Market analysis of personalised nutrition in the silver economy

Final report

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1. PERSONALISED NUTRITION IN THE CONTEXT OF THE SILVER ECONOMY AND METHODOLOGY

1.1 Presentation of the personalised nutrition market for elderly people

1.1.1 Analysis of the environment

The personalized nutrition market for elderly people takes place in a context that encourages effort to improve the elderly people health. Indeed, in Europe, increasing knowledge of aging mechanisms and improving healthcare allows for a longer life expectancy. Combined with a lowering birth rate, the proportion of the elderly population increases.

In addition, in recent years the purchasing power of the elderly population tends to increase in most European countries and their willingness to spend more on health-related expenses is increasing. As the current tendencies in nutrition go towards eating healthier to improve general health, the economic market is favouring the development of new products or services.

In addition, on one side, recent advances in medicine point out that older people need to shift their nutritious intake by adding more proteins and specific vitamins into their daily diet. On the other side, the development of information and communication tools allowing to monitor nutrition is also on the rise. Altogether, there is a need for specific nutrition of elderly people and tools to help monitoring and supporting this need. It introduces opportunities on the personalized nutrition for elderly people market. To develop this market, the senior population will need to be better informed about recent advances in this field.

Specific guidelines for people over a certain age could be provided and advertised by governmental institutions, as it is the case in most countries for young children. The food and agriculture organization of the United Nations (FAO) has listed every food-based dietary guidelines published by governmental entities. Within the countries of the INCluSilver project, Denmark and France are the only two that published guidelines specifically for people over 55 years old. There is nevertheless a need for better advertisement of these guidelines. In addition, food guidelines for elderly may have been published within countries by other non-governmental entities that may have as much impact and publicity as what has been published by governments.

Finally, to add products in this market, industries will need to follow European guidelines and regulations. A summary of the environment of the personalised nutrition market in the silver economy can be found in the pestle graph below (see Figure 1).

1 “The silver economy in southwest Europe”, 2015
2 http://www.fao.org/nutrition/nutrition-education/food-dietary-guidelines
### 1.1.2 The targeted population

For the purpose of this market study, we will consider that the elderly population consists of all adults aged 55 years old and more. This population can be segmented in 4 categories:

- **the young elderly**: this category corresponds to adults aged 55 to 64 years old. Most people in this age category are still employed and preparing for retirement.
- **the active elderly**: this category corresponds to adults aged 65 to 74 years old. At this age, people are recently retired and feel positive about their life;
- **the weakened elderly**: this category corresponds to adults aged 75 to 84 years old. At this age, people are getting less dynamic and start to experience loss of some senses including taste.
- **the elderly with decreasing autonomy**: this category corresponds to adults aged 84 years and older. At this age, they get less autonomous and have increasing needs, including specific nutrients.

These four categories can be further subdivided in people leaving alone, with their family or in care home for elderly adults. Consequently, the main populations to target in the silver economy can be divided into the youngest and healthy elderly people (less than 75 years old), the oldest and weak elderly people (over 75 years old) and the non-autonomous elderly, mainly living in nursing home. The silver economy market is highly dynamic in occidental countries, including Europe, since the population is getting older and older. As an illustration,
in the European union, the elderly population is expected to double and reach 30% of the total population by 2050 when compared to 1995, according to Eurostat1.

1.1.3 The services in development for the personalised nutrition market of elderly people

The personalised nutrition market for elderly people can be divided in several applications:

- **The agri-food industry** represents the largest part of the market. It consists of new products specifically developed for elderly people needs. Typically, it can be products with specific nutrients that elderly people lack such as vitamins, or easy-to-eat products. In this category, the innovation can also consist of the ease of product’s use such as an opening adapted to elderly people. The agri-food market for silver economy can therefore be further subdivided in:
  - product formulation (specific nutrients...);
  - product design (food texture, shape);
  - packaging (easy-to-open format and bigger fonts)

- **The information and communication technologies (ICT)** gathers all connected objects that could help personalising the diet of older adults. For example, web platforms and applications helping elderly people in their nutrition are part of this product/service category. It can also be services to choose or localise adapted products.

- **Home services** consisting of food delivery or at home cooking services, as well as all services that target well-being at home of elderly people, could also be used for personalised nutrition of elderly people.

We will also address the networks of distribution of these various applications.

1.2 Methodology

For each market segment (Agri-food, ICT and home services), we will first evaluate by a documentary review the value of each market. By assessing the demographic distribution of senior people in Europe and together with available data on the silver economy market, we will be able to refine the personalised nutrition market for senior adults in more detail. In addition, interviews with doctors or scientists with expertise in this field or companies, we will further refine this market through the evaluation of the budget per person, the average cost of food or the budget spent on devices/applications, among others.

For each market segment, we will also describe:

- the tendencies of the market and the main actors and their products, services or technologies.

- the key features, advantages and obstacles in presence to enter the personalised nutrition market for elderly.

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1 Eurostat news release – 129/2006
2. QUANTIFICATION OF THE OVERALL SILVER MARKET OF PERSONALISED NUTRITION FOR SENIOR ADULTS

2.1 The silver economy market

In 2015, the EU silver economy has been estimated at €3.7 trillion\(^1\). With the increase of population ageing, the EU silver economy will reach approximately a global amount of €5.7 trillion by 2025 (a CAGR equivalent to 5% per year).

In parallel, the global nutrition and supplement market was evaluated at $93 billion in 2015. This market is growing fast with an expected CAGR between 6% and 7% to reach $127 billion in 2020\(^2\).

![Figure 2: The silver economy market](image)

Of note, it is important to realise that the increasing spending capacity of the elderly population might be different from one European country to the other. However, with the number of elderly people rising, the overall spending compare to other age groups will increase.

The aim of the study is therefore to specify the share of the nutrition into this general silver economy market, and to determine the more interested segments in nutrition for SMEs in Europe.

---

1. 2015 technopolis report – The Silver Economy
2. 2016 Globaldata report – dietary supplement in an age of personalised nutrition
2.2 The European demography

2.2.1 Distribution of the European population by age

In 2015, there were 516 million people accounted for in Europe. The older adults (55+ years old) represented 30% of this population, approximately 155 million people (see Figure 3).

The percentage of elderly adults in Europe

![Pie chart showing the distribution of elderly adults in Europe]

Figure 3: distribution of the European elderly population

Within the European elderly population, the young elderly (55-64 yo), the active elderly (65-74 yo), the weakened elderly (75-84 yo) and the elderly with decreasing autonomy (85+ yo) represent approximately 67.1, 46.4, 31 and 10.3 million people, respectively (Figure 3).

Overall the distribution of each category of senior adults is similar between European countries. However, the cost of living or service fees might differ from one country to the other, therefore the market might vary. Importantly, the largest part of the market consists of people aged 55-64 years old, followed by 65-74 years old (13% and 9% of the overall population on average between countries, respectively see Table 1 and Table 2). With the increasing life expectancy and better health, the percentage of people in each category will rise tremendously. In fact, Eurostat estimated that the population of elderly people over 65 years old will have doubled by 2050 when compared to 1995, representing about 30% of the global European population (they currently represent 17% of the population). In this market study, we will describe in priority the countries included in the INCluSilver project (Table 1).

The elderly population can be further segmented through the number of people living at home independently, or in long-term care living in residences. The OECD provided statistics in 2015. The estimated percentage of people in long-term care (LTC) in residences and for the countries that participate in the INCluSilver project (Hungary data were not available on the OECD website) and Germany can be found.

