



## Aging in the Connected Home

### BACKGROUND

The Continental Automated Buildings Association (CABA) is an industry association dedicated to the advancement of intelligent homes and intelligent buildings technologies. CABA is an international association, with over 300 major private and public technology companies committed to research and development within the intelligent buildings and connected home sector. Association members are involved in the design, manufacture, installation and retailing of products for home and building automation. CABA is a leader in initiating and developing cross-industry collaborative research, under the CABA Research Program.

Baby Boomers are increasingly approaching retirement age, and want to age in their homes in a healthy environment. By 2030, 71 million Americans will be over age 65, according to the U.S. Census. Currently, 90% of elderly Americans say they want to grow old in their homes, according to the AARP. Home health care, much of it for the elderly, is one of the fastest-growing segments in the country's fastest-growing industry.

CABA's May 2007 Senior Living research study investigated the mature demographic of 51+ and their interests in staying safe, comfortable, and independent in their own homes as they age. Importance of home features and options when choosing a new home, regardless of the issue of aging in place was explored. A telephone survey among 600 Baby Boomers who planned to build a home in the near future or built a new home within the past four years was also conducted.

Following CABA's Think Tank on Real World Opportunities in an Aging Population, CABA is proposing a research project to explore jobs/activities within the home that would affect the aging adult as they move about the home. It would also identify potential new market space and technology to help seniors remain longer in their home and take care of basic necessities including cooking, communication, taking care of medical conditions, taking care of hygiene and other similar daily functions. Ingersoll Rand/Trane/Schlage is championing this research project.

CABA members now desire to broaden a comprehensive body of research beginning with a foundational study extending into other targeted research efforts that encompass a number of topics and participant perspectives. This should enable a holistic opportunity assessment of the senior living market with respect to the connected home and the "Aging-In" population.

### PURPOSE OF THE RESEARCH

Against this background, the broad purpose of this study is to identify a potential new market space by helping seniors remain longer in their home. Areas of consideration involve understanding the various inputs and outcomes of specific jobs within the home that affect the aging adult as they move about the home and take care of basic necessities. This research project will help organizations understand the opportunities

## **Aging in the Connected Home**

for value creation amongst different groups within this population. It should also help companies identify key targets of opportunity for short-term innovation and long-term strategic planning.

### **RESEARCH OBJECTIVES**

The overall objective of this collaborative research opportunity will be to examine and determine potential connected home product, service and business opportunities for subject matter experts with an interest in this market segment and evolving ecosystem. Identification and exploration of senior living space opportunity drivers, unmet needs and solution gaps to support aging in place should be uncovered. In an environment of focused interaction, it is expected that the collaborative process will yield key insights leading to innovation and exploitation of the senior living space by study participants.

CABA has a strategic directive to identify this potential new market space by helping seniors remain longer in their home. Therefore, an examination of the jobs within the home that affect the aging adult as they move about the home and take care of basic necessities should be explored.

Several core opportunity platforms will be explored with sponsoring member companies as to their collective interests in areas such as:

1. Health and Wellness
2. Food (eating, cooking, etc.)
3. Exercise and Fitness
4. Universal Design
5. Medical Support
6. Communications

Specific objectives under consideration include:

A. Understanding the outcomes of the following jobs:

- Interfacing with the home
- Transitioning within the home
- Taking care of personal needs in the home (i.e., showering, dressing, cooking, eating, etc.)
- Ensuring safety in the home

## **Aging in the Connected Home**

- B. Understanding how opportunities for value creation differs for different groups of the population:
- By profiling (i.e., current age, health status, marital status, number of people in the dwelling, type of dwelling, etc.)
  - By determining segments of opportunity through a job-based opportunity algorithm
- C. Identifying key targets of opportunity for study participants for short-term innovation as well as long range strategic planning.

