

Help the Elderly Aged Learn (HEAL)

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ABSTRACT

Population ageing is a dominant demographic social phenomenon in the 21st century. The world is seeing the simultaneous decline in mortality and fertility of people in most countries thus there is an increase in the population above 65 years and global decline in the number of workers who would support these old people. Population ageing causes health issues and raises dependency of the aged upon the young influencing some significant changes in population needs and capacities, and in employment, consumption, economic growth, and fiscal balance. Governments are working to provide functional and policy guidance on how best they can facilitate a better living for the ageing population at affordable budgets. Like in most countries, the elderly population in Thailand is growing rapidly while there is a reduction in rate of childbirth which increases the dependence ratio on the future workforce. Many of these elder Thais need to work well beyond the retirement age, to make their ends met and support the family. Some need to render unpaid assistance to the grandchildren when the adult children work away from home. The ageing-effect tells on their health and the old-aged persons become more dependent on their adult children for support and care they need. They need special care, responsiveness and assistance so that they continue to enjoy the extended life and adapt themselves to technological and other societal advancements. The current study finds that it is achievable through the use of sophisticated machineries that are wearable, devices that are connected enabling social connectivity and emotional well-being, cognitive capacity and day-to-day functioning. The study provides an outline project that addresses the above issues of the older population of Thailand and offers some suggestions to prepare the old and other stakeholders to become better prepared to provide desired assistance.

Keywords: Ageing Population, Well-being, Senior citizens, Elderly people, Assistive touch, Age Dependency Ratio, Thai elderly population, Family support, Old age home, Caregiver

INTRODUCTION

The number of older populations has been on the increase all over the world in conformity with the increase in life expectancy. The more likely reasons are due to the advent of modern medical science and improvements in health and well-being activities for the elder population. In many parts of the world, life expectancy has reached above seventy years and the number of childbirths has reduced so significantly that population over seventy years' age will soon outnumber the number of children under five. Generally, high-income countries will see decreases in the population aged between 15–64 years, conventionally the most

productive age in terms of contributions to national economies. Projected changes in the older population (age 65 and above) will be pronounced. Globally, around 50 million people suffer from dementia, about 60% of them in least developed and developing countries and would reach 82 million in 2030 (WHO, 2020). This phenomenon is a concern for the governments and it offers both challenges and opportunities which necessitates investing thoughts and plans to adapt to this obvious challenge in immediate future. However, in most countries now, the ageing population needs special care, attention and assistance so that they can enjoy the extended life and adapt themselves to technological and other societal advancements.

The fourth industrial revolution is often characterized by an advancement in computerized digital technologies, developments in mechanical and mass production, and outreach of healthcare among the population, in particular the older adults. It is achievable through the use of sophisticated machineries that are wearable, devices that are connected enabling social connectivity and emotional well-being, cognitive capacity and day-to-day functioning. In Thailand, there is a large number of elder population that need attention in order to assist them in acquainting them with basic technological know-how, basic healthcare needs and ease them from being socially isolated and lonely due to lack to connectivity. Though the study carried out qualitative observational methods and interviews of some elder population and community leadership of two sample-districts of Bangkok neighborhood, the abridged version has been organized leaving out those details and also fully excluded the financial analysis. But it includes the major findings and recommendations in the form of a pilot project designed to implement the ideas floated through the paper.

Rationale for Study

This is an appropriate time for various sectors to participate in mutually complementing activities to promote the health and well-being of older adults. Many concerns can be answered by imparting user-friendly introductory lessons on computer literacy for the target group (elders) and identifying their age-related constraints. An exposure to connectivity like e-mail or other social networking is likely to help reduce sense of loneliness and retard their decrease of cognitive abilities by playing specific computer games or using specific apps. These can also be linked to some non-profit activity (e-business, e-service) and inclusive approach to eldercare. Taking care of the ageing population is consistent with the goals outlined in the 2030 Agenda for Sustainable Development. Thailand being a leading country that faces the growing number of older population has to combat this emerging issue both institutionally and societally through effective policies and programs. The study is focusing to augment the existing effort by bringing up a pertinent issue of older-care that may not have been adequately addressed till date.

Background

Trends in Population Ageing

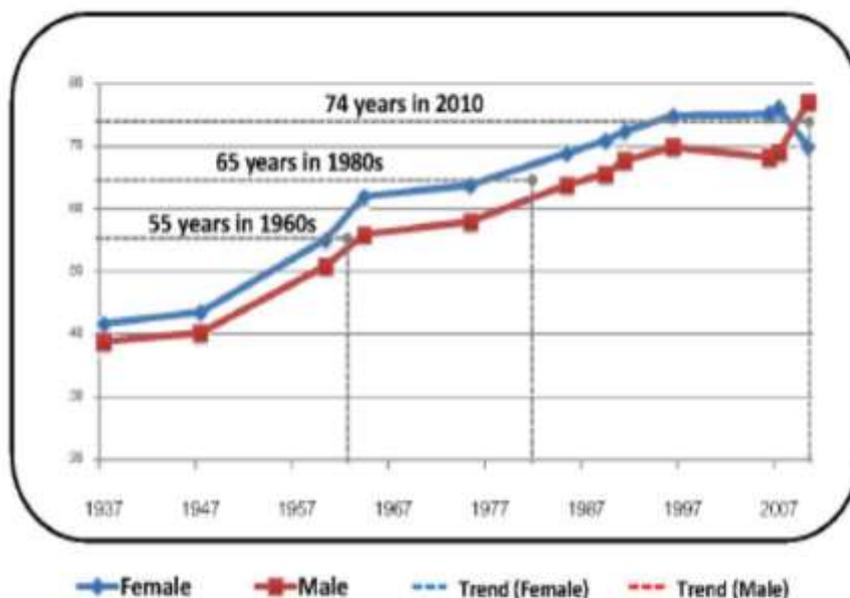
According to World Population Ageing report, there will be significant changes in population between 2015 and 2030. The projected growth in the number of older population (60 years or older) in the world is 56%, raising the number from 901 million to 1.4 billion. By the year 2050, the global older population is projected to be more than double its size in 2015, reaching nearly 2.1 billion (World Population Ageing WPA 2015). For the oldest-old population (80 years or older) it will be tripled to 434 million in 2050 from what it is now (125 million).

