

Future Trends Report
Based on Analysis of the Future Scene in Mid-Term and Final Evaluation

Group Id:10-09

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Title: Coping With Singapore's Ageing Population

STEP 1. Identify Challenges

Challenge 1:

As the elderly would be staying at home more often, they would lack social contact with the people outside their homes.(fact). This could cause them to have a weaker mental health and may lead to dementia and depression.(Large Consequence) The elderly would be lonely as they had no way of communicating face to face with each other.(Inferred Problem) Technology would have become so advanced that they would not even have to leave the house at all. Thus, all communications with people outside their homes would have to be done through online, which some elderly might not know how to do. This kind of lack of communication will cause the elderly to sink into a state of bad mental health or depression. A study was carried out on 55 elderly (both men and women). Most of the elderly were found to be average in the dimension of sociability and they preferred to be engaged in social interactions. This problem could be very important in the future, especially when technology evolves and elderly would not need to step out of their house. Thus they would be cooped up at home. Over 50 percent of all people who died of suicide suffered from major depression. This shows that there would be a high chance of old folks inflicting harm on themselves due to loneliness. Elderly prefer face to face contact rather than online contact. If they do not interact enough, it may lead to many physical and psychological problems they would lead to unwanted complications.

Challenge 2:

As many elderly are deemed "weak", many of them would prefer to stay at home and may not be allowed to go out.(fact) They may lack physical activities as there is a limited space at home. Many elderly like to exercise to keep fit, but this may prevent them from doing so.(Inferred problem) According to agingcare.com, frequent physical activity lowers the risk of heart disease and reduces blood pressure. Strong lungs and airways and a healthy heart and vascular system allow the body to function properly and more efficiently clear out and destroy any viruses and bacteria that can make us sick. The benefit of elderly frequently exercise includes:Boosted Immunity System, Better Respiratory and Circulatory System, Stronger Bone, improved Digestive System and Protection Against Chronic Conditions

Challenge 3:

Elderly that work in companies would not not have enough physical strength for simple tasks, such as cleaning a table or mopping the floor due to not exercising.(fact) This may result in injuries if they do not have the physical strength to break their fall. (Inferred problem) Tests results show that found elderly adults – 70 years or older – who experience ground-level falls are much more likely to be severely injured and less likely to survive their injuries compared to adults younger than 70 years. Elderly patients are three times as likely to die following a ground-level fall compared to their under-70 counterparts.(larger consequence) As technology continues to become better and better, the elderly may not be able to use any technology as they do not know how to use it. They may not be able to keep their jobs due to competition from both the younger generation as well as machines and robots. To allow them to maintain their job, they should know how to use electronics that they may encounter during work and they should maintain a good physical shape.

Challenge 4:

The elderly's family members would not have enough money to support the elderly's health care fees. Singapore may have to foot a bigger health bill to care for its ageing population. Government expenditure on healthcare is expected to "rise quite sharply" in the next three to five years, Finance Minister Heng Swee Keat said he expects it to go up by at least \$3 billion by 2020 from the current levels. This would also cause the costs of health care for the families to increase and cause there to be an additional financial burden. As time goes by the cost of living will definitely increase due to the fact of the rapidly advancement of industrialisation in Singapore, thus the financial burden of the children or family members of the elderly. They might be unable to bear this burden and thus might lead to them leaving their elderly parents in nursing homes or just give up on paying for the elderly's health care costs.

Challenge 5:

The elderly would not accept certain electronic equipment in their houses. They might become skeptical or afraid whenever they see a robot or a sensor in their house. They would think that the sensor and robot are an invasion to their privacy. They might try all means to get rid of the robot or they might become insecure and physical health. Fear weakens our immune system and can cause cardiovascular damage, gastrointestinal problems such as ulcers and irritable bowel syndrome, and decreased fertility. Fear can interrupt processes in our brains that allow us to regulate emotions, read non-verbal cues and other information presented to us, reflect before acting, and act ethically. This impacts our thinking and decision-making in negative ways, leaving us susceptible to intense emotions and impulsive reactions. All of these effects can leave us unable to act appropriately.

Mental health. Other consequences of long-term fear include fatigue, clinical depression, and PTSD. Fear can impair formation of long-term memories and cause damage to certain parts of the brain, such as the hippocampus. This can make it even more difficult to regulate fear and can leave a person anxious most of the time. To someone in chronic fear, the world looks scary and their memories confirm that.

Brain processing and reactivity.

STEP 2. Select a Fundamental Problem

Incorporating Challenge(s) # 1, 2, 3

Fundamental problem:

Given that most elderly are not able to move about physically as much as they are usually cooped up at home due to the advanced technology, how might we encourage them to go out to exercise and interact with others so that they will not be end up having health problems and incurring high medical costs, in the year 2030 and beyond.

STEP 3. Produce Solution Ideas

Solution 1:

The government should build more places, such as the community centres, where people can get together to exercise for free or a low cost. The places could conduct exercise classes, for elderly to exercise daily. This would allow elderly to interact and exercise, reducing health problems. According to the Straits Times Online published on December 12, 2017, more places are opening for seniors to get strength training. This would ensure that the elderly live a healthy lifestyle if they exercise in a group regularly with a verified exercise instructor. If there are many elderly working out together, it would be very encouraging for other elderly to join in, and this can promote interaction. This would definitely improve their physical health and would have many health benefits. People can get together and communicate without having to be so preoccupied with their phones all the time. This would make the elderly very happy as they prefer face to face contact to contacting their loved ones or friends through a phone or a computer. The elderly would no longer feel lonely as they would be with their friends. This would also improve their mental health.

