Midterm Report: On Selecting a New iPhone by Apple and Android Users

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***Abstract*—This paper focuses on the difference between Apple and Android smartphone users. We try to understand the mindset of both userbases by asking them about their preferences in a survey and observing them when looking at the newest generation of iPhones. Additionally, we try to correlate obtained data with the knowledge of Apple events and test our hypothesis: we believe the transition of Apple events from offline to online format greatly improved awareness of new Apple products and their features.**

I. Introduction

A. Domain and background

Apple announces a new generation of its flagship device, the iPhone, annually. The schedule is well known among a broad spectrum of audiences, from end customers to shareholders. In September, Apple introduced a new generation in the so-called Apple Event that had to be pre-recorded without an audience because of the covid-19 spread. However, this new format gave creative freedom to Event's directors, delivering an eye-catching hour-long show showcasing new iPhone features to millions of people worldwide. We believe significant advancements in the camera system, battery life, and the new look introduced last year may attract both long-lasting Apple customers owning old, now almost deprecated products like iPhone SE 2016 and new potential users from the Android ecosystem. We want to focus on the differences between these two user groups.

B. Motivation

We believe there is a significant split between Apple and Android user base. Each user base is usually not willing to leave its ecosystem because of various reasons. Apple users value a profoundly integrated ecosystem, stability, support, quality, and ease of use. Android users value freedom, hackability, a broad range of products, and their price. We, therefore, believe both user bases select their new device based on different metrics. We want to focus on both groups and compare their shopping behavior when selecting the recent iPhone products.

C. Problem statement

We believe Apple Event has a significant influence on the shopping behavior of its viewers. We also believe Apple users focus on the showcased features more than Android users. We also believe Apple users owning older devices are more interested in features not introduced in the latest generation, whereas Apple users of last year's iPhones will focus solely on the new generation features. We also believe Android users are not aware of recent changes and have not seen the recent Apple Event, and as such, will focus more on the software side of the iPhone products than current Apple users. In our research, we want to prove our hypotheses, describe the shopping behavior of different user bases, and analyze the influence of Apple Event feature advertisements on both Apple and Android users. As such, we want to answer following research questions:

What do Apple users focus on when inspecting the newest iPhone? What do Android users focus on when inspecting the newest iPhone? How does a previous knowledge of Apple advertised iPhone features obtained from the Apple Event influence the user's interest in the device? How much are Android users willing to enter the Apple ecosystem? How much are Apple users willing to leave the Apple ecosystem?

D. Studies on user experience or preference

Bjelland et al. [1] measure and quantify how consumers' smartphone choices relate to their peers' smartphone choices. The study shows that the core social network is more extensive for iPhone users than for Android and Apple users have more friends than android users, which might be the reason for the solid social effects on the adoption of iPhones. Chien et al. [2] develop a user model for OS design based on UX for assisting designers in identifying the relationship between user perception and UX. The results of validation conducted on different tablet OSs, Apple and Android, are also included in the study. Jain et al. [3] identify various factors that influence purchase decisions and carry out the challenges faced by the marketer for reaching its target audience and the challenges faced by the customer while judging the brand during purchase.

E. Studies on marketing strategy

Johnson et al. [4] indicate that Apple has a successful marketing strategy, like understanding what will get people excited about its products and showing that they care about their consumers' lifestyles instead of talking about product features or technology. Since smartphones are expanding on international markets, Tien [5] researches what factors can bring success to global marketing strategy and what the distribution policies are the essential keys to help businesses stand firm in the market. The study also compares the results of Apple with Samsung's.

II. Methods

A. Selected research methods

We performed observation sessions for the first stage and a survey for the second stage. In the first stage, we can observe the first reactions of the participants while they operate the recent generation of iPhones 13 and record what features catch their eye. The observation was done in Apple store. We believe observation is the most objective research method for this purpose. After that, we analyzed our findings and developed the issues or questions we want to explore further, which can be researched in our second stage, the survey. In this stage, we also asked Apple Event-related questions to discover the influence of Apple advertising campaigns further. A survey allowed us to obtain a reasonably meaningful sample of user responses.

In the observation stage, we inspected selected participants trying the recent generation of Apple iPhones. Each participant was led to the Apple store. We gave them enough time to explore devices to their liking. We mainly focused on features they are exploring, time spent exploring them, and emotions. Based on the data obtained from this stage, we were able

to tweak survey questions. In the survey stage, we asked questions closely related to new iPhone features.

B. Data analysis

We took notes while observing our participants in the store. At first, we took notes of each participant's time spent discovering a specific feature, but we decided to drop this information when analyzing obtained data as we believe the time is redundant for our study. However, we mentioned when participants spent both exceptionally short or long time periods on a single feature. Instead of time, we focused on verbal speech and emotions as all participants started talking independently, describing what they do and what they like. We used this data to specify further the questions used in our survey.