The growth trend of older population is faster in urban areas than the rural areas. Between 2000 and 2015, in urban areas the number of people aged 60 years or over increased by 68% against a 25% increase in rural areas. It is therefore, more important to focus more on urban areas than rural areas. Between 2000 and 2015, the urban population increased from 51% to 58%. It is furthermore likely that the older and oldest-old population are expected to reside in urban areas due to easy reach of healthcare, daily needs and connectivity.

State of Elderly Population in Thailand

Like many parts of Asia, the ageing population is an emerging challenge in Thailand. Among ASEAN countries, Thailand has the maximum percentage of older population after Singapore. As per recent estimates (2015) of UN Population Division, in Thailand the number of older persons has increased by seven-fold between 1960 and 2015 rising from 1.2 million to 8.6 million; which means an increase from 4.8% to 12.8% from 1960 to 2015. In last four decades, there has been a rapid decline in fertility from six children per woman to only 1.5 and combined with increasing survival at older ages, these have significantly contributed to the increase of ageing population. If the fertility rate persists to be around 2 children per woman, population ageing in Thailand will become far more pronounced in the coming decades. Future population ageing will occur even more rapidly as the number of older persons projected to increase to over 20 million by 2035, at which point they will constitute over 30% of the population. Women make up a disproportionate share of the elderly, constituting 55% of persons 60 or older and 61% of those 80 or older.

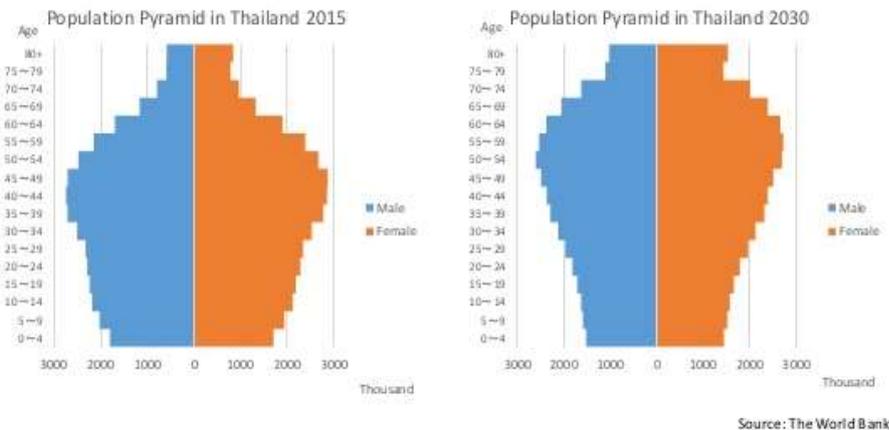
Figure 1 - Increase in Life Expectancy in Thailand



Data source: 1. 1937, 1947, 1987: Rungtitarangsi (1974) 2. 1964-1965, 1974-1976, 1985-1986, 1989, 1991, 1995-1996: Report on the survey of population change, National Statistical Office Thailand. 3. 2006 estimated by Institute for Population and Social Research, Mahidol University

A demographic transition can be indicated by age profiles or “Population Pyramid”. Figure 2 shows actual age profiles of the population of Thailand in 2015 and projected profiles in 2030. These age profiles depict changes in population structure from a bell shape in 2015 and a vase-shape in 2030 which denotes reduction in working labor force.

Figure 2 – comparison of population pyramid in 2015 and 2030



The changes in demographic will of course have an effect on labour market but another important thing that needs our attention is the well being of elderly people. In the past, most Thai families are extended families. Old people in a family will be looked after by other family members. Nowadays, Thai families are becoming nuclear families. When family members go to work, old people have to live alone during the day. And in many cases, when sons or daughters get married, they move out from their parents house. This situation in which elders have to live alone can affect their wellbeing. It is critical that we find some tools that can help them in their daily life. Technology can play an important role in facilitating things for old people.

Living Arrangements and Family Support

In Thai society, the elder members live with one or more adult children and has often been a convenient solution to address their needs, supports and assistances in situ. According to recent study, this habit is changing rapidly and co-residence with children reduced from 71% in 1995 to 55% in 2014 for 60 years and older population. Between 1995 and 2011, the share of children living outside their parents' province increased from 28% to 39%. Household size declined steadily from just over 5 persons in 1986 to 3.6 in 2014. Previous surveys show that in 2014 about 85% of older population received monetary support from their children. However, due to improved transportation network and mobile phone, it was seen that between 2007 and 2014, social contact between older parents and children in the form of visits and phone calls, increased steadily. The co-resident older parents help in preparing meals, perform small household works, and accompanying the children.