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1 Eurostat data, 2015
Table 1: Demography of elderly people in INClusilver member countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Total population</th>
<th>55-64 years old</th>
<th>65-74 years old</th>
<th>75-84 years old</th>
<th>85+ years old</th>
<th>Number of 65+yo in LTC in residences</th>
<th>Percentage of 65+yo in LTC in residences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
<td>5,560,628</td>
<td>12%</td>
<td>10%</td>
<td>5%</td>
<td>2%</td>
<td>945,307</td>
<td>4%</td>
</tr>
<tr>
<td>Germany</td>
<td>80,213,695</td>
<td>14%</td>
<td>11%</td>
<td>7%</td>
<td>2%</td>
<td>16,042,739</td>
<td>4%</td>
</tr>
<tr>
<td>Greece</td>
<td>10,813,286</td>
<td>12%</td>
<td>10%</td>
<td>8%</td>
<td>2%</td>
<td>2,162,657</td>
<td>na</td>
</tr>
<tr>
<td>Spain</td>
<td>46,815,910</td>
<td>12%</td>
<td>8%</td>
<td>7%</td>
<td>2%</td>
<td>7,958,705</td>
<td>2%</td>
</tr>
<tr>
<td>France</td>
<td>64,933,400</td>
<td>13%</td>
<td>8%</td>
<td>6%</td>
<td>3%</td>
<td>11,038,678</td>
<td>5%</td>
</tr>
<tr>
<td>Italy</td>
<td>59,433,744</td>
<td>13%</td>
<td>10%</td>
<td>8%</td>
<td>3%</td>
<td>12,481,086</td>
<td>na</td>
</tr>
<tr>
<td>Ireland</td>
<td>4,574,888</td>
<td>11%</td>
<td>7%</td>
<td>4%</td>
<td>1%</td>
<td>548,987</td>
<td>4%</td>
</tr>
<tr>
<td>Sweden</td>
<td>9,482,855</td>
<td>12%</td>
<td>10%</td>
<td>6%</td>
<td>3%</td>
<td>1,801,742</td>
<td>5%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>63,182,180</td>
<td>12%</td>
<td>9%</td>
<td>6%</td>
<td>2%</td>
<td>10,740,971</td>
<td>4%</td>
</tr>
<tr>
<td>Hungary</td>
<td>9,937,628</td>
<td>14%</td>
<td>10%</td>
<td>6%</td>
<td>2%</td>
<td>1,788,793</td>
<td>na</td>
</tr>
</tbody>
</table>

The number of people over 65 years old in LTC in residences seems quite homogeneous between countries between these ten European countries.

Table 2: European demography by country in other European countries of 65+ yo

<table>
<thead>
<tr>
<th>Country</th>
<th>Total population</th>
<th>65-74 years old</th>
<th>75-84 years old</th>
<th>85+ years old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>8,401,940</td>
<td>10%</td>
<td>6%</td>
<td>2%</td>
</tr>
<tr>
<td>Belgium</td>
<td>11,000,683</td>
<td>8%</td>
<td>6%</td>
<td>2%</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>7,364,570</td>
<td>10%</td>
<td>7%</td>
<td>1%</td>
</tr>
<tr>
<td>Croatia</td>
<td>4,284,889</td>
<td>10%</td>
<td>7%</td>
<td>1%</td>
</tr>
<tr>
<td>Cyprus</td>
<td>840,407</td>
<td>8%</td>
<td>4%</td>
<td>1%</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>10,436,560</td>
<td>9%</td>
<td>5%</td>
<td>1%</td>
</tr>
<tr>
<td>Estonia</td>
<td>1,294,455</td>
<td>10%</td>
<td>6%</td>
<td>2%</td>
</tr>
<tr>
<td>Finland</td>
<td>5,375,276</td>
<td>9%</td>
<td>6%</td>
<td>2%</td>
</tr>
<tr>
<td>Iceland</td>
<td>315,556</td>
<td>7%</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Latvia</td>
<td>2,070,371</td>
<td>10%</td>
<td>6%</td>
<td>2%</td>
</tr>
<tr>
<td>Liechtenstein</td>
<td>36,149</td>
<td>8%</td>
<td>4%</td>
<td>1%</td>
</tr>
<tr>
<td>Lithuania</td>
<td>3,043,429</td>
<td>10%</td>
<td>7%</td>
<td>2%</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>512,353</td>
<td>7%</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>Malta</td>
<td>417,432</td>
<td>10%</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>16,655,799</td>
<td>9%</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>Norway</td>
<td>4,979,954</td>
<td>8%</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>Poland</td>
<td>38,044,565</td>
<td>7%</td>
<td>5%</td>
<td>1%</td>
</tr>
<tr>
<td>Portugal</td>
<td>10,562,178</td>
<td>10%</td>
<td>7%</td>
<td>2%</td>
</tr>
</tbody>
</table>
2.2.2  Distribution of the population by eating habit (excluding people in LTC or hospitals)

Independent people over 55 years old can also be divided in several groups depending on their eating habits:

- Most of the **young and active retire** are not aware of the necessary changes in diet that operate after a certain age. Therefore, they eat similar food and as they are still active, their health is not affected instantly by the lack of specific nutrients.

- **Older retirees that live with at least one person** see their activity decrease as they age. Therefore, their food intake is higher and they “burn” less calories, increasing the chance to develop health issues. As a result, doctors recommend a modification of their diet that changes the way they think about their nutrition.

- As they get older and even less active, **older retire that leave alone** have a much higher chance of isolation and malnutrition. Their appetite for food also decreases making it difficult to eat all nutrients needed. Their ability to swallow or chew also decreases with age. Dr. Beck from the faculty of health in Copenhagen mentions that for them, not having products that look similar to regular food makes older adults at higher risks of health issues. The reasons can be diverse:
  - Since their food does not look the same, they do not want to eat with their family or friends so that there is no comparison. They therefore eat less as they are by themselves and at the risk of malnutrition;
  - In other cases, they might refuse to use specific products and risk choking to be able to eat with others.

To avoid these issues, there is a need to develop the awareness of the entire population. First, for the two first categories of people above, nutritious guidance need to be advertised to prevent lack of nutrient and malnutrition. Second, for the two latter populations that need specific “easy-to-eat” products, new products that are adapted to these needs have to be developed and advertised to avoid isolation of people during their meals (see Figure 4).
2.3 Regional heterogeneity in Europe

For this market study, we will try to address each market at the European level. However, it is important to note that depending on the country or region, the purchasing power or the number of actors, among others, might defer. Therefore, even if for the qualification of the different markets, we might have based our calculation on the available statistics in France or in Belgium for example, the calculated market is an estimation of the possible largest market, if all countries had similar characteristic as the one considered.

To describe the regional heterogeneity in Europe, four regions have been outlined. Western Europe, which consists of countries like France, the UK, Ireland, Belgium and neighbours, have a low poverty rate\(^1\) and a good purchasing power within the elderly population. In addition, governmental institutions, as well as local initiatives, are implicated in elderly wellbeing and promotion of healthy food is high. A large proportion of big actors of the agri-food industry and ICT are also present in western Europe.

Northern Europe consists of Denmark, Sweden, Finland and Norway. These four countries have a medium poverty rate within the elderly population. However, the intensity of the poverty rate is not elevated, meaning that poor people are not very poor compared to general population. Moreover, the general population has a high purchasing power. Therefore, the purchasing power of northern elderly is relatively high compare to other countries across Europe. Like western Europe, governmental institutions, as well as local initiatives, are implicated in elderly wellbeing and promotion of healthy food is high since one of the two

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\(^1\) OECD, Preventing Ageing Unequally, 2017
states that already published nutrition recommendations to elderly is from Denmark. Big actors of the agri-food and ICT are also present in northern Europe and development of food products for elderly is very dynamic.

