to take serious action for proper population structure. Because first, due to increasing elderly the burden of population support is strengthening. Second, due to the reforms in China, the economy has proliferated, but the labor force is on the decline since 2015. Moreover, it is predicted that it will be paced up, as almost as Japan, in between 2024-2026, [1].

Many farmers in the rural area are still unemployed; they usually do not have experience, qualification, and expertise outside agriculture whereas many young people flow into the city in a gain of better lifestyle and opportunities, which has accelerated the aging of the rural region. Hence the developing trend is shifting, and due to imbalance development the elderly from these regions are suffering badly, [1, 7, 24].

From the demographic perspective and economic development perspective, most developed countries have entered the aging population stage. However, after the accumulation of wealth, they have enough financial resources to solve the elderly issues. Alternatively, many countries have advantages due to their immigration facilities. However, in the case of China, it is at the end period of the demographic dividend and is entering a stage of mild aging, the



accumulation of material wealth is relatively insufficient. It is difficult to meet the growing demand of aging with the total amount of existing pension facilities in China. Because of the developed economy, improved living standards, and the urbanized rural areas, the demand for old age services is gradually increasing. From 2016 to 2010, a year-on-year, 12.44% increase per capita health expenditure is recorded whereas China's existing pension service team is far from able to adapt to the objective needs of the development of the old age care. So the pressure of public pension is enormous. For more deep studies on the said, please refer to CIIN (2018), [1, 4, 7, 21].

On the other hand, the labor force is one of the critical factors affecting labor cost. The more the labor force is available, the less the labor cost will be on the economy. Because China is not immigration friendly country, the growing elderly phenomenon will also have an impact directly and indirectly on the Chinese economy, [3].

According to the sixth national census, there are 123 million households with the age of 60 and above in China. The growth of the empty nesters (defined as single elderly, an elderly and minor or one pair) has accelerated. The traditional three-generation family is reducing, and families are becoming smaller. Due to the advanced urban lifestyle, the time for young adults to accompany their parents is reducing, [7]. Now, where the aging population of China is becoming a significant issue in terms of health care and economy burden, many takes it as an opportunity to make more money. The care of the elderly is becoming materialistic, that is money support instead of traditional care that involves emotions. The artificial intelligence and other rapidly developing technologies have found this huge gap in supply and demand of old-age services. The said has been witnessed by the forecast report of future development of old-age robots. Due to the accelerated process of population aging, the annual average cost of home service robots (used by empty nest families) is assumed to be 3000 Yuan. The robotic technology is becoming cheaper, which may be contributing about 240 billion Yuan of market capacity, [19]. These robots have the smart elderly care platform to examine the blood pressure, blood sugar level and even it can conduct the emotional test at home, and it will automatically send data to the nears hospital database, [22].

First, the development of rural and urban regions is uneven. Second, the family planning policies of low births, late marriages, and late childbearing, caused the fertility rate in urban that is lower than rural regions. Third, a large number of young adults go to first-tier and second-tier cities resulting in the suffering of rural elderly in particular. In rural areas,

the economic development cannot meet the need of elderly population and many local governments have deficits and hence the current situation of many poor regions still does not have enough economic base and social resources. Professor Yuan Fang of Peking University explains the reason that caused imbalance development in urban and rural areas to bottleneck. The elderly support burden on adult children and the impact of western culture is weakening the family concept. The material and emotional needs of the elderly are not getting fulfilled. The amount of payment required for elderly has built an enormous pressure on young and middle-aged people. The case is severe in rural regions, [7, 21]. He believes that solving China's aging problem alone will not be enough; the mutual effort of state, society, and family is required. It has to be well integrated.