Health

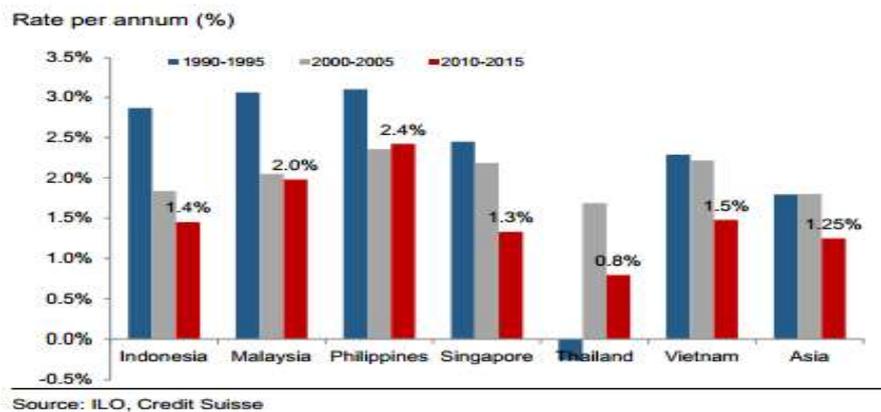
Health is a primary concern for older people. Impaired vision and hearing ability, dementia, non-communicable diseases, imperfect self-assessed health and loss of cognitive and sensory ability increase considerably with age. Elders who maintain club activities have better chances to avail these facilities due to their social connectivity and access to information. With age the situation worsens rapidly. About 40% of the population who are 60 years or older have at least one functional limitation. The dependence increases sharply after 75 years suggesting that the intimate personal care must be enhanced at advanced ages. The most common caregivers are the children or children-in-law. Only a small number of older Thais,

who reside in urban areas, avails a paid non-relative caregiver. In spite of public programs and policies, the traditional reliance remains upon family.

Dependency Ratio

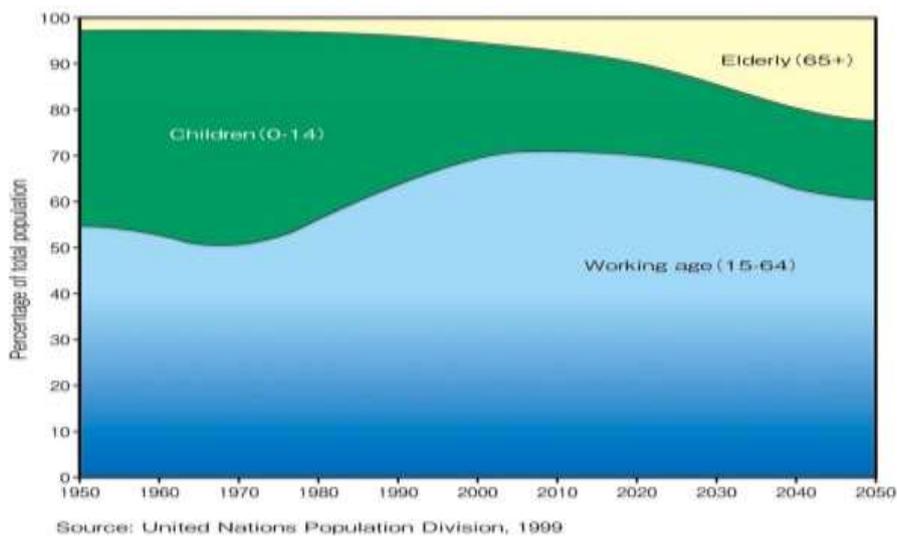
The dependency ratio is a numerical measure of the economic burden imposed on the working population who must ultimately support people who are not in the labor force. Thailand already has the least growth of labor force among the ASEAN countries which is likely to worsen as the younger population is likely to be outnumbered by the ageing population in the coming decades.

Figure 3 – ASEAN Labor Force Growth



When life expectancy was lower, children constituted the major part of the dependency ratio . But the scenario is changing rapidly and it is perceived that that by 2050 older population of Thailand will constitute about 64% of the dependents.

Figure 4 – Age Transition in Thailand 1950-2050



This will add further burden on the already shrinking working labor force and on the government exchequer due to increased cost of healthcare, and allied age-related economic supports. Thailand will face more challenge as middle- income Thailand is ageing faster than it gets rich. The older people receive a meager amount from the government at a sliding

ageing scale beginning at age 60, Thai Baht 600-1,000 (about US\$20-30) as state pension which can barely meet their needs (Knodel, 2015).

Response of Thai Government to the Ageing Population

The government of Thailand engaged with the issue very intimately of which are, Second National Plan for Older Persons (covering 2002-2021), the inclusion of ageing issues in National Economic and Social Development Plan (2012-16), and it has also established a Department of Older Persons to implement the programs. In 2009, Thai government expanded Old Age Allowance program and introduced a universal social pension for its senior citizens who are 60 years and older and lacked other pension coverage. Furthermore, in 2015, the government also introduced the National Savings Fund with a view to encouraging savings for older population.

The ageing population has been included in the central agenda of the Thailand's Economic and Social Development Plan (2012-2016). The centers for the elderly provide nursing-home facilities and have outreach activities for older persons extending to the neighboring communities. Several ministries, forum and departments work closely to materialize the common goal of running of the newly established Centers for the Quality-of-Life Development and Occupational Promotion in 878 sub-districts throughout the country. It includes **Health services, Long-term Care, Pension Benefit, Old Age Allowance, Elderly Associations etc.** The Thai government now actively supports the founding of exclusive clubs for senior citizen as self-sustained establishments. Elderly clubs are being supervised by the National Senior Citizen Council. As an outcome of this initiative, as of 2013, there stands over 25,000 registered senior citizen clubs (having in excess of 1.6 million members) outside Bangkok and approximately another 280 elderly associations in Bangkok.

