"Silver" Technology Acceptance Model: comparative study framework

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Agenda

- Silver citizens meet Technologies;
- Literature review;
- Our «Silver» Technology Acceptance Model;
- Methodology;
- Discussion and conclusions.

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Silver citizens meet Technologies

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Silver citizens meet Technologies (1)

- Interconnection of both technologies and market need is necessary;

- Understanding consumers':
  - Behaviours;
  - Perceptions;
  - Life styles.

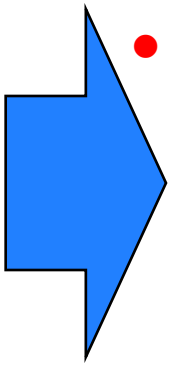
- Giving voice to the silver population is the key to really understand opinions and perspectives.

Silver citizens meet Technologies (2)

- Silver citizens are no longer seen merely as consumers with lots of time and money;
- Silver citizens often feel uneasy in their everyday life, and demand home services (IT systems allow a wide range of service provision);
- Silver citizens are more authonomous than in the recent past;
- Life styles are changing;
- They must be considered as a mixture of needs and interests which must be understood.

Targeted market research: the elderly are not a homogenous segment

- Financial situation
- Health conditions
- Preferences, needs, values
- Consumption behaviour
- Responses to advertising campaigns
- Skills



- the current use of different ICTs by seniors- computers, Internet, mobile phones and consumer electronics
- access, frequency, purposes of usage by each age group within a senior aged;
- uptake of ICT according to occupation based social status, income, gender and educational attainment, health condition;
- ICT access and usage by people with and without an impairments and disabilities;
- ICT related attitudes towards the design of ICT products;
- affordability of ICT/ICT services for seniors, availability of public funds

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Literature review

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Literature review

- Adoption of specific technology (mobile phones, social networking websites):
  - The Senior Technology Acceptance and Adoption model (STAM) (Gelderblom et al, 2010);
  - Technology Acceptance Model (Willis, 2008; Conci et al, 2008…).

- Cross-cultural aspects of ICT use by older people:
  - Qualitative study (Blat et al, 2010)

«Silver» Technology Acceptance Model

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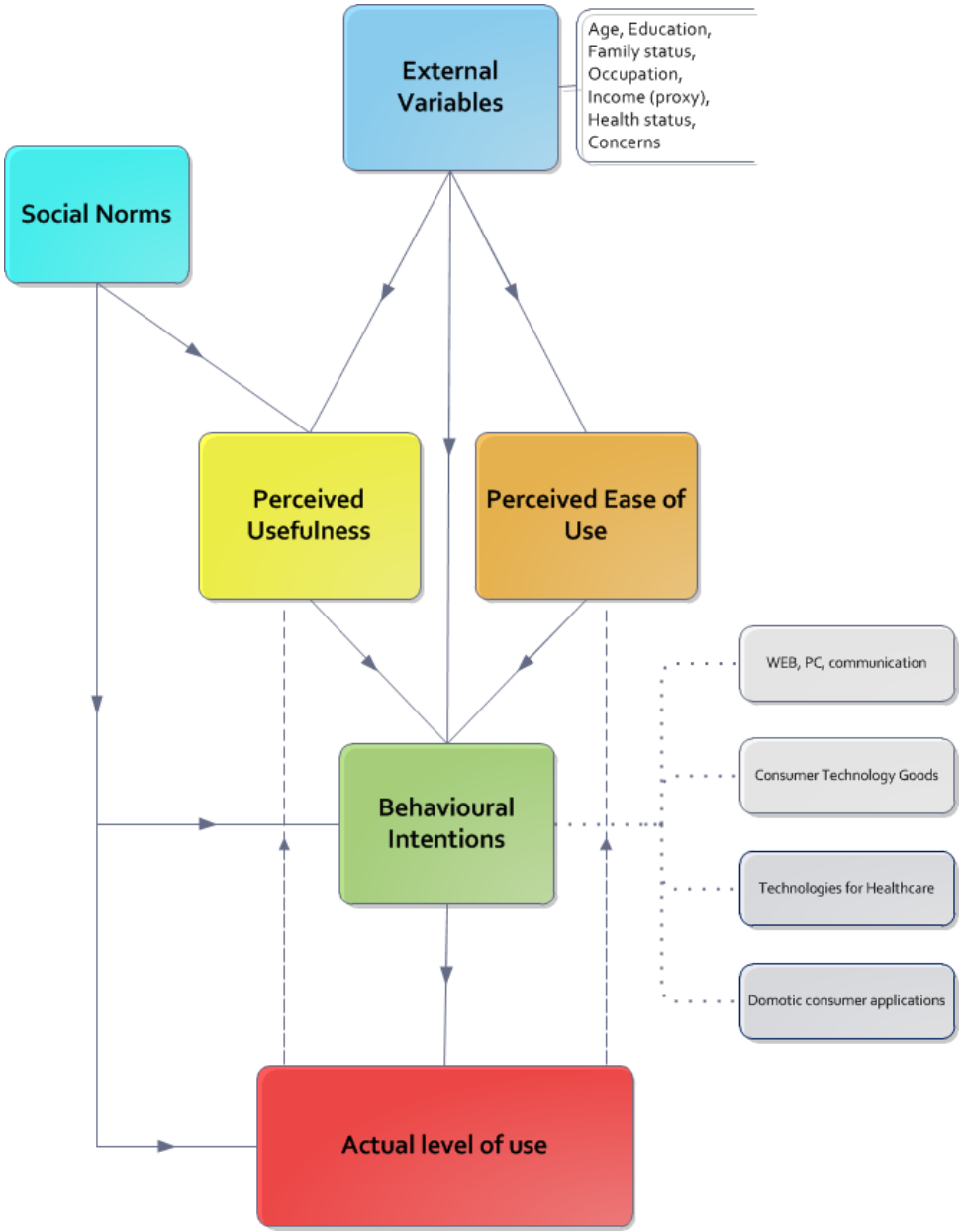
Objectives

