DRUNK MODE

Prepared for: Drunk Mode
By: Virginia Consulting Group

Virginia Consulting Group

William Liu
Maddie Coder
Kyle Guzik
Anjali Khanna
Sarah Lewis
Jannette Nguyen

EXECUTIVE SUMMARY

Drunk Mode is a campus safety application that allows users to block contacts to prevent drunk dialing and texting, see where the user went the night before, see where the "hotspots" of the night are, and share the drunk journey the user took the night before. Drunk Mode's engagement this semester with the Virginia Consulting Group focused on increasing the active user base around grounds and gather feedback on the UX of the app itself. To accomplish these goals, we focused on four tasks which are detailed below.

The Campus Rep program was implemented to increase Drunk Mode awareness around grounds

We contacted several organizations, primarily targeting Greek Life, and offered them free Drunk Mode "swag." Multiple organizations received pizza, tank tops, and other Drunk Mode labeled goodies, which increased brand awareness for Drunk Mode. We also flyered several locations around grounds to advertise the Drunk Mode Application. The Campus Rep program contributed to the 19.4% increase in active user base seen during the time Drunk Mode partnered with VCG this semester.

A partnership was established with the Theta Delta Chi (TDX) fraternity to co-sponsor a philanthropic event

Theta Delta Chi offered Drunk Mode a co-sponsorship in regards to its Fall Fest philanthropy on November 11th, 2016. At the philanthropy event, the VCG team distributed Drunk Mode "swag" to the fraternity brothers and to those who came to the event. We also hung flyers advertising the Drunk Mode application to increase brand awareness as well as Drunk Mode Snapchat flyers promoting the company Snapchat.

Focus groups were conducted to gain insight into the Drunk Mode UX pre- and post- November Update

Three focus groups consisting of three to five students were conducted to analyze the Drunk Mode application's strengths and weaknesses. Two of the groups received brand exposure and one group did not receive brand exposure prior to the focus groups. We then walked them through the signup process and usage of the application and recorded their answers and opinions regarding each feature.

Statistical analyses were conducted on user data sets to determine variables that affect usage time of the app

The Drunk Mode team provided two data sets for analysis: one for power users of the app and one for all users of the app within the last two years. The goal of the statistical analysis was to determine if there was a statistical difference between how many people provided certain information fields (Facebook, Twitter, email, and phone number) and how long they had been using the app. More importantly, the point of the statistical analysis was to determine relevant

factors that influence the duration of usage of the app. Our statistical analysis found significant differences between the information provided by different usage groups as well as identified several important variables in determining app usage time.

Next steps for Drunk Mode could help increase active users and data driven decisions

With further insight into the effectiveness of different campus rep programs, Drunk Mode should move forward into the future by implementing only those that yielded higher active user turnout. Additionally, as Drunk Mode pivots further into the data-driven space, additional statistical analyses will prove even more effective in uncovering insight into the company's user space.

TABLE OF CONTENTS

INTRODUCTION

Drunk Mode is a safety app founded by Josh Anton, a UVA McIntire graduate, that promotes safer drinking. The app offers a variety of features such as hotspots, breadcrumbs, dial-block and more to ensure that users have a safer night out. Our VCG team acted as brand ambassadors for the first four weeks of the program, aiding in market outreach to the UVA community through hands-on marketing. The second half of the semester, our team conducted Focus Groups to gather user feedback about the sign-up process and Drunk Mode's main features. We also conducted a statistical analysis of user-data to determine correlations between active users and a variety of variables.

CAMPUS REP PROGRAM

Flyers were placed in prominent places around grounds to increase awareness of the app

In order to increase awareness surrounding the Drunk Mode app, we first strategically placed flyers in prominent areas on grounds. The guide used to decide which areas to cover were based on how often the areas were utilized as well as how popular they were among UVA students. This marketing campaign proved effective due to how well the app related back to typical college students' situations. With memorable and witty phrases, such as "Your ex doesn't need to know you still love them at 2am," students reacted positively to the marketing flyers.

