

WHY GOOGLE GLASSES FAILED?

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Abstract

In this research paper we are basically trying to find out why Google Glasses failed as a product in the market. Google Glasses was launched back in 2012 as a product that created a lot of buzz in the market as “Wearable Smart Glasses”. But it never managed to effectively capitalise on the hype that surrounded the product and failed in capturing the market share and did not turn out as a money-making product. On the contrary, Google lost \$895 million and incurred heavy losses and ultimately had to give up on the product. It failed to captivate the imagination of the people and people were not really interested in the product.

When we dig deeper into the problem, we found several loopholes and flaws in the product, and in the basic business idea on the fundamental level. First of all, the designers of the idea and the product lacked the clarity as to whether the glasses would be considered as a fashionable device or just stand out as a utilitarian product. The problem was also with the price of the product, as this was so expensive that only the rich could afford and hence inaccessible to the masses and a limited target market. The people were also concerned with the privacy aspect as the current generation is quite conscious about their data being recorded and people did not really like this aspect of Google Glasses. People were even concerned with the safety of this product.

People were not really great fans of the design of the glasses and generally regarded the product as uncool. Moreover, the grim problem of low battery life on the glasses was another major flaw. Nobody likes it, if they have to charge their product every now and then, it really drops the satisfaction level, and this happened with Google Glasses as well. The design of the glasses was unappealing and the glasses regularly faced heating and language issues.

So overall these were the factors we found out that contributed in the product ending up as a huge failure in the market, despite the fact that it had a huge brand value as the likes of Google backing it up.

Key Words – Google Glasses, Product, Privacy, Safety, Battery life, Design, Market

Literature Review

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Research Objective

- I. To know the reasons behind the failure of Google glass.
- II. To know the reason behind the higher cost of Google glass.
- III. To know the factors behind Google Glasses failing to capture the market.
- IV. To know the issues which were coming, when Google glasses were used.

Research Question

1. What were the main barriers for Google glass' adoption?
2. What was the factor that lead to increase in the price?
3. How google glass was harmful to the user?
4. Why did it fail to make an impact on the market in terms of capturing the market share?
5. Why did this creative product fail?

Research Methodology

This research on “Why Google glasses failed” is based on secondary data. And the data is collected from different sources. The Literature review from the various sources have been quite helpful. All the data used in the research paper is descriptive, historical and theoretical in nature.

Secondary data was used as a method of data collection, organization's data and statistics related to sales were used. The statistics and Qualitative data is also taken from several eshopping websites and through surveys and questionnaires. We also got some of the data through customer feedback available on e-shopping websites.

Data collection

Data will be collected from many sources, Online databases, Industry report, academic journals. We used secondary data. The data which we collected will be analysed using statistical methods and machine learning algorithms to identify insights related to google glass.

INTRODUCTION

BACKGROUND:

In 2013, Google unveiled Google Glass, an ambitious and cutting-edge wearable technology with the goal of revolutionising how people interact with digital information and their surroundings. Google Glass was created as a set of smart glasses with the goal of giving users hands-free access to a variety of capabilities, such as messaging, photography, and navigation, through a small display placed above the user's eye.

OBJECTIVES:

This study paper's main goal is to examine and comprehend the elements that contributed to Google Glass's commercial failure. We may learn a lot about the intricacies involved in the adoption and success of disruptive technologies by looking at Google Glass's technological constraints, privacy issues, social acceptance issues, and marketing roadblocks.

RESEARCH QUESTIONS:

This study report aims to provide crucial responses to the following questions in order to fulfil our objectives:

- A) What technological restrictions did Google Glass have that prevented widespread consumer adoption and acceptance?
- b) How did privacy worries about Google Glass affect its demise?
- c) What issues with public perception and social acceptance did Google Glass face? Google Glass, including negative connotations,
- D) What marketing obstacles, such as determining the target market, articulating the value proposition, and addressing pricing issues, did Google Glass face?
- e) What lessons may be drawn from the failure of Google Glass, and how can they guide the field of wearable technology's future advancements?
- f) In light of the failure of Google Glass, what are the probable future directions and prospects for wearable technology?

We intend to present a thorough examination of the failure of Google Glass by addressing these research topics, illuminating the complex interactions between technology advancement, societal acceptance, privacy concerns, and marketing tactics.