Project Design

Objectives

Help the elderly aged learn (HEAL) is a non-profit type project designed to deliver assistive care and learning through educative awareness sessions and limited training to the elderly population of Thailand. The project shall pursue the following purposes:

- a. To help the elderly people to use technology to find information regarding self-care (such as: how to overcome dementia problems, increase their sensory, cognitive and psychomotor capability);
- b. To enable the elderly people to renew and develop social contacts and engage actively in their communities, (such as: interact in new ways with family and friends, learn, develop skills and gather experience, share learning, skills and experience with others);
- c. To provide opportunities for the elderly people to participate in meaningful work and other activities (whether paid or on a voluntary basis).

Scope of Work

This will be a two-year pilot project implemented on a smaller scale within specific geographic area which will be followed by future project of six-year duration throughout Thailand. It will consist of educative sessions on basic use of information technology, health

and well-being and will focus on how to adapt to the old-age physical-cognitive inabilities and psychological complexities resulting from social isolation for the ageing population of Thailand. The non-profit project will not cover the fully dependent old and infirm persons who may be bed-ridden, homebound with other disabilities that demand intensive homecare but will include who are alone and living without relatives' care. Subsequently it is expected that the project will also create opportunities for the older persons to exercise their creativities and generate limited economic activity.

Approach and Training

Coming to the aid of the needy is a universal humanitarian approach by the conscious members of any society. The older persons are weak, fragile, often sensitive, and in need of the requisite care and attention from the family, society and authority. Efforts are warranted to provide the assistance, support and care they require and deserve from others in order to maintain sound health and well-being. It is therefore, important for all the stakeholders to consider it as a responsibility rather than a burden and adopt flexible and participatory approach in materializing the conceived theme to benefit the ageing population. New technology and the elderly are not likely to go along very well together but it is a necessity to find avenues of common gain rather than finding divergent routes to stray away from the original approach, i.e., their well-being. In doing so, there are several opportunities and hurdles that should be carefully weighed to secure maximum benefits and minimize the systematic losses against the possible investment. The responses from the elderly may not always display expected reciprocity rather may risk losing impetus of the project. But the stakeholders must inculcate the tolerance, patience and resilience, both organizationally and individually to remain optimistic throughout all the stages. The key to success is a few:

- a. Standardized training of all the volunteer trainers and caregivers to deliver desired contributions on ground.
- b. Collaboration between concerned government, community and society representatives to pursue a participatory approach to materialize the objectives.
- c. An uninterrupted and assured inflow of economic and material resources that are necessary for the project.
- d. Inculcating the keenness of willful cooperation and participation among the older population and their families by generating awareness and interpreting the intrinsic value of the project by effective communication.

By participating in the sessions, the older population will acquire adequate guidelines about adapting to the old-age health and safety vulnerabilities, gather working knowledge on maintaining social connectivity through technology, and at a later stage will be able to apply their creativity which could bring some economic gain for themselves.

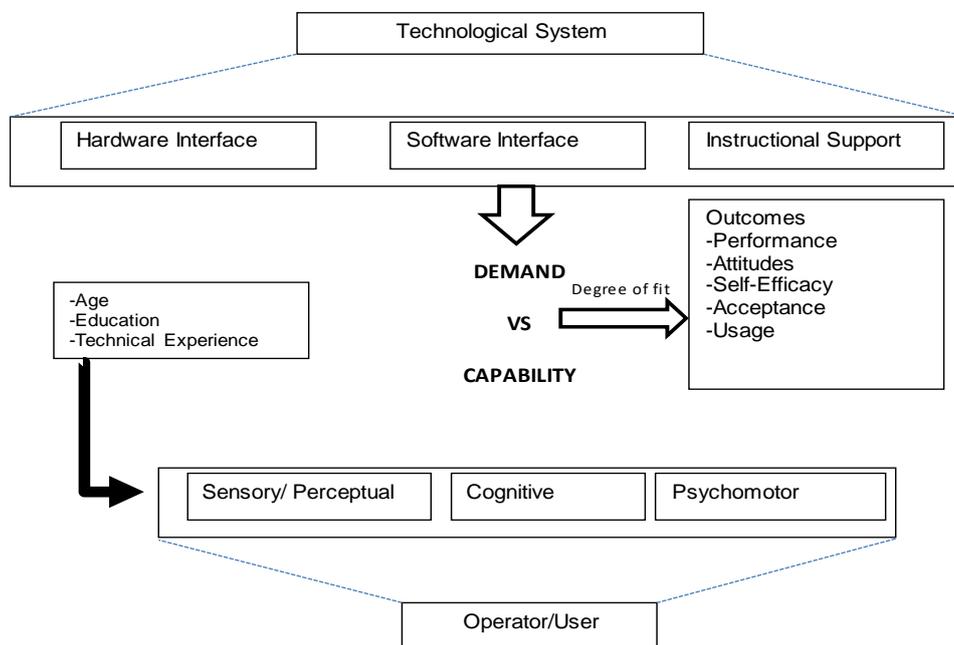
Age-Related Training for Smart Technology

The purpose of the information technology training is to create a better understanding of elderly people to perform a specific task, or use a specific system or device. In addition, the training is designed effectively to help aging-people to utilize technology for assisting their disabilities and implementing self-help. In concordance with the psychological declining, the response speed of the older people will be slower and it needs capability for trainers to give more attention and direction. Therefore, trainers should have a skill and knowledge in how to deliver the program for aging-people.

