ICT-PSP Project

# LIFE 2.0

Geographical positioning services to support independent living and social interaction of elderly people

# ICT-PSP-270965

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## WP2 – Platform design

## Deliverable 2.4 - Business framework

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# Section 1 Executive summary

## 1.1 Description of the deliverable content and purpose

D2.4 - Business Framework has the purpose to frame the general conditions for the pilot tests, thus to be the ground for development of WP5 - Business Process.
The document gives a framework picture of the general elements that should be considered for the business cases.
**Section 2** provides an overview of the context conditions, including demographic conditions (mostly reported in D1.1 - Ethnographic Research), market conditions (segmentations, opportunities and needs) and organizational conditions.
**Section 3** provides an overview of the socio-technical context in which the project will be developed. This section discusses issues related to the emergence of large socio-technical phenomena, such as the Web 2.0 and information overabundance.
**Section 4** provides the first approach of the project to the business framework, using Osterwalder's *business canvas* [1] as the main mapping tool. The canvas is outlined, and then applied to the three main use case scenarios identified by the project, discussing in detail the different aspects composing the canvas. A short review of competition precedes a concise SWOT analysis of LIFE 2.0 services.
Finally in **Section 5** the conclusions are presented.

## 1.2 Brief description of the state of the art and the innovation brought

The innovative approach used in the definition and the analysis of the business framework is the Osterwalder's business canvas [1] adapted to the purposes of the LIFE 2.0 project. All the elements involved in the basic model are enriched and modified in order to support the project business framework. The model is used for every use case scenario to specify the different business models. Some considerations must be added about the fact that this canvas is here to be used on an expandable open source platform; as LIFE 2.0 follows both a traditional business approach and an open social one. Those considerations may also emerge while completing the description of the elements listed in ***Section 4*** and ***4.3***.

# Section 2 Market context

## 2.1 Demographic indicators. European social structure and evolution

Population ageing in all EU countries is a common reality, which is going to be stressed in the following decades.

No doubt that European population ageing is a consequence of changing fertility and mortality levels, due to the decline of fertility to low levels (at below or around replacement level) and to the increased chances of survival at old ages. At the first stages of the process, declining fertility is the dominant factor; but at the same time gradually low mortality at older ages is becoming the driving force of this process. These driving forces can be observed to a certain degree in most of the EU members. Figure 1 represents data about the driving forces variables within the European countries and their influence accordingly.

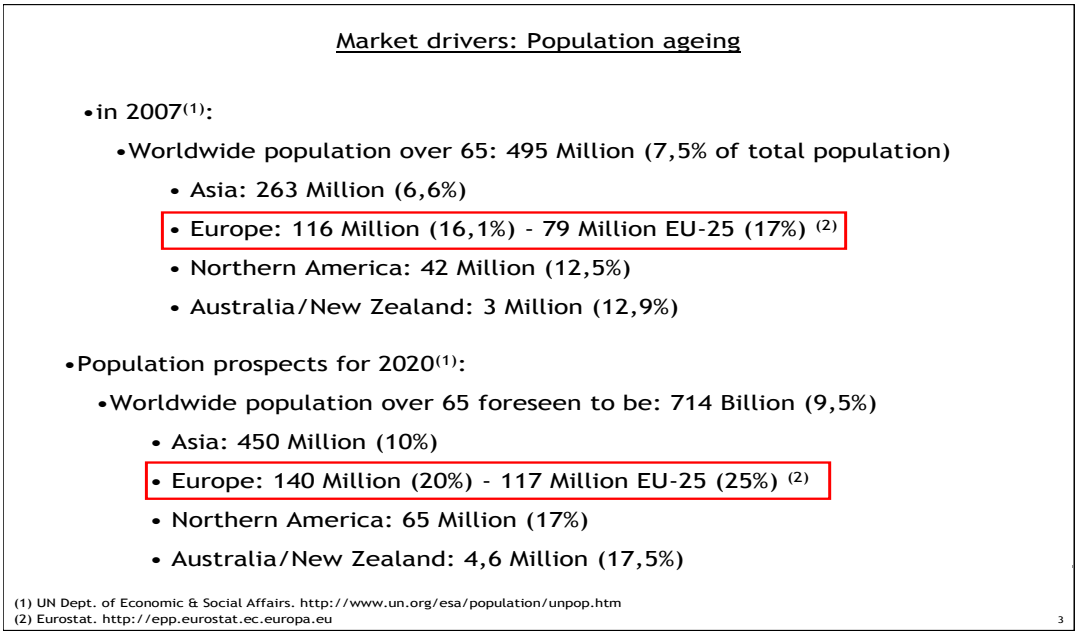


*Figure 1: Worldwide ageing figures. Sources [2, 3]*

In a study on population ageing in Europe, Schoenmaeckers and Kotowska note that [4]:

> *Over a period of 100 years, the proportion of people aged 60 and more will triple, from a mere 11% in 1950 to no less than 33% in 2050. These are astonishing figures. However, it should be said that population ageing is not exclusively a European phenomenon. Population ageing affects the entire world population. Also at world level one can observe a sharp increase in the proportion of older people. The greatest difference is that the proportions are higher in the European countries than in the rest of the world. The difference is between 5% and 9%, with maximum values at around 11%.*

| Country | % 60 or over | Rank |
|---|---|---|
| Japan | 27,9 | 1 |
| Italy | 26,4 | 2 |
| Germany | 25,3 | 3 |
| Sweden | 24,1 | 4 |
| Greece | 23,4 | 5 |
| Austria | 23,3 | 6 |
| Bulgaria | 22,9 | 7 |
| Belgium | 22,9 | 8 |
| Latvia | 22,8 | 9 |
| Portugal | 22,8 | 10 |

| Country | % 60 or over | Rank |
|---|---|---|
| France | 21,9 | 14 |
| UK | 21,8 | 17 |
| Spain | 21,7 | 18 |
| Canada | 18,7 | 31 |
| Australia | 18,1 | 35 |
| Poland | 17,4 | 40 |
| USA | 17,2 | 43 |
| China | 11,4 | 64 |

*Figure 2: Country ranking by percentage of older age population Sources [2, 3]*

However, there is a lot of heterogeneity among the European countries.

*Germany, with a current population size of some 82 million inhabitants, is one of the countries with the highest proportions; Poland, with a population size of 38 million shows moderate proportions; Turkey, with 70 million inhabitants is one of the countries with the lowest proportions. The differences are the result of different demographic histories. Nevertheless, as the data show, by 2050 Turkey too can expect to have one quarter of its population to be aged 60 and more.[4]*