China's culture has encouraged filial piety since ancient times, and Baishan filial piety is the first. Filial piety is a powerful idea of respecting the elderly in traditional Chinese culture. However, the number of older people in China's population is increasing and due to the implementation of family planning policies, young and middle-aged children are usually single children. These circumstances made the maintenance and care of the elderly difficult. Also, the speed of modern life accelerates. The growing pressure in life formed a material oriented value, which led the idea of taking care of the elderly to the "Use of money model." The fact is that materialism, becoming so familiar with every passing year, has linked the gist of 'filial piety' to economic resources. Hence, social care (the filial piety) of respecting and taking care of the elderly is fading away, [7]. From the beginning, the Chinese law enforces all adult children to take care of their elderly; welfare institutions were allowed to admit only empty nest elderly. However, the situation changed after the welfare reforms, when the advancement took place and when the economy started booming, the trend shifted towards venerable institutions. The government has also supported these institutes to perform well in elderly services. There were encouragements of social resources, government subsidies and government operational support, tax exemptions and financial incentives to encourage private investment in elderly care, J.H.Flaherty (2007) and H.J.Zhan (2008) explain that the increasingly high cost of professional elderly care institutes is forcing a shift in attitudes about institutional care from stigma to privilege [24, 23].

The urbanization process has led to the transfer of labor in rural areas to urban areas of China. Which, on the one hand, has brought tremendous pressure on cities in the form of employment and social security. On the other hand, productivity in rural regions is becoming scarce causing lack of production capacity,

production skills, income reduction and increasing elderly [7]. It is not that the government is not concerned about their elderly, its culture or the imbalances of rural regions. The recent and most dominant effort recognized worldwide is in the form of One Belt One Road (OBOR) project, and China Pakistan Economic Corridor (CPEC) in particular to advance their underdeveloped regions [20]. However, it is not enough to fulfill the gap, that is increasing rapidly.

Du Peng, a professor at the research center of population and development at the Renmin University of China, explains that the elderly are themselves a vulnerable group in society. With increasing age, the immune function starts declining, and the functions will begin to degenerate. The most common diseases found in the elderly are Alzheimer's disease, cardiovascular disease, cerebrovascular disease, and rheumatism, etcetera. Due to the health changes and social roles, elderly starts producing a series of lousy psychology and a series of emotions such as depression, pessimism, anxiety, and loneliness. It is due to the busy schedule of young adults and western cultural dominance; they become careless at home, which arose the feeling of being deprived and loneliness, causing poor mental state. Which often creates the need for social care and understanding. The elderly are the assets of the society, as the saying goes "there is a treasure in the family." There are a knowledge reserve and life experience that is worthy for society. The report suggests various activities for the three-phased prospective, the state, the society, and the family. For detail understanding of the most recent report, please refer to CIIN (2018) [7].

## 2.2. Aging Literature Abroad

Y. Lalan (2014) explains the reason for elderly living in nursing homes in India and the strongest of all was the loneliness and deprives [8]. Whereas, K. Theurer (2015) mentions loneliness and depression as a serious health problem among the elderly in American nursing homes. For care staff blindly do their job, hardly in a minute or two and left the rooms, leaving the elderly with a feeling that the room they are in is the end of the world. Even though social gatherings, planned trips, and games, etcetera are in practice. She introduced a new more integrated model for residential engagement and peer support program in a more meaningful manner [9]. J. Rittirong (2014) also showed his work by understanding the preferences of filial piety for the elderly from rural Thailand. Where care workers naturally consider it their job and do not involve emotionally with the elderly the way their children can involve. His work tailors the exertion more

effectively. He found that daughters were preferred by the elders for cooking and personal care as they are more likely to be involved in helping with indoor activities whereas sons were more preferred to help with home maintenance [11]. On the other hand, depression and anxiety do not only appear to be the older elder's associated problem. It is also growing in young adults, who sincerely want to take care of the elderly by keeping them close to themselves, due to the fear of filial burden. The attitude towards decision making and aging for future preparation may reduce anxiety and depression [13]. If sufficient resources and opportunities are available and a positive attitude of the society arises through awareness, issues gathering and discussions.

A Planned integrated model of software "carelink+," from Australian aged care provider was taken under consideration by H.E. Douglas (2017), which showed the need for continuous improvement in the processes, even with information and technology the real benefits are likely to emerge with time and continuous evaluation process [10]. On the other hand, T. Buffel (2018) portrays an entirely different but excellent idea of engaging the elderly in age friendly research, policy, and practices in the UK, which is much fun for them and productive output for others with the help of mutual collaboration. Engaging the elderly in interviewing other older people, motivating them to become a co-researcher and all this will result in more community engagement. Older people are hidden talent in society. So first it is a viable method for accessing the expertise and knowledge of the elderly. Second, it represents effective means for accessing hidden population and mutual learning between older people, service providers and a range of professionals [12].