Information Technology for Older Adults: Technology Utilization

Rapid evolvement of computers technology and recent development of web-based internet has made possible for people to utilize technology in order to make life easier. The concern of this project is on utilization of the information technology for elderly people as assistive tools, such as helping elder people with the smart-phone application to cope with the problem caused by perceptual, cognitive and psychomotor disabilities. For instance, the use of user-friendly technology content, application to help vision & auditory ability drawback, speech recognition application, videoconferencing communication, information database, etc. In addition, our project also establishes community alarm which is installed at every elderly house, in order to give attention to other member of community to help the lonely elderly in case of emergency.

Figure-5. The Use of Technological System for Elderly



Physical Visit to Ascertain Ground Picture

The team carried out ground visit to Chakrawat, District of Samphantawong and do some observation, interaction and on the spot interview with a number of elderly residents of the community. Thereafter, the team went to Wongwinyai to visit the community of elderly at Suan Phlu to compare the situation and refine the concept.

Features of Project for Elderly People

The project provides several programs to empower elderly people to overcome their aging problem consist of:

Training for trainers

To develop the quality of skills and competencies, trainers of this program will obtain short courses regarding how to enhance their ability to teach and care senior adult people, how to

cope with the retention and accelerate learning techniques. In addition, the trainers should understand the participant's needs and how to communicate with the elderly.

Basic IT training for elderly

Assistive technology in the form of user-friendly information technology is giving an aid for elderly to care themselves of emergency situation or chronic condition and develop the self-reliant of senior people so that they can improve their independence, including communication, health caregiver, telemonitoring, and other technology services that enabled older people to survive. According to recent survey there are seven technology domains have been indicated as frequently needed technology for senior people, including:

- Assistive Technologies
- Medication Optimization
- Social Networking.
- Disease Management
- Cognitive Fitness and Assessment
- Remote Patient Monitoring
- Remote Training and Supervision

There are several examples of where technology can be very effectively improving elderly aging shortage and efficiently declining homecare cost, such as:

- Simple Electronic Health Self-Diagnosis and Self-Care

This system allows older people to manage their care plans by using information provide by internet and using video call facility on their smartphone to consult their illness with doctor. Android base application provides virtual visits for persons managing the health and care conditions. On other hand, elderly can use their smartphone to make a simple health check-up such as: blood tension test, glucose tolerance test, heart impulse rate, eye test, hearing test, thermometer for fever test, etc. This IT facility allows the older people able to control their health condition.

- Personal Emergency Response Systems (PERSs)

Through one push call button elderly people can call for immediate help when they are facing emergency situation, for instance: speed dialer contact, voice call, SOS button, etc.

- Cognitive Alert

Help older persons with orientation, appointment and medication reminders, and provides step-by-step instructions to perform activities of daily life such as how to take a medicine, for instance: alarm application, electronic notes, etc.

- Video Gaming Systems

Video games now more widely utilized by care providers in helping older people stay mentally and physically active. Recent scientific research has also shown that brain fitness technologies can improve brain health and that the brain, at all ages, has significant potential to acquire new knowledge and skills with proper training and exercise. By challenging the brain of older people with new activities or games, you strengthen such cognitive skills as the ability to remember something, solve a problem, or use a particular strategy to win a game.

- **Social Networking**

Web-based social networking allows communities of older people to connect, share knowledge, provide support to other older people, and relate to others in similar circumstances. Social networking also helps to overcome social isolation, which is a major problem with negative health consequences. These web-based social networks utilize a variety of means to facilitate communication among client groups including discussion groups, chat, messaging, email, video, and file-sharing. Social networking services connect older people with others in similar age groups as well as to clinicians, caregivers, researchers, health planners and suppliers. Older people can use web-based social networking services to connect with friends and family as well as to exchange their knowledge and experiences of managing their conditions with others. Informal caregiver can use social networks to learn, understand, manage and coordinate care for the person they are caring for. Clinicians are also able to educate and promote preventive health, to collectively understand their patients' needs and to remotely assist the patient, care giver and family members. Medication Adherence Systems: These are proven medication management systems that monitor patient's medication intake and will remind patients in real time if they forget to take the medication as prescribed.

- **Assistive Tools**

The smartphone content applications such as hearing aid apps, screen zoom, electronic magnifying glass help the elderly daily activities. In addition, other apps system such as map with voice direction also can guide elderly with motoric disabilities and blind when they travel so that they are not getting lost. On other hand, installing community alarm is very useful for elderly people to get help whenever they are facing emergency situation.

Health and Safety training

In regards of health and safety training the elderly people will be given more knowledge in how to care themselves while they are living alone. For instance, the elderly is given information about how to do first aid when they fall, how to wash hand and take a bath, avoid jaywalking, reading road or transportation sign for disabilities, how to switch-on emergency alarm, how to travel alone without being accompanied, how to use wheelchair safety, etc.

