The Silver Market: Perspectives from Singapore

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• Introduction
• Demographic Changes
• Appropriate R&D and Innovation
• Silver Market Reality
• Concluding Remarks
Demographic Change

The world’s population is aging and, in developed countries, the size of the elderly population has already surpassed that of the 12–24 age group.

Source: IMF, 2006
Business Implications of Demographic Change

Demographic Change
- Aging
- Shrinking

Challenges/threats
- Workforce crisis
- Lost knowledge
- Shrinking customer base

Chances/opportunities
- Silver market/ Silver business
- New product offerings
- New service offerings
Singapore

- newly developed nation
- youthful spirit; vibrant economic development; young leadership

⇒ Ageing nation ??
  ⇒ affordable health care cost
  ⇒ quality lifestyle & living environment for its senior citizens
In this paper:

- Implications of Demographics Changes in S’pore
- Potential Solutions

- technology perspective
- business development and innovation perspective
Demographic Changes

• What will be the demographic landscape of Singapore in 2020?
  
  – Fig. 1(a) ⇒ Even in 2005, more than 50% adults (> 14 yrs old) are not in “family with children situation”
  
  – Fig. 1(b) ⇒ By 2020, retired adults increased from 8% to 21% (+ 160% !); “working age empty nesters” increased from 19 to 25% (+ 31%)
Fig 1 Comparison of Lifestyle Profiles 2005 and 2025 (extracted from [1])
What Affects the Baby Population

Culture, economy and policies have affected Singapore's Total Fertility Rate, or the number of children a woman, on average, has over her lifetime.

Legend:
- Highs
- Lows

1976 Dragon Year peaks
1988 1997 Asian financial crisis
2000 2001 and Sars in 2003

Source: MICA

2.1: Replacement level
- Silver-haired (Aged) Population
- Aggravated by the low fertility rate (far below the replacement level)

- government to relax immigration rule
- public and private sector companies need to get better prepared
  - avoid/reduce threats
  - take advantage of emerging opportunities
Appropriate R&D/Innovation

Public Sector Research:

- Two major universities (NUS & NTU):
  multidisciplinary engineering research which creates relevant technologies that may have impact on personal wellness, quality lifestyle and living environment for the aged
  
  Example: “Assistive Technology for Personal Wellness and Quality Living”

- Research institutes under Agency for Science, Technology & Research (Institute for Infocomm Research, S’pore Institute of Manufacturing Technology, etc) develop enabling technologies.

- National Research Foundation – Special Call for Competitive Research Programme in the area of Ageing Population.
Matrix Chart showing the projects and their linkage to various research objectives

<table>
<thead>
<tr>
<th>No.</th>
<th>Project title</th>
<th>Promoting healthy lifestyle</th>
<th>Improved diagnostic and monitoring techniques for degenerative illnesses</th>
<th>Improved treatment compliance</th>
<th>Support for care giving</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Augmented Reality (AR) in Assistive Technology (AT) Devices</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>2.</td>
<td>Smart Living Environment</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>3.</td>
<td>Improved Diagnostic, Monitoring &amp; Treatment Techniques for Degenerative Diseases</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>4.</td>
<td>Development of An Intelligent Physiotherapy System</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>5.</td>
<td>Intelligent electro-acupuncture technology and Device</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
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<tr>
<td>6.</td>
<td>Context-dependent medication Serving system</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
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<tr>
<td>7.</td>
<td>Development of a Computer- Controlled Adjustable Seat System for Therapeutic and Rehabilitation Purposes</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>8.</td>
<td>Wireless Sensor Networks in Home Environment for Telephysiotherapy</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>9.</td>
<td>Ambient Assisted Living for the Dependant Society</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>10.</td>
<td>Balancing Rehabilitation Training and Control for Individuals with Weak Motors</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
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<tr>
<td>11.</td>
<td>Rehabilitation of Hand Function after Stroke</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>12.</td>
<td>Detection of Abnormal Conditions in Activities of Daily Living</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>13.</td>
<td>Assistive Technology for Diabetes Management</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

Fig. 2 An Example of broad R&D proposal
Singapore in 2020

• Scenario 1: Ageing Society
  ➢ Mobility
  ➢ Healthcare
  ➢ Communication
  ➢ Productivity/Autonomy

Socio-economic issues can be incorporated in the programme
First scenario - Aging Population

- Home / Office Accessibility
- Driver-assisted Vehicles
- Physical Renewal
- Mental Health
- Healthcare for the aged
- Early Detection & Prevention
- Mitigation & Treatment
- Alternate Food Sources
- Mobility & Physical Support
- Robotics
- Increasing Workforce Productivity
- Communication & Monitoring
- Remote Caregiving
- Keeping in touch with friends & family
- Elderly Nutrition
Private Sector:

• First-ever Silver Industry Conference & Exhibition in S’pore held on 12-13 Jan 2008
  ⇒ 35 companies (mostly new high-end or matured products already proven in advanced countries)

• Tiny market (population of 4.5 million)

• But Singapore could be a good test-bed for new products for the mass markets in Asia (outside Japan)
  ⇒ Disruptive Products ??
• Majority of aged consumers may need specific health care on a prolonged basis as they are living longer

• Healthy senior citizens (better educated) want a reasonable lifestyle

  ⇒ Silver Market: price-sensitive and price-performance

Disruptive Technologies: “Good enough” performance, simple-to-use and affordable!
Silver Market Reality

• Spire’s Research (2007)
  ➢ only 23% of international companies in 11 regional companies currently employed marketing strategies targeting the population aged over 50

• Singapore Government’s strategies include attracting MNCs to use Singapore as a R&D hub to “Asianise” their products and also use Singapore as a “test-bed” for Asia.
• One advantage of Singapore is that the Government could play a role (with its Ministerial Committee on Successful Ageing):

– public budget to help test-bedding disruptive solutions which are affordable with “good enough” functionalities and quality for the benefit of heartland seniors

– from S’pore to the region, similar to the spread of S’pore style public housing (Surbana exporting knowhow and solutions to Middle-East, China, etc)
Concluding Remarks

• Huge opportunity for S’pore-based MNCs and SMEs which apply the right innovation strategies to develop appropriate products and services

• Key technologies developed in the R&D labs of public and private organizations tend to be radical, high-end applications. We need to quickly reshape them as disruptive technologies suitable for the silver market.