| | | Total | < 1 year | 10 years | 20 years | 30 years | 40 years | 50 years | 60 years | 70 years | > 80 years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **European Union** | **2010** | **464.053.588** | 4.644.312 | 4.829.887 | 5.627.985 | 6.259.573 | 6.958.765 | 6.658.010 | **5.809.310** | **4.447.224** | **21.937.805** |
| **(25 countries)** | **2030** | **469.365.411** | 4.124.018 | 4.514.955 | 4.899.621 | 5.208.686 | 5.933.689 | 6.278.457 | **6.636.578** | **5.840.958** | **33.906.964** |
| | **2050** | **449.831.159** | 3.843.196 | 4.105.439 | 4.387.129 | 4.915.039 | 5.246.282 | 5.296.174 | **5.751.393** | **5.701.851** | **51.140.074** |
| **Belgium** | **2010** | **10.554.044** | 108.965 | 117.925 | 129.584 | 135.506 | 150.419 | 158.295 | **130.989** | **94.505** | **525.244** |
| | **2030** | **10.984.185** | 106.973 | 115.388 | 117.710 | 129.376 | 138.413 | 134.812 | **142.028** | **139.682** | **791.905** |
| | **2050** | **10.905.788** | 103.270 | 107.781 | 115.624 | 126.782 | 126.604 | 129.355 | **132.267** | **122.772** | **1.228.133** |
| **Czech Republic** | **2010** | **10.122.142** | 92.089 | 88.441 | 127.753 | 168.717 | 138.670 | 120.784 | **145.760** | **81.168** | **358.645** |
| | **2030** | **9.692.910** | 73.261 | 88.971 | 95.760 | 91.891 | 129.350 | 166.249 | **129.396** | **100.527** | **634.259** |
| | **2050** | **8.893.511** | 70.867 | 75.751 | 79.393 | 98.693 | 103.688 | 94.436 | **125.349** | **146.588** | **772.987** |
| **Denmark** | **2010** | **5.465.386** | 58.585 | 67.872 | 65.585 | 65.400 | 75.092 | 73.021 | **69.441** | **46.935** | **222.401** |
| | **2030** | **5.577.260** | 61.618 | 59.556 | 61.383 | 71.103 | 67.885 | 64.864 | **71.056** | **62.171** | **366.718** |
| | **2050** | **5.429.990** | 55.002 | 57.547 | 64.324 | 62.759 | 63.707 | 70.739 | **65.146** | **57.366** | **469.814** |
| **Germany** | **2010** | **82.823.695** | 697.479 | 796.000 | 987.535 | 990.115 | 1.307.957 | 1.307.886 | **1.036.809** | **1.085.346** | **4.179.640** |
| | **2030** | **81.146.227** | 624.425 | 715.877 | 769.738 | 898.611 | 1.065.835 | 1.005.357 | **1.251.191** | **1.144.648** | **6.486.436** |
| | **2050** | **74.642.408** | 559.612 | 606.870 | 691.880 | 810.943 | 842.792 | 915.756 | **1.032.276** | **907.551** | **10.162.855** |
| **Estonia** | **2010** | **1.314.049** | 13.930 | 11.981 | 21.251 | 18.734 | 18.123 | 18.831 | **17.016** | **13.564** | **51.213** |
| | **2030** | **1.202.475** | 10.285 | 13.204 | 13.969 | 11.811 | 20.131 | 16.955 | **15.197** | **13.953** | **66.463** |
| | **2050** | **1.125.770** | 10.608 | 11.198 | 10.775 | 13.964 | 14.400 | 11.512 | **18.211** | **13.789** | **89.667** |
| **Greece** | **2010** | **11.268.717** | 108.014 | 102.134 | 115.882 | 165.230 | 175.855 | 158.146 | **122.712** | **111.674** | **497.763** |
| | **2030** | **11.316.407** | 86.897 | 99.259 | 116.444 | 113.488 | 127.738 | 172.513 | **174.960** | **146.079** | **747.396** |
| | **2050** | **10.631.774** | 80.741 | 89.941 | 94.768 | 109.741 | 127.226 | 121.280 | **129.366** | **160.992** | **1.106.330** |
| **Spain** | **2010** | **44.603.262** | 456.859 | 422.465 | 458.948 | 716.069 | 744.412 | 636.488 | **490.226** | **348.878** | **2.218.932** |
| | **2030** | **45.379.417** | 324.172 | 369.035 | 482.825 | 459.578 | 502.168 | 736.594 | **727.760** | **580.481** | **3.291.885** |
| | **2050** | **42.833.755** | 291.212 | 344.148 | 349.586 | 404.964 | 523.780 | 486.087 | **500.777** | **683.002** | **5.501.008** |
| **France** | **2010** | **61.486.106** | 723.899 | 748.367 | 775.819 | 764.964 | 849.556 | 844.234 | **813.614** | **489.520** | **3.251.533** |
| | **2030** | **65.118.487** | 697.441 | 715.536 | 753.564 | 764.460 | 788.592 | 764.167 | **807.395** | **751.690** | **5.022.097** |
| | **2050** | **65.703.588** | 665.640 | 702.241 | 727.101 | 732.084 | 768.436 | 766.345 | **758.384** | **699.954** | **7.443.867** |
| **Ireland** | **2010** | **4.322.653** | 63.223 | 58.485 | 54.758 | 73.526 | 63.949 | 54.384 | **45.309** | **28.334** | **121.369** |
| | **2030** | **5.065.839** | 54.079 | 58.482 | 64.380 | 60.348 | 63.569 | 78.963 | **63.406** | **49.927** | **237.585** |
| | **2050** | **5.477.863** | 54.686 | 60.129 | 54.979 | 60.363 | 72.166 | 65.360 | **63.493** | **74.129** | **442.514** |
| **Italy** | **2010** | **58.631.144** | 521.697 | 548.067 | 587.043 | 731.244 | 958.640 | 829.377 | **743.190** | **660.673** | **3.413.280** |
| | **2030** | **57.071.489** | 414.744 | 452.139 | 550.903 | 603.320 | 647.070 | 751.815 | **935.694** | **758.127** | **5.002.024** |
| | **2050** | **52.709.211** | 355.754 | 411.622 | 443.792 | 507.131 | 609.651 | 627.427 | **643.390** | **710.972** | **7.454.801** |
| **Cyprus** | **2010** | **783.627** | 8.350 | 8.613 | 11.192 | 12.540 | 10.352 | 11.498 | **9.236** | **6.314** | **22.553** |
| | **2030** | **921.455** | 8.312 | 9.840 | 9.501 | 10.251 | 13.577 | 13.501 | **10.568** | **10.853** | **49.942** |
| | **2050** | **975.071** | 8.811 | 8.500 | 9.838 | 12.237 | 11.296 | 11.169 | **13.833** | **12.669** | **80.228** |
| **Latvia** | **2010** | **2.239.642** | 23.062 | 18.982 | 34.870 | 30.985 | 30.683 | 33.643 | **27.823** | **24.015** | **87.540** |
| | **2030** | **2.022.351** | 16.615 | 22.486 | 23.078 | 18.666 | 32.592 | 28.444 | **25.597** | **24.012** | **113.507** |
| | **2050** | **1.872.855** | 17.894 | 18.540 | 17.398 | 23.765 | 23.703 | 18.138 | **29.277** | **22.531** | **155.902** |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lithuania** | **2010** | **3.345.363** | 31.695 | 35.624 | 51.553 | 45.513 | 48.330 | 50.895 | **37.325** | **29.493** | **127.362** |
| | **2030** | **3.091.924** | 26.641 | 32.198 | 31.901 | 35.218 | 48.314 | 41.762 | **41.118** | **37.992** | **168.628** |
| | **2050** | **2.881.125** | 25.949 | 26.235 | 27.935 | 34.090 | 32.935 | 34.604 | **44.202** | **34.268** | **265.456** |
| **Luxembourg** | **2010** | **477.379** | 5.386 | 5.935 | 5.800 | 6.082 | 7.784 | 7.153 | **5.263** | **3.770** | **18.398** |
| | **2030** | **567.001** | 6.593 | 6.475 | 6.238 | 7.759 | 7.688 | 6.624 | **7.362** | **6.064** | **28.991** |
| | **2050** | **642.576** | 7.180 | 7.056 | 7.439 | 8.298 | 8.115 | 8.283 | **7.350** | **5.797** | **53.789** |
| **Hungary** | **2010** | **9.981.922** | 94.784 | 93.896 | 124.269 | 156.609 | 143.627 | 126.019 | **133.345** | **89.672** | **389.407** |
| | **2030** | **9.484.414** | 82.740 | 92.362 | 98.582 | 98.765 | 125.389 | 151.821 | **128.006** | **99.850** | **586.512** |
| | **2050** | **8.914.869** | 78.888 | 83.017 | 89.309 | 102.026 | 106.138 | 99.533 | **117.079** | **128.087** | **754.010** |
| **Malta** | **2010** | **422.600** | 4.460 | 4.489 | 6.066 | 6.517 | 4.928 | 6.218 | **6.152** | **3.463** | **13.428** |
| | **2030** | **479.110** | 4.598 | 5.060 | 5.231 | 5.490 | 7.122 | 7.042 | **4.973** | **5.656** | **30.219** |
| | **2050** | **508.268** | 4.891 | 4.939 | 5.430 | 6.291 | 6.227 | 5.982 | **7.271** | **6.554** | **38.294** |
| **Netherlands** | **2010** | **16.672.144** | 182.224 | 206.299 | 203.380 | 200.017 | 272.018 | 248.162 | **215.088** | **135.640** | **614.091** |
| | **2030** | **17.588.594** | 189.817 | 189.250 | 197.272 | 227.549 | 217.205 | 198.931 | **256.721** | **213.677** | **1.019.764** |
| | **2050** | **17.405.784** | 177.249 | 186.590 | 204.661 | 210.154 | 210.938 | 226.156 | **206.554** | **175.482** | **1.441.283** |
| **Austria** | **2010** | **8.255.810** | 75.212 | 82.014 | 100.687 | 102.328 | 135.982 | 125.497 | **96.767** | **98.683** | **395.531** |
| | **2030** | **8.519.893** | 69.666 | 79.465 | 84.386 | 95.148 | 111.281 | 104.080 | **129.495** | **110.587** | **622.016** |
| | **2050** | **8.215.955** | 63.455 | 68.548 | 78.417 | 91.993 | 94.067 | 97.136 | **107.438** | **94.797** | **1.038.546** |
| **Poland** | **2010** | **37.830.369** | 353.100 | 380.838 | 552.689 | 623.417 | 471.758 | 575.777 | **499.924** | **282.516** | **1.228.805** |
| | **2030** | **36.541.634** | 307.355 | 362.500 | 357.619 | 381.676 | 531.910 | 591.154 | **421.259** | **458.185** | **1.976.922** |
| | **2050** | **33.665.040** | 287.490 | 292.125 | 317.723 | 377.958 | 367.562 | 379.055 | **500.741** | **506.053** | **2.973.485** |
| **Portugal** | **2010** | **10.686.497** | 113.451 | 113.261 | 116.930 | 157.644 | 156.592 | 146.387 | **127.397** | **100.820** | **465.195** |
| | **2030** | **10.659.781** | 90.696 | 97.822 | 115.979 | 117.539 | 121.425 | 157.919 | **151.011** | **131.385** | **724.596** |
| | **2050** | **10.009.042** | 81.007 | 90.494 | 93.386 | 102.170 | 120.300 | 119.344 | **119.168** | **145.695** | **1.066.758** |
| **Slovenia** | **2010** | **2.014.802** | 17.782 | 17.987 | 23.761 | 31.479 | 28.980 | 30.416 | **26.310** | **18.263** | **77.430** |
| | **2030** | **2.005.997** | 15.179 | 18.247 | 19.528 | 19.644 | 25.414 | 32.200 | **27.894** | **26.123** | **125.772** |
| | **2050** | **1.900.849** | 15.785 | 16.352 | 17.237 | 21.516 | 22.209 | 20.710 | **24.998** | **28.855** | **200.572** |
| **Slovakia** | **2010** | **5.346.828** | 50.484 | 55.629 | 78.693 | 94.869 | 72.347 | 74.472 | **63.779** | **36.670** | **145.716** |
| | **2030** | **5.185.760** | 42.343 | 49.106 | 51.145 | 56.106 | 77.488 | 91.147 | **65.229** | **58.415** | **230.641** |
| | **2050** | **4.737.558** | 39.192 | 41.023 | 43.779 | 51.211 | 52.540 | 55.655 | **72.673** | **76.660** | **377.543** |
| **Finland** | **2010** | **5.294.365** | 56.818 | 58.548 | 64.906 | 65.580 | 65.850 | 74.533 | **81.634** | **50.311** | **235.616** |
| | **2030** | **5.443.424** | 53.914 | 58.716 | 58.734 | 60.099 | 66.430 | 65.418 | **62.921** | **66.983** | **437.361** |
| | **2050** | **5.217.029** | 52.040 | 53.379 | 55.830 | 60.307 | 60.429 | 60.354 | **64.146** | **60.656** | **536.920** |
| **Sweden** | **2010** | **9.187.490** | 104.044 | 93.551 | 125.571 | 110.896 | 121.376 | 116.046 | **121.640** | **84.562** | **482.758** |
| | **2030** | **9.911.184** | 105.284 | 114.773 | 112.795 | 105.499 | 136.243 | 113.641 | **117.960** | **104.736** | **749.058** |
| | **2050** | **10.201.539** | 110.996 | 110.615 | 113.545 | 126.084 | 122.953 | 108.401 | **133.394** | **105.188** | **908.310** |
| **United Kingdom** | **2010** | **60.923.552** | 678.720 | 692.484 | 803.460 | 785.592 | 905.485 | 829.848 | **742.561** | **522.435** | **2.793.955** |
| | **2030** | **64.388.193** | 650.370 | 689.208 | 700.956 | 765.291 | 860.860 | 782.484 | **868.381** | **739.155** | **4.396.267** |
| | **2050** | **64.329.941** | 624.977 | 630.798 | 672.980 | 759.515 | 754.420 | 763.357 | **834.610** | **721.444** | **6.577.002** |
| **Bulgaria** | **2010** | **7.438.788** | 62.374 | 67.564 | 98.427 | 111.934 | 113.458 | 103.090 | **110.736** | **69.195** | **283.126** |
| | **2030** | **6.174.567** | 41.078 | 47.429 | 58.773 | 59.492 | 87.595 | 103.974 | **100.242** | **81.740** | **408.049** |
| | **2050** | **5.094.063** | 34.989 | 41.157 | 41.716 | 48.347 | 59.208 | 58.368 | **81.559** | **86.844** | **510.888** |
| **Romania** | **2010** | **21.345.298** | 213.512 | 222.057 | 338.054 | 349.290 | 374.062 | 277.068 | **281.451** | **194.693** | **649.894** |
| | **2030** | **19.244.193** | 149.570 | 178.131 | 208.795 | 210.151 | 309.022 | 324.791 | **327.446** | **210.742** | **876.808** |
| | **2050** | **17.125.013** | 128.974 | 148.534 | 151.453 | 181.159 | 210.178 | 205.403 | **285.586** | **268.423** | **1.433.426** |

*Figure 3: European population distribution Sources [2, 3]*

Focusing in the elder sector of the society (over 60), it is clear that the distribution in each country varies, but follows an equivalent tendency. Graphically this can be easily seen when representing the percentage of elderly population and comparing it with the wide-European average figures (Figure 4).

