Analysis of The Problem of Low Sales of Insta360 Panoramic Cameras

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Abstract. The Insta 360 panoramic camera simulates a two-dimensional floor plan into real three-dimensional space. Panoramic landscapes diversify the way an image is viewed, and at the same time, add interest. In addition to good interactive performance, the sense of realism is also very strong. Most importantly, objects can be seen in perspective, also known as naked-eye 3D. The purpose of this study was to explore why Insta 360's product is new and unique, and why sales are so low that the company has faced two innovation failures. After further analyzing its technical conditions, market atmosphere, and application scenarios, this paper improved product performance and development direction. This study concluded that only the novelty of the product is considered, ignoring immature technologies and markets and limited application scenarios. These led to low sales of the product in the first two times. Therefore, the panoramic camera is an emerging product, and it is necessary to determine the target user. Then, discuss the development model suitable for the Insta 360 panoramic camera under the above conditions.

Keywords: Panoramic camera; Technical conditions; Market atmosphere; Application scenarios.

1. Introduction

1.1 Research Background

As a company with panoramic cameras as its main business, Insta 360 did not get much attention at the beginning of the company's establishment in 2015, and its person in charge also faced two previous entrepreneurial failures. Panoramic cameras were facing low sales at the time, and the company was faced with the need to find a new development model.

Focusing on the innovator's dilemma, Clayton M. Christensen examines why innovative technologies cause great companies to fail [1]. It's not just small businesses that fail when companies face certain types of market and technological changes [1]. Great companies fail too [1]. There are many reasons for failure, such as a long-standing monopoly model, bad decisions, or bad luck [1]. Second, Praseedha and Masoud have studied 360-degree panoramic photogrammetry and lasers for their research on scanning techniques to create point cloud data [2]. 2D presents images, and the study compared 2D to 360 panoramic photography [2]. Preliminary findings suggest that 360 panoramic photography is more comprehensive and less expensive [2]. Third, Cui and Shen studied the global average motion of a multi-camera with 360 panoramic cameras as research [3]. A multi-camera system is a combination of a panoramic camera and an action camera [3]. In this system, scene reconstruction is realized by using motion structure technology [3].

1.2 Research Gap

The problem with Insta 360 is that the panoramic camera has limited application scenarios, and there is no direct usage scenario for ordinary consumers. Another aspect is the lack of promotion. Clayton M. Christensen studies this problem in the book [1]. Sears Merchandise Group failed because it ignored the rise of discount retailers and home centers [1]. Therefore, the low-cost branded hard-goods marketing model ends up stripping away the core franchise [1]. Insta 360 can learn from it, and it can't ignore popular preferences [1]. There is no doubt that the continuous satisfaction of public preferences and repeated predictions can improve the credibility of Insta 360 management [1] (Table 1). It can even improve employee satisfaction. It is worth noting that no business can be perfect [1]. In Digital's case, as in Sears' case, the decision that brought the company out of business was made

by a well-regarded company [1]. Beyond that, Sears and Digital are rivals [1]. Digital companies have dominated the large copier market while ignoring the profits of the small desktop copier market [1]. Sears did the same at the time [1]. Therefore, cooperation between companies is particularly important [1]. Looking for products that can make up for the shortcomings of panoramic cameras has become one of the solutions for Insta 360 [1]. Praseedha and Masoud when capturing data in the field, there is a time limit [2]. It is worth noting that laser scanning cannot work for long periods when there is an active work area [2]. However, the 360 panoramic cameras can [2].

Table 1. Time spends (in minutes) [1].

