Hiya Connect

Usability Study Report

HCDE 517 Section D

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Executive Summary

Our research team conducted a usability study on Hiya Connect, a B2B product that enables businesses to brand their caller IDs during outbound calls. The purpose of our study was to assess the functionality of the Hiya Connect web-based console, with a focus on how new users navigate the onboarding process and upload or manage phone numbers.

Between the timeframe of February 20 to March 1, eight users were recruited to participate in a remote usability test. Each session lasted approximately one hour, and users were asked to complete five scenario-based tasks (plus one optional task if time permitted). Test findings were assessed based on users' self-reported ratings of ease of use, system usability, and satisfaction levels along with task completion rates and observational data from the interviews.

Our participant pool was predominantly female (75%), between the ages of 22-32 years (88%), have a Bachelor's degree (63%), and worked in the technology industry (75%). Our tests revealed that users were overall satisfied with their console experience. All participants indicated that tasks involving single phone numbers were the most intuitive and 37.5% of participants mentioned that the console layout felt simple and clean. Our tests revealed a total of 18 observations classified into one of three severity levels. This report will focus on discussing the high-severity pain points:

1. Lack of clarity and discoverability in bulk upload error feedback
2. Lack of discoverability and specificity in bulk upload instructions
3. Need for a more robust search and filter functionality for phone numbers
4. Confusion with how to use QR code authentication to set up an account
5. Lack of discoverability of the "Add Number" button.

Key recommendations for addressing pain points include providing more clear and more discoverable instructions and user feedback during the account setup and tasks involving bulk numbers. We also recommend adding search and filter functionalities for phone number attributes.

This document contains notes with participant feedback, task completion rates, ease of completion and system usability scores, and overall recommendations for design improvements. Details on the usability script, task materials, and analysis process are included in the Appendix.

Study Objective

Our study investigated how easily new users are able to onboard the console and upload and manage phone numbers. We further broke down our objective into three research questions:

1) Can new users *easily* create their accounts in the console? If not, what issues do users encounter during this process?
2) How *easily* can new users upload single and bulk phone numbers to the console? Was this process intuitive?
3) How *easily* can new users manage (edit/update) the brand attributes (caller business name, brand image, call reason, state, city) for single and bulk phone numbers?

Methodology

Between the timeframe of February 20 to March 1, we recruited eight participants with two each randomly assigned to one of the four test conditions (see chart below). There were 4 test conditions due to the counterbalanced orders of task 2/3 and task 4/5. Interviews were conducted remotely on Zoom and each session will be led by one moderator and one note-taker from the research team. All sessions took about an hour to complete.

To schedule participants for their interview, we sent a calendar invite and consent form prior to the test through email (refer to Appendix C). Participants were required to accept the invite and send a signed copy of the consent form to confirm their participation. All test sessions were video-recorded upon participant consent and recordings are stored on a secured platform.

Participants were asked to complete five tasks with an additional sixth task that was optional and time permitting (see Appendix D). Tasks were delivered through a Google Slides slide deck and participants were given access to that during the test introduction via the Zoom chat. Participants were then directed to go through the tasks as instructed by the moderator so that they could not skip ahead until they told the moderator that the task was completed. Before moving to a new task, the moderator asked them to rate how easy the task was from a Likert scale of 1 to 5 (refer to Appendix F).

After the last task was completed, participants completed the post-study questionnaire where they were asked a few questions about their overall experience of the Hiya Connect Console as well as any additional feedback or comments in case the specific task feedback missed covering certain aspects. They also completed the system usability scale questionnaire through a Google Form. Following the completion of their interview, participants were awarded an $85 digital VISA gift card which was delivered through email by our stakeholders.

The task list and study questionnaires are attached in the appendix at the end of this report.

Participants

We identified our target participants to be required to meet all the following criteria:

- Ages 21 years and older
- Have 6+ months of current or prior experience as a working professional
  - We define "working professional" based on the EEOC's definition: An individual with a job that requires a specific level of college education, typically a bachelor's degree or higher.
- Prior experience with a business-related SaaS product (must be web-based)
- Have no prior experience with the Hiya Connect console
- Owns a laptop with a front-facing camera and stable internet connection

Additional (non-mandatory) criteria that participants should ideally meet include:

- Familiar with using spreadsheets
- Has experience with outbound marketing/calling software

After identifying our target participants, we developed a screener survey using Google Forms to recruit for participants who met all the required criteria. In the survey, we collected basic demographic information including their age, gender, professional background, and the highest level of completed education, as well as information regarding their previous experiences with SaaS tools. Given that we received an overwhelming total of 31 screener survey responses, we decided to prioritize those that expressed familiarity with spreadsheets and had prior experience with outbound marketing/calling software.