Bradly H. Crotty et al. (2015) has worked in the information sharing between elderly and caregivers. The research has penetrated two themes: sharing of information has consequences and control of information sharing is dynamic. Where caregivers (mostly family adults) felt that information would decrease their stress, while sometimes elderly wish to keep the information secret so as not to become a burden on children or some elderly perceive this as spying on them [14]. This work further advanced with the help of web-based platform "InfoSAGE" by Quintana et al. (2018), aiming internet based family-centric communication and collaboration in order to address better, the information necessary for elders and their caregivers. Authority is given to the elders' preference to allow, whom they want to share their health information [15].

Senaka Fernando et al. (2010) explain the ways of assistive web-based technologies to enhance and improve the interaction of older adults with online

forms. Moreover, to adopt ways to attract other older adults, who are not using the services, by following the older adults who are using the services. Authors, using Roger's theory of diffusion of innovation, identify the factors (such as compatibility, complexity, triability, product benefits, and observability, etcetera), that can help in adopting the new technology among older adults [16]. On the contrary, Ricky Leung (2013) discusses the beneficial effects of telemedicine to accommodate the imbalanced services in rural America. Areas like autism, behavioral change, burn unit and dermatology etcetera can get better help with this sought of technology; if used correctly. It can also be more useful if it gets integrated with clinics with rural regions. The author claims that the telemedicine is continuously evolving and that health administration should embrace it for health reforms [17].

Another fruitful effort has been made to integrate health and social care services through information technology support in the north of Portugal. Maria M. Cruz et al. (2014) discusses the main drivers of motivation for potential users to use such a platform. The most appealing product and services that can motivate the people to use such a platform found to be Meals services, specialized care services, domestic tasks, home consulting, primary health care and daycare, etcetera. Considering rural and urban population, it undertakes, the interest for such platform depends upon various factors, i.e., age, educational level, marital status, disabilities, computer users with internet access, etcetera [18].

Aaltio et al. (2017) contradict that aging is the general decline in health. According to him, this is simplistic and not true. Ignoring the sufferings do not lessen its effects, it makes sufferings more painful and worse. Treating suffering can be a substitute with pain or social advantages reduce its applicability [27]. Unlike previous centuries, today labor has been replaced mostly with machines and the number of service jobs has been increased. Due to this shift from physical to intellectual work, ever-increasing numbers of people are surviving in better physical condition. However, in their aging, they lose social interaction, become personally and professionally isolated and timekeeping, as well as stamina, tends to decline. An 80 years old gentleman who walks three miles per day will offer more skills and abilities than the younger 67 years old gentleman, who sits playing cards, does no physical exercise and receives no stimulation from activities outside. Golden, Bonnie J (1984) disagrees with the mindset that old people cannot have the capacity to learn more and that their skills and abilities decline. So a footnote to the phrase "you cannot teach an old dog new tricks" should be "if you would be willing

to teach, they might be willing to learn." The author explains that those older people who were capable of learning at a younger age still possess that quality skill in their later age. The author collected some of the fascinating facts by the agencies in America, who also employ old people. A New York study of 33 agencies demonstrated that the performance of older workers was equal or better than younger in 29 of the 33 agencies. Moreover, once enrolled, older workers are more likely to complete their training and does not switch jobs and last but not the least, older workers have excellent attendance record and less likely to call in sick than younger workers especially on Mondays and Fridays [26]. Aaltio et al. (2017) also take the management perspective to cope with a supposed loss of skills and abilities of the elderly and the flexible work arrangements for the elderly [27].

There is no universal definition of retirement; it is merely an individual's exit from work, a decrease in psychological commitment and behavioral withdrawal from work. It is becoming more complicated by time, and the old people, who (willingly or unwillingly) continue working after retirement, are into so-called bridge-employment. However, at this age people are more prone to a balanced life (balance between work and non-work demands), because the worldly attractions start to fade away at this age. Consequently, priorities get changed [27].