	Laser Scanning	360 Panoramic Photogrammetry
Data Capturing Time:	75	10
Data Processing Time:	60	40
Total Time:	135	50

The data source above is quoted [2]. Photogrammetry is cheaper than laser scanning by comparing the equipment used in the M.Sc. and Masoud studies [2]. Cui and Shen mentioned that in the case of rigid installation, in a multi-camera system, the respective positions are unchanged [3]. An adaptive SFM system was then proposed, which computes the internal positions of a multi-camera system online [3]. However, as for Insta 360, the camera itself is a differentiator, and it complements action camera performance. With panorama, users don't have to worry about framing, which greatly reduces the threshold for shooting. In 2016, if you wanted to shoot a panoramic video, the production process was very troublesome. First of all, it is needed to have several cameras to form a circle to shoot. After shooting, it needs to be merged and edited on the computer.

Thus, for this study, the research could foucse on the questions on why Insta 360 came into existence. Why Insta 360's product is new and unique, and why sales are low?

1.3 Fill the Gap

This article will briefly introduce the company's profile at the beginning, such as the original intention of the establishment, the main products, and the development situation. Explain the main three problems faced by Insta 360, its technical conditions, market atmosphere, and application scenarios. Specific solutions are given according to the problem.

2. Case Description

In 2015, Shadowstone Insta360 was founded because it wanted to better record and share life. It is had been looking for a panoramic camera that allows it to share wonderful moments with the world - not just share a corner of the picture, but record all of that moment [4]. When it has been found out that it is difficult to find such a camera, this paper decided to develop the panoramic camera, and it has never stopped exploring. The company profile above [4].

The product appeared because the person in charge saw an aerial panoramic video online. The entrepreneurial fund of these college students is only 600,000 US dollars [5]. Like other teams working on technical products, the first thing the company does is make a prototype. It took them half a year to make the prototype. There is no way to guarantee the quality of the prototype, and technicians have to carry screwdrivers, electric soldering irons, and hot melt glue with them when they go out to show [6].

In addition to this, finding suppliers is the biggest challenge. The company could not determine the exact production volume because the panoramic camera is a new product type [7]. With the introduction of panoramic cameras by major international manufacturers, the company's cameras are even less popular. However, the person in charge of Insta 360 found that the panoramic camera launched by the international manufacturer is connected to the mobile phone wirelessly. Shoot for 5 minutes, transfer to phone for 10 minutes, and then edit. All this time adds up to a total of half an

hour. So Insta 360 launched the new Nano, the world's smallest panoramic camera, a panoramic camera that can be plugged into a mobile phone [8]. However, sales were higher than when they were first launched, and over time. Sales fell rapidly. There are two options for small companies to sell products overseas, one is through distributors, and the other is through Amazon [9]. You can search on Amazon and take the price advantage. Panoramic cameras are electronic products, and they are still a new category. From the product level, the main business of Insta 360 is very similar to GO Pro. The question is, the product is novel and unique, and why is the sales volume low [10]?

3. Analysis on Problems

3.1 Immature Technology

The company, which was responsible for its first venture, relied on college savings and limited funds. Therefore, product development is immature. Later, the omnidirectional shooting angle of the panoramic camera solved the shooting problem in various positions. However, functions such as wide dynamic, white balance, exposure, and other functions that need to be adjusted in special scenes, it is much more complicated to deal with in a panoramic camera. It is also for this reason that the panoramic camera has relatively strict requirements for the monitoring environment in Guangxi and the installation position and angle.

The resolution is lower. The larger the monitoring range, the more image information is received by the pixels on the same imaging chip. Intuitively, it is difficult for panoramic cameras to achieve the clarity of ordinary cameras when monitoring large scenes. Low light. Because of the ever-expanding demand for surveillance, low illumination has always been an indicator of great concern in surveillance cameras. Quiet cameras with high-megapixel sensors perform just fine in low light.

To sum up, the main reason for the immature technology is that its economic conditions are not enough.

3.2 Immature Market

The uniqueness of a 360-degree camera means its audience is fixed. The previous business model was more like waiting for buyers to come after production. More consideration should be given to people who will use panoramic cameras. Such as adventurous people, professional content producers, and digital enthusiasts. In addition, not everyone will know what they want. In most cases, they have seen and understood. feel needed. As a business, what it is needed to do is to expand the scope of education as much as possible, so that more people know what a panoramic camera is and how to use it.