A total of eight participants were recruited through the UW HCDE Slack channel and Zillow's private communication network to take part in the study. All participants completed their interviews between February 20 to 26. Of the eight participants, six were female and two were male. Seven of the eight (87.5%) participants were

between the ages of 23-32 years. Five participants (62.5%) had completed a Bachelor's degree as their highest education level, and six (75%) currently work in the technology industry. A detailed breakdown of the participant demographics is shown below.

Age (Years)	n	%
23-32	7	87.5
33-43	0	
40-59	1	12.5
Total Participants	8	

Gender	n	%
Female	6	75.0
Male	2	25.0
Other	0	
Total Participants	8	

Highest Education Level	n	%
High School or equivalent	1	12.5
Bachelor's Degree	5	62.5
Master's Degree	2	25.0
Total Participants	8	

Current Work Industry	n	%
Technology	6	75.0
Marketing, advertising, or PR	2	25.0
Telecommunications	0	
Other	0	
Total Participants	8	

Findings & Recommendations

Defining Severity Ratings

To prioritize the severity of our observations, we considered two measures: 1) **level of impact** of the observation at the task level and, 2) **frequency** of observation occurrence across all participants. To assess the impact, we ranked all six tasks based on their average ease of use score across participants. Note that lower scores indicate higher difficulty, thus resulting in a higher impact ranking (refer to Table 1). Our rationale in using the ease of use score to assess impact is that the tasks that

users found most challenging are likely to have the largest opportunity for improvement.

Table 1 - Prioritizing tasks by ease of use

Task ID	Ease of Use Score (5-pt)	Impact Priority Ranking	Level of Impact
Bulk phone number upload	2.5	6	**High**
Manage attributes for bulk phone numbers	3.4	5	
New account onboarding	3.6	4	
Manage attributes for one phone number	4.3	3	
Single phone number upload	4.6	2	
Tagging phone numbers*	NA	1	**Low**

This task was optional given time constraints and only completed by select participants; thus it was set as the lowest priority.

After tasks were ranked based on their level of impact, we plotted the frequency of each observation based on the number of participants (1-8) who experienced the observation (Visual 1). We divided this scatterplot into quadrants to identify the severity level (low, medium, or high) of each observation point fell in. Thus, the most frequent observations that occurred in the tasks that users found most challenging were ranked as the most severe in the top right quadrant.

Visual 1 - Observation Severity Scatterplot
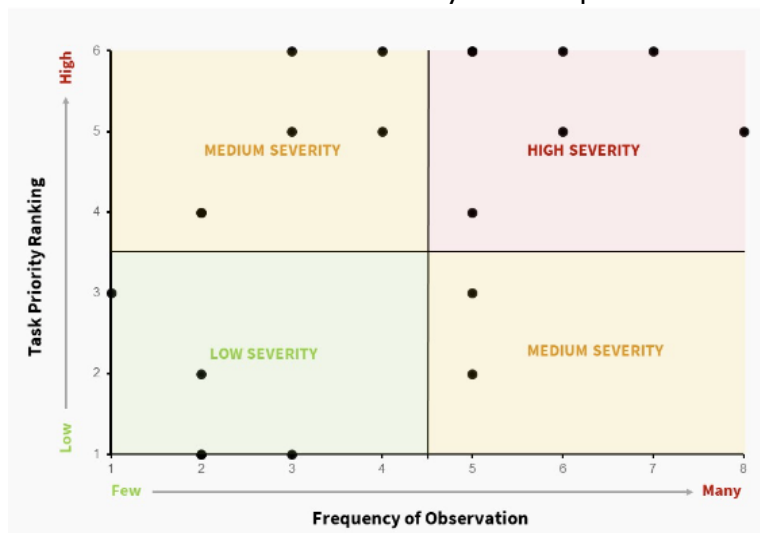
This report will address these observations in order of highest severity to lowest severity.

Task: Upload bulk phone numbers

Task Overview:
For this task, participants were tasked with uploading a spreadsheet of 20+ phone numbers and their associated brand attributes via a prescribed "bulk upload" template which is found on the "Bulk upload" screen.

Ease of Use Score:
2.5 out of 5; indicating that users found this task to be the most difficult to complete in the Hiya Connect console.

Task Completion Rate:
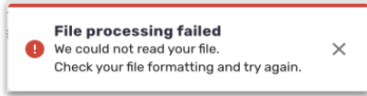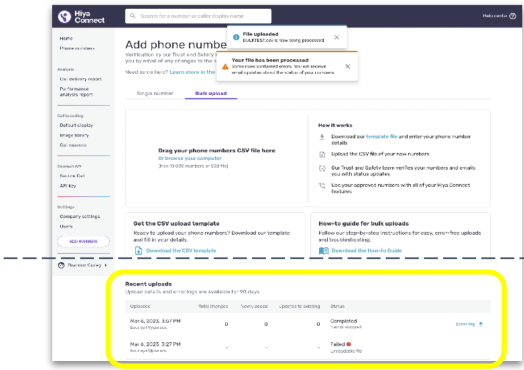Only 25% (2 of 8) of participants completed this task.