In East and central Europe, the silver food market is much less dynamic as governmental institutions have not been promoting nutrition for elderly to a lower extent. Interestingly, the poverty rate within the elderly population is low. It has to be noted that the poverty rate of these countries has a high intensity, meaning that poor people are very poor. Moreover, the general purchasing power in these countries is not very elevated, nevertheless, there are therefore possibilities to open the market. In addition, few big actors of the agri-food are present in these regions of Europe.

In southern Europe, some companies are present on the market of silver food but the poverty rate within the elderly population is relatively high. Therefore, the market is not dynamic. In addition, governments and other local initiatives have not been relaying much information about nutrition needs for elderly people.

In order to develop products or services that may be sold in other countries, SMEs will need to take into consideration the heterogeneities of the market. To market a product or service in Northern Europe or in Southern Europe for example, SMEs would have to adapt the cost of the product or service as well as take into consideration the competition and general population knowledge about their dietary needs in the targeted country.
2.4 Presentation of the overall tendency of the market and elderly consumer habits

Nutrition has been based on availability, taste and general health trends for decades. However, there is growing evidence that a one-size-fits-all approach to nutrition is not the best model for society. In fact, advances in medicine and genomics are showing that our responses to different nutrients are unique. Therefore, there are growing needs in the following domains (see also Figure 6):

- **customised, healthier food and personalised medicine**: there is a need for a customised experience also in nutrition. People aim to consume specific products to fulfil their needs. Therefore, they are voluntarily looking for products enrich in nutrients they need. The increasing willingness to track their product back to the original producing company and to eat organic or natural food has to be taken into consideration;

- **Quantify self**: To understand needs and monitor health benefits of food consumptions, as well as find advices and coaching, ICT tools are becoming very useful.

In the case of elderly people, these needs are even more specific because they are linked to their ability to live longer and healthier. The coming generation of elderly is more and more friendly with ICT tools, making it easier for them to track and monitor their food. In addition, the absence of autonomy of some elderly people, but who are also interested in the previously described trends induces an important opportunity in service to the elderly to help them to fulfil their needs, notably by home services such as delivery and support to elderly.
The market of personalised nutrition for elderly people seems to be largely open to innovations. However, with the specific needs of this market, it looks like the actors of the agri-food, ICT or at home services are not occupying most of the market yet.

Interviews with researchers and actors of the agri-food market seem to indicate that the current market gives access to nutritional complements, available in supermarkets or pharmacies, that help increasing the intake of proteins or other nutrients needed. However, these complements are marketed without mentioning a specific population. With the current trend of “healthy-eating”, there seems to be a need in meals that have the same visual as a regular meal but with increased nutrient intake.

With the increasing number of elderly people, it seems that the market will grow exponentially. Moreover, the “baby-boom” generation is reaching this age-range and with them comes a different view on the services needed. According to a Xerfi evaluation, this population shows that they are better consumers, that adopt anticipation, prevent and adaptation comportments. This assumption depends on the countries considered. Depending on the region, part of the elderly population lives in poor condition, meaning that their monthly income is below the limit calculated by the OECD. In addition, their progressive appropriation to new technologies and their increased interest for services at home offers large possibilities for the personalised nutrition market.

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1 Xerfi precepta – La Silver économie - 2018
3. The Agri-food Market for Seniors

3.1 Presentation and quantification of the market

The agri-food market for seniors includes all types of food products that can be bought in grocery shops, supermarkets, greengrocers or pharmacies. A recent study commissioned by the European Union\(^1\) showed that the annual budget for food and beverages of people over 50 years old totalises €445 billion, representing approximately 45% of the overall food and beverage consumption share across all age groups. This percentage is expected to rise to 50% by 2025. It is the second largest product group after housing and utilities.

For the quantification of the agri-food market for elderly in Europe, we based our calculations on a study detailing the agri-food market in France. Therefore, there is a bias in this calculation towards numbers that would apply to western Europe. However, as this is one of the two wealthiest regions as defined in section 2.3, these number would correspond to the maximum estimated market across Europe.

3.1.1 Food products adapted to senior people’s need

This category of products gathers all types of food that can be found in supermarkets, green grocers and other retail store and are enriched in specific nutrients. These products are not labelled for elderly people but because of their enrichment, they are adapted to senior people’s need. This category of food product could be preferentially targeted towards the part of elderly people that are still healthy, to prevent potential malnutrition.

A Xerfi report\(^2\) estimated the market for this food category in France at 2.7 billion euros in 2014. This market is in development and is expected to grow in the next few years, with a CAGR of 5.5% on average. They estimated that the market should grow to 2.89 and 3.025 billion euros in 2015 and 2016. Considering that the French elderly population represents 11.7% of the total European population of adults over 65 years old, we estimate that the EU market for food products adapted to elderly's needs could have reached up to €23.1 billion in 2015 (see Figure 7). This estimation is biased towards a population that would have the same purchasing power in France and in all other European countries. Therefore, it represents the maximum estimated market, and it is useful to estimate the potential of this segment.

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\(^1\) 2015 technopolis report – The Silver Economy
\(^2\) 2015 Xerfi report – Le marché de l’alimentation pour seniors
3.1.2 Nutritional supplements

This product category includes all food supplements that can be ingested in addition to food. These can be in the form of capsules or lyophilised powders that can be sprinkled directly on food. These food supplements could be recommended both in a preventive way and to people suffering malnutrition. They therefore span all categories of elderly people.

In 2013, the market for nutrition complements was estimated at €1.35 billion in France. This market has been estimated to grow in the next few years. However, the part of this market that is suited to elderly people’s needs has a negative growth in the recent years. It represented €29 million in France in 2012 and expected to decrease to €22 and 21 million in 2015 and 2016, respectively. This decrease is due to recent tendencies of healthy food that favour natural products over synthesised food. In this case, applying the same calculation method, we estimate the EU market for food supplements suitable for elderly people at a minimum of €202,8 million in 2015 (see Figure 8). However, at the international level the market for dietary supplements is growing and the UK food and safety administration indicates that most of the consumers of dietary supplements are over 55 years old. Therefore, this market estimation might correspond to the lowest value of the market. Indeed, in 2016 the global European market for nutritional supplements was estimated at €7 billion euros. At the global level, it has been estimated that approximately 15% of consumers are elderly people. Therefore, we estimate that the EU market for food supplements suitable for elderly people at a maximum of €1 billion.

However, even though these two estimations indicated opposite growth, in both cases supplements engineered from plants or seed are used preferentially.

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1 2015 Xerfi report – Le marché de l’alimentation pour seniors
2 Optimum nutrition magazine, 2016
3 Grand view research report, 2016
3.1.3 Medical food products

All specialised food that has been labelled with medical claim for specific health condition, such as malnutrition for example, are included in this category of products. These products are usually advertised by doctors and prescribed in the case of malnutrition to increase food and especially nutrients consumption. Therefore, the target population is usually the older category of senior citizens. In 2014, the French market was estimated at €295 million. This expanding market is growing and was expected to reach €310 and €325 million in 2015 and 2016, respectively. Therefore, applying the same calculation method as above, we estimate that the EU market for medical food products could have reached up to €2.8 billion in 2015 (see Figure 9).
However, in order to produce and commercialise this type of food items, SMEs will need to follow specific guidelines and go through additional regulatory loops in order to label them as medical products and with appropriate health claims. Therefore, even if this market may be attractive, SMEs should be aware of the regulations (by organisations such as the EFSA for example) before initiating these projects. In addition, when producing what can be considered as novel food products, additional regulations might need to be taken into consideration.

