

NURO's future challenge to delivering robots

Youze Chang^{1, *, †}, Tinna Tianyi Di^{2, †} and Xintong Ma^{3, †}

¹Living Word Shanghai, Shanghai, China

²Nanjing International School, Nanjing, China

³Nanjing Foreign Language School, Nanjing, China

†These authors contribute equally.

*Corresponding author: vma@nflsbca.com

Abstract. Business analysis act as an important part of every company. NURO is a newly established business that found an electric-powered delivery vehicle that could drive by itself. The service is based on last-mile delivery of groceries, food, consumer products, and parcels. This article mainly focuses on the prospect development of artificial intelligence which may become a fashion trend in the future. This article uses NURO which is a new technology company, creating a delivery vehicle as an example and analysis it from the aspects of business, strategies, and finance by using the SWOT method. Moreover, there are several goals that we are trying to achieve. For instance, NURO's cars should become more sustainable and safer, making effective delivery happens. As a result, if NURO can reach this altitude, there is no competitor left to compete market with NURO. It would not be limited to delivering parcels like necessities or daily products mainly within the community.

Keywords: Nuro, delivery, technology, sustainable, safety, competitor.

1. Introduction

Business analysis act as an important part of every company. To seek ways to maintain stable revenue growth in the near and long term, business analysis recognizes the current state of the company and evaluates choices for needs and improvements that forward the company to reach its objectives, and to develop a better future [1-3]. For Nuro, advancement for maintaining its future market should be considered from both technical fields and marketing strategies. Firstly, safety assurance solves the biggest concerns, Nuro should install useful parts to make the vehicle more intelligent and unique from all competitors. With Nuro's approved technology, the usage of their vehicle would be broadened to different states in the US under government support. Secondly, working in close cooperation with large delivery companies with a strong customer base around the globe will introduce an increasing number of services and promotions for Nuro, and the company's capital will increase along with it [4-6].

This paper will be discussing NURO, our selected company, in its business analysis, the company's financial situation and SWOT analysis to analyze their strength, weakness, opportunity, and threat. A strategic analysis recommendation will also be included to present the idea of how NURO will be able to gain success in the future and thrive in its competitive market with all the potential that they have.

2. Company Background

NURO is a newly established business that found an electric-powered delivery vehicle that could drive by itself. The service is based on last-mile delivery of groceries, food, consumer products, and parcels. Small, narrow, and pedestrian-protecting are the features of their current vehicles, R2. They are also different from normal cars in several ways, such as they have cameras and specially designed panels, these yields must reduce the harm of car accidents. The success of NURO is supported by regulators and retailers; the former enables the application of new technologies to speed up, and the latter provides the technologies to customers with leverage. Furthermore, new regulations from the

U.S. National Highway Traffic Safety Administration (NHTSA) gave NURO permission to pilot their vehicles on roads, which helps NURO's business model to be sustainable since that self-driven vehicles are still limited on roads in many places [7-8].

3. Business Analysis

Since Covid-19, individuals tend to purchase items online which places enormous strain on deliverers. According to a consumer trend report by Jungle scout in 2021, it illustrated that 57% of consumers in America choose to continuedly to purchase items through the retailers' platform and have them delivered to home even after Covid-19 ends. This emerging trend is appropriate for NURO's business operational needs, for instance, customers must order their food through the retailer's website that has already become a partner of NURO and select this particular vehicle as the mean of delivery before the food may be delivered to their home by the autonomous vehicle. As a result, autonomous vehicles which cost less than high-priced labor distribution fees are unquestionably a superior option for families. In addition, their current existing business is focused on the distribution of local goods so to expand their company, more partners are required. now, they only reach an agreement with some big companies like Walmart which means getting in touch with some non-chain restaurants can be a good decision if NURO wants to have larger markets and explores more territory since there are few ways for people to get their meals and autonomous cars are the best option for either prices or energy people need to cost. Also, having excellent science and technology is essential for ensuring the markets. In December 2020, IKE which was a self-driving truck firm that is committed to developing automation technology to advance the trucking sector was acquired by NURO so that the groundwork for autonomous vehicle technologies for its third-generation vehicles can be improved [9-10].