What worked well:
1. Participants were able to easily discover the "Bulk Upload" tab on the "Add phone numbers" page in the console (Visual 2) without requiring any prompting.
2. Users that were looking for more detailed instructions and located the pdf "how-to" guides found them to be helpful in completing the task correctly.

Visual 2 - Bulk Upload Tab

Improvement Area 1: Lack of clarity and discoverability in bulk upload error feedback.	
Severity Rating:	**Highly severe**; it occurred the most frequently on the task that users found the most challenging.
Frequency:	88% of participants (7/8 participants) experienced this observation.
Description:	Upload error feedback was unclear because pop-up messages and upload statuses lacked specificity. Specifically, participants encountered "File format" error (Visual 3 below) pop-up messages that lacked specific language around what next best action users should take after uploading an incorrectly formatted file. Users continued to re-upload the same incorrectly formatted file and did not know where to go next and some even gave up on the task entirely. Visual 3 - file formatting error pop-up **File processing failed** We could not read your file. Check your file formatting and try again. ✕ *Error pop-up user gets when using an incorrectly formatted file* Additionally, the error pop-up message when a file only had minor errors (visual 5 below) did not specify where users could find their error logs and said they would receive updates via email. This caused users to not know where to look for the error report, as the "recent uploads" section which houses the error logs were below the fold and not immediately visible (visual 4 below). Visual 4 - recent uploads section

Error logs are hidden below the fold and error messages don't specify where to find error details.

Visual 5 - "file processing" error pop-up

Error pop-up user gets when uploading numbers that have an error

Lastly, the feedback as to whether or not the bulk upload had been successful or was not clear to users. The upload status would show as "complete" with "# errors skipped" and users would be told in the error pop-up that they would receive email updates about the status of their numbers, but nothing had actually been uploaded.

Supporting Quotes:	P2: "Tell me where it creates the error log of my upload. I can't find it anywhere." P3: "If somewhere it would tell you why you are getting a "failed message, that would be really helpful."
Recommendations:	1. Highlight the template in the "File processing failed" messages so users can understand where to find the proper formatting. 2. Make the "recent uploads" section with error logs more prominent or provide a way for users to easily navigate to the error logs. 3. Clarify whether the numbers were uploaded or not via the error pop-up and recent uploads section.

Improvement Area 2: Lack of discoverability and specificity in bulk upload instructions	
Severity Rating:	**Severe**; it occurred the most frequently on the task that users found the most challenging.
Frequency:	6/8 (75%) participants experienced this issue.
Description:	Template instructions were not effective at educating users because they did not capture their attention and lacked specificity. Specifically, the instructions copy did not quickly capture the attention of users as they navigated the bulk upload task (visual 6). Two unique links for the template resource also caused users to second guess if they were using the right template. This caused them to make repetitive errors and delayed how long it took for them to identify the template file. Visual 6 - Bulk upload template instructions *Instructional copy is dispersed; user attention first goes to the top left section* Additionally, once users did identify the template they were unsure as to which of the 7 columns of data were truly required for the bulk upload to go through. Not specifying what was optional vs mandatory caused users to second guess themselves as they were providing information into the spreadsheet. Lastly, the instructions and template lacked specificity around how the bulk image uploading works. Users were perplexed by the idea of uploading images via a
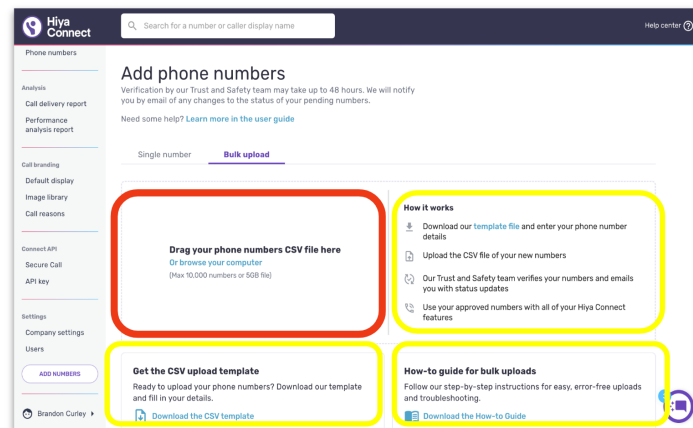
	spreadsheet and couldn't discover the Image Library tab to find the required caller image ID needed for the upload template. As a result, many users opted to submit the bulk upload without an image and add the images to each number separately, which caused additional friction and time.
Supporting Quotes:	P3: "My eyes went directly to the upload section and I did not read all the instructions because it did not catch my attention."
Recommendations:	1. Consider emphasizing a single, prominent instructional message with visuals that capture the user's attention as well as only using one, clear template link. 2. Clearly label which template columns are mandatory or optional within the template itself. 3. Add more specific language around how bulk image uploading works in the instructions or template itself to clarify where to find the caller image IDs in the Image Library.