The study will further outline the following and enable study participants to:

1. Uncover the priority outcomes and areas of opportunity for customers as they interface with the home, transition throughout the home, take care of personal needs and ensure safety in the home.
2. Identify key areas of value creation within the current platform of solutions provided by sponsoring partners.
3. Identify opportunities for entirely new markets and new platform creation.
4. Provide the inputs necessary for internal ideation process to ensure that the process is executed against statistically identified customer needs.
5. Provide quantifiable analysis about where the market is under- and over-served, including segments within the customer population.
6. Provide statistical validity to how organizations can and should connect with this audience on an emotional level. This can assist with product design, messaging, marketing, and sales.
7. Devise a targeting strategy across the broad market and within segments that offers short-term and long-term growth.

### **RESEARCH METHODOLOGY**

Based on the breadth of research objectives, it is proposed that the study employ a methodology for assessing multiple market opportunities. This methodology allows for broad coverage of potential market opportunities to identify those that have the greatest potential for new market growth.

It has been proposed to approach this study in three (3) research phases. The first phase being **qualitative** research to determine the jobs/activities that specifically define what this population group is trying to accomplish for each of these areas of focus. Jobs/activities will be explored throughout the home, in various rooms of the home and in different types of dwellings, within the target population and by various profiles (i.e., different ages, family structure, income, ethnicity, health status, etc.).

The second phase of the study will involve **quantitative** research to obtain the importance and satisfaction of the jobs/activities identified in the stated study areas. A large representative sample of the target population will be selected to ensure substantial data analysis capabilities. As well, a detailed analysis of the emotional needs as they relate to the functional jobs that they are trying to accomplish will be run on the sample.

The third phase of the study will be the **analysis and provision of findings** from the quantitative portion of the study. This will provide sponsoring stakeholders with actionable results to explore opportunities for innovation development across several dimensions, from the short-term to the long-term. This should provide study partners with opportunities for new technology and platform development, and opportunities for market disruption.

### (1) Qualitative Assessment

#### Formulating the Innovation Strategy

The end goal of formulating the innovation strategy is to determine the focal point for value creation – the “who for” and “about what”. To do this, we must:

1. Select the demographic target
2. Select the innovation target

CABA has preselected the demographic target of homeowners who plan to ‘age in place’. The targeted jobs/activities include interface with the home, manage personal care, transition throughout the home and ensure safety in the home.

The innovation strategy will be finalized and the execution tactics established with an education and planning workshop.

The workshop will:

1. Establish the sequence for executing innovation

2. Establish the inputs needed to innovate (i.e., jobs/activities, outcomes)
3. Confirm the specific elements of the study that will ensure adequate diversity in perspective including life-stage, type of home, age of home, income level, etc.
4. Refine and finalize the engagement's frame, scope, and execution tactics

### Innovation Strategy Steps:

- Select the demographic target – homeowners
- Select the Innovation Target - The job of 'transitioning throughout the home'
- Establish the Inputs Needed to Innovate – Jobs/Activities and Outcomes
- Plan the Engagement – Resources, Tactics and Schedule

### Uncovering Customers Needs

Once the framing and strategy is finalized, the data collection process begins. The objective is to understand in detail the four jobs/activities that are targeted. In order to best meet the objectives, we recommend conducting the interviews through two (2) hour in-home visits with **at least seven (7) homeowners**. This will capture the following:

1. Capture the outcomes on all four (4) stated jobs/activities defined in the scope
2. Understand the context in which the jobs become more difficult or more complicated

The primary objective of this phase of the project is to capture all of the outcome statements. We will not be attempting to gain an understanding of importance or satisfaction of the jobs/activities and the outcomes during this phase. This will take place during the quantitative phase of the project.

### Steps to Uncover Customer Needs:

- Conduct seven (7) ethnographic studies to uncover the jobs and outcomes pertaining to 'interfacing with the home' (phone interviews with five (5) additional homeowners throughout the US if needed)
- Ensure all jobs/activities have been captured

## (2) Quantitative Assessment

To address quantitative research objectives, a representative sample of respondents in the targeted population will be chosen and stratified by varying degrees of current health.

The second objective will be covered by extensions to the interviews to obtain information for profiling questions. Percent of time allocated should be 90% on the first objective and 10% on the second objective.

To uncover the jobs/activities that this segment are trying to accomplish, interviews with a diverse set of customers will identify how they engage in these activities and how they measure value in their ability to conduct these activities.