3.2 The tendencies of the agri-food market

3.2.1 General dynamics of the silver food market

In the current context, the “elderly food” market labelled as such is inexistent as M. Baudin from Christian Potier company mentioned. The unfamiliarity of the elderly population with their nutrient needs make it very difficult to target food products to this population directly. However, food tendencies are going towards healthier eating. Nowadays, food labelled as “organic”, “gluten-free”, “vegetarian” or “vegan” are on the rise. The ability to trace components of food products or consume locally-grown and/or organic food is also becoming increasingly important in the eyes of consumers. This includes people aged over 65 years old. Thus, if this part of the population was aware of their needs, it would probably open new doors to the personalised market of nutrition for elderly.

Importantly, the actors that want to position themselves in the personalised silver food market need to recognise that the purchasing power of 60+ years old is increasing. With the proportion of elderly people increasing in each European country, there is a huge opportunity to satisfy their needs. However, people in Europe are not ready for such products. When they are 65yo, they look at themselves as healthy and still young enough. Using the trend of healthy eating together with guidelines that use medical research and published by governmental institution would help opening the door. In contrast with European people, food labelled as “elderly food” is popular in Japan. It could be due to the fact that health prevention is high in this country. People go regularly to the doctor and do not wait to be sick to consult. Therefore, prevented elderly diseases is most likely part of their culture and this includes making sure that they fulfil the nutrient requirements. To develop the tendencies of changing diet past 65 years old in Europe, one needs to advertise using the healthy-eating trend.
These tendencies are also very different from one country to the other. Indeed, the purchasing power will be different, even with population growth. In Portugal, Greece and Spain, elderly people are the most affected part of the population affected by poverty. Therefore, even though the need for specialised food product is high, these will have to be sold at low-cost. On the other hand, in France, UK, Netherlands or Belgium for example, the trends go towards healthier eating with higher purchasing power and there is a larger place for innovative and more expensive products.

3.2.2 Specialised food product

In addition, specialised food is also an important part of the market of food products for elderly. In this market segment, products like beverages, soup or sauces with high protein content, modified-texture food products (gelified or dehydrated products) ca be included, among others. However, because of lack of knowledge in malnutrition or various eating-related issues that arise with age, this market is largely unknown and only specialised actors invaded the market. This is the case of Biozoon (who sells texturizer to be mixed in food in Germany) or Cyranie (who commercialises dehydrated food products in France), two companies that reported selling their products to hospitals, elderly residences and meal delivery services (the latter one was mentioned by M. Kuck from Biozoon only). Their products are sold to specialised actors only because usually elderly people who need such products need support. However, as people want to stay at home the longest possible time, the tendency might shift in the next few years if the general population is more aware of nutritious needs of elderly people.

In fact, the market for people 85+ years old is largely open to the production and commercialisation of new specialised food items. All scientists working on malnutrition that discussed with us for the purpose of this market study mentioned that there is a tremendous need for products targeting this age range population. There are already products on the market, but the effort should be put on developing products that are easy to eat, contain nutrients necessary to fight malnutrition and most importantly look appetent and with enhanced taste. According to the geriatric physician Dr. Negers as well as scientists Dr. Gueugneau and Dr. Beck, there are not enough products of this kind on the market and there is therefore a crucial need for them.

3.2.3 Food supplements

Concerning food supplements, the current tendencies do not really favour this market. However, natural food supplements are on the rise, which might modify the tendencies of this market. In fact, awareness about microbiome has emerged in the past few years in the general public and several supplements are now commercialised. This is the case of Fermbiotics for example, which is soon launching supplements that would benefit individuals with high cholesterol levels. Even though these might not target directly elderly people, they are seen as good for health benefits. The awareness of elderly people towards these supplements is therefore enhanced.
3.2.4 The specific case of elderly residencies

A specific segment of this market concerns food products for meal preparation in elderly residencies. This market might be accessible if products are sold for a very low cost, especially for public residencies that do not have much funds to spend on food products and will rather go to vegetable, fruit or meat producers directly to reduce intermediary costs. This might be different for private institutions. Therefore, if planning to target elderly residences, SMEs should commercialise specialised products that will be needed by these residencies, such as products with modified textures or increased nutrients content, among others.

3.2.5 Packaging

Proper packaging of food item is important when targeting specific populations. In fact, as people get older, their strength decreases and they will more likely buy products that are in “easy to open” packages. SMEs and larger agri-food groups already developing products targeted towards elderly are thinking about such issues. For example, people at Fermibiotics said an important part of their project is to find the most innovative and appropriate packaging for elderly. Moreover, the company ccpack mentioned that they consistently work at optimizing packaging but in their opinion, it is not specifically done for elderly people but for the entire population. Increasing letter sizes does not seem to be a strategy adopted by packaging leaders either. Therefore, it might be considered as a common constrain when developing food product to consider the most convenient packaging solution for all, including the elderly population.

3.3 Key European actors of the market

In the silver market of food products, actors already present are quite dispersed and it is difficult to identify all providers as products are not labelled for elderly, since it would not be sold with such statement. Large agri-food groups have already positioned themselves with a few specialised products, especially on dairy products. Companies like Danone, Tine, Lactalis or Nestle all sell products that fit the silver market. However, these products are for most of them not labelled for people over a certain age and can be bought by anyone. Mostly these products promote a different composition of nutrient: high level of protein, increased quantity of vitamin D, among others. SMEs are for now less present on this part of the market as it is difficult to market these products to target the population of interest.

The silver food market segment currently targeted by some SMEs is specialised food products. Although large agri-food companies sell high protein content beverages, SMEs focus on food product with modified texture (Biozoon, Cyranie are among these category) or natural food supplements (Fermibiotics, Baia Food Co. for example). This market segment is more mature as companies can use B2B distribution networks to provide hospitals, elderly residences or food delivery services with their products.

Overall the distribution possibilities for the food market for elderly is so far divided in sectors: it is possible to use B2B distribution networks to sell food products for elderly, however the

1 INCluSilver report, 2017 - European Personalised Nutrition Strategy
B2C distribution is not open yet as people are not willing to be categorised as old and targeted by marketing campaign with this sales pitch. However, one way to invade this market is by using healthy eating trends and provide food items that are considered as best to stay healthy. Companies should make sure that they are aware of specific European or local regulations before launching their products as health claim labels might be regulated.

3.4  **Key features and remaining obstacles**

The agri-food market seems to be at a turning point. On one hand, enough medical data has been gathered on nutrient requirements for people over 65 years old. On the other hand, no one is currently invading the market with new products because of lack of marketing strategy. However, big actors seem to be aware of the opportunities of the market and are starting to test launch specific products for elderly.

3.4.1  **Medical research points towards specific nutrient intake for elderly**

In the past years, medical research has made tremendous advances in aging knowledge and nutrients requirements\(^1\). The most common advice is to favour proteins. Indeed, this is currently the most advertised food supplement by doctors as people get closer to malnutrition stages. However, all people interviewed so far have described that by increasing protein intake earlier, there would be a tremendous health advantage. *Manufacturing products or meals that have higher protein intake, companies could address this need.* By promoting current research knowledge on elderly’s nutrient requirements to prevent health-related problems, people would look at these products with a clear advantage when compared to their current diet. These needs have been corroborated both by Dr. Gueugneau, scientist at INRA and Dr. Negers, geriatric physician from a French clinic.