- To explore the factors that influence technology adoption, particularly where they differ from the factors that have proved to be important in predicting the acceptance of technologies by younger generations;

- To reveal cultural differences and similarities in older people's ICT adoption and use.

«Silver» Technology Acceptance Model



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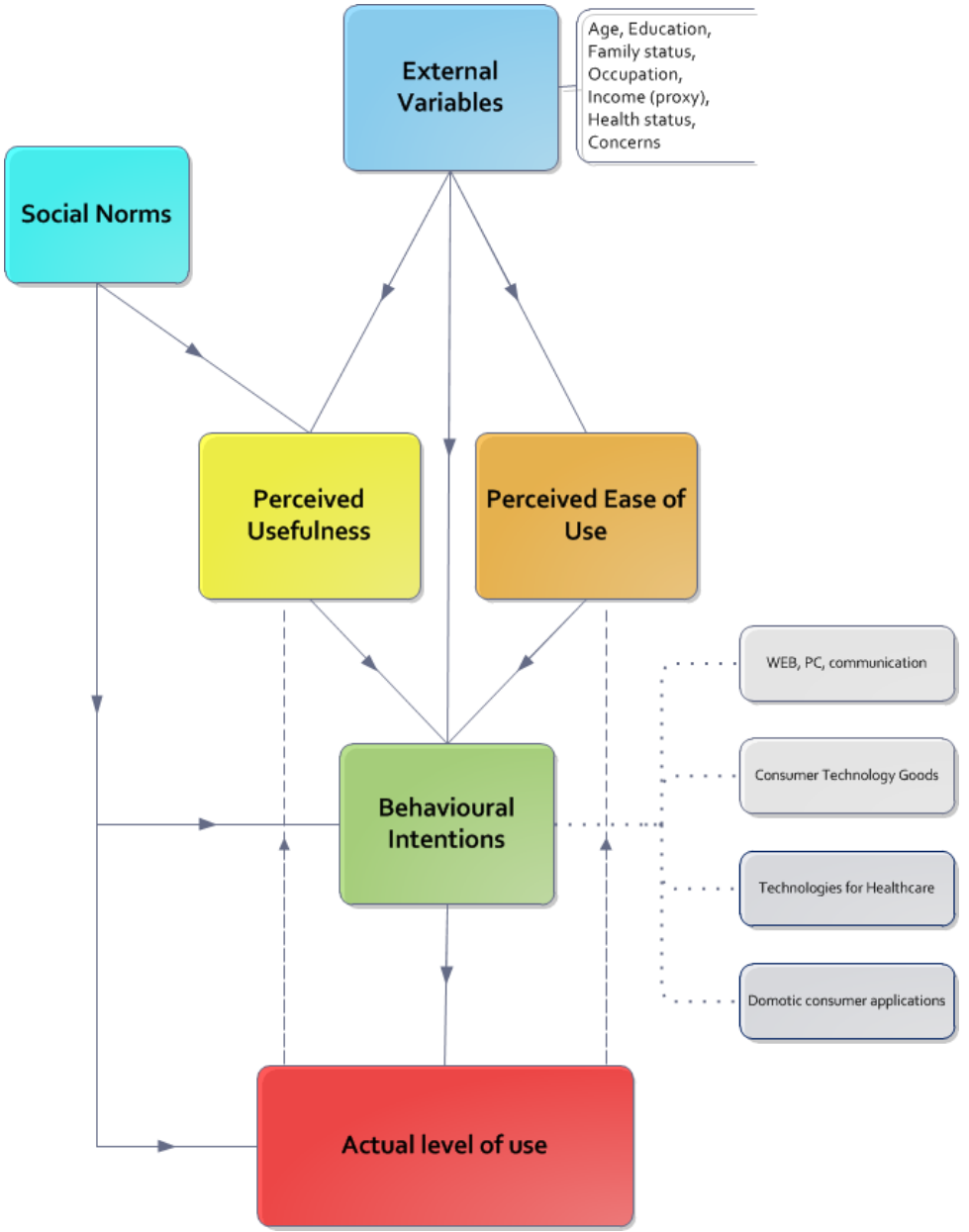
Research questions

