Supplementary Material

**Benefits and Risk of Smart Home Technologies**

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**Smart Home Technologies (SHT) Survey: Instrument for Online Scripting.**(n) shows coding of response options, [X] shows notes by market research company, not visible by respondents.

We would like to find out what you know and think about ‘smart home technologies’.

This simple questionnaire should take no more than 5 minutes to complete.

Part 1. Socioeconomics & filter questions. [not visible]

**Q1. How many people *live* in your current home?**

|  |
| --- |
| 1. 1 2. 2 3. 3 4. 4 5. 5 6. More than 5 7. Prefer not to say |

**Q2. Do you *own* your current home (with or without a mortgage)?**

|  |
| --- |
| 1. Yes 2. No 3. Prefer not to say |

**Q3. What is your age?**

|  |
| --- |
| 1. under 18 2. 18-24 3. 25-34 4. 35-44 5. 45-54 6. 55-64 7. 65-74 8. 75 and over 9. prefer not to say |

**Q4. What is your gender?**

|  |
| --- |
| 1. Male 2. Female 3. Prefer not to say |

**Q5. What is your household income before tax?**

|  |
| --- |
| 1. Lower than £25,000 2. £25,001 - £40,000 3. More than £40,000 4. Prefer not to say |

**Q6. Do you *know* what ‘smart home technologies’ are?**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| (1) | (2) | (3) | (4) | (5) |
| I have *no idea* what they are | I have a *vague idea* of what they are | I have a *general idea* of what they are | I have *a good idea* of what they are | I already have some *installed* |

[Screen Out: if Q6 = (1) OR Q2 = (2) OR Q2 = (3) OR Q3 = (1) then thank and close].

Part 2. Smart home technologies. [not visible]

**Q7. We are now going to ask you some questions about ’smart home technologies’. Before we do this, please could you tell us 1-3 words that first come to mind when you think about ‘smart home technologies’?**

|  |  |  |
| --- | --- | --- |
| Q7\_1 |  | [open ended, cannot be empty] |
| Q7\_2 |  | [open ended, can be empty] |
| Q7\_3 |  | [open ended, can be empty] |

**Q8. How do you *know about* smart home technologies? Please select all that apply.**

Q8\_1 Internet

Q8\_2 News & magazines

Q8\_3 Home or electrical stores

Q8\_4 Energy companies

Q8\_5 Word of mouth

Q8\_6 Other (*specify*)

(1 = selected, 0 = not selected)

**Please state how much you agree or disagree with the following statements. If you do not have a clear opinion or are unsure what to answer, please just tick ‘*don’t know*’. There are no right or wrong answers!**

[**randomise** order of questions within block, apart from final ‘other’ which should always be last]

(coding of all Likert scale questions: 1 = strongly disagree to 5 = strongly agree, don't know = -99)

**Q9. The *main purposes* of smart home technologies are ...**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | strongly disagree | disagree | neither agree nor disagree | agree | strongly agree | [don’t know] |
| Q9\_1 enhancing entertainment and communication | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q9\_2 making life at home more convenient | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q9\_3 controlling appliances | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q9\_4 controlling heating systems | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q9\_5 managing energy use | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q9\_6 detecting faulty appliances | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q9\_7 supporting assisted living or health | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q9\_8 improving security and safety | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q9\_9 other (*specify*): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | [open ended] | | | | | |

**Q10. The *potential benefits* of smart home technologies are to ...**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | strongly disagree | disagree | neither agree nor disagree | agree | strongly agree | [don’t know] |
| Q10\_1 save time | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q10\_2 save money | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q10\_3 save energy | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q10\_4 make things less effort | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q10\_5 enhance leisure | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q10\_6 provide peace of mind | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q10\_7 provide comfort | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q10\_8 improve security | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q10\_9 provide care | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q10\_10 improve quality of life | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q10\_11 increase property value | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q10\_12 other (*specify*): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | **[open ended]** | | | | | |

**Q11. Smart home technologies are relevant for *certain activities* such as ...**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | strongly disagree | disagree | neither agree nor disagree | agree | strongly agree | [don’t know] |
| Q11\_1 cooking, preparing food, eating | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q11\_2 showering, washing | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q11\_3 working, studying | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q11\_4 entertaining, socialising | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q11\_5 relaxing, leisure, hobbies, games | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q11\_6 doing laundry, cleaning, housework | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q11\_7 parenting, caring for household members | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q11\_8 other (*specify*): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | **[open ended]** | | | | | |

**Q12. Smart home technologies are *designed* to ...**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | strongly disagree | disagree | neither agree nor disagree | agree | strongly agree | [don’t know] |
| Q12\_1 be easily noticeable | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q12\_2 blend into the background | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q12\_3 always be on and active | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q12\_4 operate only when activated | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q12\_5 provide information to households | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q12\_6 enable households to control their home | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q12\_7 control homes on behalf of households | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |

**Q13. Smart home technologies are *controlled* day-to-day by ...**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | strongly disagree | disagree | neither agree nor disagree | agree | strongly agree | [don’t know] |
| Q13\_1 pre-set schedules or profiles | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q13\_2 spur-of-the-moment inputs or adjustments | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q13\_3 automatic responses to detected behaviour | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q13\_4 a single user | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q13\_5 multiple users | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q13\_6 a single device | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q13\_7 multiple devices | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |

**Q14. For there to be *consumer confidence* in smart home technologies, it is important that they …**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | strongly disagree | disagree | neither agree nor disagree | agree | strongly agree | [don’t know] |
| Q14\_1 are reliable and easy to use | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q14\_2 can be controlled and over-ridden | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q14\_3 securely hold all data collected | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q14\_4 guarantee privacy and confidentiality | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q14\_5 come with performance warranties | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q14\_6 are made by credible manufacturers | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q14\_7 other (*specify*): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | **[open ended]** | | | | | |

**Q15. There is a *risk* that smart home technologies …**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | strongly disagree | disagree | neither agree nor disagree | agree | strongly agree | [don’t know] |
| Q14\_1 increase dependence on technology | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q14\_2 increase dependence on electricity networks | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q14\_3 increase dependence on outside experts | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q14\_4 result in a loss of control | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q14\_5 disrupt daily routines | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q14\_6 make household members lazy | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q14\_7 are intrusive | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q14\_8 monitor private activities | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q14\_9 are an invasion of privacy | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q14\_10 are non-essential luxuries | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q14\_11 make households worry more | ☐ | ☐ | ☐ | ☐ | ☐ | [☐] |
| Q14\_12 other (*specify*): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | **[open ended]** | | | | | |

**Q16. Do you have any other comments on smart home technologies?**

[open ended]

Completion screen **[not visible]**

Thank you for taking our survey!

Alternatively, please click here to exit this survey.

[browser home page]

**2. National Market Survey Responses**

***2.1. Response Frequencies***

**Table 1** shows the frequencies of all responses to the national survey on perceptions of SHTs.

**Table 1. Frequency of responses by all prospective users.** Notes: Responses are ordered by % agree + strongly agree. All responses were on a 5 point Likert scale with 1=strongly disagree and 5= strongly agree.















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**References**

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