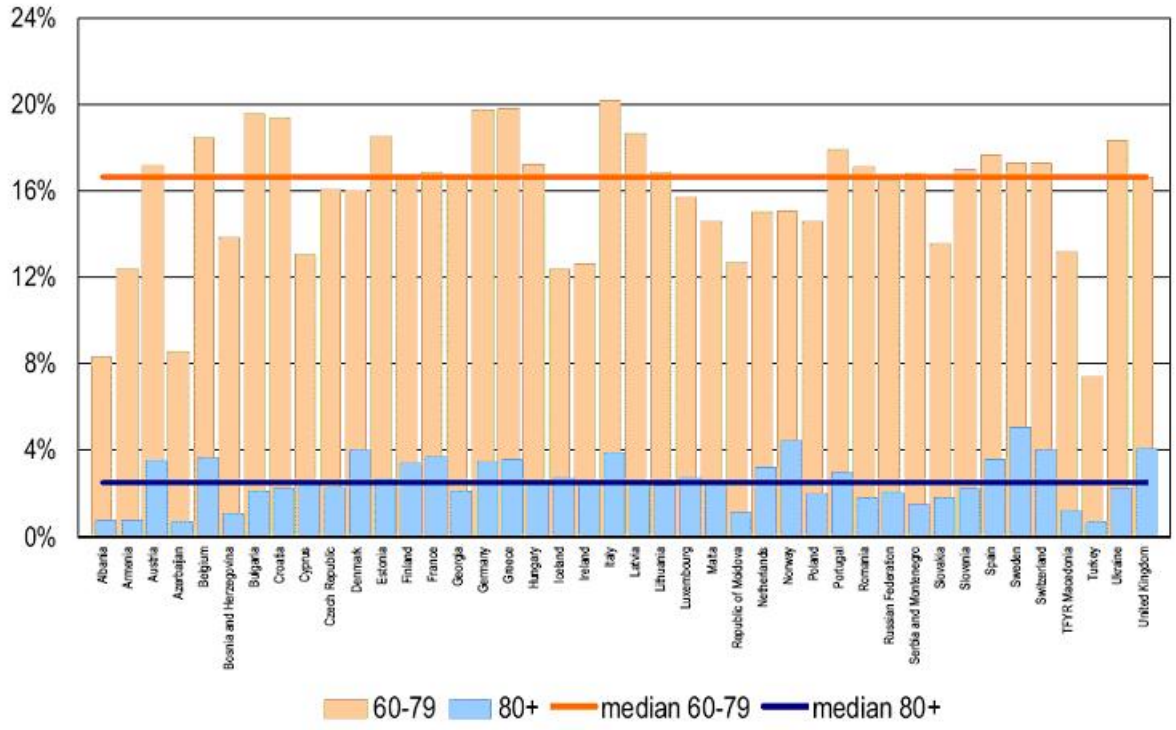


*Figure 4: Elder European population distribution compared with the average figures [5]*

So indeed, the European countries may be classified into three groups called 'LOW', 'MIDDLE', and 'HIGH', with the denominations referring to the relative importance of older people in each group of countries.
Western Europe countries are clearly in the HIGH group (Italy, Germany), whereas LOW group includes countries such as Albania or Turkey.
The ageing of European population is a direct effect of scientific and technological research: the latest generations have a lower disease load and can live longer and have independent and active lifestyles for a longer time. However, this phenomenon has serious social and economic implications.
The main implication is associated with the changing balance between *active* population (i.e. population in working ages) and *dependent* citizens, (i.e. citizens that do not produce an income on their own, but receive an income in form of superannuation). The relative increase of retired population is creating pressures for a radical revision of welfare systems in western countries [6-9]. Such a revision will most probably require painful and unpopular policies, based on a combination of reductions in benefits, tax increasing and later retirement ages.
Population ageing is in fact a concern for the United Nations and many other international bodies, which are proposing recommendation to frame the revision of retirement rules in a broader strategic framework that also address other emerging issues, such as critical changes in labour conditions, massive migration flows, changes in family structure and in lifestyles.
Within the overall framework of the EU approach to ageing some common key challenges for the European Union and its Member States have been identified: managing the economic implications of ageing in order to maintain growth and sound public finances; adjusting well to an ageing and shrinking workforce; ensuring adequate, sustainable and adaptable pensions; achieving access to high quality health care and social assistance for all while ensuring the financial viability of health and social care systems.

## 2.2 Demographic information about living labs

Detailed information regarding the demographic indicator for all four living labs can be found in D1.1, as well as attitudes of the older people. The specific pointers are provided below.

*Barcelona*

Short information related to the demographic indexes can be found in D1.1 on p.51 (Section 3.1.1). Details concerning the way of living, usage of technologies, their business and leisure time are available on p.54 (Sections 3.1.6.1-3.1.6.4)

*Joensuu*

Summarized information from the Joensuu center related to the demographic problems in North Karelia and Finland in general can be found in D1.1 on p.60 (Section 3.2.1.2). Further information concerning the social status of the elderly people is explained on p.61 (Section 3.2.1.4)

*Aalborg*

The demographic problems in Denmark - p.83 (3.3.1) in D1.1 and specifically in Aalborg p.84 (3.3.2) are the essential factors for the development of the services. A description of the attitude regarding all aspects of the services are shown on p.90 (Section 3.3.5).

*Milan*

General picture of the increased population of elderly people in the different provinces in Italy and in Milan in particular is represented in D1.1 on p94 (Section 3.4.1).

## 2.3 Market drivers: Opportunities and needs

Obviously the biggest market driver for solutions such as the LIFE 2.0 system is the population ageing. However, when analysing this phenomenon in more detail, there are additional drivers, which may foster commercially solutions like LIFE 2.0, including:

- Self-perception of health status as well as household situation is a real market driver, especially when they are combined.
- The sense of loneliness is a major driver in demanding socialization, both at real and virtual levels.
- Also, the self-perception of “good” health is a clear driver to be active and enrolled in social activities, being a clear candidate to be a social promoter of the community he or she belongs to, that is, a driver in the LIFE 2.0 supply side.
- On the other hand, and at the same time, the “bad” self-perception is also a driver for LIFE 2.0 demand side, since both assistance and being in contact with people in the same situation are natural needs of people with not good health self-perception.

In this line, it is important to mark the following key figures at European level:

- Self-perception of health status for people over 65 (EU-15) [10]
  - Bad: 16%
  - Fair: 34%
  - Good: 50%
- 67% of elderly over 65 have long-standing illness or health problems (EU-15) [10]
  - Aged 65-74: 64%
  - Aged 75-84: 72%
  - Aged 85+: 74%
- Elderly population by household situation in 2005 (over 65 in EU-25) [10]
  - Living alone: 32%
  - Living in a couple only: 46%
  - Other household situation: 22%
- Elderly population by household situation in 2010 (over 65 in EU-15)[11]
  - Living alone: 32%
  - Living with a couple only: 55%
  - Other household situations: 13%

It is also interesting to indicate the way our seniors use their time and especially the use of ICT in their daily life, since the familiarity with the ICT technologies and their daily life interest represent clearly market drivers for LIFE 2.0 solutions. In this sense, at European level we have:

- Time used on ICT by women and men aged over 65, EU period 1998-2004 (minutes per day)

| | Women | Men |
|---|---|---|
| **Personal care, of which:** | 728 | 734 |
| Sleeping | 555 | 554 |
| Eating | 115 | 125 |
| Other | 58 | 56 |
| **Employment** | 6 | 18 |
| **Domestic work, of which:** | 280 | 181 |
| Food preparation | 79 | 28 |
| Dish washing | 30 | 13 |
| Cleaning dwelling | 54 | 16 |
| Handicrafts and prod. textiles | 14 | 0 |
| Gardening | 12 | 30 |
| Shopping and services | 33 | 34 |
| **Childcare** | 3 | 2 |
| **Volunteer work and help** | 15 | 17 |
| **Leisure** | 362 | 427 |
| Social life | 54 | 52 |
| Physical activities | 24 | 46 |
| Reading books | 8 | 8 |
| Other reading | 32 | 45 |
| TV and video | 160 | 183 |
| Radio and music | 8 | 10 |
| Travel | 44 | 56 |
| Domestic travel | 21 | 25 |
| Travel on leisure | 21 | 26 |

Source: Eurostat, national time use surveys, 1998-2004

*Figure 5: Time used on ICT in the daily life of women and men, aged over 65 [10]*

- Europeans over 65 have between five and eight hours of free time per day: Time used for women and men aged over 65, EU detail on key countries in 2005 (hours per day)

**Structure of free time for women and men aged 65 and over - hours and minutes per day**

| | Total free time | | TV and video | | Socialising | | Reading | | Other free time activities** | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women |
| **Belgium*** | **07:44** | **06:39** | 03:30 | 03:07 | 00:42 | 00:53 | 00:55 | 00:37 | 02:37 | 02:02 |
| **Germany** | **07:30** | **06:31** | 02:37 | 02:14 | 00:55 | 01:00 | 01:09 | 00:56 | 02:49 | 02:21 |
| **Estonia** | **07:13** | **06:13** | 02:51 | 02:41 | 00:29 | 00:33 | 01:00 | 00:44 | 02:53 | 02:15 |
| **Spain** | **08:06** | **06:05** | 03:15 | 02:48 | 00:55 | 00:45 | 00:30 | 00:13 | 03:26 | 02:19 |
| **France** | **06:42** | **05:45** | 03:04 | 02:55 | 00:38 | 00:44 | 00:53 | 00:44 | 02:07 | 01:22 |
| **Italy** | **07:26** | **05:48** | 02:52 | 02:24 | 01:04 | 00:55 | 00:37 | 00:21 | 02:53 | 02:08 |
| **Latvia** | **06:27** | **05:51** | 02:57 | 02:43 | 00:33 | 00:37 | 00:54 | 00:43 | 02:03 | 01:48 |
| **Lithuania** | **06:03** | **05:06** | 02:48 | 02:33 | 00:36 | 00:36 | 00:36 | 00:29 | 02:03 | 01:28 |
| **Hungary*** | **07:25** | **06:39** | 03:44 | 03:38 | 00:45 | 00:47 | 00:48 | 00:30 | 02:08 | 01:44 |
| **Poland** | **06:58** | **06:09** | 03:22 | 02:39 | 00:49 | 00:52 | 00:37 | 00:30 | 02:10 | 02:08 |
| **Slovenia** | **07:36** | **06:05** | 02:42 | 02:21 | 00:54 | 00:53 | 00:55 | 00:33 | 03:05 | 02:18 |
| **Finland** | **08:13** | **07:36** | 03:10 | 02:55 | 00:43 | 00:57 | 01:13 | 01:13 | 03:07 | 02:31 |
| **Sweden*** | **07:48** | **07:20** | 02:56 | 02:35 | 00:51 | 01:06 | 01:15 | 01:07 | 02:46 | 02:32 |
| **United Kingdom** | **07:30** | **06:55** | 03:30 | 03:05 | 00:51 | 01:02 | 01:05 | 00:53 | 02:04 | 01:55 |

* Belgium: age group 65-95, Hungary and Sweden: age group 65-84
** Other free time activities include: sports, resting, entertainment and culture, arts, computer and video games, other computing, hobbies and games, volunteer work and help, other or unspecified leisure.

*Figure 6: Structure of free time for women and men aged 65 and over [12]*

- 12% of the 65-74 years olds used the internet in the EU-25 in 2005

| | % of persons having used Internet in the last 3 months, 2005 | |
|---|---|---|
| | Total | 65-74 years |
| **EU25** | **51** | **12** |
| **Belgium** | 58 | 12 |
| **Czech Republic** | 32 | 2 |
| **Denmark** | 77 | 30 |
| **Germany** | 65 | 20 |
| **Estonia** | 59 | 10 |
| **Greece** | 22 | 1 |
| **Spain** | 44 | 4 |
| **France** | : | : |
| **Ireland** | 37 | 8 |
| **Italy** | 34 | 4 |
| **Cyprus** | 31 | 4 |
| **Latvia** | 42 | 4 |
| **Lithuania** | 34 | 2 |
| **Luxembourg** | 69 | 26 |
| **Hungary** | 37 | 5 |
| **Malta** | : | : |
| **Netherlands** | 79 | 34 |
| **Austria** | 55 | 8 |
| **Poland** | 35 | 3 |
| **Portugal** | 32 | 2 |
| **Slovenia** | 47 | u |
| **Slovakia** | 50 | 1 |
| **Finland** | 73 | 18 |
| **Sweden** | 81 | 27 |
| **United Kingdom** | 66 | 25 |

*Figure 7: Percentage of elderly people using Internet services[12]*

| **Computer** | **Women** | **Men** |
|---|---|---|
| On average daily or almost | 14% | 26% |
| On average at least once a week | 21% | 35% |
| **Internet** | **Women** | **Men** |
| On average daily or almost | 3% | 12% |
| On average at least once a week | 13% | 25% |

*Figure 8: Proportion of women and men aged 55-74 who used a computer and the Internet on average once a day or at least once a week in the last three months, EU-25 (2006)[12]*

| **Computer skills** | **Women** | **Men** |
|---|---|---|
| High | 3% | 12% |
| At least medium | 13% | 25% |

*Figure 9: Proportion of women and men aged 55-74 and level of basic computer skills, EU-25 (2006)[12]*

## 2.4 Market segmentation

Market segmentation is an essential part of the business model as it enables the consortium to target different actors in more dedicated ways.

D2.3 already provided rough market segmentation by defining different actors related to demand and supply:

- Demand: Seniors and their relatives.
- Supply: Local centres (hubs), delivery services, small businesses (home service providers) and promoters.