RQ1: what is the role of individual **external variables** (age, education, family status, occupation, income, health status, concerns) in shaping senior citizens' attitudes towards technology?

RQ2: what is the role of **social norms** in shaping senior citizens' attitudes towards technology?

RQ3: to what extent the **perception of usefulness** and the **perception of ease of use** affect senior citizens' attitudes towards technology?

RQ4: to what extent the **actual level of use** impacts on the perception of usefulness and the perception of ease of use?



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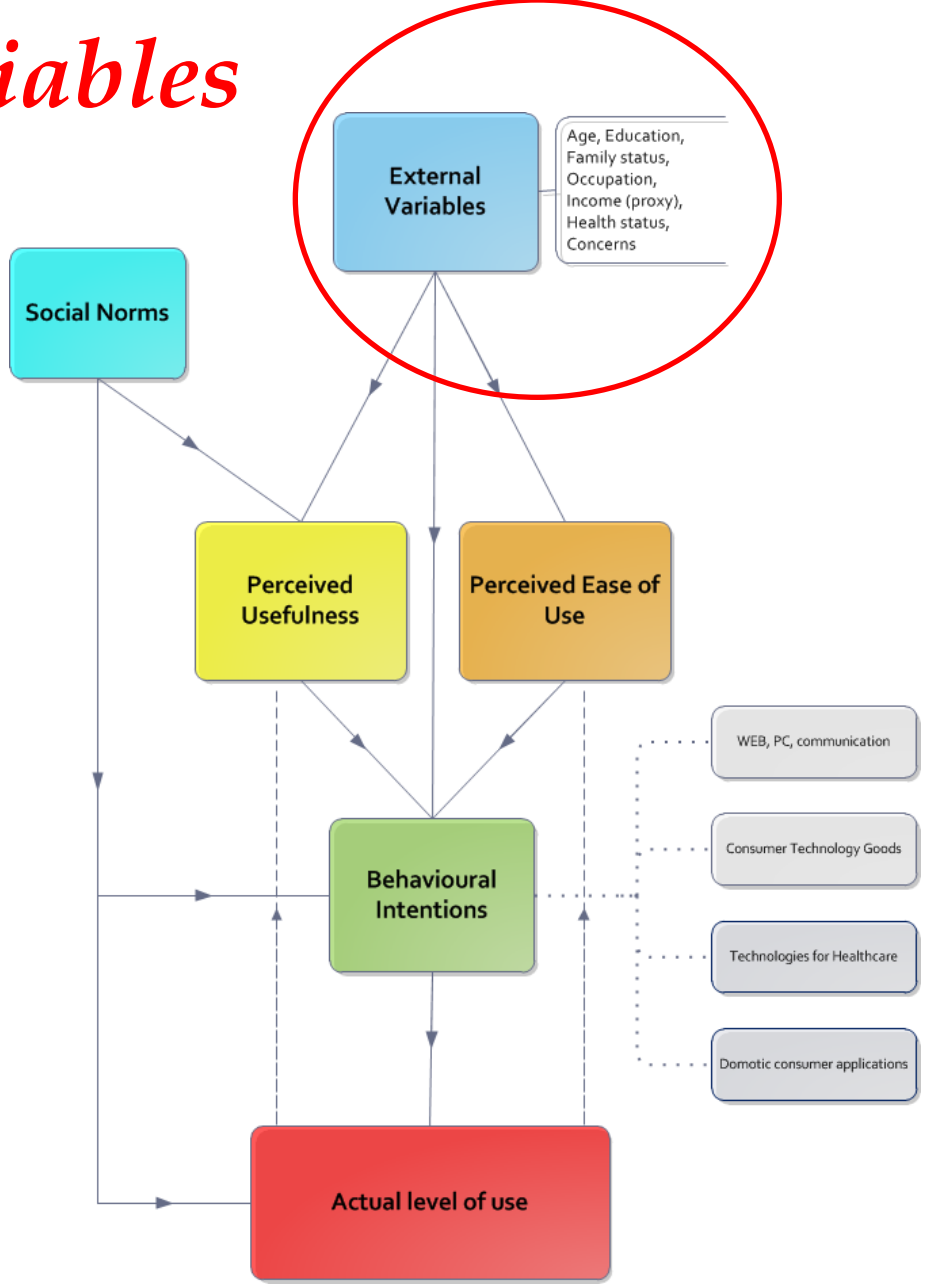
Investigated Technological Areas