Our team quickly sought out a way to expand our flyer outreach since the Student Activities Center restricts organizations to only posting flyers on the blue bulletin boards around grounds. Therefore, along with flyering on these blue bulletin boards around grounds, the team put up posters in the bathrooms of Clark library, Alderman library, Clemons library, and Newcomb.

Tabling events were held to centralize "swag" distribution and increase sign-ups

In addition to flyering, our team conducted five tabling sessions to increase the amount of Drunk Mode and Thunderclap sign ups. Placed near Whispering Wall, our tabling sessions maximized the amount of people who downloaded the app. People appreciated learning more about the app as well as having the chance to obtain Drunk mode merchandise including a tank top, sunglasses, and colorful condoms. By enticing potential clients with free pizza, a majority of them took the time to converse with the Drunk Mode team, allowing us to persuade them to download the app and to spread social media awareness about the app.

PHILANTHROPIC PARTNERSHIP

Drunk Mode partnered with the fraternity Theta Delta Chi to sponsor their "Fall Fest" philanthropy event on November 11th. The corporate sector of Drunk Mode donated $250 to the fraternity in exchange for advertising rights at the event. The team flyered the fraternity house and handed out Drunk Mode "swag" to the fraternity brothers and guests. Flyers were placed on the columns by the entryway of the house as well as near the food display and on all major doorways. Brothers were seen examining the flyers along with following the Drunk Mode snapchat. Several times the team was asked to explain Drunk Mode and the app was received well in conversation. As the event progressed, the team responsible for event admission took control of "swag" passing out, giving a tank top to every person admitted. The attendees received the advertising well, as many of the brothers along with the guests were seen wearing the shirts as the night progressed. Additionally, TDX has expressed a desire to partner with Drunk Mode in further philanthropy events.

One major obstacle was attendance of the event. The fraternity did not do much in regards to advertising for the event and the partnership with the fraternity itself was formed less than a week before the event, so it was difficult for the Drunk Mode team itself to drum up publicity for the event. Due to this obstacle, the attendance of the event was limited to mostly fraternity brothers and a small amount of non-fraternity members. In the future if a partnership option is explored, the agreement should be reached early enough that the team can publicize the event as well as the fraternity. With that being said, in the limited attendance of the event, the team was largely successful in publicizing Drunk Mode at the event.

Overall, the philanthropic partnership served as an effective method to grow Drunk Mode awareness, especially in Greek Life. Future partnerships with other fraternities can serve as an excellent way of publicizing the app to a university. On the whole, fraternities desire funding for their parties and Drunk Mode has the means to exchange cash for advertising rights at their events. Additionally, the idea intuitively works with the fraternity party concept. Such a partnership could frame the fraternity as promoting safe and healthy drinking.

FOCUS GROUPS DATA AND INTERPRETATIONS

We conducted four focus groups: two before the November 10th UX launch (with brand exposure) and two (without brand exposure) after the November 10th UX. The guidelines for the focus groups are listed in **Exhibit 1.** To recruit focus groups members, we offered free Drunk Mode "swag" and free pizza to UVA undergraduate students. We asked questions regarding the signup process, Breadcrumbs, Hotspots, and Dial-block as well as overall feedback regarding the app.

Focus Group Findings

Our team found that there was no difference between the group with brand exposure and without brand exposure and that exposing what the app was founded to do did not affect the participant's impressions of the app. Through conducting these focus groups, we acquired helpful information about the user interface from both groups of participants.

Data from pre-UX launch revealed:

The focus groups conducted before the November 10th UX launch with primarily iOS users revealed that sentiment about the idea behind the app was generally positive, yet users did have concerns about its practicality in terms of data usage and battery life on the user's device. Focus group members' primary concerns surrounded the app's continuous location services and the effect that would have on their battery during a real night out. Additionally, focus group members did have comments about the accuracy of the app's "HotSpots" tool-- voicing the concern that the tool only reported a male-to-female ratio of active Drunk Mode users in various party locations and thus would be only accurate to the number of UVA students who had the app downloaded. However, since the HotSpots Tool is based off network effect, we predicted that later versions of the application may show successful resolution of this problem as the number of downloads to the app increases, and without any change made to the feature itself.