On the demand side, although an extensive analysis of senior people, their relatives and relevant life scenarios have been provided in D.1.1, D.1.2 and D.2.2, the demand can be segmented according to the market drivers identified in the previous section:

1. By age:
    a. 65-75
    b. 75-85
    c. +85
2. By health self-perception
    a. Good
    b. Fair
    c. Poor
3. By household situation
    a. Living alone
    b. Living as a couple
    c. Other household situation
4. By ICT skills:
    a. Good skills
    b. Fair skills
    c. Poor skills

The combination of the four criteria ends up with 81 segments. However, focusing the ones with more potential, we can restrict the segmentation based on the following hypotheses:

- Age centred in the range of: 65-75.
- Any health self-perception.
- Any household situation.
- At minimum fair ICT skills.

So 18 segments that can be represented as a 3D matrix:

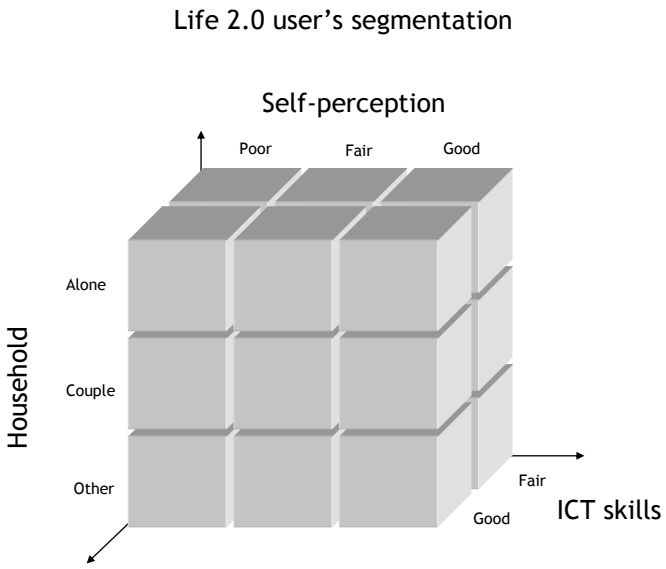


*Figure 10: LIFE 2.0 user segmentation*

This segmentation allows easy analysis of the potentiality of each segment to be an active user in the supply side of LIFE 2.0 (promoter); a potential user in the demand side, or even a passive user, requesting for help to be enrolled in the LIFE 2.0 system.

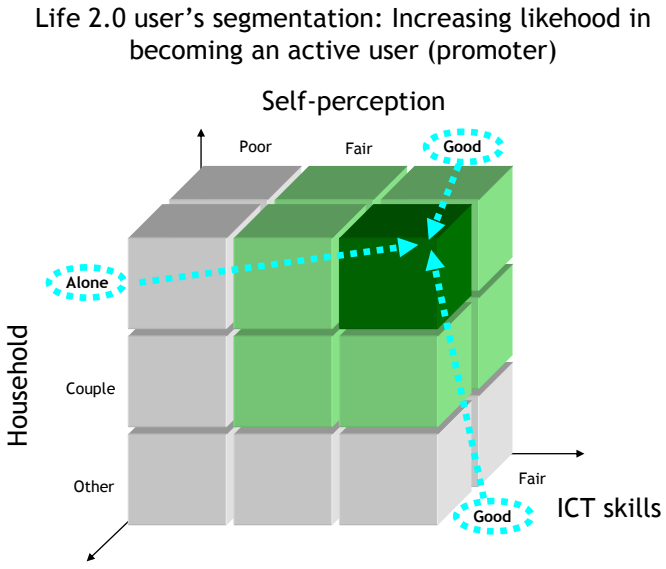


*Figure 11: LIFE 2.0 user segmentation: increasing likelihood of becoming an active user (promoter)*

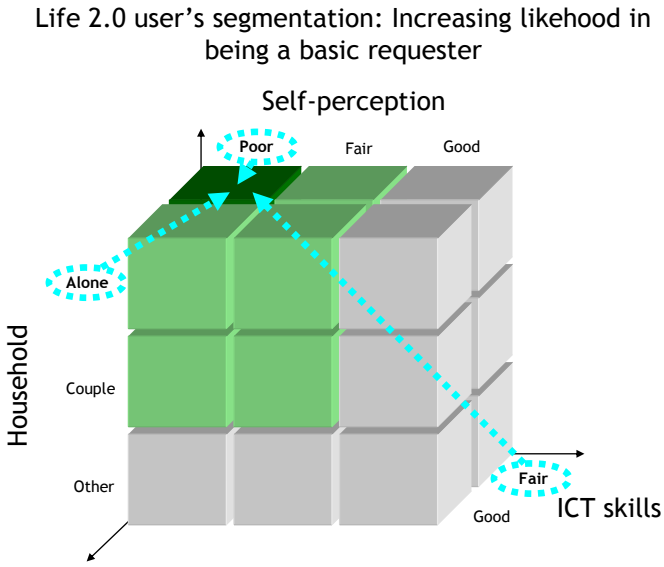


*Figure 12: LIFE 2.0 users' segmentation: increasing likelihood of being a basic requester*

On the supply side, however, more actors are relevant for the LIFE 2.0 segmentation. Therefore more thorough market segmentation is needed in order to understand the needs and motivation for using the system. Delivery service can be considered without motivation to use the system as it will primarily be a subcontractor to the small businesses.

# Section 3 Economics involved

This section focuses on the emerging economic framework for the LIFE 2.0 project. The illustration of such a framework is not exhaustive and could not be so, as the complete picture would concern a detailed description of a broader landscape of changes in which the LIFE 2.0 project can be placed. The section will instead focus on the phenomena and change trends that are more closely related to the LIFE 2.0 project.

## 3.1 The Web 2.0

The LIFE 2.0 project is framed in a technological, social, economic and cultural context that results from the application of a new generation of services on the web. The description of the characteristics of this framework would be too complex and exceed the scope of this report; therefore the following section will synthesize the framework by referring to the concept of *Web 2.0*. Furthermore, the following section is not to be seen as an exhaustive illustration of the Web 2.0 concept, but rather a selection of the characteristics of such a framework that are relevant to the LIFE 2.0 project.

### *3.1.1 Definition of Web 2.0*

The term Web 2.0 is used to indicate a new generation of online applications that have brought about radical changes in the way information is created, managed and exchanged on the web. The Web 2.0 marks a shift from a linear and mono-directional way to provide information to a networked model, in which information is generated by different actors and circulated through a number of web services. While the Web 1.0[1] consisted of desktop applications (such as Netscape) that allowed for online communication, the platform of Web 2.0 is the network [13]. On such a platform the browsers and web servers are used as commodities and the value is created by the services running on it, as described by O.Reilly [13]

> Netscape framed "the web as platform" in terms of the old software paradigm: their flagship product was the web browser, a desktop application, and their strategy was to use their dominance in the browser market to establish a market for high-priced server products.
> Much like the "horseless carriage" framed the automobile as an extension of the familiar; Netscape promoted a "webtop" to replace the desktop, and planned to populate that webtop with information updates and applets pushed to the webtop by information providers who would purchase Netscape servers.
> In the end, both web browsers and web servers turned out to be commodities, and value moved "up the stack" to services delivered over the web platform. Google, by contrast, began its life as a native web application, never sold or packaged, but delivered as a service, with customers paying, directly or indirectly, for the use of that service.

O'Reilly also describes the Web 2.0 by comparing its characteristics with the characteristics of the Web 1.0. Some of them are immediately perceivable as a social and cultural shift in the way information is shared and interaction among different actors happens on the web. The author, for instance emphasizes the shift from personal websites, in which information was presented, to blogs, where information is exchanged; from content management systems, in which content is broadcasted, to wikis, in which content is co-created; from publishing, to participation, from directories (that imply a taxonomy) to tagging, in which categorization is based on users' free choice of keyword (*folksonomy*).

### *3.1.2 Conditions for the expansion of Web 2.0*

With the fast development of the Internet in the last decades, online presence has become a must for public and private organization, but also an indispensable condition for individuals and households, to the point that the exclusion from online presence has been seen as a

[1] This term has only been used after the first Web 2.0 Conference in 2004, in order to mark the shift to the new generation of services

new form of social exclusion. The possibility to access ICT and the related knowledge, services and activities has been presented as a gap that has serious economic and social consequences and marks a *digital divide* in modern society [14].
This is particularly relevant for elderly people, who have often had few chances to use ICT and online services during their working life and are now reluctant to use those technologies in their elder age. Furthermore this gap becomes more relevant when public institutions in some countries, such as in Denmark and Finland, are shifting all their information services from physical location to online presence, thus forcing elderly people to use ICT for daily services, such as banking, certificates and health services.
Since 2004 (when the term was introduced), the pervasiveness of Web 2.0 application has forced almost every social, economic or institutional actor in the most industrialised countries to use Web 2.0 services (e.g. Google) and even to establish a presence on those services (e.g. Facebook or Twitter).
The presence of those actors on participatory services is increasing the possibility for people to access information and even to provide valuable contents to complement the existing services. This increases the chances for an active participation of citizens in the social and political life, thus supporting collaboration and democracy.

### *3.1.3 The Web 2.0 and new approaches to innovation*

The Web 2.0 suggests a new way of creating and exchanging information, as well as a new way of participating in the creation of contents in form of knowledge, services and products. An extensive literature is exploring the implications of this participatory approach, also in relation to the diffusion of innovation forms based on open paradigms, collective creativity and user-participation [15-18].
Some examples of applications that are closely related to the LIFE 2.0 project are:

- E-health, where the possibility to complement existing health services with user-related knowledge opens up a potential for LIFE 2.0.
- E-government, where the possibility to complement existing public services with information and knowledge that would support public decision makers or even generate cooperative decision making in local communities appears.

**E-health** allows an approach based on patients' participation and co-production of knowledge in personal and health services. Although this approach is directly inspired in the technological development of Web 2.0 services, the application of this approach goes beyond the use of ICT and also implies citizens' participation through personal contacts in local communities [19-21]. The implications of this approach include the possibility to increase the efficiency of public services by increasing their personalization. This has been seen as an indispensable approach to a sustainable system of public services [22].
According to the EU commission on Information Society **E-Government** *is about using the tools and systems made possible by Information and Communication Technologies (ICTs) to provide better public services to citizens and businesses.* The aim of e-government policies is to increase transparency of public services and to *better manage a country's social and economic resources for development* [14].
The integration of online public services with Web 2.0 services increases the possibility for citizens to shape public services, that means not only participating to the public debate on such services, but also contribute to the design and development of new and highly personalized services [19].

## 3.2 Attention economy

The increasing amount of information available to users thanks to new communication tools, and the possibility to personalize the offering (from the information-provider point of view) and the choice (from the user point of view) are the focus of the debate about *the information economy.*

The term refers to the assumption that the flow of information reaching each person in the most industrialised countries can increase the quality of life by providing people with more choices and more knowledge.
In fact such an enormous amount of information available nowadays is not necessarily absorbed and used in everyday life. The richness of information is in fact consuming people's attention. This increases the need to allocate that attention efficiently among the overabundance of information sources that might consume it.
The dialectic interaction between over abundance of information, whatever relevance it may have, and users' filter generated by their attention resources can be analysed as an economy of attention [23].
This approach is very relevant for the business framework for the LIFE 2.0 project.
In fact the LIFE 2.0 platform can also be seen as the marketplace in which information-based services will meet users' attention (

*Figure 13: LIFE 2.0 as a service platform*

3). Relevance will be the main catalyst for user attention.