A major setback for the wearable technology industry was Google Glass's commercial failure. Although Google Glass generated a lot of enthusiasm and hype during its first introduction and early demonstrations, it was ultimately cancelled as a consumer product in 2015. A cautionary tale for technological innovation, the failure of Google Glass emphasises the significance of comprehending customer wants, addressing privacy concerns, and negotiating societal acceptability problems.

This study will look at the technological constraints, privacy issues, barriers to societal acceptance, and marketing difficulties that led to the failure of Google Glass. By scrutinising these crucial elements, we want to draw insightful conclusions that will guide wearable technology advancements in the future and pave the way for more fruitful and user-centered innovation.

Linked to the limited app ecosystem, user interface and experience, and display and battery life. The privacy issues with Google Glass will next be covered, taking into account the implications of the recording capabilities, social and ethical issues, and the general impression of privacy. The challenge of social acceptance for Google Glass, including issues of social stigma, fashionability, and use in public settings, will be further explored in this study. We'll also look at the marketing difficulties that led to its demise, like identifying the target market, articulating the value offer, and dealing with pricing issues. The purpose of this research study is to offer insights and lessons gained for the wearable technology sector through a thorough investigation of the failure of Google Glass. Understanding the difficulties this cutting-edge technology faces will help us progress future wearable technology breakthroughs and stimulate innovation that is in line with user needs, social expectations, and market realities.

Analysis and Results

In the case of Glass, Google acts as the network builder in the assembly of Glass, including both the technological and technical human contacts. In ANT, society and technology are dual in that they shape and influence one another. Verbeek also makes this argument through his theory of technological mediation, contending that Glass mediates privacy in and of itself. In the part that follows, media from the period of Glass's release will be examined to see how Glass' connections to these bad guys contributed to the network's overall destabilisation. Moving forward in time, the first article examined is from February 2013, which was nearly two months before the introduction of the Glass explorer version. For an early test of the gadget, a reporter from The Verge met with Google Glass lead designers. The author of the piece is quite positive about Google Glass, as would be anticipated of a tech magazine writer, citing the immense potential and worth. He gives the device high marks for its style, appearance, usability, and wearability but also provides an early indicator of what would happen to Glass: "At one point during my time with Glass, we all went out to navigate to a local Starbucks — the video team I'd brought with me came along. But as soon as we entered, the Starbucks staff instructed us to stop recording. Yes, no issue. However, I continued to use the Glass' video recorder throughout placing my order and obtaining my coffee. Yes, when the gadget is recording, you can see a light in the prism, but I had the sensation that most people didn't know what they were looking at. The cashier appeared to be about to ask me what I was donning on my face, but she never did. Without a doubt, he never requested that I cease recording. 2013 (Topolsky) The author, in his own words, "The privacy issue is going to be a big hurdle for Google with Glass," is well aware of the problems that Google Glass would face. When he discussed this with the Glass designers he met with (product director Steve Lee and lead industrial designer Isabelle Olsson), they were interested. They thought that the Explorer programme was their means of creating a Glass etiquette. Google would monitor how the programme was used and abused, and feedback would advance the product. "That's not going to answer questions about what's right and wrong to do with a camera that doesn't need to be held up to take a picture, and often won't even be noticed by its owner's subjects," the author continues. Will people grow accustomed to that? Are they required to? 2013 (Topolsky) According to ANT, privacy is a socio-technical actor present in their network rather than merely a concept. Google must also take into account how the ability to record the world with Glass affects others' ideas of privacy. However, the Explorer programme currently exhibits a sort of disinterest. Google admits that by using the Explorer programme to educate people about Glass etiquette, they may expand their network. However, without actively participating in the design of a project that promotes social harmony, their network is unstable. As the author noted, their technology is unable to address concerns over what users will do with cameras and whether it is acceptable. The most notable example of Google's technological optimism—or perhaps naivete—can be found in a significant item from the New York Times from the Google Glass launch. The "Google Glass Picks Up Early Signal: Keep Out" article describes the unfavourable feedback Google Glass was receiving from numerous locations across the nation and contrasts it with Google's reputation for being careless with privacy. According to a 2009 comment from Eric Schmidt, the former CEO of Google, "Maybe you shouldn't be doing it in the first place if you have something that you don't want anyone to know" (Streitfield, 2013). It is evident that this policy infuses every aspect of their use of Glass, which has the capacity to record everything everywhere and hence potentially immortalise the public domain. According to a contributing legal expert, "We are all going to be both the paparazzi's target and the paparazzi themselves" (Streitfield, 2013). Additionally, according to the publication, one software made photographing with glass as covert as simply winking (Streitfield, 2013). Although it is unknown if Google would have permitted a feature like this in their final release, the Explorer programme was crucial for gradually gaining public approval. To many, this makes Glass even more obtrusive.