Data from post-UX launch revealed:

Focus groups conducted post-UX Launch revealed some log-in bugs on the Android version of the new launch. Users reported having the app crash on Android, and being logged out of the application unexpectedly as they were attempting to register their personal information. Additionally, on Android, focus group members reported issues with the Drunk Dial Block tool, for which calls still were able to go through even after a number had been blocked and Drunk Mode turned on. Users in the second focus group did not try text with Dial Block. Further commentary from the second focus group offered suggestions that the next version of the application pull user data directly from Facebook or GMail during the sign-up process to streamline it for the user, rather than requiring that the user authorize the app on Facebook but then fill in their personal details manually. Members from the second focus group also suggested that some of the placement of the Drunk Mode features be rearranged to consolidate them in a more intuitive way. Android users reported not being able to locate the HotSpots tool in the application at all, as it was not located in the main "Mug" menu with all the other features like in iOS.

STATISTICAL ANALYSIS

Two datasets were provided by the Drunk Mode team: one with approximately 13,000 entries that contained only power users (users who have used the app for 25+ days) and a second set with approximately 119,000 entries of all users who have used Drunk Mode in the past two years. Additional help with the statistical analyses was enlisted from fourth year Echols scholar and statistics and math double major Benjamin Vaughan.

Differences were determined between information provided and usage groups

The majority of the analyses were calculated using the past two years dataset (which will be referred to as the 2YEARS dataset). The rationale behind this decision was twofold: 1) the dataset includes the power users dataset and 2) the dataset has far more entries leading to more accurate statistical analyses. In beginning the creation of the distribution curves of how many people provided Facebook/Twitter/email/phone, we first "binned" the users into "bins" depending on their duration of usage of the app. Users were "binned" into groups of either 60-120, 121-180, 181-365, or 366+ days of usage. Following the creation and assortment into these intervals, the number of times people provided the appropriate information field was averaged for each "bin." This then gave us the percentage of how many people provided their Facebook/Twitter/email/phone per "bin." Following this, 95% confidence intervals were calculated to determine whether or not there was a statistically significant difference in the percentage of how many people provided their information between the "bins." The graphs are viewable in **Exhibit 2**.

Our findings found that most people provided their emails when signing up to Drunk Mode, followed then in frequency by phone number, then Facebook, and lastly Twitter. Interpreting the bar graphs in **Exhibit 2** should occur by viewing the error bars and attempting to see if the top of another bar (which represents the sample mean percentage of people who provided their information) in the same chart falls within the error bar. If the top of a bar does not fall within the error bars of another bar then the two means are statistically significantly different. For example, in the Twitter graph in **Exhibit 2**, the 121-180 day group mean does not fall within the error bars of the 60-120 day group. This means that there is reason to believe that the percentage of people who provide their Twitter is different between the 60-120 day and 121-180 day groups.

A multiple-linear regression line was created to identify significant variables and possibly predict values

The point of multiple-linear regression is create a mathematical model that can predict values within the range of data provided. For example, a good model for predicting the weather would include temperature, humidity, day and month, and wind speeds among other things. Given that you know the value for these variables on a given day and that the model is a good one, you should be able to reasonably predict the weather for a given day. This same rationale was applied

to the 2YEAR dataset provided by Drunk Mode. An analysis was carried out using the Stata programming language.

Results of the regression can be seen in **Exhibit 3.** It is important to first note the adjusted-R^2 displayed in the upper right of the print out. The adjusted-R^2 is a metric used to determine how good the overall regression model is and therefore how appropriate it is to use the model to predict future values. In theory, the adjusted-R^2 represents the percentage of the variation in the data that is explained by the regression model. In other words, how close all the data points are to the regression line created. Therefore, an adjusted-R^2 can range from 0 to 1, with 1 being the ideal adjusted-R^2 that means that all of the variation in the data is explained by the model. This is of course, impossible in real life and with real life models an adjusted-R^2 of anywhere between 0.4 and 0.5 is enough to identify a dependable model. The adjusted-R^2 for our model was 0.0122 which means that only 1.22% of the overall variation in the data was explained by our model. Obviously, this is an incredibly low adjusted-R^2 and therefore we would highly not recommend this model be used to predict how long a user will use the app.