Task: Managing Attributes for Multiple Numbers Task

Task Overview:
In this task, users were asked to change the call reason for multiple numbers. They had to select multiple numbers at once and change the call reason from "Calling about your food delivery" to "Calling about a promotional offer".

Ease of Use Score:
3.4 out of 5; indicating that users found this task to be mildly easy to complete in the Hiya Connect console.

Task Completion Rate:
88% (7 of 8) of participants completed this task.

What Worked Well:
1. Users were able to find the right numbers that needed a change of call reason.
2. Users were able to edit the call reason attribute.

Improvement Area 3: Users needed a more robust search and filter functionality.	
Severity Rating:	**Severe**; it occurred the most frequently on the task that users found the most challenging.
Frequency:	8/8 (100%) of participants experienced this observation.
Description:	Users expected to find a filter function for attributes such as location and call reason and they found it tedious to select multiple numbers manually using the checkbox. Some users expected that the search bar could be used to search for attributes but it can only be used to search for phone numbers.
Supporting Quotes:	"Now there are 15 numbers but if there are 15 thousand customers that would be a problem. There should be a filter for filtering out for location." - Participant 6

"I expected that the search bar f would search through all the attributes and give me the one that I was looking for. So I thought, just putting 'calling for a food offer' will filter |

	out everything that didn't have that and that way it would be easier for me to click on them." - Participant 7
Recommendations:	1. Include filter drop-down menu for attributes. 2. Add the ability to search for attributes into the search bar.

Task: Onboarding & Login Task

Task Overview
Users were tasked with opening an email that the tester sent through the console and setting a password to access the console.

Ease of Use Score:
3.6 out of 5; indicating that users found this task to be mildly easy to complete in the Hiya Connect console.

Task Completion Rate:
100% (8 of 8) of participants completed this task.

What worked well
1. The SMS option was easy to use.
2. Users with prior experience with authentication apps were able to log in using the QR code.

Improvement Area 4:	
Confusion with how to use QR code authentication to set up an account.	
Severity Rating:	**Severe**; it occurred the most frequently on the task that users found the most challenging.
Frequency:	63% of participants (5/8 participants) experienced this observation.
Description:	Users were confused about how to use the QR-code scanning to authenticate their login information when setting up a new account. Users had attempted to scan the QR code using their iPhone camera app however, this did not bring them to the expected page. Thus, they were confused about how to proceed with authenticating their login information and resorted to using an alternative authentication method such as the "Use SMS" option. We also observed that users who were confused about how to use the QR code did not read the instructions on the screen.

Supporting Quotes	"I didn't know what an authenticator app was because I haven't downloaded that ever. I thought it would just look like a QR Code so I thought I would just scan it through my phone and things like that which didn't really help." - Participant 7
Recommendations:	1. It would be helpful to have the QR code and SMS options side-by-side for clear visibility. 2. A pop-up message that gives a brief description of the authenticator app would be useful for those who have never used such apps before.

Lessons Learned

What went well?

Through the course of this study, we learned a few key pieces of information vital to the success of our study.

1. When discussing incentivization with our stakeholders, we learned that there are several important factors to consider when determining the optimal compensation amount to provide users for their participation.
   We considered:

   i) how niche is our target audience?

   ii) how easy will it be to reach out to our target audience?

   iii) since we are targeting working professionals, will we be required to give a larger compensation as opposed to only targeting students?

   iv) how much are they motivated by a cash incentive versus some other kind of thank-you gift?

   v) how will compensation be delivered to participants (i.e., gift card, cash, electronic transfer)?

2. Pilot testing is highly valuable in ensuring a streamlined and well-planned interview. During our pilot study, we identified several flaws with our study process and materials such as poorly-worded task instructions or the inability to give participants screen-sharing abilities. These kinks may have potentially compromised our interview findings if we had not conducted this important step. Overall, we are glad that the pilot test helped us to improve our test materials before kicking off our study with the real participant pool.

3. Finding ways to present the study to the participants should aim to emulate real-world scenarios while finding undisruptive methods to maximize efficiency. In our case, the use of a slide deck to present tasks to participants was efficient. It reduced the level of verbal prompts needed by the moderator and allowed us to efficiently conduct the tests remotely while simulating real-world scenarios effectively.

4. The relationship between the research team and the stakeholders (Hiya product team) is important for the success of the study. Keeping them informed and engaged through cadenced meetings and email communication naturally builds trust between parties, which ultimately helped with obtaining buy-in during the presentation of our findings and recommendations.

5. Strong participation incentives and leveraging our professional networks are both very helpful in recruiting a large number of potential participants within a short period of time, which was one week in our case. Also, when one of our scheduled participants did not show up to our interview, we had the

flexibility to quickly recruit an additional user without compromising our sample size.

What would we change?

If we were to conduct the study again, we would implement the following changes:

1. With a more generous timeframe, we would have conducted our interviews in-person as initially preferred by our stakeholders. Given the time constraints, we did not have enough time to recruit for in-person testing and thus opted for remote testing. We found the remote component of this study to be especially useful for simulating real-world scenarios in a time-efficient manner.

