

Microsoft & In-Home Standalone Speaker Assistant Research Proposal

Executive Summary

Researchers will collect, analyze, and report all data to Microsoft with findings on feature design, implementation, and product ease-of-use. Demographic information will be derived from data collection, and we will also be able to determine the purpose of use, time(s) of the day used, and privacy/security concerns from results of data collection and analysis. Data collection will be retained by Microsoft, and Microsoft will be the sole owner of all data collected. Data analysis and analysis methods will be retained by researchers, and final reports will be retained by Microsoft. We estimate this project to take approximately 70 days with a total estimated cost of ~\$22,500-\$23,000.

Research Goal

The purpose of data collection, analysis of data, and reporting of data is to determine how people will use Microsoft's in-home standalone speaker assistant. Analysis of data will lead to results regarding the question of what features the assistant should have, and when or why people use it. Additionally, demographic estimates will be made through data collection in order to best estimate types of probable users in the current market. Through collecting and analyzing data, we will be able to determine how to improve on already existing assistants and create unique features to make Microsoft's product stand alone at the top of the current in-home standalone speaker assistant market.

Summary of Approach

To conduct user research we will be using a combination of diary studies and focus groups. These will be used by researchers to determine the influence of speaker assistants and their current or possible future uses. Data analysis will be in the form of affinity diagrams and focus group result analysis. Findings will be presented through the use of an affinity walkthrough, focus group analysis reports, and creation of personas based on data collected and analyzed.

Researchers desire to conduct diary studies through the use of online and printed surveys. By examining large, nationally representative surveys of people who are most likely to use in-home standalone speaker assistants — such as American consumers from each generation (iGen, millennial, generation X, and boomers) — we will determine how people will use the product, and for which purpose the assistants will be used. Personas will be derived from the results of these diary studies.

Focus groups will be conducted to determine possible features that will make Microsoft's assistant unique in the current market. Figuring out why people use assistants, and how we can implement ease-of-use features will be determined through analysis of each focus group conducted. The data will then be analyzed through use of affinity diagrams, which will help further our understanding of what product features are unique and most desired.

Methods

Details of data collection: The protocol for focus groups will be 5-6 consumers discussing their current use of all purchased assistants, including those from competitors, in-home, and non-standalone speaker assistants — such as car, laptop, and phone assistants. All demographics will be welcomed, and each focus group will take about 30-45 minutes. Questions will be asked to determine ease-of-use features, demographics, and final product costs. Additional questions to address include privacy concerns, security features, and time spent using these devices. Focus group recruitment will be conducted via third-party recruitment professionals, and about 20-40 people will be recruited for focus group studies — based on budget constraints (generally \$500 for 20 participants — or \$1000 for 40 participants) — more participants generally means we will find more accurate results. Focus groups will be held for approximately one month, concurrent alongside diary studies, and participants will be expected to be reimbursed for travel-time and focus group attendance by the third-party company.

Nationally-representative objective surveys will be conducted across different American generations of consumers. These include iGen (adolescents between the ages of 11 and 17), millennials, Generation X, and boomers. Questions asked will determine the demographic majority of consumers who purchase in-home standalone speaker assistants, as well as determine the purpose of their use. Participants will be asked a series of questions regarding their current usage times, what they do for a living, and what features they like or dislike about their current in-home standalone speaker assistants. Additionally, the final survey will ask participants how much they would pay for a unique feature-rich assistant. Diary studies will be conducted for

about one month, at a maximum of once per day and a minimum of two times per week.

Participants will be recruited through the use of online survey websites (amazon turk, google forms, and popular website advertisement) — and each participant will be paid \$5 provided their data is accurate and if they can prove they own an in-home standalone speaker assistant through receipts or other technological data such as device ID serial number. Diary study participant limits will be capped at 400 people who accurately submit data.

Details of Data Analysis: Data analysis following accurate data collection will take approximately 2 weeks minimum and 4 weeks maximum. This time will be used to create affinity diagrams, analyze focus group and diary study results, and create personas. Affinity diagrams will be created from results of focus group analysis only, and will not include diary study results. We estimate that creation and subsequent organization of affinity notes will take approximately 2 weeks, and 3-4 weeks for the best results. These affinity diagrams will be used to determine ease-of-use features and unique design features that will make Microsoft's product stand alone at the top of the current assistant market.

Diary study results will be statistically analyzed to determine demographic information, ease-of-use features, and final product costs. This information will be collected automatically through the use of specially integrated questions and feedback from participants, and it will take between 3-5 days to determine the reliability and validity of diary study results.

Reports: After data collection and analysis, we will create unique personas to exemplify the types of users who will use Microsoft's final product. The data used to create personas will largely come from diary study analysis, and some focus group analysis. Affinity diagrams will

help find connections not seen before, and will further help to figure out demographic information to create complete consumer personas. Between 5 and 10 personas will be created, to help elicit an overall understanding of demographic information and product usage. Affinity diagram walkthroughs should take approximately 2 days and will explain findings and concerns based on results from diagramming the created affinity notes. Additionally, findings will be presented with a written report and graphs/charts derived from diary study and focus group analysis results. We expect this final report to be the basis of product design and implementation, as all of the data will have been collected and analyzed thoroughly by this time. Reports will take approximately 5-10 days to generate.

Timeline

Day 0: Meeting face-to-face with Microsoft to discuss more details related to the product, including but not limited to: budgetary constraints, time constraints, and company visions.

Day 1-3: Concurrent diary study implementation and focus group participant recruitment, along with purchasing of any required materials such as affinity diagramming post-its and markers.

Day 3-33: Concurrent diary study and focus groups being conducted. (Approximately 1 month)

Day 34-50: Affinity diagram production and organization. (Approximately 2 weeks)

Day 51-54/57: Determining reliability and validity of diary studies. (Approx. 3-5 days)

Day 54/58-65/70: Report generation including personas and final written presentation. (Approx. 5-10 days)

Budget

Participant Recruitment: ~\$500.00-\$1000.00 (20/40 participants respectively)

Diary Study Recruitment: ~\$2000.00 (400 participants who submit accurate data)

Analysis Materials: ~\$400.00 (Post-its, large-form paper, markers, printable labels, storage bins)

Travel: ~\$0.00 (Included in researcher salary)

Researcher Salary: ~\$19,600.00 (\$35/hr for 70 days of research, analysis, reporting, travel fees)

Total Estimated Cost: ~\$22,500-\$23,000 (Depending on cost of participant recruitment)