WEB, PC, communication	Internet, personal computer and peripherals, phones, smartphones and other communication devices;
Consumer Technology Goods	Electronic devices used in daily life for housekeeping (microwaves, dish washer, etc.) or for entertainment (blue ray player, digital camera, etc.);
Technologies for Healthcare	Electronic devices for managing personal health (aerosol device, glucometer, etc.);
Domotic consumer applications	Automated devices for smart houses (electric shutters, automatic aids for mobility, etc.).

External variables



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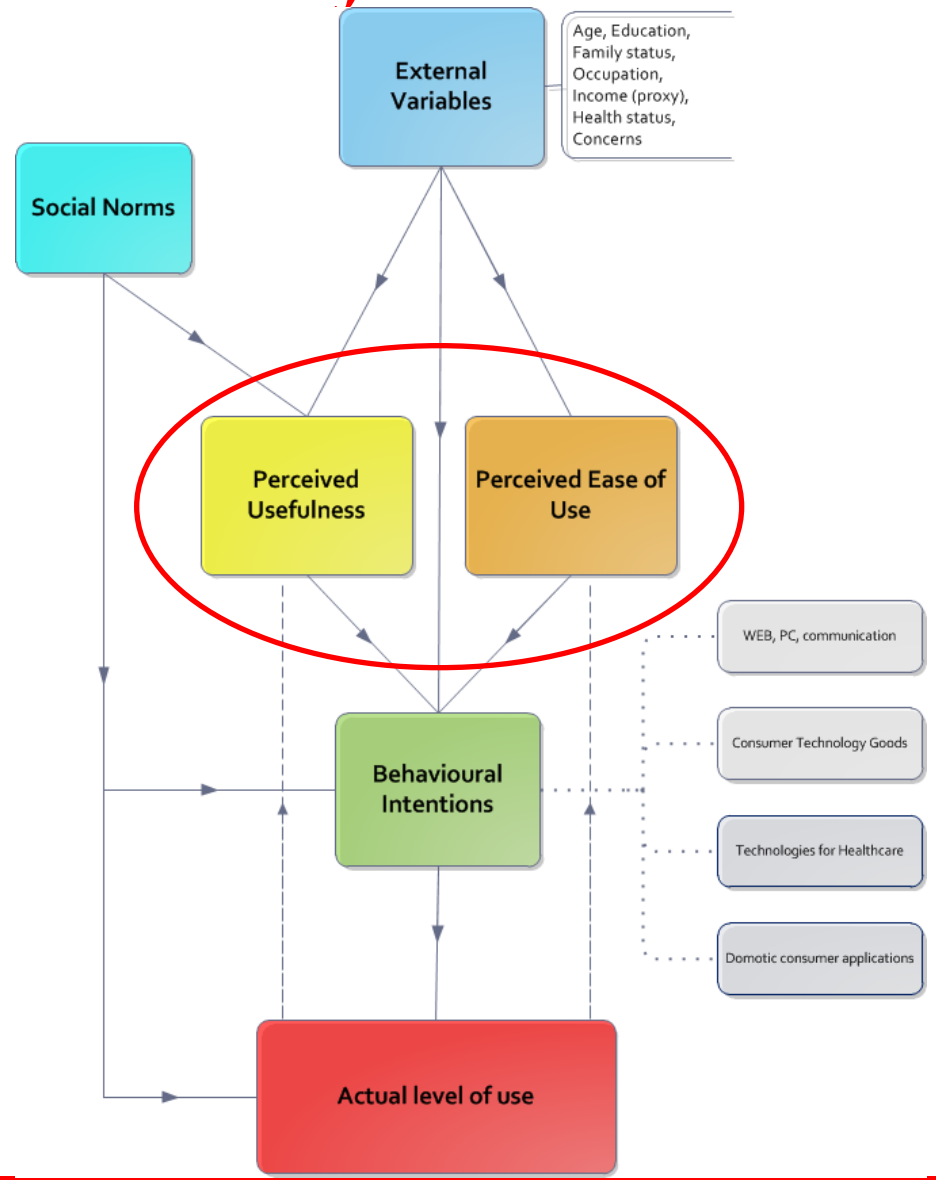
External variables