### Determination of Unmet Needs

In order to reveal the big opportunities for growth and innovation we must not only identify the needs of homeowners, we must also prioritize them. Needs that are important and unsatisfied are said to be unmet and represent opportunities for value creation.

As a first step we will design a survey instrument to measure the importance and satisfaction of ALL their needs related to interfacing with their home.

### Sample Frame Example

Next, we will deploy the survey instrument to a representative sample of homeowners. A tentative sample design follows (**this is for illustration purposes and will be developed during the strategy and framing session**):

<b>Audience</b>	<b>55-65 year olds</b>	<b>65+</b>	<b>Total</b>
Standard sample	200	200	400
<b>Homeowners with physical impairments?</b>	100	100	200
<b>Total</b>	<b>300</b>	<b>300</b>	<b>600</b>

With the collected data, an opportunity algorithm will be used to prioritize the opportunities based on their importance and satisfaction with current solutions.

### Quantifying and Segmenting Unmet Needs

In the final step, a job-based segmentation approach is used to group together homeowners based on what jobs they want to accomplish, making it possible to uncover new segments.

Steps to Determine Unmet Needs:

- Survey design - Screening, profiling, and importance and satisfaction ratings for all outcomes
- Measure opportunity - Phone and email recruiting to a web-based survey of 600 homeowners
- Job-based segmentation - Segmentation of homeowners based on under-served needs

### **(3) Analysis (Post Quantification)**

#### **Opportunity Assessment**

- Opportunity Landscape - The opportunity landscape plots where opportunities exist in the market
- Opportunity-based Segmentation - The opportunity-based segmentation identifies unique groups of opportunity within the population

#### **Formulating Growth Strategies**

With this information we will be able to prescribe the best markets within the home for new product development and enhancement strategies. We will work with CABA in a strategic opportunity session in which there will be:

- A review the research findings with the team
- Selection of the target opportunities for new value creation
- A review of opportunities using the Six-Growth Path Framework model. This will provide study participants with a full view of the possibilities for idea generation

Analysis Steps to Formulate Strategies for Growth:

- Prioritize opportunities - Opportunity algorithm, opportunity landscape, and detailed analyses
- Formulate growth strategies – use growth paths framework
- Establish ideation possibilities - Plans for ideation activities

### **DELIVERABLES and SCHEDULE**

#### **Deliverables**

The planned program will provide study participants with the following deliverables:

- The jobs that homeowners want to get done as they attempt to live in their home throughout their later years

## Aging in the Connected Home

- A prioritized list of opportunities for value creation and new market expansion
- Identification of job-based segments within the homeowner population
- Targeted opportunities to become inputs into the ideation process

### Schedule

Timeline details will be finalized during the initial planning session. However, we anticipate that the Targeting session can be held within 2-2.5 months of the kickoff session. This timeline is based on scope of the project as defined in this document.

Project Activity	Estimated Time
Project Steering Committee kickoff meeting	Week 1
Qualitative work including ethnography, phone interviews, netting of final results	4 Weeks
Fielding of Quantitative study (includes programming of survey, fielding, data validation and processing)	2 Weeks
Analysis and segmentation; development of results presentation	2 Weeks
Strategic Opportunity Session	2 Weeks

### ESTIMATED BUDGET

Estimated Budget – Expenses (USD)	
Project	Budget
Project Research Team	\$160,000
CABA Administration	\$31,400
Total	\$191,400

### PROJECT PARTICIPANTS

All participants of the Aging in the Connected Home Study will be full members of the Project Steering Committee. It is expected that there will be thirteen (13) Steering Committee members, each **contributing \$14,723 to the project.**



## Aging in the Connected Home

### CONTACT INFORMATION:

John Hall  
CABA Research Director  
[hall@caba.org](mailto:hall@caba.org)  
613.686.1814 X227

Fax: 613.744.7833  
Web site: [www.caba.org](http://www.caba.org)  
Twitter: [http://www.twitter.com/caba\\_news](http://www.twitter.com/caba_news)  
LinkedIn: <http://www.linkedin.com/groups?gid=2121884>