Lastly, we explain an overview of what cottage industry is because this is the main factor supporting this paper. The term "cottage industry" is not new; in fact, it has been a part of our culture in one way or the other for hundreds of years. For simple understanding, The cottage industry is a home-based business. During World War II, this concept was adopted by the Indian societies; almost every other house became a small scale factory. At that time, these community houses were famously known as Factory Homes. Where vehicles used to drop off raw material at homes for production and then came to collect in the evening. British governments and Americans were efficiently implementing it for centuries, [31]. The concept of cottage industry has been a part of an old Islamic concept also, where women were not encouraged to work publicly. So they started working from their homes [32]. By the time of the industrial revolution, most cottage industries had moved from home to shops to factories and eventually straight to factories. Although it has been on the wane, the home-based business is alive. However, the home based business of today falls under two broad categories: 1. Providing services, and 2. Producing products. The technological advancements of today's have shifted most of the nature of work to services work mostly [26]. In line with today's advancement, cottage

industry is a vast concept. It can be from research work to handmade products, crafting, painting, garment producers, embroidery, stitching, weaving, potters, bread making, button making, needle making or craft working, etcetera.

### 3. Design Approach

In order to bring the supportive paradigm shift, aging centric processes should be enforced by addressing the perspective of all kinds of elderly. Whether they belong to rural regions or urban and whether they are quite shy or outspoken, this program should have diversified opportunities that may automatically attract each elderly to join such a system. Hence the design integration methodology is used for an effective "Elderly Peace Space System" (EPSS) framework for the elderly. The ultimate goal is the balanced life and self-supporting system for the elderly that may rely less and less on pensions, which will be indirect support to the economy. The following 4P stages approach is specifically designed for this study, see figure 2:

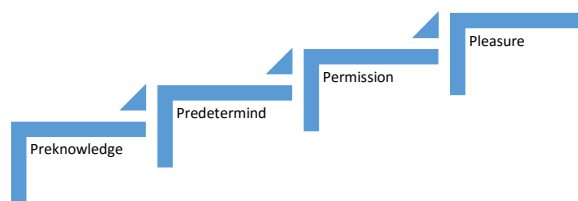


Figure 2: Peace Space System Model.

I. **Pre-knowledge:** It is a detailed understanding of people, places, and resources. To create value in "EPSS," there should be formal discussions for future care needs of the elderly. An encouragement campaign to motivate people to have such discussions can play a vital role. C. Flower and L. Fisher (2009); Pinquart and Sorensen (2002b) mention that preparing for care needs reduces anxiety and depression [13, 34]. Preparation will benefit both the elderly and adult children. Hence, there should be proper regional knowledge of the elderly to make them a part of EPSS discussions according to their caliber. For example, the data collection can be but not limited to age, retirement, qualification, profession, internet usage expertise, financial conditions, physical conditions, and local perceptions, etcetera. This stage also includes the process of data analysis to

perform the next step "predetermination" smoothly.

II. **Predetermination:** It is to be prepared for future care needs of the elderly with the help of predefined processes, policies, and resources. People's attitude towards decision making and towards aging itself can be changed, for broader understanding read C. Flower and L. Fisher (2009); Pinquart and Sorensen (2002a) [13, 33]. Government policies and their political commitments to improve the quality of the orderly's lives can affect the EPSS process. For example; because this paper holds an idea of the Elderly Welfare Cottage Industry (EWCI), which enforces us to implement the rule of early retirement in society. Early retirements will enable the elderly for better system recognition and process adoption before they will become too old. Also to evaluate, who requires training in order to adapt the technological database and cottage industry processes of "EPSS." Lastly, to raise motivation among people for sympathetic respect of elderly by using effective means. Naturally, the predetermined reality is that everyone will get old. Hence, the people who belong to different societal bodies must change their attitude toward the elderly, because they will be at that stage too. This stage will also contribute to change the attitude of elderly care.