How to create E-Business

This project has the potential to include additional features involving activity of the elders what can be termed as the "Personal Sufficiency Economic Empowerment via Online Business". All the elders may not be included into this activity, rather those elders who demonstrate workable knowhow of networking, can be encouraged to participate in limited online/offline commercial marketing/other activity and benefit from it. It is likely that many of the elders did possess some creative skills or professional expertise through long years of work in the younger life. The elders must be encouraged to apply their preferred skills/creativities that once was their passion or they were good at, e.g., painting, artistry, fashion designing, making handicrafts, or writing articles, delivering video lectures, sharing life's lessons, counselling, consultancy/advisory through social networking etc. These activities could bring in certain income generation on their account and also would add value to their extended life to remain meaningfully active. There can be special arrangements and initiatives to market/disseminate these products both on and offline (Facebook, Line, Viber, etc.) or selling their products using e-business online affiliation (Lazada, Pantiponline, Bangkokcraigslist, etc.) while the benefits are routed to the elders.

Project Duration

To begin with, the project will start with the stage of selection and initiation and determine an alternative of programs. Project manager should make a decision to choose the prioritized program that is appropriate to public needs and actual situation having identified the problems faced by elderly people as the target participant. Developing project charter is important before planning the programs. The project charter contains of purpose statement, scope of work, identified participant and key stakeholder of the project. As a matter of fact, project charter also serves as the contract between sponsors, team and authorities.

Initially, project team member and stakeholder will do kick-off meeting before running the project. Project manager and team have liability to take into action for running the program and reporting stakeholder and sponsors about the progress of the program. At the end of program, team and stakeholder will meet to discuss the project result. Lastly, monitoring and evaluation will be needed to ensure that the program running well for the next phase or future project.

Role of Stakeholders

This part shows about the function of pertaining individual, institutions, and entities that are most likely affect and be affected by performed project. The stakeholder will give and receive impact of this project implementation

Figure 6-The Role of Stakeholders on HEAL project

Stakeholder	Role
1. Department of Older Persons, Ministry of Social Development & Human Security	-Manage the government program for the older person -Responsible to manage old age home
2.Ministry of Interior	-Involve in local administration, internal security and public works
3.Ministry of Digital Economy & Society	-Involve in technology used and IT regulation concern
4.Ministry of Public Health	-Support medical care materials and healthcare services during the program -Provide database of elderly people -Making policy for elderly people -Funding
5.Senior Citizen Council of Thailand	-Support the program via strategy & materials -Give information about the elderly needs
6. Community Leader	-Give information about the elderly condition &

	situation -Contributing community development
7.Elderly Community	- Participant of the program
8. Head of Samphanthawong District	- Facilitating the program in Samphanthawong districts -Mediator between community and leader -Giving approval to team to involve in their community
9.Community center at subdistrict	-Provide comprehensive service for enhance the quality of life of older citizen
10. Bangkok Metropolitan Authority	-Developing strategic plan to promote quality life of elder of Bangkok in 2014-2018 -Streamline Thailand's second national plan 2021
11.Public & Private Companies	Sponsorship

Project Communication and Integration

To disseminate and establish this program, it is important to get along with community and make a contact with the stakeholders to approve the implementation of this program. In the first stage of this project, we invite the stakeholder (community leaders, elderly community, ministry of social development and human security, ministry of public health, ministry of interior and ministry of information & communication technology and Bangkok metropolitan authorities as the representative of government, senior citizen council of Thailand and Head of Samphanthawong district and the authorities) to attend forum group discussion and public hearing about the project planning and propose our project to pertinent entity. Brain storming will be conduct initially in preliminary session.

Expected Project Outcomes

The HEAL project has its major focus on meaningfully contributing to the health and well-being of the aged through active collaboration and participation from the concerned ministries of government, community representatives and the families. The expected outcomes are enumerated below:

- a. The older population must be able to benefit from the project in terms of adaptive approach to old-age physical and psychological challenges, gather working knowledge on health & safety, learn to maintain social connectivity reducing social isolation, and remain active to maintain themselves.
- b. Through educative sessions and enrichment programs the older persons should experience reduced physical and mental challenges of the old-age hence reduce anxiety and load on the family and dependents.

- c. A constant presence of trained and dedicated volunteer trainers and caregivers to maintain the desired standard of wellness and adaptability of the old persons. A substantial number of reserve volunteers is expected to be readied by each community after the initial training to cover incidental absenteeism.
- d. After initial collaboration, it is expected that the stakeholders also shall be on board and well-motivated to pursue this noble activity into a sustained venture.
- e. It is expected that the project shall prove to be sustainable, effective and far more beneficial compared to the cost of running the project or subsequent program.

Project Evaluation

Cost Benefit analysis

As seen on table below, the benefit of this project consists of several advantage that can be obtained by the elderly people, such as reducing relatives care, reducing hospitalization cost, increasing social interaction and reducing social isolation, overcome dementia problems, developing awareness of the risk of jay walking towards elderly people and improving elderly quality of life and economic condition.