External Variables

- External variables intervene indirectly, influencing beliefs, attitudes, and intentions in electronic devices use (Legrisa et al. 2001).

- Considered external variables:
  - Age;
  - Gender;
  - Education;
  - Family status;
  - Occupation;
  - Wealth (financial concerns);
  - Health condition (revised Karnofsky Index);
  - Concerns.

Perceived Usefulness & Ease of Use



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Perceived Usefulness & Ease of Use

Perceived usefulness can be defined as the extent to which a silver person believes using a technological device will help him or her to "perform better" (Pfeffer, 1982; Schein, 1980; Vroom, 1964).

"live better"

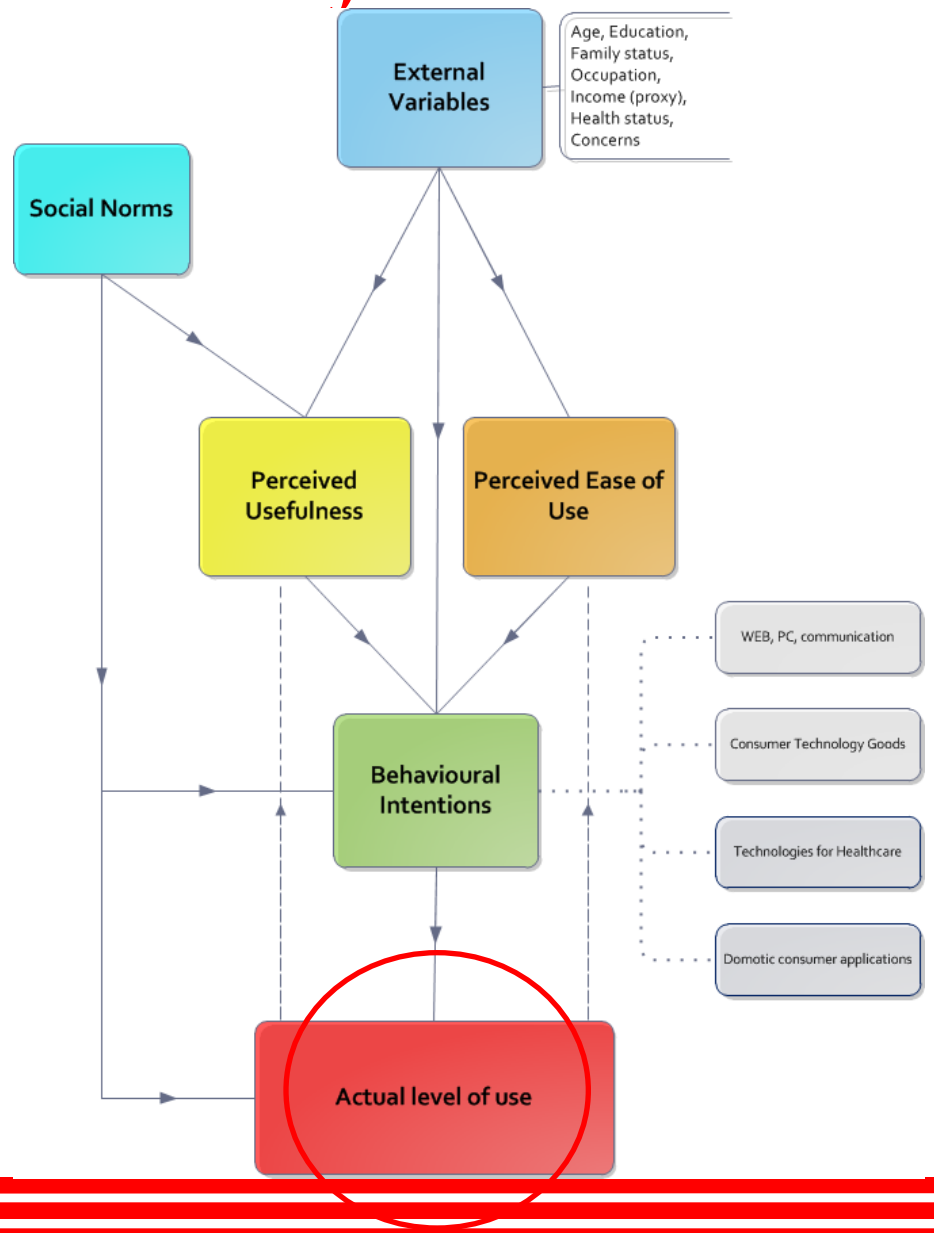
Perceived Usefulness

Perceived ease of use is defined as the extent to which one believes using a technological device will be free of effort (Radner and Rothschild, 1975).

Perceived Ease of Use

- H1: Perceived usefulness is positively associated with intention to use technologies.
- H2: Perceived ease of use is positively associated with perceived usefulness.
- H3: Perceived ease of use is positively associated with behavioral intention to use.

Actual level of use