2. When faced with tasks that require multiple steps, it can be helpful to break down the instructions into smaller sub-tasks. This approach can greatly reduce task fatigue and make it easier for participants to complete the task. By breaking down a complex task into smaller sub-tasks, participants can focus on each required action, and feel a sense of accomplishment as they complete each one. Additionally, breaking down a task into sub-tasks can help identify any potential roadblocks or issues early on, making it easier to troubleshoot and ensure the successful completion of the overall task.

3. Clear and simple language is essential for task instructions to ensure that all users understand what's required of them. Providing additional definitions or clarification can be helpful for users who have questions or need further guidance. Simplifying the language used in the instructions can also reduce confusion and make the task more accessible to all users

Future Studies

In future studies, we hope to conduct more iterations of usability testing with a set of participants that is more representative of our target audience. Specifically, we would like to recruit a participant pool with more balanced ratios of age ranges, gender, and professional backgrounds. Having a more diverse participant pool would improve the validity and generalizability of our findings.
Furthermore, we encourage the implementation of our recommendations. If the capacity and resources available do not allow for addressing all our findings, we recommend prioritizing high-severity issues. Additionally, the study could be run again after the major findings are addressed to compare SUS scores and overall user satisfaction.

Appendix

Appendix A: Links of Task Materials

Screener Survey

Consent Form

Task Instructions Deck (Version A)

Task Instructions Deck (Version B)

Task Instructions Deck (Version C)

Task Instructions Deck (Version D)

Usability Guide (All Versions)

SUS Questionnaire Form

Appendix B: Participant Data Collection Sheet

Link to Spreadsheet

Scheduled Interview Date (DD/MM, time)	Date of Completion (DD/MM, time)	Name of Interviewer	Name of Notetaker	Participant #	Version of Test	Name of Participant (First name only)	Email	Participant Age Range (Years)	Highest Education Level	Participant Gender	Current work industry	Method of Recruitment	Informed Consent Form Signed (Yes/No)	Verbal Permission to Record Audio/Video (Yes/No)
Feb 22 @1pm PST	2/22	Juan	Connie	P1	A	Apoorva	apk11@uw.edu	22-32 years old	Bachelor's	Female	Tech	UW Slack	Yes	y
Feb 23 @ 3pm PST	2/23	Brandon	Connie	P2	B	Prerna	prernar@uw.edu	22-32 years old	Bachelor's	Female	Tech	UW Slack	Yes	y
Feb 24 @ 1pm PST	2/24	Connie	Amodini	P3	C	Sneha	Snehabhadane0@gmail	22-32 years old	Master's	Female	Tech	UW Slack	Yes	y
Feb 20 @ 3:30pm PST	2/20	Connie	Brandon	P4	D	Lori	loribr@zillowgroup.com	22-32 years old	Bachelor's	Female	Marketing, adver	Zillow post	Yes	y
Feb 20 @ 5pm PST	2/20	Brandon	Amodini	P5	A	Rebecca	rebeccaam@zillowgroup	44-54 years old	Bachelor's	Female	Marketing, adver	Zillow post	Yes	y
Feb 24 @ 4pm PST	2/24	Amodini	Juan	P6	B	Guarav	Gaurav1wani@gmail.cor	22-32 years old	Master's	Male	Tech			
Feb 26@ 10am PST	2/26	Amodini	Connie	P7	C	Raveena	raveenad@uw.edu	22-32 years old	Bachelor's	Female	Tech	UW Slack	Yes	Y
Feb 26@ 11:30am PST	2/26	Juan	Amodini	P8	D	Philip	philip.covello96@gmail.c	22-32 years old	High school grad	Male	Tech		yes	Y