3.3 Immature Application Scenarios

In daily life, people most often use cameras to photograph family members, food, and pets. And shooting these things doesn’t require a 360-degree panorama.

Functionality is limited and file transfers are unstable. Most panoramic cameras on the market need to be used in conjunction with supporting software or official websites. The battery life is a flaw. The 360-degree panoramic camera itself consumes a lot of power, and the weak battery life will affect the user experience. And in the process of viewing and uploading photos or videos, there are different degrees of delay, freezing, or heating [11].

4. Suggestion

4.1 Boost Technology

There are many benefits to working with Go Pro. The panoramic camera can make up for the Go Pro's lack of picture and camera shake. One, you can hide the selfie stick. The GO Pro's selfie stick will be displayed in the picture, and the panoramic camera does not have this problem. The panoramic

camera consists of two 180-degree cameras stitched together with a small blind spot in the middle. Panoramic cameras shoot without image stabilization. Second, the jitter when shooting will affect the picture and quality. There are two solutions, one is physical image stabilization, and a gimbal is installed in the camera. The second is electronic image stabilization. Go Pro has not found a suitable solution until now. From the root cause, the panoramic camera is exactly the electronic image stabilization that the Go Pro needs. No matter what kind of enterprise, whether it is a small enterprise or a large enterprise, they cooperate according to their interests, and strive to seek mutual aid partners, that is, partners. The location of each company is different, and their advantages are also different. Some companies have the advantage of local customer service, while others are good at product packaging and price wars. As a result, sales on both sides can trend upward. With the cooperation of the two, Insta 360 can increase sales, and at the same time, the quality of Go Pro shooting is improved.

4.2 Promote The Market

Companies can offer training courses to expand the knowledge of offline salespeople. In addition, product promotion through Key Opinion Leaders (KOL). A huge advantage of KOL itself is localization because products are sold to locals. KOL shows will use his native language, culture, and scene. Instead of the company simply making a promotional video to translate Chinese into the languages of other countries. The food scene in the Asian market has been buzzing for a while as 2021 approaches the summer break. Bangtan Boys (BTS) is a K-pop superstar, and the group has teamed up with McDonald's. Launched a co-branded package. All food items in the package, including packaging colors, are limited. The group's limited color is purple. McDonald's is a global chain of fast-food restaurants. At the same time, BTS can communicate in McDonald's language. BTS has 18 million fans around the world, so it's a big branding campaign. Outdoor enthusiasts can easily record more comprehensively, while those early action cameras often only recorded relatively narrow, focused perspectives. The surrounding environment and scenery are difficult to take pictures of. There is a company from the Netherlands that only focuses on online services. Especially hotel reservations and transportation planning. The company wants everyone to experience the world in a relaxing and joyful way. However, due to the 2019 pandemic. Some people's lives have been put on pause, and many people's lives have changed. The company hopes to resume tourism, so it interviewed mostly local KOLs and discussed travel plans together. With such a device, it can help users record their surroundings more comprehensively.

People in marketing jobs are good at spotting promotional channels. At the same time, the promotion activities of Asian KOLs are also presented on various social media. Each platform has its different style. Different levels of user likes will lead to product sales and publicity. There are also many types of KOL fans. There are good ones and others. Social media is also different in each country. China uses Weibo more, and Instagram is more popular in the United Kingdom, while the United States tends to use Twitter. Big data can reasonably understand the preferences of different regions through calculation. Vivo is a manufacturer's brand that specializes in smartphones. A household name in China. Because it wants to expand its influence and popularity in Asia, especially in the southern part of Asia. Therefore, the brand chose to cooperate with several Internet celebrities. The market strategy is primarily focused on young people, and it is first promoted in Singapore. This phone is for those who like to be adventurous and be themselves. Or young people who are interested in music are particularly attractive.