III. **Permission:** It is to make the technological care systems and cottage industry systems user-friendly so that it permits the elderly to engage with the evolving advancements quickly. For example, to a certain age, it becomes difficult for an elderly to fill a form that may require for particular online elderly service. So with the help of pre-knowledge stage, the data should be fetched and filled automatically, and services should be available with a press of a button. Secondly, all the processes in EPSS must have an engaging framework instead of repelling. It must be permissible by cultural norms in China and must regard the ethical values. Third, the process of EPSS should be adaptable from a pilot project to full-scale implementations. Lastly, This system is meant to enable better care coordination, so the health-related data - including prescriptions, medication track records, appointments, health care decisions, and suggestions, etcetera - will be stored in a central database and will be accessible



anywhere in China. However, this should not violate the personal intention and desires of the elderly. For example, many elderly do not want to become a burden on their young adults; hence there are specific health information that they may not wish to disclose with a specific family member. For detail understanding on information sharing consequences, please read Bradley H. Crotty et al. (2015) [14]. As this system meant to be elderly centric, it should give permission control access to the elderly which can have different access levels.

- IV. **Pleasure:** It does not matter how efficient the database and technological system there may be. It always takes time for the process to be well established before it starts to benefit the propose. With continuous evolving information technology, the ultimate pleasure can be gained by monitoring, optimizing, and assisting EPSS technologies at each stage of service cycles to make it demand oriented. For example, analysis enables our understanding of the relationship between the characteristics of the elderly population and their perceived interest in such a framework. Elderly contributing to such a system must have the pleasure of additional services that may attract and encourage other elderly to join. Services like nutritious meals, health care, grocery and shopping, laundry service, ironing services, car care, Important dates and appointments reminder, house cleaning, child care, animal care, etcetera will make an elderly worry free and encourage them to become a part of Elderly Welfare Cottage Industry (EWCI). The pleasure of EPSS will be at its peak once the income out of the EWCI will support the firm as well as the feeble elderly of China. Also, when EPSS can offer better services for a smaller cost, as compared to private sector elderly institutes.

#### **4. Practical Framework**

The Elderly Peace Space System (EPSS) framework shown in figure 3 is designed, using just Microsoft Word, to provide better values, technologically driven solutions, enhanced integration and, care coordination accountability. This system uses centralized and decentralized approach to ensure: 1. The idea of welfare based cottage industry instead of target based, 2. The efficient services for both the firm and feeble elderly,

3. The better information and care coordination, and
4. Traditional In-house elder care services.

The system allows storing necessary elderly information in the database along with the history of their care coordination, appointments, treatment history, medical reports and their attachment with cottage industry, etcetera. Elderly Resource Planning (ERP) provides elements of applications and data through various active user interfaces, to get diversified opportunities, services, and social engagements. It also manages key behaviors and data of applications. The central database and customer service facility are both centralized to provide better service.

On the other hand, to keep this process favorable for elderly, case managers are introduced. Case managers integrate between users input, elderly services (care and social), and cottage industry. They will be the focal point and will be responsible for aging people's well being. The case managers will be decentralized, depending on the population of the elderly in a region. They can be more than one in a region if required. The cottage industry opportunities and elderly care services will get floated through case managers to keep a better check of welfare support because direct contact may experience rude or abusive behavior towards the elderly.

The ERP application design has a Role Based Access Control and is divided into different modules for all necessary elements to implement various peace space systems. The more improved user experience, enhance functions and easier process there may be, the more likely this technology be attracted and adopted by potential elderly users and service providers. As mentioned earlier, technology is always evolving; hence this framework is not limited to proposed systems. For serious betterment, many systems can be plugged in or changed according to needs and want of the elderly. Based on the below EPSS framework, in order to make it practically elderly centric, some key policies are mentioned below:

1. In order to have positive and beneficial outputs from this framework, it demands its organization and implementation under the nose of government laws with governments' check on it. Since citizens do not pay from their pockets to be a part of this program; in fact, profit from the cottage industry is to be utilized for the orderly's betterment in return.