Email for Gift Card	Gift Card Recieved (Y	Recording Link	
apk11@uw.edu	Y	https://urldefense.com/v3/__https://washington.zoom.us/rec/share/snwz7ufiplvjEQJS6R__nREyZG9y-NVdm_W7-IM5LwS0wE9KXxFdMe8kRLb5fspT.6WxxxAAuDr86fNbr__;!!K-Hz7m0Vt54!IbGAGPej80iI8VkuJknBi2JagXNYfd9onPqFAfl0MbluQMWh-t9d81_4IyX9j69cDXxUZsQFBMej18KL$	
prernar@uw.edu	Y	https://washington.zoom.us/rec/share/jMCO1LH8WDvdeabw_ienJvzC_e9sxxTt1Iqrm1hIoLOTzT1RxbZ-NDUh001wO92A.i9H63GbyVXU6FThe	
Snehabhadane0@gma	Y	https://washington.zoom.us/rec/share/uXpO_yXM2D3kqfQvBJfXp2f4QWmm0VJTrr9VaFgxLEHE_BPWDcZstZi-TjzX1G5t.iwm_hGIStn33URbe	
loribr@zillowgroup.com	Y	https://washington.zoom.us/rec/share/BcEsjiMahAdP8uPidDbRg5uoa8vqwhbXEFMgXNE7s9SKTMHe1UkGVdI7OzUpNn4k.3-uu7wK0eEwRWG1C	
rebeccaam@zillowgrou	Y	Part 1: https://drive.google.com/file/d/1rJRyg1BsZs0vBx818uwl0Ftalg_XMOhQ/view?usp=share_link	Part 2: https://drive.google.com/file/d/1X7JbyRdIa9g7F9KwGUpkECe5q-iklhmk/view?usp=share_link
	Y	https://washington.zoom.us/rec/share/javJg-DIcW1fuWrWqt-BJijiQS0rcM4mtyopzAc13Id3bt1r9n4flKcZ76Sb8krF.TLMPyZUw3qjyMPBM	
raveenad@uw.edu	Y	https://washington.zoom.us/rec/share/vpNSUBHJSPKlj3LSxcn54XsuBXU7...	
philip.covello96@gmail	Y	https://urldefense.com/v3/__https://washington.zoom.us/rec/share/kNFG3pM0fu_HeC5oejQlfol93VHMmkUB-WFZl7-KPX1osvIcaOtqT2WQURu5levH.CNks3tKVdDne9pa1__;!!K-Hz7m0Vt54!k2E2kUl7mJJ41FoBP5Bt6fVKEnXP_nf_5UpeXCORBUMU9LdB2cHXKtuPW6AdTUmylHP7amIBW5WNn41R$	

Appendix C: Study Recruitment Materials

Promotion Statement

Do you have experience using software tools in your everyday job responsibilities? We are a team of UW Masters students conducting usability tests for software that helps companies manage their outbound phone calls. We are looking for individuals to take part in a 45-60 minute virtual session (via Zoom) to complete tasks on a web-based platform. To thank you for your time, participants will receive an **$85 gift card** upon completion!
If this sounds like you, please fill out this SURVEY, and we will contact you if selected to participate in this study.
If you have any questions about this study, feel free to message us on [Slack] or email juan00@uw.edu. Thank you!

Email Script for Test Scheduling

Subject Line: Details on Your Upcoming Usability Test with Hiya
CC: Note-takers and Juan
Attachment: Consent PDF

Hi [participant name],

Nice to meet you! My name is [name] and CC'd in the email is [note-taker name], and we will be the ones facilitating your usability test.

*Your session has been scheduled for **[date] at [time]**. Please see below for the session Zoom link. We will send you a calendar invitation shortly with these details.*

[Add generated Zoom Link]

Just a reminder that the session will take place on Zoom and should take no longer than 60 minutes. Please join the meeting using a personal laptop or computer with a working microphone and front-facing webcam. During the session, you will be asked to complete a few tasks on a web-based platform, followed by a brief set of questions. You will also be required to share your screen when completing the tasks.

As well, please read through the consent form attached above and provide your digital signature if you agree to all the mentioned terms.

Your participation in this study will be confirmed once we receive your signed consent form and when you accept the calendar invitation. *Please feel free to reach out if you have any questions or concerns.*

Thank you for your time and we look forward to meeting you soon.

[Moderator Name] and [Note-taker name]

Appendix D: Task List and Order

During the usability tests, participants will be instructed to complete the following tasks:

	#	Task	Starting State	Success Completion Condition
	1	Onboard with email and login	Email screen with onboarding invitation link	User can create an account and access Hiya Connect
AB BA	2 (A)	Upload a single phone number (provided in a Word doc) with brand attributes (caller business name, brand image, call reason, state, city)	Console home page; logged in	Users can upload a single phone number with provided brand attributes to the console.
	3 (B)	Bulk upload 40 phone numbers (provided in a csv)	Console home page; logged in	User is able to identify the bulk upload functionality and successfully upload via the csv template without errors
AB BA	4 (A)	Manage (edit/update) attributes for a group of existing numbers	Console phone number page; logged in	User is able to efficiently select and edit or update the brand attributes for a group of numbers
	5 (B)	Manage (edit/update) attribute for a single existing number	Console phone number page; logged in	User is able to efficiently locate and edit or update the brand attributes for a single number
	6	Create tags to organize 3 distinct groups from the bulk upload of phone numbers	Console phone number page; logged in	User is able to identify and use the tags feature to create 3 distinct

				tags for three groups of phone numbers

Test Condition #	Task 1	Task 2 (A)	Task 3 (B)	Task 4 (A)	Task 5 (B)	Task 6
1	x	AB		AB		x
2	x	AB		BA		x
3	x	BA		AB		x
4	x	BA		BA		x

iii. Usability Guide Version Chart

Participant ID	Guide Version
1	Version A
2	Version B
3	Version C
4	Version D
5	Version A
6	Version B
7	Version C
8	Version D