3.1 Current Strategy

Continuously, NURO expanded its partnership from food serving companies, pharmacies, and convenience stores to package delivery companies. NURO must be brought to a larger platform that allows them to manage plentiful packages from warehouses. This development provides communities with a new approach to package delivery and creates safer and eco-friendly conditions. Additionally, NURO is coming up with a third-generation vehicle. The upgraded version has larger capacities, allowing more deliveries, new division technology to control temperature, ensuring the freshness of goods, and it uses 100% renewable energy for vehicle charging, taking actions with the aim of sustainability.

3.2 Financing

This company received funding in 6 rounds total, including 2 rounds each for series A and C and 1 round for series B and D. It had received a total amount of 2.1 billion dollars in funding from various organizations, businesses, and even individual donors. It is evident from the current investors that the businesses and organizations with an interest in assisting this company may be divided into three categories: investment management companies, artificial intelligence companies, and food retailers, including its partners. Furthermore, November 2020, can be seen as a turning point for NURO, even though the amount of funds received in this round of financing is not the biggest, the number of investors has increased up to five. And the reason why NURO attracts more companies' attention is the result of the outbreak of Covid-19 that makes people see the future development of e-commerce. Combining the number of investors who participated in the round of financing that was raised in November 2020 with the one in November 2021, it is remarkable to speculate that if Covid-19's situation continues to deteriorate, the number of investors in this firm will reach its high. After its six rounds of financing, NURO turned from a small setup into a business with a company valuation that up to 8.7 billion dollars.

4. SWOT Analysis

Even though there is more and more delivery company trying to combine their techniques with AI because they want to follow the trends and keep doing innovations to stay competitive, NURO has already stayed ahead of other company for some reasons.

4.1 Strength

Firstly, NURO has higher efficiency. Because some UAV delivery only can deliver one product at a time, although it usually has higher speed, they only can send the products and return them to the company to pick up the next one. Moreover, UAV delivery needs people to control, but instead of manpower, NURO can use AI to complete the whole process by using driverless cars. Last but not least, NURO's delivery fee is relatively low. Because America is scarcely populated, when people want to get some necessities, they often need to spend money to arrive there, but the customer just has to pay \$41, customer can let NURO deliver everything you need, which can save you money.

4.2 Weakness

There are still some shortcomings that need improvement. For example, the safety of unmanned vehicles. Even though NURO already receives permission of driving on the road in some American regions, there have hidden dangers because of the instability of unmanned cars. If the sensors malfunction, a terrible traffic accident might happen. Moreover, NURO's cars are smaller than normal car volume, so sometimes other cars might unseen these unmanned cars, which will also bring a car accident. After that, because NURO's unmanned cars can deliver many products at the same time, sometimes it may become slow for sending something.

4.3 Opportunities

Fortunately, NURO has some chances to improve their cars using today's technology. Foremost, to solve the instabilities, NURO can install a receiver on the cars, if the car is malfunctioning, the staff can receive the alarm immediately which greatly reduced the possibility of a car accident. Also, opening a vehicle line for NURO cars can decrease the chances of car accidents. Although it seems impossible, as time goes on, more and more people need to rely on the deliveries, this is necessary to use less time to deliver goods. For unmanned car speed, if a consumer wants the product immediately, NURO can use robots to deliver products only to that consumer, which solves the speed problem.

4.4 Threats

Even though these challenges could be accomplished, there are still some threats waiting for us. Until now, NURO already has many competitors, for example, Amazon. Amazon recently year successfully invent UAV delivery which is fast and cheap. But fortunately, UAVs need people to control which keeps away from NURO's goals. Not only competitors, if NURO wants to become the best company in the world, but NURO also needs to realize globalization, which is a severe challenge. Take Shanghai for example, because Shanghai has a dense population, people can buy things easily. If NURO joins Shanghai, its high delivery fee will attract no consumers. But, if NURO decreases the delivery fee, they might not be able to assume a high vehicle maintenance fee. Also, until now, only a few American states allowed unmanned cars to drive on the street, which means their scope of business is limited.