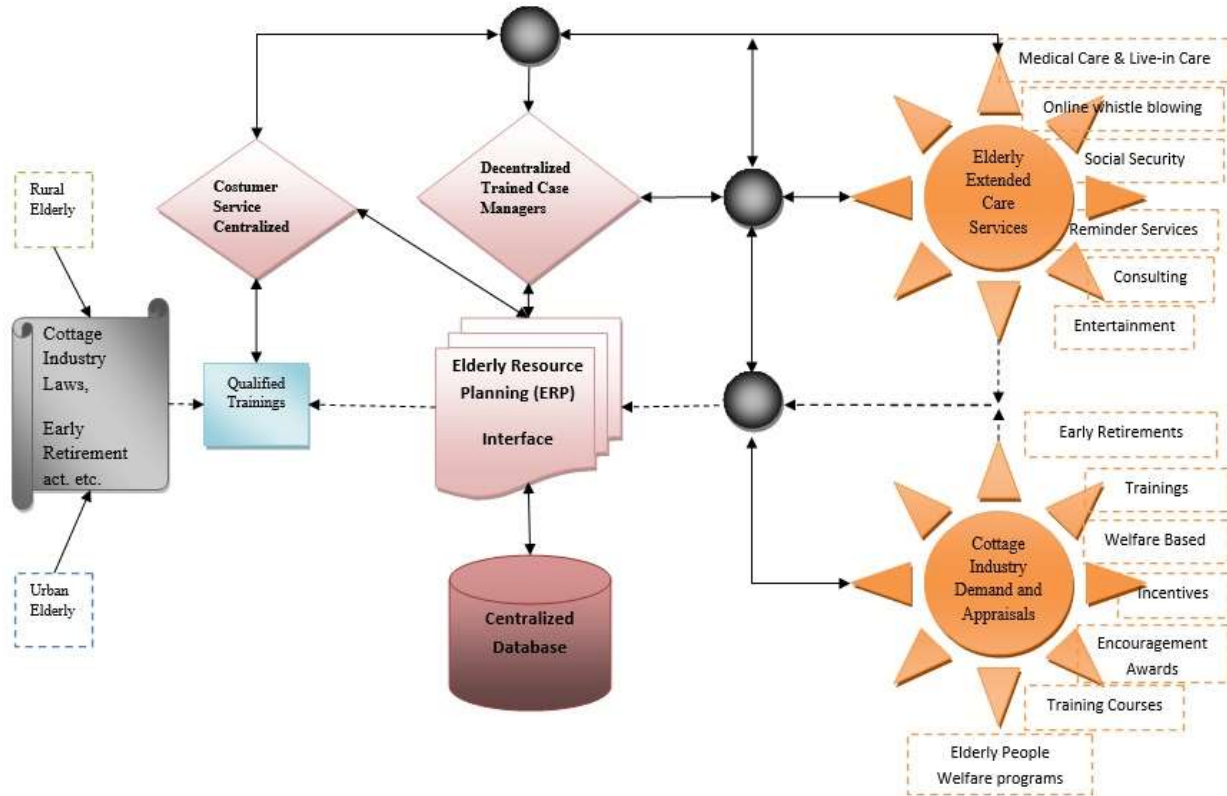
2. It is essential to prepare and train elderly for effective online interaction, efficient use of online tools, to know their authority as elderly citizens and how they can become a part of the EWCI.

3. We force to take out the feature of target based cottage industry to enforce welfare of EWCI; this will fulfill four beneficial purposes.

- a) It will give industry the hidden talent of the elderly that mostly dies silently.
- b) The feelings of being deprived and valueless in society will be dealt with an

program and it will help them to be in a flow before they get too old.

5. Elderly will be able to join the cottage industry with multiple facilities and disciplines, which will



**Figure 3: Elderly Peace Space System Framework, an integrated system of the older adults services, cottage industry and centralized as well as decentralized ERP.**

\*Dotted lines indicate that the information can only be accessed but not changed. Full lines indicate that the information can be accessed as well as can be edited.

- c) It will keep the greediness away, instead of pushing the elderly to meet the production targets. It will allow the elderly to enjoy the work at a relaxing pace. However, motivation and encouragement should be connected with the best contribution awards and social events.
- d) . It will contribute to the Chinese economy in the form of less pension burden as well as it will generate the money for feeble elderly.

4. Under this framework, by keeping in mind the concept of the Elderly Welfare Cottage Industry (EWCI), it is recommended to implement early retirement of the elderly, who signs up for this framework as the rural elderly will not be as experienced and educated as the one living in urban areas. Early retirement will allow them to grasp this

make them work efficiently from their houses or community halls. The companies will provide the raw material, who will also be part of EPSS. Moreover, they will collect the finished goods also.

6. For better management, this framework adopts the concept of case managers, which will enable the government to keep everything on record. For example, how many elderly are suffering? How many are educated or illiterate? How many can do physical tasks? Etc.