into the Glass community. Naturally, they were unable to do so. A Seattle pub that forbade Glass is mentioned in the New York Times article as well. Glass reportedly upset the shady and secretive atmosphere of the establishment, according to the bar's owner, who stated to Geekwire that "people want to go there and be not known... and definitely don't want to be secretly filmed or videotaped and immediately put on the Internet" (Bishop, 2013). Additionally, he mentions that "tech geeks" from Amazon frequent the establishment, and he doesn't want people to use Glass there.

Another recurring subject in these reactionary essays is the "tech geek backlash". In the words of one author, "Google's core mistake was allowing geeky developers to become the face of Glass" (Constine, 2017). Due to the unexpected Us vs. the "Glassholes" dynamic, it was difficult for Google to recruit a more privacy-conscious group. When building a socially robust network, it is important to take into account the owners of the Five Point, the geeky big tech personnel, and its varied patrons. The associations that surround actors in a network are completely arbitrary and situational. While Google employees may favourably view how Glass affects social dynamics, this is not necessarily the case in all of society. While Google may only look inside at its own rules, the heterogeneous engineer of ANT undertakes engineering outside the lab establishing a network that is socially durable. In their 2009 study, Kudina and Verbeek used technological mediation to delve more into Google's approach to Glass and human behaviour. Google relied on the wisdom of its users and issued a list of Glass-related dos and don'ts before sitting back and watching. On this list of dos and don'ts for the Glass explorer phase, the author next goes to evaluating Glass's mediation of privacy and social engagement via YouTube comments. One result is that "the privacy of forgetting [is] at stake with Glass," according to online commentators, and that "Glass appears as a mediating boundary object between what commenters consider private even in the most public places and what is violated when the device is introduced." Google designs the mediations under the heading of technological mediation, and possibly in order for Glass to be successful, they had to be aware of the real interactions and perceptions that were being planned. This fits neatly with actor network theory (ANT), according to which designers are in charge of selecting the participants in a sociotechnical network who are both human and nonhuman. The architects of society are the designers, and Google was unable to develop a network that is both socially and technically robust. A few years later, SnapChat developed the eyeglasses, smart eyewear with built-in cameras that users could use to record videos and upload to SnapChat. According to TechCrunch, Google Glass polluted the market with its "not sure if you're recording me" design, and this network also failed without resolving the social issues. People would still ask you if you were filming even after Snap added more evident recording signal LEDs to the Spectacles. That not only made people uncomfortable while you were wearing Spectacles, but it also made you feel a little creepy" (Constine, 2017). This is not to imply that augmented reality has no future. In the guise of Glass Enterprise, Google Glass is still in use. Google repackaged the technology to sell to firms in the manufacturing and healthcare industries. The context is very different in this area, and the expectation of privacy is mentioned. by Verbeek is not of the same standard. Since privacy is determined by human and technology relationships, it can be viewed as an actor-network in the context of ANT. Because of this, it is also influenced by the contextuality found in ANT and has a different meaning at work. Perhaps there is already some expectation that employees will be watched over at work, particularly in factory environments. Computer surveillance software, security cameras, and manufacturing sensors already track people's behaviour in ways that are inappropriate in private spaces. This exemplifies the notion of varied meanings of players in various networks from an ANT perspective. Google is able to attract businesses and individuals to its enterprise network as a result, where associations with privacy have different connotations. In a strict sense, the technology that allowed these items to exist was never the issue; rather, Glass, people, and privacy have different connotations in a professional context than they do in the open environment. Although society may have initially viewed Glass as inappropriate, the technological landscape that penetrates our daily lives has the potential to alter human perceptions. Since the debut of Glass in 2013, a lot has changed. According to the privacy paradox, people may value their privacy yet are willing to trade it for technology's advantages (Eveleth, 2018). Technology has changed our perceptions of what is good and wrong, making what was formerly forbidden possibly acceptable. This is demonstrated by the Google Glass-specific Reddit group, which is still active. Users on this forum are still creating software for Glass, with the top poster writing about installing an Android-based version of Glass through hacking. There are numerous threads exploring alternative smart glasses and purchasing and selling the technology. Instructions for loading custom programmes, such as Netflix, which is highly-liked by users on the subreddit, as well as firmware updates for Glass are discussed in the community. Additionally, there are discussions, links, and postings on the forum on troubleshooting posts, manuals, blogs, and external software repositories. These users have embraced Glass and assumed the role of designers in an enthusiast community, in stark contrast to the YouTube comments Verbeek examined. In general, people agree that the original Google Glass was "ahead of its time" and express hope for further