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Actual level of use

Actual level of use

- In the questionnaire we checked which technologies are used.

H4: Experienced users will perceive technologies easier to use than will inexperienced users.
H5: Experienced users will perceive technologies as being more useful than will inexperienced users

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Your use of PC and Communication Technologies

22) Please fill in the table answering at the 3 columns for each listed device:

	Do you own it (? If you don't know the device)	If yes, do you usually operate it	If no, will you buy it in the next 6 months
Home phone	o Yes o No o ?	o Yes o No	① ② ③ ④ ⑤ ⑥ ⑦ No Maybe Yes
Mobile	o Yes o No o ?	o Yes o No	① ② ③ ④ ⑤ ⑥ ⑦ No Maybe Yes
Smartphone	o Yes o No o ?	o Yes o No	① ② ③ ④ ⑤ ⑥ ⑦ No Maybe Yes
Fax device	o Yes o No o ?	o Yes o No	① ② ③ ④ ⑤ ⑥ ⑦ No Maybe Yes
Desktop PC	o Yes o No o ?	o Yes o No	① ② ③ ④ ⑤ ⑥ ⑦ No Maybe Yes
Notebook PC	o Yes o No o ?	o Yes o No	① ② ③ ④ ⑤ ⑥ ⑦ No Maybe Yes
Printer	o Yes o No o ?	o Yes o No	① ② ③ ④ ⑤ ⑥ ⑦ No Maybe Yes
Scanner	o Yes o No o ?	o Yes o No	① ② ③ ④ ⑤ ⑥ ⑦ No Maybe Yes
Tablet (Ipad)	o Yes o No o ?	o Yes o No	① ② ③ ④ ⑤ ⑥ ⑦ No Maybe Yes