Appendix E: Data Analyses

SUS Calculation

Participant ID	1. I think that I would like to use this dashboard frequently	2. I found the dashboard unnecessarily complex	3. I thought the dashboard was easy to use	4. I think that I would need the support of a technical person to be able to use this dashboard	5. I found the various functions in the dashboard were well integrated	6. I thought there was too much inconsistency in this dashboard	7. I would imagine that most people would learn to use this dashboard very quickly	8. I found the dashboard very cumbersome to use	9. I felt very confident using the dashboard	10. I needed to learn a lot of things before I could get going with this dashboard	Raw Score	SUS Score	Grade
P1	4	5	3	1	4	5	3	4	2	4	17	42.5	
P2	3	2	2	3	4	5	2	2	3	4	18	45	
P3	4	1	4	1	4	1	5	1	4	1	36	90	
P4	4	2	4	3	4	2	4	1	4	3	29	72.5	
P5	3	4	3	3	3	4	3	2	3	3	19	47.5	
P6	4	3	4	1	3	3	4	1	4	1	30	75	
P7	4	2	4	2	5	1	5	1	4	2	34	85	
P8	5	2	4	1	4	1	4	1	4	1	35	87.5	
										Mean	27.25	68.125	C

Quantitative Metrics

Participant ID	Task 1 Task Completion	# of Prompts	Ease of Use	Task 2 Task Completion	# of Prompts	Ease of Use	Task 3 Task Completion	# of Prompts	Ease of Use	Task 4 Task Completion	# of Prompts	Ease of Use	Task 5 Task Completion	# of Prompts	Ease of Use	Task 6 (OPTIONAL) Task Completion	# of Prompts	Ease of Use
P1	1	0	2	1	0	4	0	0	2	1	0	2	1	0	5	1	0	4
P2	1	0	4	1	0	4	0	1	3	1	0	3	1	0	5	N/A	N/A	N/A
P3	1	0	5	1	0	5	1	1	3	1	0	5	1	0	5	N/A	N/A	N/A
P4	1	0	2	1	0	5	1	0	4	1	0	3	1	0	5	N/A	N/A	N/A
P5	1	1	3	1	0	4	0	1	1	0	0	1	1	0	4	1	0	4
P6	1	0	3.5	1	0	4.5	0	1	2	1	0	4	1	0	4.5	1	0	4
P7	1	0	4	1	0	5	0	1	1	1	0	4	1	0	3	1	0	4
P8	1	1	5	1	0	5	0	1	4	1	0	5	1	0	3	1	0	4
Mean	100.00%	0.3	3.6	100.00%	0.0	4.6	25.00%	0.8	2.5	87.50%	0.0	3.4	100.00%	0.0	4.3	100.00%	0.0	4.0
Count	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	5	5	5
Standard deviation	0.0	0.5	1.2	0.0	0.0	0.5	0.5	0.5	1.2	0.4	0.0	1.4	0.0	0.0	0.9	0.0	0.0	0.0
Priority Ranking			4			2			6			5			3			1

Observation Frequency

Task ID	Observations	Where?	P1 Apoorva	P2 Prerna	P3 Sneha	P4 Lori	P5 Rebecca	P6 Gaurav	P7 Raveena	P8 Philip	Frequency	Task Priority Score	Severity
Task 1: Onboarding	Confusion on how to use QR Code	Set Up Account Page	1	1	0	1	1	0	1	0	5	4	High
	Lack of Discoverability for "Use SMS" button	Set Up Account Page	0	0	0	1	0	0	0	1	2	4	low
	Confusion about onboarding language instructions	Onboarding Email + Set Up Account Page	0	0	0	0	1	0	1	0	2	4	low
Task 2: Single Upload	Unclear on the auto-fill functionality for "City"	Edit Attributes page	0	0	0	1	1	0	0	0	2	2	low
	Location of "Add Numbers" Button is not discoverable	Dashboard homepage + Phone Numbers tab	1	1	1	1	0	0	0	1	5	2	medium
Task 3: Bulk Upload	Overwhelming "how-to" guide/instructions	Bulk Upload page	0	0	0	1	0	0	1	1	3	6	Medium
	Failed to notice/read instructions on page	Bulk Upload page	1	0	1	0	1	1	1	0	5	6	High
	Error feedback was unclear or undiscoverable	Bulk Upload page	1	1	1	0	1	1	1	1	7	6	High
	Confusion around how to use template	Bulk Upload page + CSV file	1	1	1	0	0	1	1	1	6	6	High
	Confusion about which numbers on the console they had just uploaded	Phone Numbers tab	0	1	1	1	0	1	1	0	5	6	High
	Confusion on how to upload image using caller Image ID	Bulk Upload page + CSV file	0	1	1	0	0	1	1	0	4	6	Medium
Task 4: Manage Group of #	Need for Additional Filter Functionality for [location, call reason]	Phone Numbers tab	1	1	1	1	1	1	1	1	8	5	High
	Need for attributes searchable via search bar	Phone Numbers tab	1	1	1	1	1	0	0	1	6	5	High
	Tried to edit call reason w/in call reason tab	Phone Numbers tab	0	1	0	1	1	0	0	0	3	5	Medium
Task 5: Manage Single Number	Lack of discoverability of batch edit of attributes	Phone Numbers tab	1	0	0	1	0	1	0	1	4	5	Medium
	Phone number input format unclear	Phone Numbers tab	1	0	0	1	1	1	1	0	5	3	Medium
	Search Bar not discoverable	Phone Numbers tab	0	1	0	0	0	0	0	0	1	3	low
Task 6 (OPTIONAL)	Need for Filter Function for location	Phone Numbers tab	0				1	1	0	1	3	1	low
	Need for tag editability w/in "edit attribute"	Phone Numbers tab	0				0	1	1	0	2	1	low
	Editing Multiple number tags was unclear	Phone Numbers tab	1				0	0	0	1	2	1	low