In detail, the advantages of the project can be explained as follows:

a. Reducing relative's care

Our project is mostly aiming to elderly who is living alone without relative that looking after them frequently. Those of elderly type of person are expected to get a benefit from this project by using assistive information technology that will help them become more self-reliant in subsistence condition. For instance, after they join the training, they will able to use the mobile phone to check their bills or saving account, utilize their smart phone to call emergency unit or using the messaging to call the rental home care assistant and delivery service.

b. Reducing hospitalization Cost

In terms of hospitalization cost, the older adults can be benefited from how to do own diagnose on the ailment, checking their health via internet and get brief information how to cope with their health problems, even they will know how to cure them self for the first aid if they got accident. For instance, after join the training class, elderly can be found useful information in in internet about their ill, how to avoid the severe disease, knowledge about medical action which will be taken while they got sick, what kind of healthy food that appropriate with their health condition, etc. However, the efficacy of self-remedy doesn't directly affect the health condition of elderly. In terms of efficiency, this program gradually is expected to cut-off the hospitalization care cost such as therapeutic and diagnostic cost around 5-10% in every year.

c. Alleviate Social Isolation

Nowadays, smart phone with the social media application can give a chance for elderly to socialize and establish social networks that can help reduce alienation and loneliness. For menopause age people with mobility disorder or elderly people that life distance geographically from their relatives, the application-based communication such as texting, e-mail or online instant messenger, can provide needed of social interaction from these family members. Through this application, most important thing that the older age people can gain

advantage from running the program is that they can find new information and disseminate their ideas to others, and build new social ties and discard old ones at will. Travelling through cyberspace does not require physical motion and alleviate social isolation among elderly people. In other words, older adults can generate social networks from their place using the internet connection to maintain their connectivity with others.

Given that an example from the granny people can make social connection via online communication to participate in a wider part of society, making it possible to develop interaction with people that are either similar in interest, experience and or diverse, thus improve participatory on their community.

d. Reduce Dementia problem

Aging cause deterioration in human cognitive and psychomotor sensing and slower their ability to remember. Most of the elderly feel distress and need aid from others to remind something. For living alone elderly, the need of family member and formal caregiver is very important to direct them day to day. Our project provides computer-based application that may be giving aid on people with dementia to overcome their problems. Such as: help people with dementia remember what they have said via picturesque recording, assist senior people with dementia to opt what they want to do on a daily basis, facilitate a path for senior people to express their views and support conversation during social interaction, provide a notes, picture or voice record to communicate with other, conduct enjoyable activity that makes elder people with dementia feeling exuberance and living meaningfully.

e. Reduce Accident Because of Jaywalk

In the last decades, the number of road accident in Thailand has decreased, but fatality of jaywalk among the elderly pedestrian of Thailand is increased, making the elderly most vulnerable victim of road accident. Seniors people usually move in slower speed than younger when they are crossing the street. Some of them even cross the street without obeying the road sign and concerning the danger of road crossing because of hearing disorder, problem with their vision and slow reflexes. Our program provides training on elderly to frequently remind them and give information about the risk of jaywalking which cause the permanent injury, fractures and even death.

f. Increasing economic benefit

In addition, our project also including the improvement of community economic condition to enhance the community quality of life especially for elderly people through the elderly business capability empowerment such as: train the elderly people in making their own product, affiliating in online business, and promoting their product trough internet. It is expected that senior people can create their own income to support their live and community by utilizing e-business application.

DISCUSSION

a. After the team investigates Chakkrawat community of Samphanthawong District, the ground realities explain that the local population does not strongly participate in the community affairs rather maintain a strong family bond that has been established over 200 years.

b. The observation was conducted on weekday so the number of elders shows much higher than the calculated figure from secondary data as adults were away on work or other commitments.

- c. In accordance with government policy, it was found that elders regularly receive allowance from government (minimum 600B) and get annual basic medical checkup for free, but most of them expressed that amount is not enough.
- d. It is found from our interviews that the elderly persons are aware but reticent to go to community clubs.
- e. Area has high economic activity and those who have money take good care of elder family members, whereas the elders without family mostly poor many stay in street doing nothing and sleep around temples. In addition, it was observed that many older persons work even in their late sixties.
- f. It was observed that some of the local Shrines have club where regular meditation/spiritual education is conducted, these venues may be utilized for training of elders under HEAL project.
- g. It was found through the interviews that most of the elders consider that internet and smartphones are meant for the teenagers only and they comfortably use landline telephones to communicate. They are mostly unaware of the potential benefits of IT connectivity. Mostly they watch Television at home during their leisure time.
- h. It was found that motivating and bringing the elder persons to training classrooms would become a major challenge to implement the HEAL project.
- i. It was found that government's connection to the well-being of the older population is mostly confined to monthly allowance provided to them, hence finding the requisite financial resource could become a major hurdle in implementing the project.
- j. It was also found that the elders prefer to be cared by their own kin, instead of professional caregivers. The caregivers should therefore, be from the same community and known to the elderly for ease and comfort in discharging their responsibilities. Samphanthawong has high degree of economic activities that engages most of the available work force hence finding volunteers may become challenging, requiring an institutional approach from the authority.
- k. During the team's visit to Suan Phlu, in comparison with Chakkrawat community of Samphanthawong district, Suan Phlu community of Wongwian Yai district has better interaction and connectivity among the elderly, and they mostly socialize regularly during community events and gatherings.
- l. It was revealed through interaction that the community bond was established internally by the members of community and supported by the community leaders through regular participation and exchange.
- m. It may be added that the community is very participative in terms of giving subscriptions and donations to strengthen the existing organization, therefore it was expressed by some of the community members that in the absence of adequate resource from the government, individual donors may come forward to support the noble project like HEAL.
- n. Comparing between the two, Suan Phlu could be the examples of the best practices as more or less a model of an elderly program but the real challenge and necessity lies in getting the communities of Samphanthawong on board so that its elders can enjoy the benefits.
- o. It was observed that most of the passengers of government-sponsored shuttle buses were elderly men and women suggests that similar transport arrangements need to be spread at densely populated areas of the city.
- p. Comparing the elderly population and overall situation of the above two separate communities, it is apparent that every community situation is to be viewed from unique perspective and be customized as appropriate to derive maximum benefit from the project.