*Figure 13: LIFE 2.0 as a service platform*

Not only will the services need to have high relevance for users, but also the platform itself. The marketplace needs to be highly relevant to them too. This is the reason why the content of the platform cannot just have a functional and commercial character (e.g. services); but it has to include information (e.g. events, mutual help offering or simply communication opportunities) the value of which can hardly be quantified in economic terms. The offering on the platform should include services with high emotional or social value. The *attention filter,* which elderly people will use for the LIFE 2.0 platform, will depend on how relevant the services and the whole platform will be for them. Of course their direct participation to the definition of the content (in form of calls for participation, recommendations, help offering and even service offering to their neighbours) will increase their attention resources towards the platform (Figure 14). Attention resources will filter the offerings on the LIFE 2.0 platform. At the same time the possibility for elderly people to generate content on the platform will widen the window of attention for the services offered in the platform.

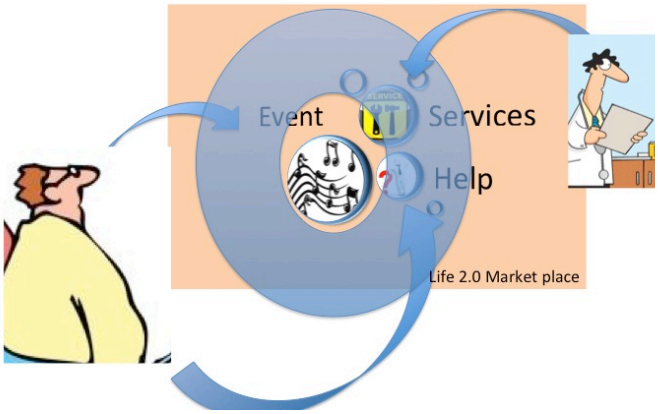


*Figure 14: Attention resources*

## 3.3 Competition over the attention resources

As demonstrated in the ethnographic analysis, and in statistics in the different regions, elderly people are not very exposed to information flows related to the Internet or online social networking. This means that information flows from those channels are not taking any significant part of their attention resources.
However, this does not mean that the LIFE 2.0 platform does not have competitors on the attention level. In fact the competitors that share the attention resources of this target group are physical meeting places and opportunities, face-to-face contacts, which elderly people have in everyday life.
This aspect of their life could, however, also prove to be the right ground to promote the LIFE 2.0 services. The platform will be successful if it will complement and support face-to-face meetings, disseminate information about events and everything, which is relevant in the physical environment around them.
A platform that works as an *augmented neighbourhood*, thus making any opportunities for social contact more visible and accessible will have much more chances to capture a substantial share of elderly people's attention resources.

## 3.4 Measuring attention resources

Time is a possible unit of measure for attention resources. The time users devote to an activity, the time people spend to read a page, to analyse the information they receive, to elaborate it into useful knowledge, the time people use to create content for the LIFE 2.0 platform.
Capturing elderly people's attention means having them spending more time using the services in the platform. Service providers that manage to do so may use elderly people's time as a resource, especially when they manage to support their participation in the definition of new services or improvements of existing services.
Time is a useful exchange currency for the LIFE 2.0 services (time banking is one of the use cases that appeared in the ethnographic analysis), therefore the design of the platform must give due value to the time elderly people spend on those activities, whether they are online contacts or face to face cooperation or mutual help.
It is worth noticing, though, that time is still a quantitative parameter, which measures participation as a consequence of users' decision to invest their attention resources on the services, without providing any real indications about the motivations for such an investment.

## 3.5 Attention technologies

Besides the strategy of keeping the platform *as close as possible* to the physical reality, the platform will need to use the most traditional *attention technologies* to propose *attention services* to support elderly people's motivations.

Elements of the platform that can support attention technologies can be:

- **Database of users' profile**, where users can store their preference and selection criteria for **personalized search**
- **Personalized recommendations**
- **Personalized alerts**
- **Personalized news**
- **Personalized shopping presences.**

The use of such technologies will need to abide to the confidentiality and privacy code included in local legislation and in the LIFE 2.0 ethical code (D1.3)

# Section 4 Business framework for the LIFE 2.0 platform

## 4.1 The Canvas model

The content of this section mainly refers to the work of Osterwalder and Pigneur [1], who define a canvas for the business model. Such a canvas has been used as a methodological reference in the scenario description (D2.1) and in the first general workshop in Milan.
According to Osterwalder and Pigneur: *A business model describes the rationale of how an organization creates, delivers and captures value*
The authors also identify 9 *building blocks* of a business model:

- **Customer segments**: The target groups of people and enterprises
- **Value Proposition**: The bundle of products and services that create value for a specific customer segment
- **Channels**: The way an enterprise communicates with and reaches its customer segments to deliver a value proposition
- **Customer relationship**: Types of relationships a company establishes with specific customer segments
- **Revenue stream**: The cash a company generates from each customer segment
- **Key resources**: The most important assets required to make a business model work
- **Key activities**: The most important things a company must do in order to make its business model work
- **Key partnerships**: the network of suppliers and partners that make the business model work
- **Cost structure**: All costs incurred to operate a business model

The consortium is using and will use the elements of this canvas as a mapping device for the development of the project. However, a critical perspective should be taken into account for the LIFE 2.0 project: The open platform of the consortium also aims at including forms of co-production and cooperation between users and other actors that may not be perfectly framed in Osterwalder's framework. Although at this stage of the project the possible gaps between this framework and the reality of a co-produced network are still hard to be identified, the perspective difference between Osterwalder's work and the LIFE 2.0 platform is quite clear. While the aim of the former is to generate an operative tool for enterprises and entrepreneurs, the LIFE 2.0 project aims at creating innovation starting from social interaction, thus putting actors, such as elderly people, in a new position of *producers* of a value. This difference will probably challenge Osterwalder's model. Although the reflections about the adequacy of such model to cases such as LIFE 2.0 is an academic topic that may go beyond the scope of this project, the gap between the two perspectives must be emphasised to justify possible methodological changes in a later phase of the project.
The business model canvas was introduced as a method to design our business framework in the general workshop in Milan. In order to involve participants to the workshop into the discussion on how to shape the business model canvas for LIFE 2.0, the staging technique has been adopted. In order to start an interactive staging of the business model of an organisation each of the different building blocks from the business model canvas is represented by one or more persons. If for example three different customer segments are served, then three participants should represent each customer segment separately. A group moderator is needed to bring efficiency in this process.
In order to be easily identifiable the representatives of each business block could wear a sign on which the customer segment is written in large letters. The use of signs of identification visible by all participants has several distinctive advantages: first one can easily write on them. Secondly the participants are much more immerged in their current role. For example, they are not employee XYZ or consultant XYZ anymore, but now they are speaking as customer segment ABC.

The staging started with the first participant playing the role of the value proposition as the key role to define all the relationships between the other components of the business model. Through the interactions with the other participants playing the different roles a complete definition of the business model, supporting the project in all its parts has been depicted, including the interactions between the different subjects and their expectations in terms of value received and delivered to the system.
The outcome of this activity could be summarised as follows: LIFE 2.0 is a social network model enabling elderly people to interact with their environment acquiring products, services and information for free. In order to back up this value proposition towards the main target, a network of providers of target related products, services and initiatives is needed. The suppliers will make transactions through the social network selling their goods to the elderly people with special custom fit solutions for individuals and groups. This implies the integration of a bank or other financial institutions to support the payment system and of an IT service provider for site hosting and connectivity. The LIFE 2.0 platform requires internal resources and competences, which are able to build and manage assortments and a bundle of products and services that might enhance life conditions of the people, accessing the platform and be economically profitable for local suppliers. A communication unit to establish and maintain relationships with the different stakeholders is another crucial element and should be managed internally.
A more detailed illustration of the business model canvas for the LIFE 2.0 project and for each specific scenario is proposed in the following sections.

## 4.2 The canvas model for LIFE 2.0

**Table 1 Business Model Canvas**

| Key partners | Key activities | Value propositions | Customer relations | Customer segments |
|---|---|---|---|---|
| • Users: Elderly<br>• Users/families<br>• Users/caregivers<br>**Service provider: Consortium members**<br>• Agora/FHS<br>• Technology providers (NT, ALU, I2CAT)<br>• Application providers (TI)<br>**Local Institutions**<br>• Aalborg Kommune<br>• Joensuu Kaupunki | • Personal communication between users and with relatives and caregivers<br>• Information about events or available services Initiatives of local service providers<br>• Access to local services or public institutions<br><br>• Personal initiatives, (offering help, favours, event organisation), | **To elderly people**<br>• Information/knowledge exchange<br>• Support for independent life<br>• Sense of security<br>• Access to local services<br>• Information about events or available services<br>• Personal initiatives, (offering help/event organisation),<br>• Access to local services or public institutions<br>**To local services providers**<br>• increase visibility in the local context<br>• New business opportunity<br>**To local institutions**<br>• Support the informatization of public services.<br>• More control on the demand for social/physical assistance<br>• Personal services.<br>• save /optimise human resources | The platform supports and facilitate user access to services and activities<br><br>Users provided content is supported by the platform | • Elderly people in local communities<br>• Local service providers<br>• Local institutions<br><br>Local communities in other geographical locations |
| **Service provider: External**<br>• External service providers/ Local business<br>• External service providers/Infrastructure providers | | | | |
| **Emerging business partner**<br>• Consortium/system organizer/platform administrator | | | | |

| | **Key resources**<br>**Informal**<br>• Elderly People<br>• Local Communities<br>• Local service providers | | | |
|---|---|---|---|---|
| **Cost structure** | | **Revenue stream** | | |
| **Development costs**<br>• Development of hardware and software Testing of the service<br>• Marketing and communication<br>• Personnel costs<br>• Technical support and maintenance<br>**For elderly People**<br>• Access to the platform<br>• Access to services | **For service providers:**<br>• Access fees to the platform<br>• Access to the API,<br>• Webpages<br>• Local support activities, (delivery and logistic)<br>• Infrastructure costs<br>**For local institutions**:<br>• Costs for maintenance and support at the local level personnel and infrastructure costs)<br>• Support costs (e.g. payment of elderly people's)<br>• Communication and marketing costs<br>• Infrastructure costs | • The utilisation of the service by elderly people and their families (revenue paid by users or by the taxpayers, in form of public support)<br>• The utilisation of the service by local service providers<br>• Indirect revenue related to the optimisation of time and human resources and the personalisation of assistance to elderly people | | |

Basic components | Strengths and opportunities | Threats and weaknesses | Further initiatives

### *4.2.1 Key partners*

The key partners in the LIFE 2.0 platform are illustrated in the following figure.

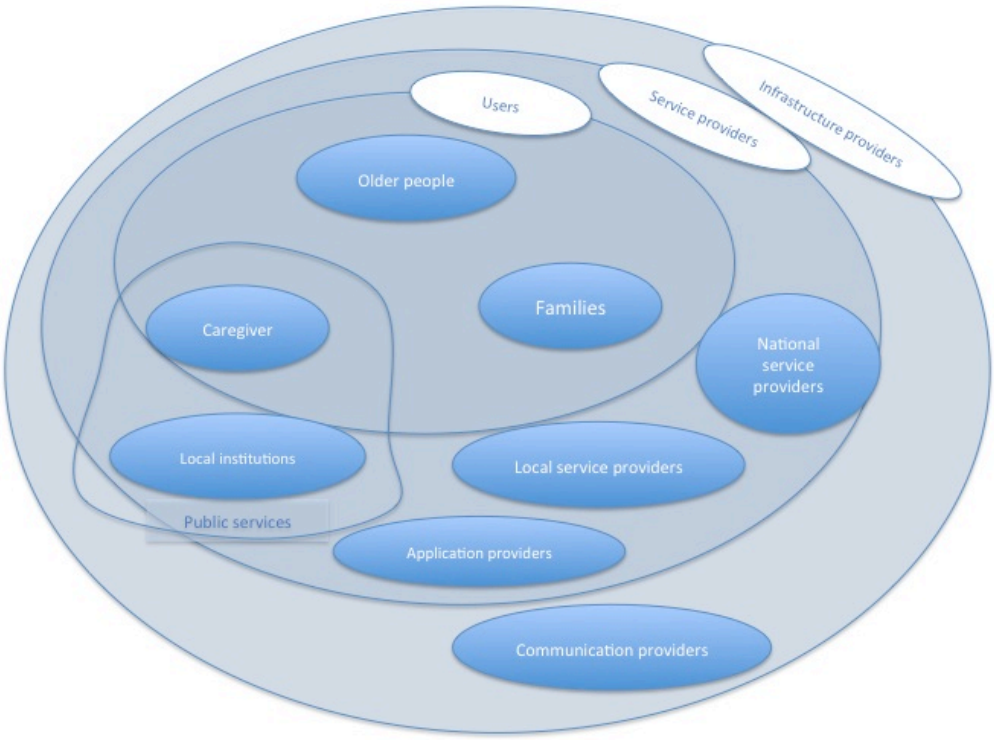


*Figure 15: Map of the different model parts*

The business case development (WP5) will specify the ownership of the platform. At this stage it is not possible to specify whether the platform will be owned by the consortium, by one of the partners or by a new legal entity that will possibly include some of the partners in the consortium.