7. *Centralized Role:* Each case manager have a centralized role in terms of older adults care services and cottage industry services. Disciplines of elderly care and cottage industry come under the case managers, who will be bound to let the thing flow according to the government laws. On the other hand, the 24- hour call center service also has a centralized working nature. They will work as assistants to case managers, to cottage industry employers, and the elderly.

8. *Decentralized Role:* Case managers will also have a decentralized role in terms of districts

divisions. Each district must have separate case manager(s) for better management. Case managers will be responsible for uploading the daily activity, health-related report, care service details, and elderly interests, etcetera on the EPSS central database system.

#### Benefits from Peace Space Systems

1. By making the elderly "The Economy Supporter" and by providing live-in care services, the framework in return becomes elderly focused. It enhances their social identity, Which eliminates their feelings of being deprived by society and by their young ones.

2. Live-in expert maids or care services are not meant to provide better emotional support for elderly along with care. Because emotional care is a sort of variable factor that can most efficiently be supported by elderly own adult children, hence the social care of filial piety will be attached to their adult children

3. EWCI income support being spent on the elderly in return and given live-in care services will reduce the depression and burden of young adults, while they are at work. Moreover, this will not give a chance to adult children to mutter about their busy schedules. After work, they can have quality time with their elderly, which will provide the elderly with a feeling of being important. Which eventually contribute in the mental conditions of the elderly.

4. The massive numbers of older adults in China could make a difference in the perceived image of the elderly and could also a contribution for those elderly who are mentally unfit to work.

5. It will bring rural and urban elderly on the same forum to avail the same social and care services; this will eliminate the suffering of the elderly as a whole.

6. The online Whistle Blowing service is beneficial for robust implementation of governments' law for rights and interests of the elderly. All elderly (rural and urban) will be connected in a single forum and hence if they face any harsh, abusive or ignorant behavior by their adult children or live-in maid/care, alternatively, if services are not as they were supposed to be. They have a right to use the whistle blowing option available online. The centralized customer service officer will immediately inform centralized case managers to deal with the situation according to Chinese laws.

7. Among the many useful social facilities, house swapping is very famous nowadays. It happens with the willingness of two parties, who exchange their houses and locations with each other online. If both parties agree with the conditions of each other houses. They can go head temporarily to visit the new place and experience new people around China. Being centralized in nature, this model will allow the elderly to be worry-free because they can still have

the same care services anywhere in China; since all health related documents and status will be uploaded to the central cloud database and will be accessible by other case managers.

## 5. Conclusion

By keeping in view the elderly sufferings in urban and rural areas; this debatable, efficient and effective framework, brings a paradigm shift to current Chinese elderly dealings by keeping fingers on many valuable aspects.

It enables best elderly practices by the ownership and contribution of the government, the welfare cottage industry and the elderly themselves. The proposed framework enables the China to cope with the declining demographic dividends and the imbalance care services together. There is a sense of strong integrated institutions to deal with psychological and mental diseases of the elderly. Not only will this framework enable adult children to keep the Confucius culture alive for the elderly, but also enables the increased aging population of China to become an economy supporter. So they will not be considered an economic burden anymore. Hence this framework has some juice to create a win-win situation for the elderly, young adults and the government of China. This framework further open doors for the new ideas and new ways to give the best to the elderly and to help them give back their best to society and economy in return.

*"Where there is a will, there is a way."*

To make the EPSS framework more adequate-able, integrate-able, and adaptable, the future researches can be costs and benefits of this paradigm, the better utilization of this technological paradigm to address the unequal access in the rural regions, the use of mobile health technology and robotic health technology in EPSS. Moreover, the efficient use of the Elderly Welfare Cottage Industry (EWCI) itself keeps a big gap for research.

## 6. Acknowledgements

We want to express special thanks to principal subject of social science development in Hebei province (201802120108), the human resource and social security in Hebei province (JRS2018-7024) and the Hebei province human resource social security research cooperation project (JRSHZ-2018-02009), for their support of this elective.

We thank Allah Almighty. Much gratitude to our parents and special thanks to our supervisor Prof.

Hou Yu Mei, who has helped us choosing the topic of best interest that not only is connected with emotions of people but still have a big gap for research.

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