Conclusions

The elderly population in Thailand is growing rapidly while there is a reduction in rate of childbirth which increases the dependence ratio on the future workforce but the society has remained the same. Many elder Thais still work well beyond the retirement age, and earn money in order to contribute and support the family. They also provide unpaid assistance to the grandchildren when the adult children are compelled to work away from home. But the ageing-effect gradually begins to tell on their health and the old-aged persons become more dependent on their adult children for support and care they need. The increase in national life expectancy however, is a positive sign for the government to deduce that the policies and programs for the Thai elderly are effective and causing the extension of their longevity. While it is satisfying to see the elders alive for more number of years, it is also important to see that their extension of life is worthwhile, enjoyable and manageable. The existing policies and programs undertaken by the Thai government have been very relevant and useful, though there are much more to be done. The Old Age Allowance and Pension benefits are substantial but not adequate to reduce the contributions from the family (Knodel 2013).

The study of Project HEAL focuses on the aspect of assistance needed by the old and having them better prepared to make their extended life more convenient, pleasant and valuable. By generating awareness of the ageing challenges, by giving advices how to acclimatize with the gradual loss of cognitive abilities, and by introducing the benefits of modern technology, the ageing population will be able to reduce their difficulties to a great extent; e.g., using assistive technology the elders shall benefit approximately seven times more in terms of health and wellness compared to interventions without technology. The accumulated benefits of the HEAL project will surpass the invested cost rapidly and the elders can, to some extent manage themselves and remain aware of the ensuing ageing challenges. The project benefits are multiple and by the second year it comes in break-even. The major benefits are: reduction of family care, minimizing hospitalization expenses, decrease loneliness due to social isolation, reduction of dementia problems, decreasing chances of accident due to jaywalking and creating opportunities for economic benefit. The government contribution has a shortfall of one-tenth of the actual household care expenditure for elderly, excluding other accrued expenses due to chronic illnesses. The time-value of cash incentives also has a declining effect in the long run, whereas the growth benefit of HEAL project increases by one half (more than 50%).

The project is designed for a limited duration but the need to have this kind of project exceeds the constraints of time, hence there is a need to have considerations at concerned ministries of the government (Ministry of Public Health, Ministry of Social Development and Human Security, Ministry of Interior, Ministry of Digital Technology etc.) to apportion the required financial and other resources to guarantee an uninterrupted funding to sustain this noble initiative. It may be noted that the allocation needs to be increased by 100% from the present amount (discussed in Project Results). Direct involvement and support from the Ministry of Public Health, Ministry of Social Development and Human Security, Ministry of Interior and concerned departments and organizations remain as the major stakeholders and is essential. Success of the HEAL project will also depend on the cohesive approach by all major stakeholders i.e., concerned government ministries and departments, community organizations, and members of the society/family. The moral mindset of coming to the assistance of the elders is more essential than having expensive array of inventories and attractive activities. The dedication, motivation and commitment of the volunteer trainers and caregivers will make the difference in the effective implementation of this project between an excellent and not-so-good project. They must be well-trained and develop the caring attitude

coupled with patience and tolerance. There should be a cache of reserve-volunteers to compensate for the possible absentees.

Adapting to technology will give the elders opportunities to create and market products by themselves utilizing their creative skills and expertise. This “Personal Sufficiency Economic Empowerment via Online Business” will be a voluntary activity encouraging part of the elders who are willing to apply their preferred skills/creativities e.g. painting, artistry, designing, handicrafts, or creative writing, delivering video lectures, sharing life’s lessons, counselling, consultancy/advisory through social networking etc. Such activities will add value to their living and also fetch some economic benefit through online/offline marketing. Research findings suggest that older adults are also willing to avail the technology but they are likely to have more difficulties compared to younger persons. Technology is seldom customized to meet the specific abilities and limitations of the older users. Mostly the gadgets, devices and the apps are designed for general users. It is recommended that the manufacturers and designers may revisit their products and customize those, and add additional features or simplify their use so that the elderly and the persons with limited abilities may also make their best use. Above all, the HEAL project will fill in the gap of programs that are already in vogue and better prepare the older-adults to remain jovial, sociable, connected and meaningfully engaged for the remainder of their useful life. In addition to that, having conducted such initiatives for some time, both the government, and the society will be able to derive benefits as it will lessen some portion of their enormous responsibility i.e., helping the elders aged learn to live (HEAL) healthily, happily and comfortably.

Recommendations

In light of the foregoing, in order to implement and sustain the HEAL project, following are recommended:

- a. Additional Government budget allocation is necessary for two years beginning in 2022 to cover the initial establishment expenses. The project may be replicated countrywide incorporating lessons from the pilot project.
- b. Volunteer caregivers for the project are to be recruited or provided to the project by the Department of Older Persons, Ministry of Social Development and Human Security.
- c. Available Community Centers and Older Clubs within districts are allowed to conduct educative sessions of project HEAL.
- d. To reduce burden on government exchequer during the countrywide program, sponsors and/or donors outside government are encouraged to contribute. Necessary legislations may be promulgated to enforce/create obligations of legal compliance from the large enterprises to contribute on Corporate Social Responsibility.
- e. Communication of the project has to be made in the available media and educative sessions, DVD/video presentations are to be organized at community level to generate awareness among families and dependents.
- f. Active cooperation between concerned ministries of the government, community representatives and members of the society is of utmost importance.

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