In conclusion, if NURO wants to become the best company in the world, first of all, NURO needs to expand its business to the world and solve the problems that will let consumers feel bad about not only malfunctioning cars or high delivery fees.

5. Conclusion

The NURO company has a great potential of becoming a dominant media and entertainment enterprise ten years from now. Currently, NURO's competitive advantages are visible in the field of sustainability, efficiency, and safety. For sustainability, the use of renewable energy instead of fuels decreased a great number of carbon emissions for the local community and brings people a safer and greener lifestyle. Next, efficiency could be valued both timely and economically. Self-driving delivery is quicker and more affordable than self-driving transportation done by customers since stores in the community are scattered around. Customers could About safety, NURO's self-driving delivery transport groceries and parcels without creating any human contact, resolving customer's concerns under today's epidemic situation. Looking into the future, our strategic recommendations for assuring NURO's success in the long term are to globalize the market and establish a more recognizable reputation to the public to increase its customer application. The expansion of the use of NURO self-delivery is possible if NURO builds more partnerships with package delivery company life FedEx, therefore it would not be limited to delivering parcels like necessities or daily products mainly within the community.

References

- [1] "Nuro - Funding, Financials, Valuation and Investors." Crunchbase, www.crunchbase.com/organization/nuro-2/company_financials. Accessed 26 Aug. 2022.
- [2] Jungle Scout. "Q3consumer trend report." Jungle Scout China Official website, 29 Oct. 2021, www.junglescout.cn/consumer-trends-q3. Accessed 24 Aug. 2022.
- [3] "A huge consumer shift: ten char shows the changes in the American shopping behavior", zhuanlan.zhihu.com/p/475418562. Accessed 24 Aug. 2022.
- [4] Mitty, Walter. "Nuro: Self-Driving Delivery Accelerates." *Digital Innovation and Transformation*, 28 Apr. 2020, digital.hbs.edu/platform-digit/submission/nuro-self-driving-delivery-accelerates/#:~:text=Nuro%20is%20a%20startup%20building%20autonomous%20self-driving%20delivery,in%20Mountain%20View%2C%20California%2C%20and%20backed-up%20by%20Softbank. Accessed 25 Aug. 2022.
- [5] Krok, Andrew. "FedEx Is Deploying Nuro's Driverless Delivery Pod." *CNET*, 15 June 2021, www.cnet.com/roadshow/news/fedex-nuro-driverless-autonomous-delivery-pod-partnership. Accessed 25 Aug. 2022.
- [6] "Nuro's Technology." *Nuro*, www.nuro.ai/technology. Accessed 23 Aug. 2022.
- [7] "Nuro Unveils Third-Generation Vehicle; Plans to Scale Autonomous Delivery to Millions." *Business Wire*, 12 Jan. 2022, www.businesswire.com/news/home/20220112005285/en/Nuro-Unveils-Third-Generation-Vehicle-Plans-to-Scale-Autonomous-Delivery-to-Millions. Accessed 24 Aug. 2022.
- [8] "Nuro - Crunchbase Company Profile and Funding." Crunchbase, www.crunchbase.com/organization/nuro-2. Accessed 22 Aug. 2022.
- [9] Fontaine, S. P. (2020). Analyzing the Social Media Presence of Nike, Adidas, and New Balance Using Social Listening.
- [10] Team, T., & Great Speculations. (2021, May 27). Forecast of the day: Lululemon's direct to consumer revenues. *Forbes*. Retrieved August 27, 2022, from <https://www.forbes.com/sites/greatspeculations/2021/05/27/forecast-of-the-day-lululemons-direct-to-consumer-revenues/?sh=2e3fe4b3272f>