Affinity Map of Data Synthesis
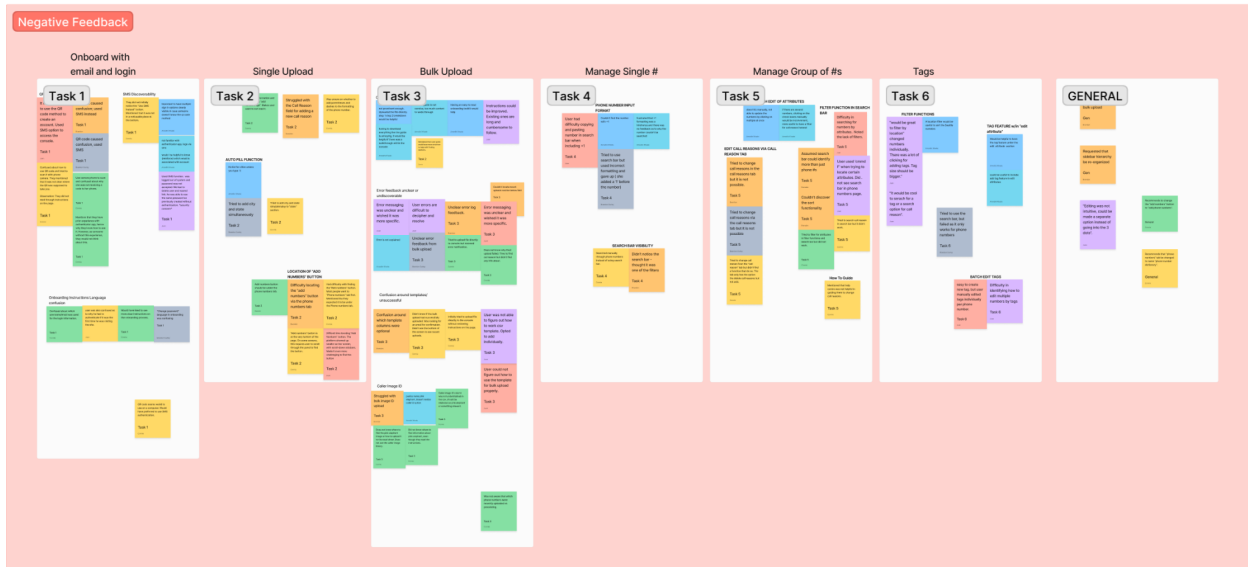
Appendix F: Questionnaires

Ease of Use Scale Questionnaire

How would you rate the level of ease in completing the task you just performed on a scale of 1 to 5? With 1 being that the task was very difficult to 5 being it was very easy.
- Very difficult (1)
- Difficult (2)
- Neither difficult nor easy (3)
- Easy (4)
- Very Easy (5)

Post-study Questionnaire

1. What was your overall experience with the Hiya Connect Console?
2. Was there a time during this study when you felt frustrated or confused? If so, when?
3. How comfortable did you feel navigating through this process?
4. What parts felt the easiest for you?
5. Anything else you can think of that would improve your experience when using the Hiya Connect platform?

System Usability Scale Questionnaire

System Usability Scale Questionnaire	Strongly Disagree				Strongly Agree
1. I think that I would like to use this product frequently.	1	2	3	4	5
2. I found the product unnecessarily complex.	1	2	3	4	5
3. I thought the product was easy to use.	1	2	3	4	5
4. I think that I would need the support of a technical person to be able to use this product.	1	2	3	4	5
5. I found the various functions in the product were well integrated.	1	2	3	4	5
6. I thought there was too much inconsistency in this product.	1	2	3	4	5
7. I imagine that most people would learn to use this product very quickly.	1	2	3	4	5
8. I found the product very awkward to use.	1	2	3	4	5
9. I felt very confident using the product.	1	2	3	4	5
10. I needed to learn a lot of things before I could get going with this product.	1	2	3	4	5

Appendix G: Presentation to Stakeholders

Hiya Connect Presentation Slideshow Deck