While the overall model may not be appropriate for prediction purposes, the individual variables of the model are all significant. Our model used the variables: number of friends (`trustedfriends`), whether or not they provided their Facebook (`facebookyes`), whether or not they provided their Twitter (`twitteryes`), whether or not they provided their Phone (`phoneyes`), whether or not they provided their Email (`emailyes`), and age (`age`). To determine whether or not a variable of the model is significant, look at the p-value of each variable, displayed in the `P>|t|` column in the bottom of the print out. If the p-value is less than our confidence level of 0.05 (or the 95% confidence level), then the variable is significant. Since the p-value for all variables with the exception of `emailyes` are approximated to be 0.000 and thus less than 0.05, we can say that the variables `trustedfriends, facebookyes, twitteryes, phoneyes,` and `age` are all significant. That means that they each influence the how long the user uses the app for. The p-value for `emailyes` was 0.178 which is greater than 0.05, denoting that it is not significant to the model. This may be because email was at one point a mandatory field for signing up to the app, thus confounding the effect of email on usage duration.

In addition to determining that `trustedfriends, facebookyes, phoneyes,twitteryes,` and `age` are significant to the model, we also provide an estimate of their exact effects on usage duration. Looking at the `Coef.` column of the print out in **Exhibit 3**, you can determine how they affect usage duration. For example, the coefficient provided for `trustedfriends` is 2.989709 which means that on average, an increase of one friend will lead to a user using the app for 2.989709 additional days. The coefficient values will most definitely change as more variables are added to the model, however these values offer an extremely rough estimate of their affect on user usage duration. An interesting observation to

note is that the coefficient for `twitteryes` -12.2689, a negative number which means that if a user provides their Twitter, on average they will use the app for 12.2689 less days.

NEXT STEPS AND CONCLUSIONS

The VCG team believes the campus rep program can be refined for future applications on grounds. Tabling was by far the most effective method of getting the word out, followed then by the philanthropic partnership. While Drunk Mode has expressed the effectiveness of sending "swag" to on-grounds organizations at other universities, the VCG team would suggest moving away from this approach at the University of Virginia. A shift in party culture driven by recent tragedies such as the Hannah Graham situation as well as the Rolling Stones article and subsequent ongoing litigation are still fresh on the minds of many students on grounds. Many organizations were hesitant to engage with an app that appeared to encourage partying.

As Drunk Mode becomes increasingly data driven, VCG would highly recommend future statistical projects with the client. Additional variables would lead to better predictive models and learning opportunities for both Drunk Mode and VCG members. Drunk Mode should focus on gathering additional data fields for both profit and analytical/internal functions.

Overall, our team feels that this semester working with Drunk Mode was both fruitful and enjoyable. The client was responsive, engaged, and responsible despite being very busy. The team was impressed with the client's willingness to engage with the group beyond just a consulting role: inviting us to the office, giving a seminar on growth hacking, and constantly visiting UVA in person. We hope to continue working with the company in the future.