### *4.2.2 Key activities*

The key activities included in the LIFE 2.0 platform consist of any kind of support to services and activities to be undertaken in the pilots (and later on in the working system). Such activities include:

- Personal communication between users, relatives and caregivers
- Information about events or available services in the area (scenario: Event organisation)
- Initiatives of local service providers offering services to elderly people (scenario: market place)
- Personal initiatives, such as offering help, favours, event organisation, exchange of knowledge/skills (scenario: mutual help)
- Access of elderly people to local services, offered by private service providers (e.g. supermarkets, cinema) or public institutions (e.g. public services) (scenarios: mutual help and marketplace)

The support consists of:

- Offering opportunities for communication between elderly people, including public calendar, personal communication, pools, public announcements, etc.

- Offering facilitated access to services in the platform through an appropriate user interface, that takes into account the different devices, which senior people may use in order to access to LIFE 2.0
- Tools and instructions for elderly people that will want to have a more active role in their community and towards their friends/relatives
- Offering a common Application Programming Interface (API) for small business that will want to use the platform.

The pilot phase (WP3) and the business case development phase (WP5) will define which of those activities will be centralised and which ones will be distributed in the different geographical locations, according to local culture, social and geographical settings and language differences.

### *4.2.3 Key resources*

Because of the open structure of the LIFE 2.0 platform, the available resources for the LIFE 2.0 platform have different nature:

1) Support resources include:

- Institutional and formal resources, such as caregivers, local administrations, who will integrate the LIFE 2.0 platform as part of their activity and provide support in terms of general information about the platform, personnel to support users and possible physical locations (e.g. Kastanjegaarden, Àgora), where users can learn about the platform
- Technical knowledge of the consortium partners, which will develop the appropriate infrastructure and interface
- National and international service providers (e.g. phone companies, software providers) that will provide the technical infrastructure for the platform. This category includes actors that are present in the consortium (e.g. TI, ALU, NT) or actors that are not included (such as national phone companies in DK, FI or ES).

2) Content providers include:

- Elderly people, who will exchange information and knowledge via the system
- Local communities, including families
- Local service providers, who will offer services through the LIFE 2.0 platform.

### *4.2.4 Value proposition*

The LIFE 2.0 platform will be the basis for services based on location and positioning technologies and social networking.

***To elderly people*** the platform will offer an opportunity to exchange information, knowledge and social interaction beyond the existing physical interaction. The availability of such information will generate a sort of *augmented neighbourhood* that will reinforce the sense of safeness of elderly people and their confidence in their personal capabilities, knowledge and skills.

***To local service providers*** the platform will offer an opportunity to increase their visibility and presence in the local context, thus increasing their business opportunity and, thanks to the active participation of the elderly people, also to increase the chances for innovation.

***To local institutions*** the platform will provide support in the informatization of public services. For caregivers and social services, the platform will give the opportunity to control the demand for social and physical assistance and personalised assistance services. The active participation of users will also give more chances to save and optimise human resources.

### *4.2.5 Customer relationship*

The customers in this platform are not just passive receivers of a service/a packet of services, but also active providers of contents, knowledge and skills.

The platform will provide easy access to services and activities organized for elderly people. An opportunity for elderly people will also consist in the possibility to propose new activities, services and favours and to add content to the platform.
The business framework for the LIFE 2.0 platform poses the following questions:

- What kind and what extent of support can be provided for the platform to work?
- To what extent can users generate innovation into the platform? (Is it just content generation or can it also somehow include structural changes in the platform?)
- How can the platform transform and incorporate the innovative push provided by users? (What level of flexibility will the platform allow for structural changes?)

Such questions will be addressed in WP3 (pilot testing) and in WP5 (Business case development).

### *4.2.6 Channels*

The LIFE 2.0 platform will reach its users and vice versa through:

- *Formal channels*, including public institutions, official and public communication, website, direct information to users and service providers.
- *Informal channels*. Due to the open nature of the LIFE 2.0 project an important resource to reach and widen the target group will consist of personal communication between users. LIFE 2.0 aims at activating local networks and using their potential, for this reason the consortium will need to stress the possibility that the system expands with an active participation of users, which will invite other users or generate demands for local services.

It should be stressed that the consortium partners are already able to provide a physical location in some of the regions, in which such informal channels can be activated and/or promoted. This is happening in particular in Aalborg (Kastanjegaarden) and in Barcelona (Àgora). Other partners' direct contacts with elderly organisations, such as Elakeliitoo, will also be an active channel to communicate the initiative and reach the target customers.
Another channel for communication of the LIFE 2.0 platform beyond the limit of the LIFE 2.0 consortium will be the local service providers, which will be able to use knowledge acquired in the pilot locations to promote the extension of the platform.

### *4.2.7 Customer segments*

The customers of the LIFE 2.0 platforms will be:

- Elderly people in local communities
- Local service providers
- Local institutions.

Customers of the LIFE 2.0 platform will, in some cases, become service or content providers. The LIFE 2.0 platform will support this by facilitating interaction among the customer segments and serving as broker for new business or service initiatives.
In a full working phase such segments will expand beyond the consortium, starting different communities in the same geographical location of the pilots and progressively including other locations, and different local institutions.

### *4.2.8 Cost structure*

The cost structure of the platform will include:
**Initial development costs**, that include:

- The development of hardware and software infrastructure
- The testing of the service
- Marketing and communication of the initiative
- Personnel costs
- Technical support and maintenance

Some of the costs will be borne by the consortium in the pilot phase, but they will probably be paid by users or by public institutions in the mature phase after the LIFE 2.0 project, these include:

- The use of the internet and communication services
- Acquisition of hardware devices to access the platform.

**In the mature phase**, after the termination:
For Elderly people and their relatives:

- Access costs (but elderly people may be granted access for free in some regions)
- Costs to access services in the platform

For service providers:

- Costs for accessing the platform (fees) and to communicate the offering (access to the API, web pages and online communication)
- Costs for new support activities, such as delivery and logistic services at the local level
- Infrastructure costs (internet, access devices, etc.)

For local institutions:

- Costs for maintenance and support at the local level (including personnel and infrastructure costs)
- Support costs to facilitate access (e.g. payment of elderly people's fees to access the service)
- Communication and marketing costs
- Infrastructure costs (internet, access devices etc.)

Should the platform be owned by an *ad hoc* legal entity, some of those costs will possibly be borne by this entity.

#### *4.2.9 Revenue structure*

The revenues are expected to come from:

- The utilisation of the service by elderly people and their families (revenue paid by users or by the taxpayers, in form of public support)
- The utilisation of the service by local service providers
- Indirect revenue will be generated for public institutions (especially care givers) by the optimisation of time and human resources and the personalisation of assistance to elderly people.

The platform will also become a medium and a bench marker for aggregating information about needs, demands and social transformation in the local context, which can also become a source of revenue in the long term.

## 4.3 Discussion of the Business Framework for each use case scenario

### *4.3.1 Mutual help*

**Table 2: Business Canvas for "Mutual help" use case**

| Key partners | Key activities | Value propositions | Customer relations | Customer segments |
|---|---|---|---|---|
| • Platform provider<br>• Public sector<br>• 3rd sector<br>• Elderly people<br>• Relatives<br><br>(Elderly are content providers) | Guidance for elderly helps providers<br><br>Small help quickly<br><br>Profiling the suitable help (small/big) | Need for feeling meaningful<br><br>Experiencing the service as safe<br><br>Fear of meeting strange / unpleasant people<br><br>Lowers barriers for asking help<br><br>Chance to say no<br><br>Receiving/giving mutual help is a resource | Possibility to choose the help promoter<br><br>Profiling the suitable help (small/big)<br><br>Users can feed new service categories<br><br>Asking and offering help: interactivity | Elderly are willing to offer their skills in order to feel meaningful<br><br>How to find people who want to help, need help<br><br>Those who need help might not be able to offer help |
| | **Key resources** | | **Channels** | |
| | Elderly are content providers<br><br>Supervision (moderator) | | Platform<br><br>Content information is protected | |
| **Cost structure** | | **Revenue stream** | | |
| • Technical realization<br>• Equipment<br>• Maintenance of platform<br>• Technical help<br>• Moderators / supervision | Town/ 3rd sector as moderator/ supervision<br><br>What can be done as volunteer work? | Where is the point where mutual help is competing with local businesses? | Public sector pays the platform to get cost savings elsewhere<br><br>Monthly platform fee | Time banking and reciprocity should be investigated<br><br>Elderly want to pay only for useful content |

#### 4.3.1.1 *Business framework for the mutual help scenario*

The described information on the business model canvas is explained further below to open up the content of the business framework concerning the mutual help scenario.

#### 4.3.1.2 *Key partners*

There is a need for at least five key partners to gain value out of platform and the service in the mutual help scenario: Platform provider, public sector, 3rd sector, elderly people and their relatives.

Platform provider is the real business partner with monetary value interests.

Public sector and 3rd sector partner can gain value in the form of cost reductions and efficient organizing of the volunteer help. From the business perspective and for organizing the services as a reliability backup, the public sector should be considered as necessary a partner.

Also the 3rd sector organizers' participation should be investigated as the most suitable for the practical executions (guidance, moderator and supervision activities) of the service bank in order to use volunteer work and lower the costs of the operation.

Elderly are both customers and partners because they themselves are the content providers for the service.

#### 4.3.1.3 *Key activities*

Guidance for users/help providers is necessary in order to avoid elderly people being afraid of a new service. Guidance for the elderly help providers, where the help promoters are the elderly people themselves, should be considered as a means to ensure the reliability and right attitudes of the help providers. These 3rd sector bodies could organize the service and the volunteer work platform and then provide some check-up and schooling for the volunteers to provide reliable status and credibility for offering own skills for mutual help and for being able to register as a promoter. Guidance, given by a trustworthy party would be considered to be strength in supporting the feel of security and reliability of the offered mutual help. At the same time the moderators could instruct the use of the service and devices in order to act as a promoter.

Profiling the suitable help needs to be considered when building the platform and the business model. The risk in the mutual help scenario is when and by whom is it decided if the requested help can be done by other elderly or it needs experienced service from a professional organization or a company? Another problem might be that the volunteer senior peer to peer service would conflict with the SME offerings and even legislation since any social, health care and transportation activities are heavily protected by the law in Finland and require permission. So there should be legal conditions that will justify the type of the services provided by the seniors or other private persons. The participation of both these sides would provide alternative for the person searching for help: to have volunteer, free help or to have professional help and to pay for it.

Small help quickly is definitely strength in the mutual help scenario. Sometimes it takes a long time to find and get someone to help even in a small task, so to find quickly and easily someone from nearby and someone willing to give certain help is a clear benefit. (see Customer Segments).

#### 4.3.1.4 *Key resources*

Elderly are content providers: this is a resource when thinking from the public sector point of view. There are a lot of skills that are unused and could be used for the benefit of other elderly and also for other ages. This could ease the forecasted pressures for the public sector to organize and pay for needed service for the well-being of the growing amounts of elderly residents.