Another important part of research currently focuses on how to stimulate muscles. For example, Dr. Anne Marie Beck from the University of Copenhagen mentioned that so far there is no product on the market that would stimulate masticating muscles or improve swallowing motility because people are unaware of the need of this market niche.

3.4.2  **Elderly nutritional needs have to be communicated to the population**

In 2050, the European population is expected to count close to one third of individuals over 65 years old. As people are healthier and more active than they were 20 years ago, their expected lifespan also increases. There, the market for personalised nutrition of elderly people should grow in correlation with the number of elderly people.

The current obstacle is that **people reaching retirement are not aware of their nutritive needs and are therefore reluctant to products labelled as “elderly food”**. These are currently viewed as food for sick people when they are still young and active. However, finding the way to increase their knowledge in nutrition for elderly, there is an open market waiting to be
invaded. Some government institutions as well as the World Health Organisation have published leaflets describing which food is better past a certain age to increase specific nutrients intake. Unfortunately, it seems that even if few exist, they have not been promoted enough to inform the European elderly population.

Another obstacle is that elderly malnutrition is a largely unknown condition by the elderly population of Europe. It makes older people isolate themselves because of the lack of knowledge of families or friends so that they are not ashamed as mentioned by Dr. Beck from the Copenhagen University. If this condition would be more familiar to the society, it could change older people’s behaviour in the case of such condition.

3.4.3 The healthy eating trend opens the door to the market

Interviews of scientists or employees of agri-food companies have indicated that one way to penetrate the personalised nutrition market for elderly is to play with the healthy eating trends. Supermarkets or greengrocers are advertising an increased amount of health benefits in connection with specific types of food. People are currently willing to buy such products and one key to enter the market would be to use this feature in combination with potential health benefits. Dr. Renard, from INRA, mentioned that one way to promote it would be to use the fact they recently retired to promote a better way of life, along the line of “you finally have time to think about yourself”.

However, this is not the case in every country. In fact, organic and healthy-eating habits are applicable mostly to the wealthier part of the elderly population This segment of the population might be different from one country to the other.

3.4.4 Competition of the market

This market segment is very large and includes a lot of possible products. However, the large agri-food groups have already positioned themselves on specific products. Indeed, the swiss food giant Nestle is selling specialised beverages with high protein content that are targeted for “healthy aging”. Very recently, Findus is test-launching a new range of ready-to-eat meals called GoVitals. Therefore, when developing new products, it is important that SMEs position themselves on segments of this market that have not been already invested and won by larger groups. It is quite important with elderly people to be positioned first because once they are familiar with a product they like, they are more likely to stick to it than population from other age ranges.

It is also important to look at the regionality of competition when developing new products for elderly. Indeed, the prominent actors of the agri-food are developing and currently launching their products for elderly in the west and north of Europe. Therefore, it might be more competitive to enter this market that the one is east and central Europe, where the people have fewer products, even though populations in these areas might be less aware of nutritious needs for elderly.
4. **THE PERSONALISED NUTRITION ICT MARKET FOR ELDERLY**

The ICT market for elderly consists of the new technologies tools that can be useful for personalised nutrition. This includes devices dedicated to self-measurement of personal parameters and mobile or web platform dedicated to nutrition.

Indeed, this market is mainly represented by application market since the IoT market, meaning connected devices allowing notably self-measure are so far mainly developed for health monitoring such as diabetes, cardiology diseases or sleep. Nutritional parameters are not yet intensively followed through connected devices. However, the IoT market could become in few next years an interesting opportunity for elderly people.

4.1 **Presentation and quantification of the market**

The main market already associated to personalized nutrition in ICT field are the mobile applications. The mobile application market is a very important market globally and in Europe.

Several thousands of new applications are developed and marketed each year, representing a global market of $88Bn in 2016, and over $10Bn in Europe. To fully understand the potential of this market, it is crucial to look at precise segments. Thus, the health applications segment represents $4,2Bn in 2016 (see Figure 10). These health applications represent 3% of the total apps downloaded on the applications stores. It has to be noted that the market is highly dynamic with an expected growth of 44% between 2014 and 2025, meaning that the global health app market could reach $111Bn. In this segment of health applications, the main profitable apps are related to fitness followed by the disease management. Nutrition related apps are then the third important segment in the health applications market.

The nutrition related apps include weight management, choose of products or nutritional recommendations. They represent 13% of the health apps market, for an amount of about $550Mn (see Figure 10). This market is thus limited at the global scale.

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1 Statista, Worldwide mobile app revenues in 2015, 2016 and 2020
2 Holzmann et al, Nutrition apps: quality and limitations, 2017
3 Business Wire, Global mHealth App Market, 2017
4 Grand View Research, mHealth App Market, 2017
These markets have to be analysed by categorisation of the users. Indeed, the 18-24 years old people are the main users of applications since 90% of them are using mobile applications. Nevertheless, more than 20% of application users are aged 50 years old and over. Even if the seniors are using more and more mobile applications, it has to be noted that the use of nutrition applications is still confidential for the elderly people. Indeed, only 4% of US people aged 60 years old and more use regularly an application to track their diet and nutrition whereas 26% of people aged of 18-29 years old do it. Moreover, 29% of people aged 60 years old and more affirm that they will not use a mobile application for their nutrition (see Figure 11). Notably, the large majority of these elderly people affirm that they could use an application for their nutrition (55%), meaning that a conversion to new tools related to nutrition can be performed but will require strong change of uses since the use of nutrition apps for elderly is low even in the USA where people are welcomed to the use of mobile.

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1 Statista, Percentage of U.S. adults who would use an app to track their diet and nutrition, 2017
Figure 11: Example of the nutrition apps use in the US by population categories (2017, from Statista)

The weak use of mobile apps by elderly is correlated to low use of nutrition apps since elderly people use smartphone platform apps only 27% of their time on ICT tools while they spend 53% of their time on ICT tools on computer platforms. As a comparison, the people aged of 18-24 years old spent 23% of their time on computer platform and 66% on a smartphone\(^1\) (see Figure 12).

\(^1\) La Reclame, 2017
4.2 The tendencies of the ICT market

The trend of the ICT use for nutrition is of course correlated to the general growing market of applications and of IoT. Thus, the market is expected to be growing fast within the few years. Moreover, in the context of the silver economy, the market is expected to be fully mature when the next generation will be aged 65 years old and over, meaning at least in 10 years. Indeed, the elderly aged over 65 years old nowadays have a weak use of application and do not have a strong affinity for ICT tools. However, the following generation is already converted to the use of ICT tools as observed on their use of smartphone application for example, which is more important than the current people aged over 65 years old. In fact, elderly residences are starting to implement ICT tools to help their residents in their daily routine (see also one of our innovative stories on this topic in Error! Source du renvoi introuvable.).

A second important tendency that can be cited is the willingness of consumers to have a strong background on their food. Indeed, the health impact of food is more and more pronounced in European society. Thus, the nutritional impact of food and the consecutive health impact is a segment that should benefit first of the growth of the ICT health market. In fact, combining health parameters with food intake and developing ICT tools to monitor both is one the segment of this market that is currently opening.