EXHIBITS

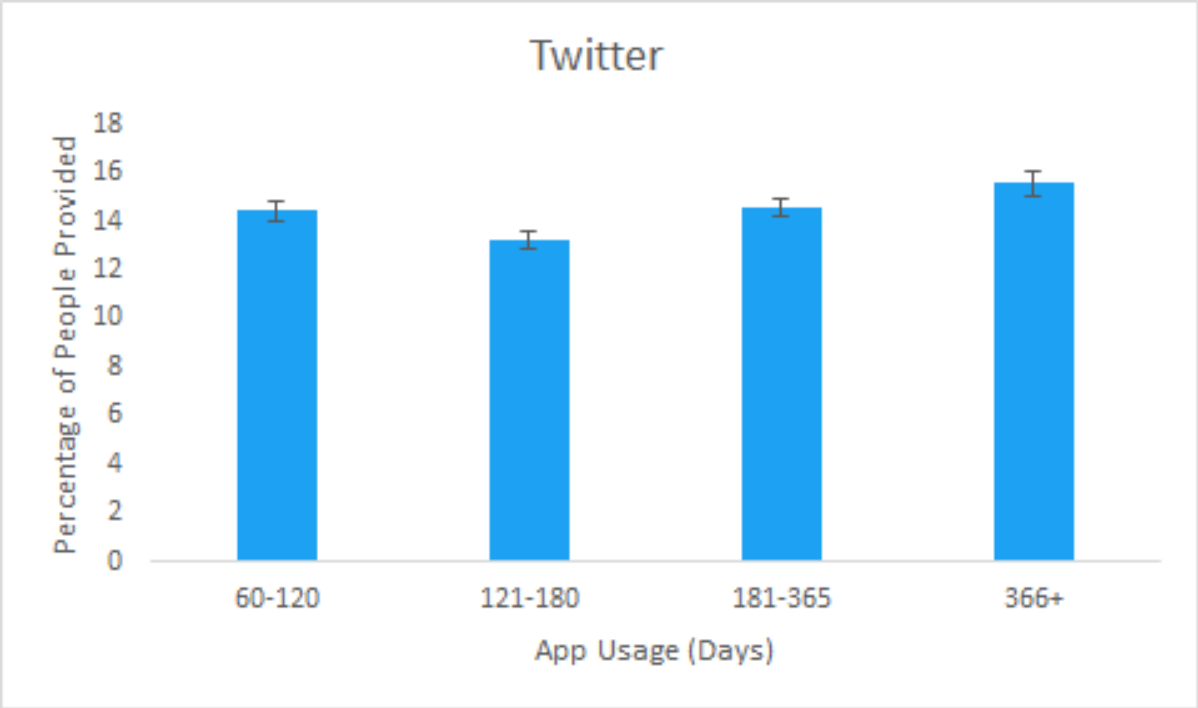
Exhibit 1: Focus Group Questions
What process did you use to sign-up?
What did you like about the sign-up process?
What did you not like about the sign-up process?
Do you have any further comments?

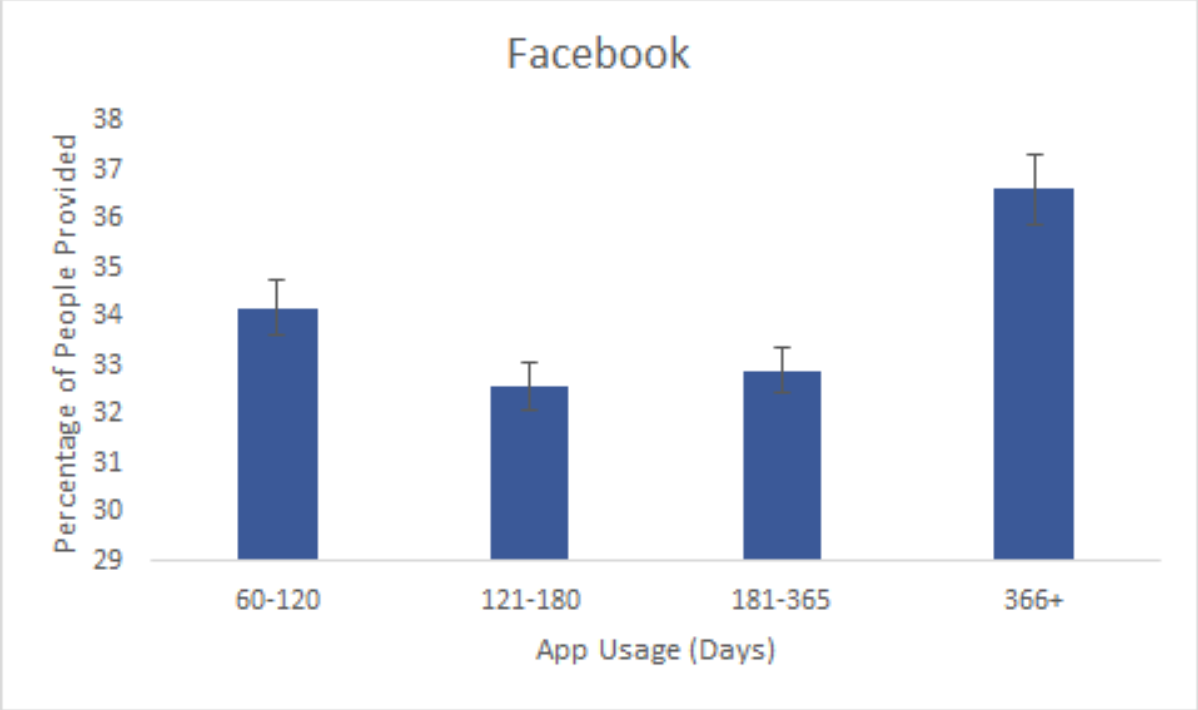
Breadcrumbs Tool:
What did you like about Breadcrumbs?
What did you not like about Breadcrumbs?
Do you have any further comments?