Google Glass products. Although the subjects of the interviews varied in terms of their own privacy beliefs, so far no subject has stated that Glass or a gadget of a similar nature should be outlawed. What's more, there was general agreement that a product like Glass might or might not exist in the future. According to a marketing guru hired by Apple, "if Apple released their version of Google Glass in two years, it would be everywhere." Even after hearing the experts' concerns outlined, some people, particularly young ones, saw absolutely no issue with the technology. The defence was that governments and technology have already made privacy so vulnerable. Nearly all interviewees thought there wouldn't be a problem if a product similar to this was released in the future and was a commercial success. These interviewers, like the Reddit users, are a far cry from the general privacy concern in 2013. One cannot say with certainty if Google Glass could rescue the lives of Reddit users or interviewees from observation or observation good luck today. These illustrations, however, demonstrate that the significance of actor networks can also be inferred from time-dependent context. Glass is neither morally good nor bad by nature. Instead, as society evolves over time and under the impact of technology, so do their expectations for privacy and their morals on the matter. This symmetry of humans influencing technology and technology influencing humans is known as actor network theory. While Google initially failed to recognise the role that these human elements played in their network, it's possible that privacy, as its own actor network, may develop in such a way that Glass can survive as a socially resilient network in the near future.

Conclusion

Google Glass is an actor-network that disintegrated due to the associations and context that these human and nonhuman players take on when translating the network, not because of its technology or any one actor. Since it was assumed that anyone may be recorded at any time by the glasses' camera, Glass has always represented a form of ubiquitous and hidden recording in public spaces. Human perception is mediated by technology, and in this instance, Glass gives new meaning to what is regarded as private. This is an example of how human and non-human artefacts interact when viewed through the lens of an actor network; without these considerations, the network would have failed. Instead than creating a product that was both social and technical. Google maintained its casual attitude towards privacy despite social and technological pressure, without taking into account possible reactions from the public to the digitalization of the world's eyesight. At the time, Google personnel and glass users were upbeat about the product's future and thought it would eventually become socially acceptable. This effectively conveys the notion of association and context-based meaning in ANT. Glass may have been well-liked in Silicon Valley, but it was not well-liked by the general public. Similar to previous augmented reality headsets, Google's product has been successful in manufacturing, healthcare, and logistical environments while being unable to be made available to the general public. Once more, the Google Glass Enterprise actor-network gives new meaning to privacy and people's expectations. Since Google Glass was first made available, a lot has changed. Nowadays, it is expected that customers will exchange their personal data for free services. This is how technology has mediated our individual views on privacy. So it's likely that a product like Glass will make a comeback this year or in the future, just as it has in the manufacturing industry. For instance, some Reddit users have used Google Glass in their daily lives by updating and disseminating new software for the eyewear. According to the consensus on these forums, Glass was ahead of its time, and potential customers who were questioned all agreed that a device like this might be successful. Once more, it is obvious that the context of associations inside the network from an ANT perspective. rather than its component pieces individually, and they are all dynamic throughout time. If a product like Glass were to become widely popular, it wouldn't be the technology alone that would produce a stable network; rather, it would be the combination of the technology, human users, and the social norms of the present or the future. There has been a lot written about Google Glass as a high-profile product failure, but little of it offers an STS perspective and instead looks at society as it was at the time of Glass' debut. The goal of this work is

to demonstrate how ANT tools can be used to highlight how associations vary with context, particularly time, as well as to analyse the development (and failure) of a technology. These factors are crucial for comprehending both the deployment of emerging technology and the ephemeral character of social norms.

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