Finally, as for other segments, it has to be noted that Europe is heterogenous about ICT market maturity. Indeed, the use of ICT tools by elderly, and particularly for food, is highly correlated...
to the education level. Thus, northern countries are more mature on the area than the rest of Europe as illustrated the strong actors involved in the market in these countries.

### 4.3 Key European actors of the market

The competitive environment of the ICT market for food is similar of the general market of ICT. They are plenty of actors since the solutions are costless to develop and the market for general public is easy to access. Nevertheless, the competition is very strong and the market not mature, thus no giant actor is positioned and the market is still opened. The people to target in priority should be the “young elderly” that are readier to use the ICT tools.

Another market segment is to target retirement home. This allows to address a structured market and to touch a lot of consumers in the same time. Actors that we identify during the mission are however not only positioned on ICT products dedicated to food. Indeed, as well as for general public, the market is not mature yet and food solutions are nowadays only linked to general products helping retirement home or people in retirement home in management of plenty of services including food.

As a synthesis, it can be established that the ICT market is still opened and composed of plenty of small actors. Thus, SME can play a role on this market but the importance to be the first in place will be very important due to the weak adaptivity and versatility of the targeted consumers.

### 4.4 Key features and remaining obstacles

The key features and remaining obstacles of the ICT market have been primarily analysed by looking at the field. It has to be noted that this analysis will be deeper in the second part of the study thanks notably to dedicated interviews.

Among the key features of this segment, can be cited:

- The growth of the segment;
- The age of targeted population and their relation to ICT tools;
- The competition of the sector

#### 4.4.1 Growth of the segment

As already described, the ICT tools dedicated to nutrition is a fast-growing market. As an illustration, the global health & fitness application market, including nutrition applications, is expected to growth from $4,2Bn in 2016 to $111Bn in 2025 (see Figure 13). This growth should benefit also to nutrition applications. Moreover, nowadays, the IoT market is not mature enough for the nutrition segment. Indeed, the main devices developed in the health area covered medical parameters such as diabetes parameters or sleeping data. However, it is expected that the weight management should benefit from the IoT technologies, and an associated nutrition segment could be complementary to the weight parameter.

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1 World Economic Forum, 2017
In addition, it has to be noted that if the competition is strong, the success of applications demonstrated that people are interested in their diet management and that ICT tools are considered as useful tools. Moreover, an analysis of the existing market indicates that the wide majority of exiting tools are based on the same methods which are the collection of user data on its dietary habits and consumption, and the use of barcode scanners\(^1\). This results in an unmet need for personal nutrition advices that could be provided by ICT tools, using for example artificial intelligence and personal data about health and nutrition of users.

4.4.2 Age of targeted population

The ICT market associated to personalized nutrition has a high potential, but, this market is highly dependent on the capacity of the population to use the dedicated tools. Indeed, elderly people were not born with these tools and are not familiar with their use.

It is crucial to target the right population to successfully address the market. As described previously, if the current elderly generation aged over 65 years old has a weak use of smartphone apps as well as tablet apps and can be considered as difficult people to convert to use of ICT for their nutrition management, the evolution could be very fast. Thus, the next coming elderly generation, being nowadays considered as young elderly people, meaning age from 50 years to 65 years old, are a lot more responsive to ICT tools. Mrs Evens, from the Cubigo company, confirmed this tendency and mentioned that the switch from computer to mobile has been induced and is moving fast. In her opinion, one key to be able to introduce their plateform system to the elderly population is “to take the time to explain in detail each item so that they appropriate themselves with the technology”. She also mentioned that this population is more “reluctant to changes due to their age” and therefore another key aspect is to position themselves early on this market.

\(^1\) Franco et al, Popular Nutrition-Related Mobile Apps: A Feature Assessment, JMIR Mhealth Uhealth, 2016
It appears then clearly that this population has to be targeted in priority to succeed in the ICT segment of personalized nutrition for elderly people.

4.4.3 Competition of the sector

A very important feature of the segment and probably the most important barrier to succeed is the competition in this field. Indeed, connected devices and application are developed by a lot of companies and only few of these developments conduct to a profitable company.

As illustration, Franco et al identified the popular nutrition applications in UK. Of the thousands of available applications on the main application stores, only 13 applications were identified as widely used application (for example at least 1M downloads on the Android store). Even if the success of these applications demonstrates the potential of the market, it also indicates the weak ratio of success of these projects.

It is very important in this field to possess a competitive advantage before developing any tools. The analysis of the authors is useful to highlight potential competitive advantages since it indicated that there is an unmet need for tools that could provide advice on personalized nutrition. This should probably be coupled to artificial intelligence and personal data on users’ health. This could easily be coupled to a connected device allowing the recording of personal parameters and helpful to provide very personalised advices.

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1 Franco et al, Popular Nutrition-Related Mobile Apps: A Feature Assessment, JMIR Mhealth Uhealth, 2016
5. THE HOME SERVICE MARKET

The home service market within the personalised nutrition market for seniors consists of services that can bring food to elderly people. These can include: catering services, groceries delivery or at home cooking services for example.

As people get older, they tend to move less and lose muscle strength. Therefore, having their groceries or even meals delivered make their life easier. In this context and with the elderly population growing, this market should expand.

For the quantification of the home service market for elderly in Europe, we based our calculations on statistics from Belgium. Therefore, there is a bias in this calculation towards numbers that would apply to western Europe. However, as this is one of the two wealthiest regions as defined in section 2.3, these number would correspond to the maximum estimated market across Europe.

5.1 Presentation and quantification of the market

The worldwide food delivery market has been estimated at €83 billion\(^1\). This market has already matured in most countries so the overall CAGR is estimated at 3.5%. However, with the rise of online food delivery platforms, it is important to segment this market to estimate how much is addressable to elderly people. It has been estimated that in 2018 close to 50% of food delivery will be made through online platforms. In Europe, the market of online food delivery has been estimated at €10.6 billions and 8.4% of consumers were aged 55-64 years old\(^1\). The market of 55-64 years old of online food delivery in Europe was therefore estimated at €890 million.

In Belgium, a study from Seas-2-grow estimated that approximately 50% of people over 70 years old were getting meal delivery (from elderly dedicated services, and not including restaurants) and that the cost per day was between 6-8€. With approximately 1.4 million people aged over 70 years old in Belgium, we can estimate the market of food catering at approximately €4.2-5.6 million. The European population of people over 70 years old is estimated at approximately 66 million\(^3\). If we consider that the European market for food catering would be similar to Belgium, we can estimate that the food catering market for people 70+ years old at approximately €198-264 million (see Figure 14).

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2. Statista report – Online food delivery Europe
3. Eurostat census, 2015
Elderly people at home and in LTC are included in this segment as they usually benefit from meal delivery services. The percentage of this population is detailed for the INCluSilver member countries in Table 3.

<table>
<thead>
<tr>
<th>Country</th>
<th>Total population</th>
<th>Number of 65+yo</th>
<th>percentage of 65+yo in LTC at home</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
<td>5 560 628</td>
<td>945 307</td>
<td>12%</td>
</tr>
<tr>
<td>Germany</td>
<td>80 213 695</td>
<td>16 042 739</td>
<td>10%</td>
</tr>
<tr>
<td>Greece</td>
<td>10 813 286</td>
<td>2 162 657</td>
<td>na</td>
</tr>
<tr>
<td>Spain</td>
<td>46 815 910</td>
<td>7 958 705</td>
<td>7%</td>
</tr>
<tr>
<td>France</td>
<td>64 933 400</td>
<td>11 038 678</td>
<td>7%</td>
</tr>
<tr>
<td>Italy</td>
<td>59 433 744</td>
<td>12 481 086</td>
<td>6%</td>
</tr>
<tr>
<td>Ireland</td>
<td>4 574 888</td>
<td>548 987</td>
<td>na</td>
</tr>
<tr>
<td>Sweden</td>
<td>9 482 855</td>
<td>1 801 742</td>
<td>13%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>63 182 180</td>
<td>10 740 971</td>
<td>6%(^1)</td>
</tr>
</tbody>
</table>

The cost of each meal depends on countries and sometimes on the revenue of the person. Prices can range from €4 to €12 per day (without the cost of delivery itself). On average, 8.7% live at home in LTC in Europe, approximately 8 million people. Therefore, this segment of the silver market for meal delivery for European people over 65 in long-term care at home can be estimated on average at €64 million (see Figure 15).