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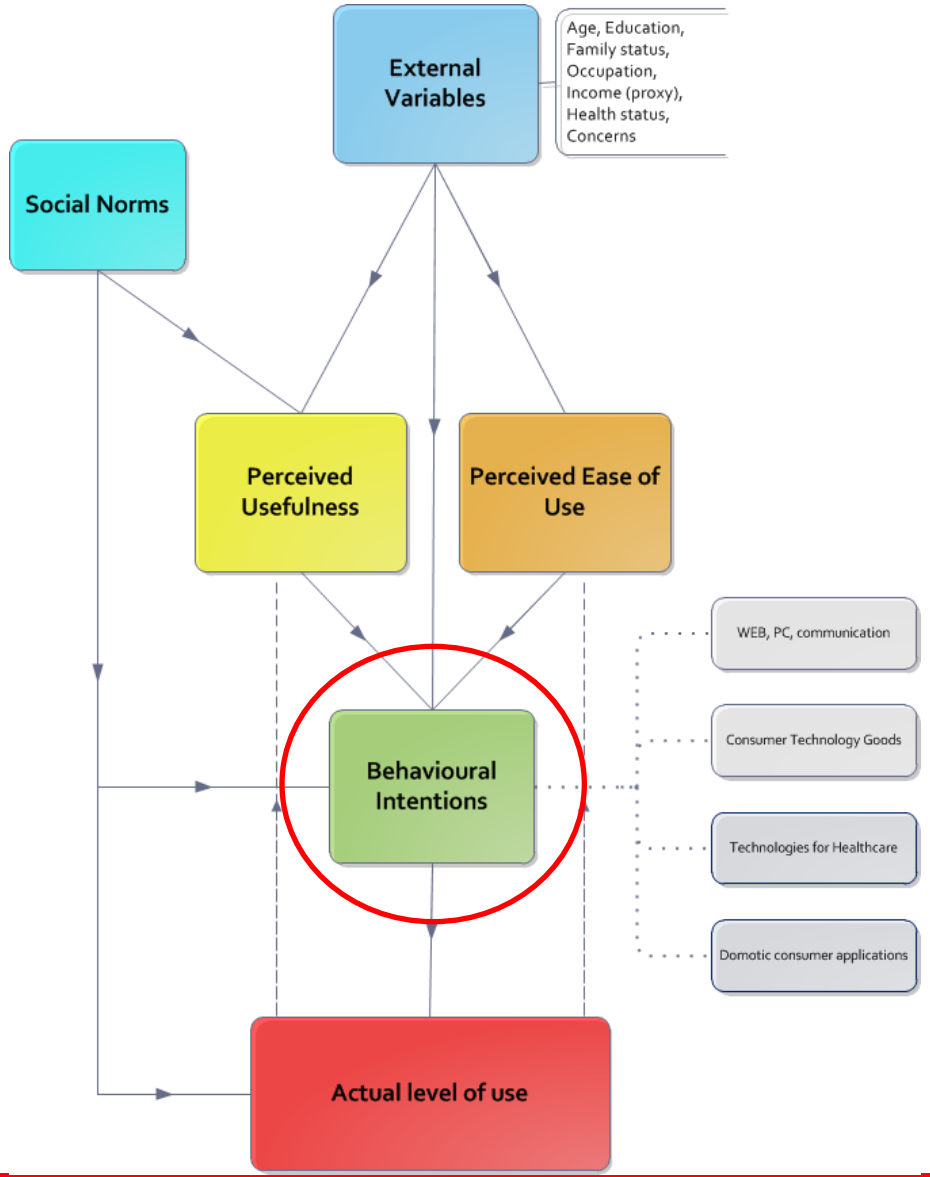
Behavioural Intentions



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Behavioural Intentions

- In the questionnaire we checked the intention to buy each technology (if not already owned) in the next 6 months.

Behavioural Intentions

H6: More experienced users will indicate greater intent to use online technologies than those who are less experienced.