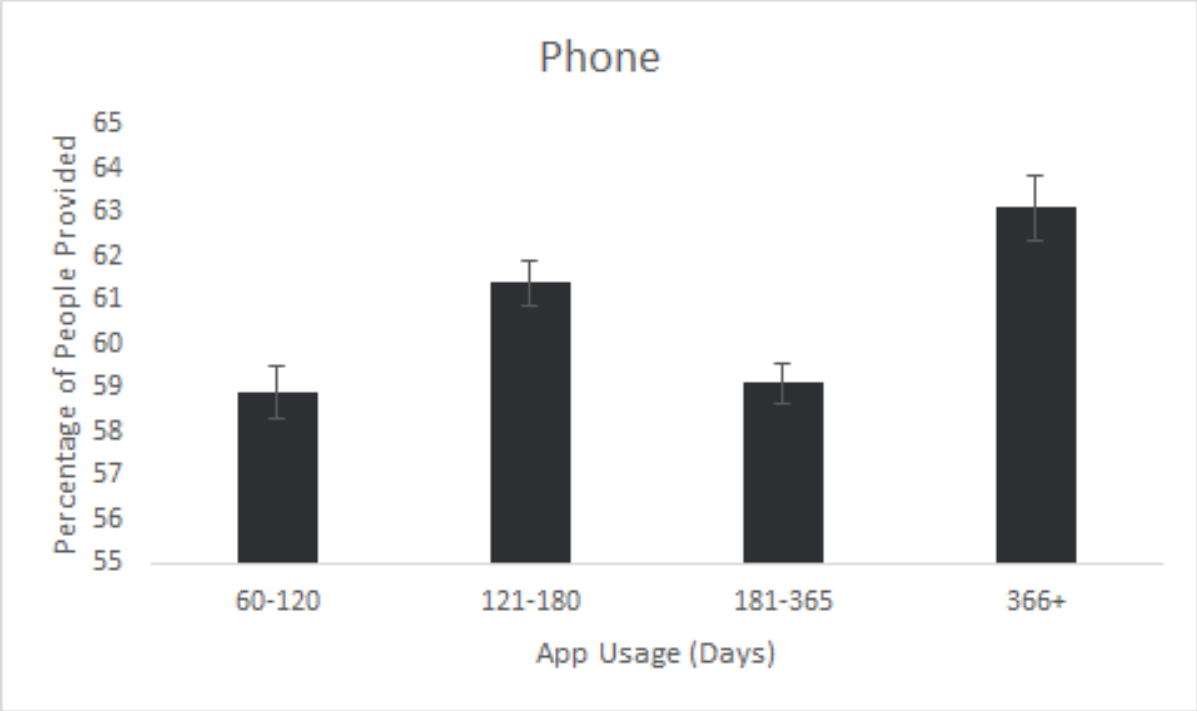
Drunk Dial Block Tool:
What did you like about Drunk Dial Block
What did you not like about Drunk Dial Block?
Do you have any further comments?

Hotspots Tool:
What did you like about Hotspots?
What did you not like about Hotspots?
Do you have any further comments?