\(^1\) The percentage calculated for the UK is under estimated as the numbers are from 2004.
Of note, the dynamics of LTC seems variable between the different regions of Europe. In fact, the percentage of people in LTC in southern Europe is lower than in northern Europe. Therefore, the market estimation might be biased towards northern Europe. In southern Europe, it is likely that elderly people, because of their low purchasing power, will live with relatives to share the costs and be taken care of instead of living by themselves.

5.2 The tendencies of the home service market

5.2.1 An increasing number of meal delivery and catering services

The global delivery and catering market has well matured in most countries and opened the door to increasing number of options with regards to delivery or meal catering options. In fact, the number of actors has also increased from businesses specialised in meal preparation and delivery to restaurants or supermarket delivering catered food. Phone interviews have indicated that the market for elderly in food catering and delivery is mostly through delivering to retirement home or through local or governmental entities offering these services. These meals are catered to offer an equilibrated meal that will have enough nutrients.

5.2.2 Additional option offers

For populations with high purchasing power, meal delivery and catering services are currently expanding with offers that take into consideration the food tendencies of customers. With the healthy eating trends, offers of meals that are organic, locally-grown or vegetarian are expanding. In the personalised nutrition for elderly market, some businesses are starting to adapt their offers to elderly people. However, as Biofinesse indicated, this market is still at the beginning and there is a need to reduce costs of organic products before being able to launch meal delivery services accessible for everyone. For example, the Biozoon company is selling products that allow for the transformation of regular food into jellified or foamy food. According to Matthias Kuck, they are selling their products to catering businesses so that they can offer these transformed meals to elderly people suffering from chewing and masticating issues.
5.2.3 Increasing number of initiatives to improve nutrition knowledge and sociability of elderly people living at home

On top of home service that deliver meals or grocery shopping to elderly, there are increasing initiatives related to food that help elderly people to keep socialising. In Denmark for example, once you reach 50 years old, you can become a member of an organisation that focuses on wellbeing. This organisation will organise events that bring people together to discuss issues such as food and nutrition. Other services at home are progressing in France, with programs promoting vegetable gardening in elderly people’s garden. This initiative allows people who want to garden to be in contact with older adults to help them in their garden to grow food for both households.

5.3 Key European actors of the market

In each country taking part in the INCluSilver project, there are services (private or public) that are put in place to deliver meals to elderly people. In most countries, local initiatives are already in place to cater and deliver meals. Therefore, if SMEs are looking to invest this market, they will find competition already in place. In addition, because the poverty rate ranges from one country to the other, it is important to remember that in countries with a larger proportion of poverty amongst the elderly population, local public services will be used preferentially and the market will be smaller. Amongst the private actors identified along this study, Hot meals service (UK), Love food ready meals (UK), Wiltshire farm food (UK), Auxiliadom (FR), Saveur et vie (FR), Biofinesse (FR), Meals on wheels (ES), Personal Chef to go (ES) were identified. Grocery stores and supermarkets in most countries offer deliveries to people’s home and can be used to transport larger or too heavy items.

5.4 Key features and remaining obstacles

5.4.1 For future generations, combining ICT tools and meal delivery is key

People currently in their 50s are using mobile applications on a regular basis. Therefore, it is likely that when they reach an age when they will be looking at meal delivery options, they will use ICT tools to purchase them. The market of ICT is currently expanding and it would be important to develop meal delivery option for elderly suing ICT tools as soon as possible to become a reference in this field.

5.4.2 Competition is high

In this segment of the silver food market, competition is high as actors of meal delivery are big groups that have already taking over the meal preparation market. In fact, meal preparation for elderly has been organised by cities or associations promoting elderly’s wellbeing for a while. As elderly people would rather stay at home that move to elderly residences, any action
that helps them increasing their independence is welcomed by this population. However, the best way to access this market is probably to deal with cities or associations providing these meals in order to distribute products. SMEs have to be aware that products will have to be at a rather low cost if possible to increase the possibilities of being distributed through local programs.

5.4.3 Targeting meal delivery services with specialised products

As mentioned in section 3.2.2, there is a need for specialised food products targeting people with specific conditions: masticating issues, diabetic people, among others. Even though this market might not be the largest one, there are very few products for these population in the home service market. It might therefore be interesting, if considering this market, to offer option that will target specifically this part of the population, on top of the general population purchasing home services.

5.4.4 Increase the number of actions combining food and wellbeing

As mentioned in section 5.2.3, there is an increase in the number of initiatives helping elderly people to socialise more, sometimes through food related actions. These actions usually have a double impact: first they increase visibility of food products and second, they help elderly people to stay embedded in society instead of isolating themselves. Results of these actions have been seen positively by people taking part in these activities or actions. In addition, they might help SMEs to access a market that is difficult to enter through presentation of their products at such actions. Taking part of these actions will help SMEs to become a reference for elderly people.
6. THE NETWORK OF DISTRIBUTORS

Several branches of the distribution network have to be described as these will be different from one market to the other. Looking at the agri-food market, when developing a product, there are several options of distribution depending on the end users. If the end user is an elderly person leaving in a residence, the product will have to be sold to a meal distributor, which will then distribute it to the institution and to the end user. As most residences try to lower the cost of meals as much as possible, even if trying to deliver healthy meals, the SME will have to sell their product for a low price. Because large groups of meal preparation are already present on the market, it is unlikely that SMEs will be able to target institutions directly, except in two cases: if they deliver meals for cheaper than the actual cost of meal delivery or if they sell specialised food products that target a specific need (such as Biozoon which sells their texturizer directly to elderly residences).

If the end user is from the general population and leaving at home, the distribution network will be similar if the person gets home services, such as home meal delivery. However, in the case of a person that is still active and goes grocery shopping, there is another way to distribute products. As mentioned by M. Landier from the Intermarché supermarket group, local supermarkets and grocery stores are open to selling products targeting elderly because they know that the customer share is large. However, because products cannot be labelled as products for elderly (as this will sound negative to elderly people), selling small, individual and easy-to-open products is key to target this population without writing it. Importantly, becoming a reference product is also important. The elderly population is more prone to habits and needs to be guided and advised towards this product. Thus, it would be preferable to first introduce the product to physicians, hospital or relatives so that they can refer it to the elderly population. This last part is important not only for food products but also when developing ICT tools or home services and can thus be applied to any segment of the market.

Overall, to target the elderly population the distribution scheme to use is the B2B distribution. As elderly people are not yet aware of their nutritional needs and do not want to be considered as different from the rest of the population, B2C distribution of products or services is very difficult. Using the B2B distribution is therefore key to enter the market. In addition, in order to understand and know the B2B distribution network of each country when trying to enter the market of a new country, SMEs should take advantage of clusters' contacts that will help them in the distribution of their product or service.