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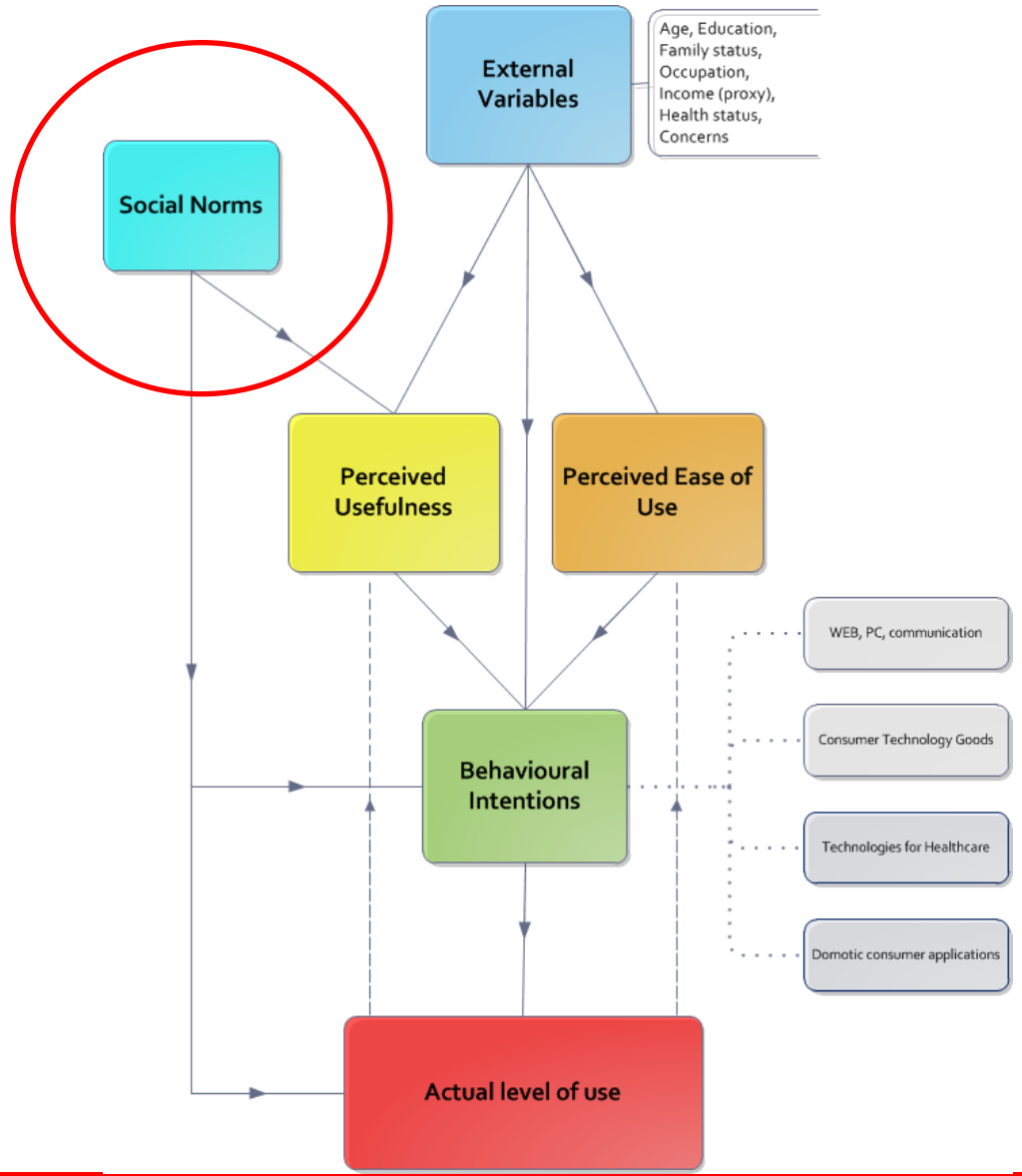
Social Norms



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Social Norms

Social Norms

- Social influence variables, refers to the perceived social pressure to perform or not to perform the behavior (Ajzen, 1991).

- H7: Social norm is positively associated with intention to use: elderly users' technology acceptance will be affected by the opinion of other peoples
- H8: Social norm is positively associated with perceived usefulness
- H9: There is a negative relationship between Actual Use and Social Norm: elderly people who are less experienced with a technology will rely more heavily on the opinions of others when they make acceptance decisions.

Methodology

Methodology

- A questionnaire was drawn up.

  It is made of 42 questions divided into 7 sections:

  - Personal data;
  - Use of Internet;
  - WEB, PC, communication;
  - Consumer Technology Goods;
  - Technology for Healthcare;
  - Domotic consumer applications;
  - Final opinion.

  It addresses people over 65 years old.

- Paper questionnaires have been distributed since June 2012 in Italy and Russia. Data collection completion by December 2012.

- A statistic analysis will be carried out also through the use of SEM (Structural Equation Modeling).

Discussion and conclusions

Discussion & Conclusions

- Poor use of TAM model in ageing society previous analysis;
- Ongoing analysis:
  - ❑ Objective 1: To explore the factors that influence technology adoption, i.e., which perceptions matter to which consumer group
  - ❑ Objective 2: To reveal cultural differences and similarities in older people's ICT adoption and use
  - ➢ Practical Implication: Development of segment-specific strategies for increasing technology use (of a particular type)
- We are now conducting the analysis in Italy and Russia but we would like to extend it to a wider sample of Countries.

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Thank you

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