Supervision and trust need to be organized in order to make the service reliable and trustworthy (who can register, who can be a promoter, who is making sure that individual

rights are followed correctly). The acquired user information stresses reliability as the most important feature in order to start using the platform and services. A virtual environment (e.g. Internet) or a socially open environment (e.g. Facebook) is a completely new thing for the elderly people Since they are not used to these kinds of not concrete interaction environments they feel scared and insecure. Elderly do not want everyone to see their contact details and they are afraid of letting strange people inside their home, so someone needs to make sure that help providers are trustworthy.

#### 4.3.1.5 *Value propositions*

The need for feeling meaningful is a very strong emotional need for the elderly people. When they can do something for someone, they feel that there are still meaningful reasons for their existence. This is very important in the mutual help scenario, which actually is based on this need and the feel of happiness from being able to help and getting favours in return.
Experiencing the service as safe is important in order to get the elderly people to use the service. They will not use something they do not trust. The more the service can be trusted, the more users it can recruit.
Fear of meeting strange / unpleasant people was a real fear among the elderly people at least in the Finnish user research results. This is pointed out as a threat in order to be considered in the surveillance and moderator work. The reliability and safety issues in receiving help from unknown people or offering help to strangers need to be taken into consideration when organizing the mutual help activities.
An interesting proposition was that the system would be mainly built for exchanging volunteer help but would have SME's help as a backup option. So in case of no volunteer help available, there will be a solution for the help needed.
The volunteer work also raised the question how the volunteers could be rewarded (maybe by offering them a free use of the system) and how the use of the help systems should be charged: monthly fee for regular users and free of charge for irregular ones.
Questions concerning the reliability and the security issues were raised and services should have some kind of check-up. The volunteer should have some kind of security check-up and schooling for the system, service provision and interact with the client to provide some sort of certification that they are suitable for the different volunteer needs.
Finance should be arranged so that user would be able to pay for real service. Users should be able to avoid investing in equipment and (separately) to service without the knowledge of the real benefits and results.
Strength of the LIFE 2.0 platform and service is how it lowers barriers for asking help. Sometimes there is a need for small help, but the person might feel that they do not want to bother others in case they are busy. So through the service they know that they ask help from people who have volunteered to offer their help, who are willing to give help and the suitable times for them are pointed out clearly (automatic selection for the best candidate to offer help according to location and time aspects).
Chance to say no is connected to the previous point. The help offering promoter has the chance to say no politely when the request does not come straight in personal contact and when it might feel that you do not dare to say other than yes.
Receiving / giving mutual help is a resource when looking at the service from the public sector point of view as it can save compulsory service costs in the public sector. (Cost structure and Revenue stream).

#### 4.3.1.6 *Customer relations*

Possibility to choose the help promoter is strength as it allows various options and the selection of the best candidate. The location detection function can lead to the promoter being someone already known to the person asking for help. The mutual help system organization should ensure also that the promoters offering help are proven trustworthy.

Profiling the suitable help needs to be considered when building the platform and the business model. The risk that is seen in the mutual help scenario is when and by whom is it decided if the requested help can be done by other elderly or it needs experienced service from an organization or company?
An important initiative, which ensures the users' participation and content creation, is the enabling of the users to feed new service categories. This should also encourage the elderly and their relatives to join in the service when they have a chance to use the service according to their own needs. This is also how the service can develop all the time.
Interactivity is an essential part of the platform. It consists of asking and offering help. It also gives a chance for social interactions and even meeting new people, which is important for elderly people. At the same time it makes it possible for elderly people to be also content providers and supports their feeling of a meaningful life.

#### 4.3.1.7 *Channels*

The platform should be easy to use. Information and help for using it should be provided in places that are frequently visited by the elderly people. The 3rd sector could be used as a resource for free work in organizing the volunteers' communication, schooling, guidance and the system will provide an extra information distribution channel to seniors.
For the feel of safety and trust towards the service, the Content information is protected. This means that outsiders cannot access personal details and contact details. The elderly people are very concerned about who will get and use their information (illegally) so the security of information needs to be clear and taken care of.

#### 4.3.1.8 *Customer segments*

Elderly are willing to offer their skills in order to feel meaningful. This gives them a reason to be alive, a feeling of being important and connects them socially.
How to find people who want to help or need help is a big challenge in the everyday life, even if the elderly are keen to help each other. The mutual help service in the platform can organize solutions to this evidently existing phenomenon. However, for the business solution it is important to find the right elderly for promoters in the platform especially in the first stages of the service so that the reputation of the service grows positive and more help offering and needing people are willing to join it.
Those who need help might not be able to offer help. This is a threat when thinking about the continuity and interaction between people. Younger elderly people are able to offer their help and receive help from others, but the older or more frail people are, the less they can offer help even if requiring more help. The balance and the agreed logic for how much one can ask for help and how much one needs to give help should be decided and organized in the platform. There is also the possibility that a younger relative or a friend can offer help instead of a frail elderly. The amount of received and given services also connected to the Revenue stream along the questions of who should be paying and who not.

#### 4.3.1.9 *Cost structure*

The elements of the cost structure are technical realization, equipment, maintenance of the platform, technical help and moderators/supervision. All of these require people's working hours and hardware costs.
There is a very good chance for the public sector (local administrations) or 3rd sector to be the moderator and to take care of the supervision. This could happen, if they see clear benefit for themselves and the usefulness of elderly people giving and receiving mutual help among each other.
An important issue to be considered in the platform is what can be done as volunteer work. The volunteer work will decrease the costs of the expensive human resources. This will make the service affordable and available for larger number of users.

4.3.1.10 ***Revenue streams***

The elderly want to pay only for useful content. They do not have interest to buy new technology or service just to test how it works. Everything they spend money on is expected to have some relevant meaning for them. The value propositions and usefulness should be correctly and efficiently pointed out in order to attract their attention and get them using the service.

One possibility for gaining money is monthly platform fee. In terms of business perspective the senior users are eager to rent even the more expensive mobile device against a small monthly fee if it would provide true advantages such as important services, ease of use and visibility. Strength of renting is also the possibility to keep the equipment and the programs updated in predefined periods by a service provider. This way the fear and the unwillingness to buy/receive new technological equipment could be lowered.

Another possibility is that the public sector pays the platform to get cost savings elsewhere. They could see that mutual help can replace some other help now provided through the social service and elderly services systems, which are free for the elderly people at the moment, but sourcing funds for the public sector (organized by tax money).

There is one concern and threat that can be seen in the mutual help scenario: Where is the point, in which the mutual help service is competing with local businesses? If there is a fee to be paid for exchange of mutual help, then it is important to verify whether it is in conflict with some other company's services offered through the LIFE 2.0 platform. This challenge relates also to the decision if the mutual help is totally free of charge and how this impacts the elderly's willingness to use the business services.

Time banking and reciprocity should be investigated in order to find out the best balance and coordination for giving and receiving help. How is the person giving help getting payback? Is the usage of the mutual help free for the ones who are promoters and offer their skills and help for others? Should the users pay for the use of services in case they cannot offer anything, but are willing to ask for help from others?

### *4.3.2 Service marketplace*

**Table 3: Business Canvas for "Service marketplace" use case**

<table>
<tr>
<td>Key partners<br>Delivery Companies<br>Banks? Pay Pal?<br>Service supporters (e.g. public institution)</td>
<td>Key activities<br>Platform maintenance and monitoring<br>Customer assistance</td>
<td colspan="2">Value propositions<br>To elderly people<br>Access to local products<br>Home deliveries<br>Recommendation from local peers<br>Personalized offers<br>To local businesses<br>Customer-based advertising<br>Increase business visibility</td>
<td>Customer relations<br>With elderly people<br>Community based<br>Personal Assistance<br>Customized service<br>With local businesses<br>Personal Assistance<br>Automated sales statistics</td>
<td>Customer segments<br>Local Businesses<br>Elderly People</td>
</tr>
<tr>
<td></td>
<td colspan="2">Key resources<br>Personnel for maintenance<br>Personnel for assistance<br>Content creators (local businesses)<br>Community supporters (older people)</td>
<td colspan="2">Channels<br>Direct<br>LIFE 2.0 platform web page<br>Indirect<br>Public institutions<br>Partners' channel<br>Businesses-owned web sites</td>
</tr>
<tr>
<td>Cost structure<br>For platform owner<br>Personnel costs</td>
<td>For local businesses<br>Logistics activities (e.g. delivery)<br>Subscription fee</td>
<td colspan="2">Revenue stream<br>For platform owner<br>Subscription fees from local businesses (and partners?)<br>For local businesses<br>Earnings from product sale</td>
<td></td>
</tr>
</table>

#### 4.3.2.1 *Customer segments*

The *marketplace service* is mainly targeted at:

- *Elderly people* in local communities
- *Local businesses,* such as service providers and shopkeepers

#### 4.3.2.2 *Value Proposition*

The main goal of the marketplace service is to connect individual needs with local demands.
The benefits of using marketplace service for older people are:

- to ease the access of local products
- to receive personalized offers based on their preferences and profiles
- to receive goods at home
- to access recommendations of products and suppliers provided by local peers, assuring the quality of the service

The benefits for local shopkeeper and service providers are:

- visibility to their business
- targeting the audience of their offers by proposing personalized services/items based on users profiles and sales statistics
- using customer-based advertising

#### 4.3.2.3 *Channels*

The service will reach its customers through a mix of direct and indirect channels. The main channel will be the web-based LIFE 2.0 platform. Other channels can be used to expand services' reach. Examples are local business-owned web sites, public institutions that support and encourage local market (e.g. *Eix commercial* in Barcelona), or other social service providers and volunteering organizations that support older people's independent life. Partners' channels can also be used to promote the service.

#### 4.3.2.4 *Customer relationship*

The service will adopt a number of approaches to establish solid relationships with its customers:

- With older people: the service will offer customized offers to older people based on their personal online profiles. Community-based relationships will be used to allow customers to evaluate the service. By doing so, a recommendation system will be generated on the basis of customers' evaluation and according to community connections (e.g. your friend recommends you to try this product). Finally, the service will facilitate the creation of 'humane' relationships by giving support to both older people and entrepreneurs. Assistance will be provided via e-mails and call centres. Face-to-face support will be also provided and mutual support among older people will be encouraged too
- With local businesses: the service will provide local businesses with automated sale statistics that will help them to target their offers according to users' needs and preferences

#### 4.3.2.5 *Revenue stream*

The revenues for the local businesses are represented by the earnings, gained by the sale of the service/product, in exchange for the payment of a (monthly) subscription fee for the use of the platform.
The revenues for the *owner* of the service are given by the subscription fees paid by the service's customers (local businesses).