![Figure 16: Value chain of elderly dedicated food products and services](image-url)
7. CONCLUSIONS AND RECOMMENDATIONS

7.1 Environment & context

7.1.1 Several populations with various needs

The targeted population of the food products dedicated to elderly are variable. Indeed, parameters such as age, health condition or living situations have to be taken into consideration. The needs are very different depending on these criteria, as well as the consideration to adapted nutrition.

Thus, to target products properly, SMEs first have to defined which consumers they will address. Oldest people need two types of products: specialized products because they are physically no longer able to correctly eat or specific food products to limit their nutrient’s deficiencies. If targeting this part of the elderly population, SMEs need to manufacture food products accordingly. A large part of this population will leave in elderly residences or have food prepared and delivered at home. However, as food appetence and eaten quantities decrease with age, there are currently few products that are satisfying and attractive to people. To enter this market, products that are look appetizing, have strong taste and contain necessary nutrients to fight malnutrition in this part of the population.

On the contrary, younger elderly people (usually less than 70 years old and more active and independent), have less needs for specialised food products than older people, however they are more responsive and concerned about their needs. Indeed, they are involved in the trend to healthy eating and also used to digital tools. Thus, they are people that should be targeted since they are more adaptive and can change their habits easily compared to older people. Moreover, to address younger elderly people present a concrete advantage which is to retain these consumers since their specific needs will be growing with years.

7.1.2 The marketing to elderly people is challenging

One key take-away of the study is the difficulty to target elderly people. Indeed, several interviewees mentioned the fact that a specific marketing to elderly people is not well received. “Older adults do not want to be categorised/seen as old, as they do not picture themselves as old” is one of the most heard sentences during interviews. Nevertheless, large companies are interested in the market and are currently developing specific products for their specific needs. It suggests that this marketing barrier could be broken. Two main strategies can be discussed:

• Firstly, to address prescribers such as medical doctors but also policy makers and associations to communicate about the specific elderly needs to change the society and consumers habits;

• Secondly, to address “young” consumers in the elderly categories. Indeed, these people are open to health consideration, specific needs and could change their habits. Starting with the young elderly will helps to address the older ones in the future.
7.2 Recommendations

The bibliography analysis and performed interviews suggest strategies that could be developed by SMEs to successfully enter on the analysed market segments related to elderly-dedicated food products or services. The first point is to target specific consumers. Indeed, the marketing to develop for elderly people at home is widely different to people in retirement home. The market sizes are very different but people in residencies might be easier to target even if the market is smaller. The age of the targeted population will also drive the marketing strategy and points of entry on the market. If targeting the older population, chances are more likely that they will live in residencies or need home services, therefore the products will need to be at low cost while containing specific nutrients or textures. On the other hand, if targeting the younger population, SMEs would need to distribute their products or services through grocery shops or home services (at a lower proportion than for the older population) and target the general population. As marketing products or services for elderly is difficult, the possibilities of entry on the market are lower, even if the market is larger. However, by using a “positive” marketing strategy involving health benefits of the products instead of targeting the population by their age, which will be viewed as negative, could help market entry.

The second point is to be supported via partnering companies or clusters. Indeed, relationships with complementary company potentially already in the business will be helpful to correctly understand the market, such as the regulation for example. In addition, the SMEs currently on the silver food market have indicated that at the moment, it is very difficult to distribute products or services directly to consumers and they therefore use a B2B distribution scheme. SMEs’ network is therefore key to enter the market. To identify pertinent partnerships, clusters are essential actors that centralize companies and are aware of initiatives on particular markets or subjects. They also can support companies in the research of financing to develop their innovation.

The third actor type essential in the access to the elderly-dedicated food market are the prescribers. These are actors that can communicate about the need of a specific nutrition to elderly. Medical doctors are trusted people by consumers and a product recommended by their physician will have a better chance to penetrate the market quickly. Above the medical doctors that are in direct contact with the consumers, government are also key actors of the market. Indeed, the international or national policies or plans dedicated to nutrition have a strong impact on the market. Malnutrition stages and specific food-related needs of elderly people are currently not well known or describe to the general population and action of governments via policies or local actions promoted by organisations will help consumers to modify their food behaviour. As a SME, the government authorities are difficult to contact and they will have to wait for them to initiate these policies. However, medical doctors or local organisations are key people to contact and address to communicate about new products or services.
7.3 Classification of the market segments

To synthetize the different market segments analysed during the course of our research, a priority matrix has been performed (Figure 18). The matrix presents the market segments according to the barriers and the appeals to the entry to the market. The barriers can be the readiness of the market, the competition and the acceptable price. The appeals are mainly the demand of the consumers. The size of the balls is linked to the size of the market segments.

As observed, the two more important market segments are related to the food products, either distributed to general public or to retirement home. These segments are also the two more attracting to SME. Indeed, the market for specialized food products for elderly people is ready to be addressed, contrary to the market segment of ICT for example. Elderly people that need specific products, either because they have physical problems to eat, either they need specific nutrients (even if a lot of people in this category are not aware of it). This market is very attractive since there is a demand for products as reported by scientists or actors of this market during interviews. However, there are some barriers to enter the market.
Specifically, the elderly-dedicated food products are difficult to sell to the general public particularly since people are not welcomed to an elderly-addressed marketing. Moreover, the competition is strong since the big actors of the agri-food market are aware of the important market that present elderly people. Moreover, the distribution network of supermarkets is detained by large companies that will put a strong pressure on prices.

This is the reason why the food products targeting retirement home market segment has less barriers to entry on the market. First, the competition is less important, even if some big actors are already positioned. Moreover, retirement homes are aware of health needs of the elderly and are looking for specific products, which are not distributing by large actors that standardise their offer as much as they can. Nevertheless, the price of the products will have to be strongly competitive since the budget dedicated to the food is very controlled.

Two other segments present appeals to SME, the home services and the ICT tools dedicated to retirement home. The home service is a dynamic market. However, as it can target a large number of people with big specific players already in the business, it could be difficult for SME to address the segment. One solution could be to work at the local level before expanding to the rest of the country or Europe by addressing a local mission or targeting public services for example. Nevertheless, that will be possible only for competitive companies since the mean of public services are generally very weak.

The ICT market related to food for elderly people in the general population is a difficult market. Indeed, there is a lot of ICT tools for general public dedicated to food, but the market for elderly people is not ready yet. It is notably due to a generation issue and future retired generation should be more attracted by these tools but nowadays it is difficult to enter into the market. Moreover, the competition is very intense. Thus, a solution is to address a specific segment, the retirement homes. The advantage is to address elderly people through a retirement home, allowing to target several people in the same time and to be sure to have time enough to train and educate these people to your solution. Of course, the market is reduced but there are no strong barriers to entry into the market. SMEs wanting to target this market should enter it quickly as it is key to be the first one positioned.

In synthesis, it appears that the two more attractive market segments are those relative to food products. The segment to prefer is probably the segment targeting retirement home since the barriers are less important than for general public. In addition, two segments are less attractive but present some opportunities, the home service and the ICT dedicated to retirement home (or people in residencies). The second segment present limited barriers to entry and thus should be an interesting market segment for SMEs.
Figure 18: Priority matrix of the analysed market segments

1 Erdyn analysis based on estimated market sizes and identified key features of the market
## ANNEXE 1 : LIST OF INTERVIEWEES

<table>
<thead>
<tr>
<th>Category</th>
<th>Company/Institution</th>
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<th>Name</th>
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