Paragraph about the survey stage will follow.

C. Target participants

For our research, we recruited participants with the following criteria:

1) Inclusion criteria:

- Continuously used Apple or Android for 2+ years
- Have knowledge of the latest features of smartphones (does not have to be features of the recent generation)

As we have a relatively limited number of observation participants, we do not want our research to be biased by their lack of knowledge of either Apple or Android products. We need participants who are aware of recent advancements in smartphones.

2) Exclusion criteria:

- Do not use smartphones
- Use other ecosystems like Windows phone
- Use both Apple and Android in the same time

As we try to be as objective as possible in our findings, we refused participants who use other smartphone operating systems or both Apple and Android together. We want to focus solely on the difference between Apple and Android userbase. We believe a user of both systems would still prefer one of the systems and, in the end, would still be considered as a biased version of Apple or Android user.

For the first stage, observation, we recruited our friends in Montreal. They had to fit the selection criteria. For the second stage, survey, we also recruited our friends in our home countries since we used online survey tool, Google Form, which is easier to deploy at scale than other research methods.

III. Findings

A. Observation

For our first stage of research, we observed 3 participants in Apple Store. We were able to find the perfect sample of people: one of the participants uses a recent Android smartphone from Nokia, the other one uses the recent iPhone 12, and the last one uses now almost five years old iPhone 7. We gave them enough time to discover recent Apple products and took notes when they approached the recent generation of iPhones. All participants matched our criteria perfectly.

The Android user inspected every model of the newest iPhones but took in his hand only the iPhone 13. He was displeased with the shape and look of the iPhone. He pointed out that elevated camera lenses could get scratched easily and that the notch on top of the screen is nothing new and was first introduced a few years back by an Android smartphone. He said the iPhone is tricky to hold and that he prefers rounded shapes. Overall, the hardware seemed to cause mainly negative emotions. Then the participant spent much time browsing the operating system. He was surprised by the look and feel of various applications he randomly selected from the home screen. He had some issues controlling the iPhone, and he had to ask how to change brightness. Throughout his testing of the device, he did not point out any new software feature introduced in the recent updates of the operating system. However, he spent some time exploring the Camera app and taking photos, stumbling upon the new Cinema mode introduced for recordings. He was pleased with the performance in some available 3D games but said he could get a better smartphone for that for a smaller price. He pointed out that he does not understand why people praise the Apple ecosystem as the operating system is similar to Android.

The iPhone 12 user did not explore older Apple products and focused solely on the new MacBook Air, iPad mini, and the recent iPhones. He inspected and had in his hand every single model, starting with iPhone 13, then mini, Pro, and Pro Max. He appreciated the smaller notch from the previous generation and said the change in the layout of the camera system is interesting. He pointed out the improved battery life when observing the description of the iPhone next to it. The only application he opened on iPhone 13 was the Camera, where he tried the new Cinematic mode recording. He also tried the non-destructive post-processing of said video. After that, he inspected the new red color of the iPhone 13 mini, which he said he would never buy but looks nice. He appreciated the metallic finish on the sides of the iPhone 13 Pro, with which he spent the least amount of time. Then he looked at the iPhone 13 Pro Max, which he said was too big. However, he spent most of the time with this model. He mentioned the adaptive frequency change when scrolling through the Safari web browser. He also said he likes the new Focus feature introduced in the latest iPhone operating system. Then he played with widgets on the home screen, probably because of the increased screen size of Pro max.

The iPhone 7 user was pleased with the look of the recent iPhone generation. He was particularly interested in the iPhone 13 mini. He said it has a perfect size and is the best iPhone he has seen so far. He pointed out he is glad the new mini has improved battery life because the iPhone 12 mini had some bad reviews. He inspected the blue version and said the color is beautiful but prefers his black iPhone 7 color. He

then took some photos and pointed out the camera system on iPhone 13 is superior to his iPhone 7. He was surprised by the advancement Apple was able to make in a few years with the cameras. Then he took the iPhone 13 Pro and showed us the new Macro photo feature. He played with the augmented reality feature, using applications like Maps or Measure. He was interested in the metallic finish on the side of the iPhone Pro models but said he would not want to have it on his iPhone. From all the participants, this one seemed to be thinking about actually buying the new iPhone.

B. Survey

To quantify the findings from the observation study, we developed a Google Form survey to collect data. We sent our survey to our friends by direct message and promoted it on our social media, and we received 36 valid answers. They were all 20 to 25 years old university students or new graduates. Among the participants, 22 were males and 14 were females. 25 of them used Apple and 11 used Android.

The first question is a Likert scale asking about *"From 1 to 5, how much do you like your current ecosystem?"* According to the result, we found that Apple users (4.25) tended to appreciate their ecosystem more than Android users (3.5).