Solution 2:

Based on the future scene, fitness programmes for the elderly can be shown on the "Elderwatch programme", and encourage the elderly to workout to keep fit. There can be special workouts for elderly who are disabled or not in shape.. Hence all elderly will be able to do the workout and stay healthy. According to research, adults aged 65 and above, need at least 150 minutes of moderate aerobic activity such as cycling or walking every week, and if the elderly exercise daily, even maybe up to 2 or 3 times, they would definitely be able to keep fit. Companies can also the program robots that take care of the elderly at home to encourage elderly to get up and exercise at home. They can also teach elderly to do simple dance or exercise moves for them to keep fit at home. The robot can demonstrate and if this exercises are displayed on the television too, the elderly would be very motivated to try them out. The robots could also be inputted with a rewards program, if the elderly already did a certain amount of exercise, they would get a simple reward.

Solution 3:

The government can create a simple fitness tracker for every single elderly, and keep them updated on their progress by a simple app on their mobile phone. The tracker could be programmed to remind elderly to walk about 200 steps every 1 hour. They could also have a leaderboard, to encourage friendly competition among the elderly. The top few elderly can get points which accumulate to redeem rewards. If they meet the goal of 10,000 steps a day, they also get a certain amount of points. If the elderly enter a certain fitness lesson that is partnered with the government, they can also redeem points on the exercise they completed and how long the elderly did the exercise. If they go cycling or do any other fitness activity, the watch has a function that would keep track of it and would tabulate the score and award them to the elderly.

Solution 4:

The government should initiate an organization that would organize events in the community centres that allow the elderly to come together and socialize with each other. An example of an event could be a mealtime where elderly can sit together and share about their lives. The events could be a help to those elderly who can't cook and have no one to cook for them so they have to go out every day for meals. Through the events, the elderly would be able to spend more time with other people socializing instead of spending the day at home alone. Studies by the University of York have shown that people with less social interaction have a higher risk of developing illnesses because they are less likely to exercise or see a doctor. If the elderly spend time together, it would help them decrease their risk of diseases like high blood pressure.

Solution 5:

The government can hire people that will go to the elderly's house and take care of them by caring for their health, feeding them, helping them move about and etc. This could also help the elderly as this would allow the elderly to get the social interaction that they need. A study was carried out on 55 elderly people (both men and women). Most of the elderly people preferred to engage in social interactions rather than be "chasing" technological advancements and be devoid of social interaction. Besides that, it can also prepare the younger generation to be more able to communicate with the elderly. According to gov.sg, there are 440,000 elderly in Singapore today, and is expected to increase to 900,000 by 2030. As the number of elderly increases, the need for people to be able to communicate also increases. By implementing this method, it helps the younger generation to better connect and socialise with the elderly. The elderly would also feel less lonely. Hence a win win situation.

STEP 4a. Select Criteria

Criteria 1: **COST**

We feel that cost is very important as the solution must not be too expensive for both the organiser and the participants.

Criteria 2: **CONVENIENCE**

We feel that the solution must be easily executed and convenient for the elderly.

Criteria 3: SOCIAL INTERACTION

We feel that the elderly should also not lack social interaction and the solution should also have certain aspects of communication and social contact with others.

STEP 4b. Apply Criteria

Step 3 Solutions	Solution Idea	Criteria			Total
		1	2	3	
#Solution 1	Build more community centers	2	2	4	7
#Solution 2	Fitness programmes on TV programmes for elderly	3	3	1	7
#Solution 3	Fitness tracker	5	4	2	11
#Solution 4	Organisation that organises activities for elderly	4	1	5	10
#Solution 5	Hire people to go to the elderly's house to take care of them	1	5	3	9

STEP 5. Develop an Action Plan and Evaluate its Feasibility

According to the manager at St Luke’s elderly home, he stated that elderly who do not receive enough interaction have a higher chance of contracting dementia. Besides that, the website gerontology.usc.edu stated that exercise is important for the elderly to stay healthy. As the population of elderly increases, the need for them to be healthy also increases. If many elderly get sick due to an unhealthy lifestyle, many elderly would end up in the hospital with health complications. This would definitely be hard for the hospitals to cope with the number of elderly occupying there and some elderly may not be able to cope with the high incurring cost of medical treatment. Elderly must also thus feel as a burden on their children just because they are not healthy and fit, which may lead to poor psychological health. Hence, we find that the best way to allow the elderly to have enough interaction and also exercise is to introduce a fitness tracker. The fitness tracker can host friendly competition for the elderly to spur them to walk more. As they go out to walk, they can see other elderly and make friends with each other. When completing a certain number of steps, the elderly can also receive a small prize. For example, a \$5 gift voucher for a supermarket such as NTUC or Giant. Thus, it will definitely will be very beneficial for the elderly. If the government does this initiative and gives out the fitness trackers for free, it will be a hit with the elderly. If the elderly overall has a good opinion of the fitness tracker, it would slowly spread among the elderly and their community. This fitness tracker would be very popular and every single elderly would use it and exercise to keep fit. But if the elderly does not find it useful and does not want to use it, word would spread and the elderly would all not be able to interact with one another and the action plan would not be of any use.

to prevent them from doing so, we should have a simple and user-friendly application that the elderly would enjoy using. the application can also be changed by the elderly such as background, display of statistics and even the font size. The watch should also have an attractive interface which allows the elderly to understand and use it simply without any further implications. At roadshows that introduce this product, there can also

be staff that help the elderly to learn about the different uses of the watch, this prevents them of having any problem further on.

Furthermore, there can be a GPS tracker in the watch and the children of the elderly would be able to find them if they go missing or disappear. The watch can also be an alternative for the ez-link card. The elderly would have one less thing to care about and there would be a lower chance of losing a watch than an ez-link card. Hence, this will be a win-win situation for both the elderly and the government. Therefore, we find this method very feasible.

Bibliography

Cite the sources you consulted using the APA format.

List of resources:

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