Exhibit 2: Bar graphs of percentage information provided between usage groups






Phone
Percentage of People Provided
65
64
63
62
61
60
59
58
57
56
55
60-120
121-180
181-365
366+
App Usage (Days)

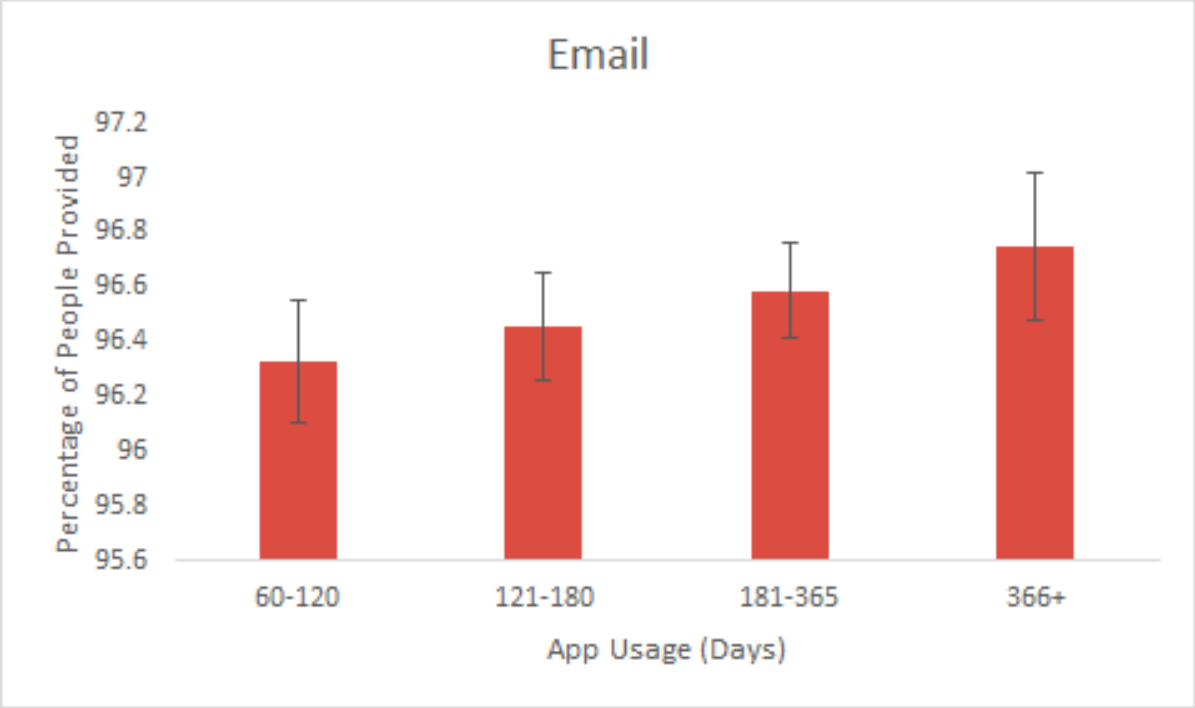

Email
Percentage of People Provided
97.2
97
96.8
96.6
96.4
96.2
96
95.8
95.6
60-120
121-180
181-365
366+
App Usage (Days)

Exhibit 3: Stata output of multilinear regression analysis

```
. regress timeonapp trustedfriends facebookyes twitteryes phonenumyes emailyes a
> ge
```

Source	SS	df	MS		
Model	6424299.48	6	1070716.58	Number of obs	= 28,174
				F(6, 28167)	= 58.82
Residual	512709774	28,167	18202.4985	Prob > F	= 0.0000
				R-squared	= 0.0124
				Adj R-squared	= 0.0122
Total	519134074	28,173	18426.6522	Root MSE	= 134.92

timeonapp	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
trustedfrie~s	2.989709	.2540668	11.77	0.000	2.491726	3.487692
facebookyes	6.568925	1.696165	3.87	0.000	3.244361	9.893489
twitteryes	-12.2689	1.928876	-6.36	0.000	-16.04959	-8.488213
phonenumyes	23.98287	1.948659	12.31	0.000	20.1634	27.80233
emailyes	20.77556	15.4269	1.35	0.178	-9.461893	51.01302
age	.2669757	.1019801	2.62	0.009	.0670899	.4668615
_cons	196.5251	15.65631	12.55	0.000	165.838	227.2122