#### 4.3.2.6 *Key resources*

The key resources of the service can be categorized as follows:

- Platform maintenance: technical personnel, who develop and maintain the platform and personnel, who monitor its content
- Customer assistance: personnel in charge of giving assistance and training to older people and local businesses
- Content creators: local shopkeepers or service providers who create the content for the platform (i.e. offers of service and products)
- Community supporters: older people who, by giving their feedback and recommendations, enable and support the creation of a (virtual) community which is built around the service

#### 4.3.2.7 *Key activities*

The main activities required to deliver the value proposition to its customers are in regard to:

- developing and maintaining the digital platform
- providing assistance, support and training to customers

#### 4.3.2.8 *Key partnerships*

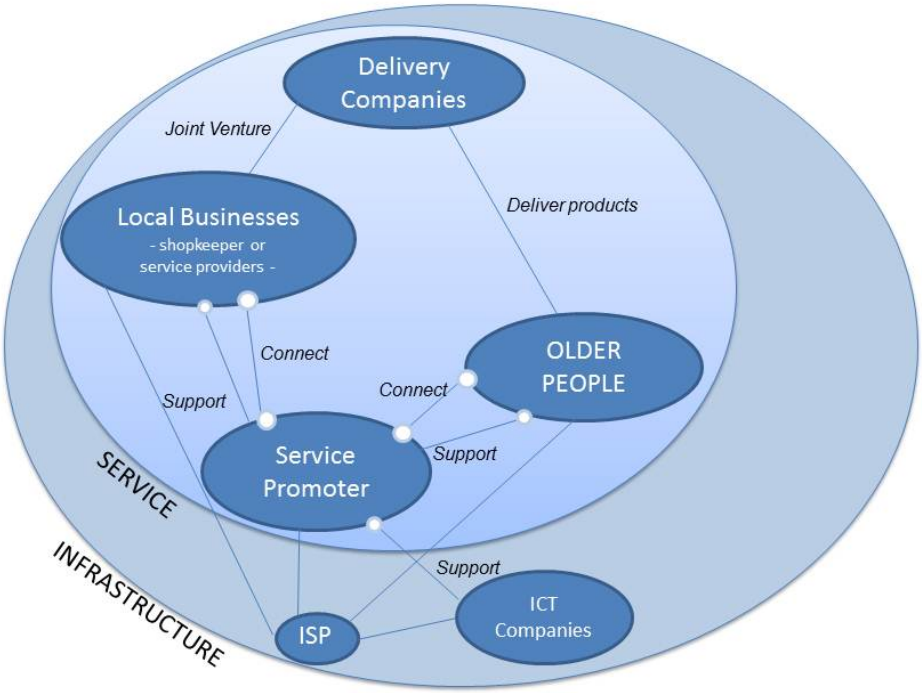


*Figure 16: Key partners and actors of the marketplace service*

#### 4.3.2.9 *Cost structure*

The main costs inherent in the business model of the market place service are:

- personnel costs for development and maintenance
- personnel cost for customer assistance
- communication and marketing of the service

The costs for the local businesses are:

- the subscription fees for accessing the service and publishing their offers
- logistic activities for delivering the product

No subscription fee is required for older people that access the service, unless they require proper devices and Internet access.

### *4.3.3 Events and Activities organization*

**Table 4: Business Canvas for: Events and activities organization" use case**

<table>
<tr><td>Key partners<br>• Internet service provider<br>• bank or other financial institution to support e-commerce<br>• local authorities<br>• municipalities<br>• non profit organisations to support and maintain the social network</td><td>Key activities<br>Platform management<br>Communication with stakeholders, e-commerce, assortment and service bundling<br>To create targeted and custom fit offers for the elder people accessing the network</td><td>Value propositions<br>To serve elder people through digital devices to enhance their lifestyle<br>Fear of loneliness<br>To offer local businesses, authorities and not for profit organisations a platform where offer their services and products</td><td>Customer relations<br>• co-create contents<br>• share experiences and suggestions<br>• rank different products, services or activities<br>• and promote their own</td><td>Customer segments<br>Elder people in a specific geographic area that use digital technologies to interact with peers and the environment<br>How to find people who want to share interests and stay together<br>Business that wish to create offerings for the social network members and negotiate them through the platform</td></tr>
<tr><td></td><td>Key resources<br>Database of older people in the area, their interests and their geolocation</td><td></td><td>Channels<br>Involvement of local organisations and institutions</td><td></td></tr>
<tr><td>Cost structure</td><td colspan="2">• personnel costs (variable)<br>• it connections (variable)<br>• IT infrastructure (fixed cost)</td><td>Revenue stream</td><td>Depending on advertising and transactional incomes</td><td>Public sector pays the platform to get cost savings elsewhere</td></tr>
</table>

#### 4.3.3.1 *Customer segments*

The targets, addressed by the "events and activities organization" service are twofold and interrelated (multi-sided segmentation).
The former is composed by the elderly people in a specific geographic area that use digital technologies to interact with peers and the environment. The users could freely access the platform, which provide useful information such as: calendars of initiatives targeted to their needs; connectivity with peers; promotion of services (cinemas, theatres, exhibitions, transportations) related to their requests and needs; a bundle of products for customised shopping, collectively or individually, in small business venues in the area where these people live.
The latter is made by all those businesses that wish to create offerings for the social network members and negotiate them through the platform. These subjects will pay the LIFE 2.0 using an advertising based revenue model and one based on effective transactions, generated through the platform.

#### 4.3.3.2 *Value proposition*

The "Events and activities organization" service intends to serve elderly people through digital devices in order to enhance their lifestyle and to offer local businesses, authorities and non-profit organisations a platform where they can provide their services and products.

#### 4.3.3.3 *Channels*

To promote this service, but also the entire LIFE 2.0 platform, an involvement of local organisations and institutions is highly recommended. Their role will be the one of a promoter as well as the one of reassuring elder people on the quality of the service provided and of lowering the barriers to access as a whole.

#### 4.3.3.4 *Customer relationship*

The members of the social network ("events and activities organization" service) could co-create content and share experiences and suggestions, rank different products, services or activities and promote their own. This whole set of activities will foster the creation of bundles of offering that will fit their expectations up to a high standard of customisation.

#### 4.3.3.5 *Revenue stream*

As already stated in reference to the targets description, the revenue model of this kind of service is strongly depending on advertising and transactional incomes.

#### 4.3.3.6 *Key resources*

The main resources for this kind of service are the database of older people in the area, their interests and their location.

#### 4.3.3.7 *Key activities*

They are related to: platform management, communication with different stakeholders, e-commerce, assortment and service bundling to create targeted and custom fit offers for the elder people accessing the "events and activities organization" service.

#### 4.3.3.8 *Key partnerships*

The partners to be considered here are: Internet service providers, bank or other financial institution to support e-commerce, local authorities, municipalities and non-profit organisations to support and maintain the "events and activities organization" service.

#### 4.3.3.9 *Cost structure*

The costs for the "events and activities organization" service are twofold, depending on if they are variable or fixed costs. So in this case there will be:

- Personnel costs (variable);
- IT connections costs (variable);
- IT infrastructure costs (fixed cost).

## 4.4 Competition and alternative services

Several alternative platforms exist either as projects or as actual commercial services. The following are those, which can be compared to the LIFE 2.0 platform, even though they do not cover the exact same purposes:

- CARING TV: This project has been put together by a consortium formed by City of Espoo (Finland), Videra Oy (Finland), Tohoku Fukushi University (Japan) and Shanghai Engineering Research Center for Broadband Technologies and Applications (China). It offers a telepresence system aiming to support independent living and promoting healthy self-care and an active life among its users, these being elderly people with or without a slight level of mental illness.
- VIDYO HEALTHCARE: Developed by the company Vidyo, it focuses on using videoconference systems to enable interaction between patients located at home and physicians at the hospital. Mainly medically oriented, it offers the possibility to perform diagnostics, physical and psychological rehabilitation, home-care, speech therapy and behavioural health, through an online tool enabling the service to be dispatched remotely.
- PERSONA: Ambient Assisted Living project, which took course between 2007 and 2010, and was created through the efforts of 20 partners from six different European countries. Its goals are to achieve an active and safe elderly life through a set of services based on mobility, daily activities, social participation, safety and security. The Shopping Assistant developed in this project would be fairly similar to the one designed in LIFE 2.0, as well as reminders and geopositioning tools.
- ATTENTIANET: videoconference-assisted platform involving geopositioning tools for an active and remotely controlled everyday life on a high independency basis.

## 4.5 Communication and marketing strategy

The communication and marketing strategy is based in three main areas. These are: Goals, Strategies and Target Audience. The aspects to be covered in each are:

Goals:

- Clear and accurate public knowledge on what the LIFE 2.0 platform has to offer
- Opportunities for companies on service provision
- Benefits for users
- Overall elderly independent life enrichment

Strategies:

- Internal communications
- External communications
- Public participation mechanisms
- Public relations campaign

Target Audience:

- Partner institutions
- Potential users and their families
- Private companies
- Volunteer institutions
- Homecare service providers

- Home delivery services

### 4.6 SWOT analysis

We can summarize the SWOT analysis in the following table:

**Table 5: Swot Analysis**

| **Strengths** | **Weaknesses** |
|---|---|
| Cross national approach<br>Commercial focused<br>Partners experience in elderly sector products | Multi-access approach<br>Accessibility in elderly products |
| **Opportunities** | **Threats** |
| Population higher life expectancy<br>Lack of similar tools | Heterogeneous elderly IT experience<br>User access fee |

Analysing the internal factors we can obtain a set of strengths and weakness of the project:

**Strengths:**

- Cross-national approach: LIFE 2.0 will be tested in various countries. This point will assure a cross-national acceptance of developed platform and will help to obtain different inputs (during test phase) about how elderly people interact with the platform and which are the requirements that must be accomplished for "EU-wide" acceptance.
- Commercial focused: One of the aims of LIFE 2.0 is to be developed as a market product that could be used for commercial purposes. Regarding this objective from the beginning of the project, the aim of the consortium is to exploit it on a commercial sustainable way, instead of ending just as a project "proof of concept".
- Partners' experience in elderly sector products: The LIFE 2.0 consortium is composed by organizations and institutions, which are experts with proven experience in developing IT solutions for elderly people.

**Weaknesses:**

- Multi-access approach: The LIFE 2.0 project aims to cover the access to its platform through different devices, common internet access (from any existing PC) and mobile access (from smart phone or tablet PC). The efforts to achieve such a technical opportunity could produce a lack of resources to develop a complete product, which can be accessible through each one of them.
- Accessibility of the LIFE 2.0 platform for elderly people: Accessibility and user-friendly access is always a key concern when a product is devoted for the elderly people market. This issue could result in the success or the failure of the product in the related market.

From an external point of view, we can identify the following opportunities and weaknesses in the market:

**Opportunities:**

- Population higher life expectancy: It is a fact that the elderly population will increase within the following years. This represents an opportunity for developing of products and services (both covered under LIFE 2.0 approach), focused for the elderly people market.

- Lack of similar platforms: Few similar online tools for time banking and related to elderly people services exist and only in few countries[2]. The lack of similar platforms could be a success issue for the LIFE 2.0 project.

**Threats:**

- Heterogeneous elderly IT experience: There exists a lack of homogeneity on IT knowledge over elderly population. For example, in Nordic countries we can find a higher penetration of IT services and products among the elderly population and lower in Mediterranean countries. Also this phenomenon can be observed within one country- some elderly people will know enough about IT in order to manage to operate the LIFE 2.0 platform and others will lack any IT knowledge.
- User access fee: The fee for accessing the LIFE 2.0 platform will have to be set according to real expectations about what users will be able to pay. The cross-national perspective should be also taken into account, e.g. an elderly from Mediterranean countries cannot afford the same amount of money for accessing this kind of services compared to a Nordic person.

[2] See for example http://timebank.org.uk/

## Section 5 Conclusion

In this deliverable, D2.4 – Business framework, the LIFE 2.0 consortium has presented the general business model, which will be used as a ground for the development of WP5 - Business process.
The discussion is framed in Section 2 discussing the impacts of the ageing of the population, which is a common tendency for almost all countries in Europe. Statistics and worldwide ageing figures and specifics of technology skills and regular use are provided in the section as well as pointers to detailed information for the demographic conditions in the four living labs already provided in D1.1. Market drivers and market segmentation in Europe were also thoroughly presented in the same section.
Section 3 described issues related to the emergence of the large socio-technical phenomena known as Web 2.0 and information overabundance and the positioning of LIFE 2.0 in the competition of the *attention economy*.
In Section 4, the report described in detail the application of Osterwalder's *business canvas* framework for the three main use case scenarios already identified as the basis for the pilots of the project, which will be implemented. It provides a detailed picture of the elements of the framework, which are thoroughly discussed in each case. In this sense, the use cases are turned into business cases. Osterwalder's canvas has been used as the main mapping tool.
This section also provided an overview of the SWOT analysis for the business model.
The present document will be a basis for discussion within the consortium in the next phases of the project, starting from the pilot (WP3) and the evaluation of the platform (WP4).

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