After conducting investigations, the brand looks for local popular young KOLs to collaborate with and issues specific builds for different KOLs. The intention is to get close to young people and better feel what they like and identify with at the moment. In addition, the tablet is also one of the breakthroughs. In many elementary schools, schools will equip each student with a tablet. The purpose is to punch in and study every day. In the case of large numbers, schools pay more attention to cost performance, as well as appearance and weight. Children in elementary school can't carry too heavy, and the structure of electronic products is complicated. Bumps and bumps will reduce its lifespan. Then, the purpose of product promotion is achieved.

4.3 Find Application Scenarios

It can increase the application scenarios of panoramic cameras and contribute to educators. For example, a history class can learn first-hand the rise and fall of dynasties and the establishment of streets. Professional content production, virtual viewing, Olympic games, etc. With the increase in application scenarios, the popularity of the brand will increase. Gradually, the brand will have loyal customers. A networking community related to panoramic cameras can be established. In the online community, fixed products can be set, and everyone can leave a message and discuss. The company sets up special network maintenance personnel to collect opinions, and then provide useful feedback to the design department and the research and development department.

Insta 360 does as above. First of all, the design of enterprise products is based on the preferences of the public in the current era, but Chinese traditional culture cannot be forgotten; in addition, the product itself cannot be ignored. Increase investment; most importantly, accurately analyze the audience of current products through big data, in addition, online communities exist to provide everyone with different opinions on the design of new products in the future. It has advantages in the design department, brand love, user group, online sales platform, product ecological chain, capital, and other fields. These can provide constructive advice to other relevant businesses that join. This will help Insta 360 to establish a product ecological chain. All products are associated with industries, which are convenient for customers to use. Increased customer satisfaction and increased loyalty. The brand will get bigger and bigger.

5. Conclusion

This article analyzes the low sales volume of the Insta 360 panoramic camera and analyzes its technical conditions, market atmosphere, and application scenarios through case analysis. The conclusion is that the reasons for the low sales are immature technology and market, and limited application scenarios. This paper thinks that to fundamentally solve these kinds of problems, it is needed to understand popular preferences and follow up on customer feedback from time to time. It is necessary to repeatedly verify the stability and reliability of the product.

If the Insta 360 production department adopts these three methods as improvement measures, the expected results will be the followings:

First of all, the panoramic camera can make up for the incomplete picture of the Go Pro, as well as the shooting shake problem, the production preparation work will be more reasonable, so the product sales will not be too low.

Then, Product promotion through KOLs. The product has replaced the marketing channel and improved sales efficiency. The uniqueness of the product is recognized by the customer, and the customer can also buy the product they like. Customer satisfaction has been improved.

Finally, the company has set up special network maintenance personnel to collect opinions, and then give useful feedback to the design department and research and development department. The adoption of advanced mass-quality management methods increases the motivation of employees and further increases productivity while also driving the company's economy.

The advantage of this article is that the context is clear and well-founded. Suitable for those who want to know about panoramic cameras or compare them with normal cameras. In addition, this study thinks there are many models of panoramic cameras, and this article does not compare different models. Compensation measures, starting from reading the literature, carefully compare the part of the data comparison. The most important part is the calculation part, which analyzes the elements of the formula and substitutes it. Differences exist between research findings and research questions. Careful consideration should be given to whether there are large differences between research hypotheses or research questions, and where they are inconsistent. The most important thing is whether there is any discrepancy between the findings and other studies in related fields. If there are discrepancies. For the sake of rigor, discrepant results should be explored in depth, and recommendations made accordingly. Because there are not many ways to obtain data sources,

especially the ability and conditions of the research are suppressed. There is no way to verify the business flow in the supply chain, let alone the flow of funds. The introduction of many node companies will be false because of the actual relationship. In future research, these data need to be verified through a large number of detailed investigations.

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