Since most people nowadays rely on their mobile phones intensely, we believed that it would take some time to get used to other mobile ecosystems. So, we would like to know whether the participants want to change their ecosystem and the essential reasons of doing so. Around 27% of the Android users would like to try Apple ecosystem, and their primary reasons were UI/UX ease of use (45.5%), better appearance (27.3%), more integrated ecosystem (18.2%), and other reasons (9.1%). Interestingly enough, one of the participants said he would like to support Apple in developing the new M1 CPUs. On the other hand, only 16% of the Apple user participants would like to change their ecosystem. They were appealed by Android's price (40%), hardware (36%), and hackability (12%). Also, 12% of them answered other reasons. One of them was issue regarding the connection problems with Windows personal computers.

Apple Inc. introduces its new products or OS versions during the annual Apple Event and Apple Worldwide Developers Conference (WWDC) respectively. It was considered one of the most important events to promote Apple products. Therefore, we asked several questions related to the event at the end of our survey. Although only 22.2% of the participants watched the event this year (2021), around 30% of other participants read some articles regarding the event or watched videos of YouTube content creators. In the recent Apple Event, Apple introduced the new iPhone 13, so we asked the participants *"Which iPhone 13 new feature do you like the most?"* Most of the answers were related to the new camera (27.8%), the new color (25%), and the better battery (19.4%). However, only 4 participants (11.1%) would buy the new iPhone 13 after watching the event.

IV. Discussion

Our research showed and confirmed that the selected population praises Apple for its well-integrated, polished, easy-to-use, and stable ecosystem. At the same time, the Android userbase prefers their ecosystem for the price of these devices, hardware performance advantage, hackability, and generally broader selection of products and Android flavors. However, both Apple user participants from the observation stage did not care about the hardware, except for the more extended battery, camera, and unrelated M1 CPUs. This could benefit Apple by delivering both software and hardware, which results in a balanced and integrated system. Then again, both participants evidently knew about the Apple Event, so they knew what to focus on. Our Android participant was visibly displeased with the Apple products and criticized many things. It would be interesting to see the results of Google Pixels' observation if Apple users behave the same way. The significant limitation of our survey was gathering data from our friends, as the majority of them use the Apple ecosystem. As we cannot formally back this by introducing the background of our participant target group due to ethical reasons, we will not offer any more details on this. However, we believe we did not select an entirely objective group for both our surveys, as we believe Android phones are used by a generally more technically educated audience that does not use social media as much as Apple users do and focus more on platforms such as Discord, Slack, or Facebook-free messenger apps, where our survey was not promoted. This, again, could be a potential future direction for other research. As for our central Apple Event hypothesis, we cannot say we correlated obtained data to show Apple Event has a significant influence on people's decisions, as there were no clear signs that would show us otherwise. We are surprised that such a high number of our participants know about Apple Event, but the majority of them still find information from other sources. For this reason, we cannot say we were successful in proving our hypothesis.

References

[1] Bjelland, Johannes & Canright, Geoffrey & Engø-Monsen, Kenth & Sundsøy, Pål & Ling, Rich. (2012). "A Social Network Study of the Apple vs. Android Smartphone Battle." 983-987. 10.1109/ASONAM.2012.243.

[2] Chen-Fu Chien, Kuo-Yi Lin, Annie Pei-I Yu, "User-experience of tablet operating system: An experimental investigation of Windows 8, iOS 6, and Android 4.2," Computers & Industrial Engineering, Volume 73, 2014, Pages 75-84.

[3] VINAMRA JAIN, ASHOK SHARMA, "THE CONSUMER'S PREFERRED OPERATING SYSTEM: ANDROID OR iOS," International Journal of Business Management & Research (IJBMR) ISSN 2249-6920 Vol. 3, Issue 4, Oct 2013, 29-40.

[4] Johnson, Katherine, et al. "The Innovative Success that is Apple, Inc." (2012).

[5] Tien, Nguyen Hoang. "International distribution policy comparative analysis between samsung and apple." International journal of research in marketing management and sales 2020, no. 1 (2019)

TABLE I
WORK DISTRIBUTION DIAGRAM. J - JAKUB, C - CHUN-AN, B - BOTH

		Oct 2021			Nov 2021				Dec 2021	
WBS	Task	W3	W4	W5	W1	W2	W3	W4	W1	W2
1	Preparation									
1.1	Idea generation	J								
1.2	Literature review	C								
1.3	Proposal report		B							
1.4	Project revision		B	B						
2	Stage 1 - Observation									
2.1	Method design			J						
2.2	Recruitment			C						
2.3	Observations				B					
2.4	Analysis				B	B				
3	Midterm Report				B					
4	Stage 2 - Survey									
4.1	Question design					C				
4.2	Surveys						B	B		
4.3	Analysis							B		
5	Final report								B	B