# Future Strategy

## Abstract

This paper aims to analyze Lyft through the lenses of the Automated Vehicle industry to propose scenarios planning for the next 5 years.

CERDAN Ines

MIB – Cohort 2 – Team 7

## Executive summary

Lyft is a ride sharing company deployed in New England since 2014. The analysis and scenarios planning aim to provide **recommendations in order to approach confidently the 3 to 5 next year's** regarding Automated Vehicles (AV).

The external analysis demonstrates the **need to create a more cohesive environment and ecosystem around AV ridesharing in the rest of Massachusetts and New England**. Lyft need to create more interest from every key player by improving its marketing and branding. The objective being to reduce consumer fear and to address technological, environment and ethics concerns. The laws will also have to evolve in favour of the technology.

The porter's five forces shows that **AV ride sharing industry is complex, competitive, not mature and costly**. Because of the technology, the bargaining power of supplier is supposed to decrease over the following years as AV would remove the driver. However, buyers currently require the human presence when using such technologies. It is also essential to seat Lyft as the driver of the harmonization and the mediator for this new industry to create an opportunity to growth and build trust through appropriate marketing and branding.

The scenarios planning consider , the **level of automation and the consumer level of acceptancy** as key factors when it comes to determine which technology will be the most adopted. The four designed scenarios are:

1. **Old style:** Partial automation and independent drivers
2. **Safeguard:** Conditional automation and independent cars assistant
3. **Freedom:** High automation and passenger ability to take control
4. **Autonomous world:** Full automation and no driver

The above scenarios allow Lyft to **address a new market and to position itself as the solution to educate future passengers and improve technology implementation for the next 5 years.** The common variables to all scenarios appear to be **the customer awareness, the technology youth, the lack of harmonization and cohesion.** In the other hand, potential future threats are already present and need to be highlight.

Therefore, the company should:

1. Create an alliance to involve all the actors of New England AV industry such as car manufacturer, automated system makers, representants of the government, insurance, lawyers, judges and potential drivers and passengers.
2. Review the marketing plan to adapt it to the improved ridesharing model
3. Define what should be the 'Lyft passenger experience' to encourage current partners to adapt their car and their process toward a passenger experience rather than a driving experience can drive innovation.
4. Organise competitions in universities as in 2015 to encourage cybersecurity research, business development, customer awareness and law enforcement.
5. Start looking at data collection, data protection and cybersecurity.

**Focusing on related actors, marketing and customer experience are first steps** to fully implement the technology into Lyft New England Business Model. It is finally important to remember the company current issues to be profitable and the need to find solutions that improve research and development while reducing costs.

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## Introduction

Recent researches show that the sale trend have flattened over the last years decades while the number of share rides per day never stopped increasing since 2015. In the early 2000, many companies worked toward Automated Vehicles (AV). In 2020, Lyft is in partnership with two main players of the industry, Waymo and Aptive, to develop shared rides through automated vehicles. Lyft main cots rely on drivers and labour cost. Autonomous vehicles are the opportunity for Lyft to finally decrease its variable costs who have been growing over the last year.

New England is a good market to develop and implement Autonomous Vehicles shared ride. The city of Boston is clearly in favour of the development of such technologies and already allows it to be tested. However, not all states and cities are at this stage of acceptancy and a harmonization is needed to fully deploy the solution.

Consumers are also a big concern for Lyft as they have to be willing to use such systems. The technology youth generates an insecurity that have to be taken into consideration in the service deployment, the marketing and branding,  if Lyft wants to succeed.

The below analysis and scenarios planning aim to provide recommendations in order to approach confidently the 3 to 5 next years with AVs.

# External Analysis

## PESTEL analysis

The PESTEL analysis demonstrates the **need of creating a more cohesive environment and ecosystem around AV ridesharing in the rest of Massachusetts and New England.** Despite a good start in the area of Boston, states, customers and justice are not yet fully at the stage of having AV driving alone. In the other hand, the technology is costly and not 100% reliable. It will continue needing human over the first years of implementation. However, it is in our interest to encourage such development and implementation. (View Appendix A: PESTEL analysis)

Lyft need to create more interest from every key player by improving its marketing and branding. The objective being to **reduce consumer fear** and to address **technological, environmental and ethical concerns**. The laws will also have to evolve in favour of the technology. (View Appendix A: PESTEL analysis)

However, Lyft is not the only player in the development of ridesharing and AVs and other actors from the industry are representing potential threats that have to be taken into consideration while creating the 2020-2025 AV ride sharing strategy.
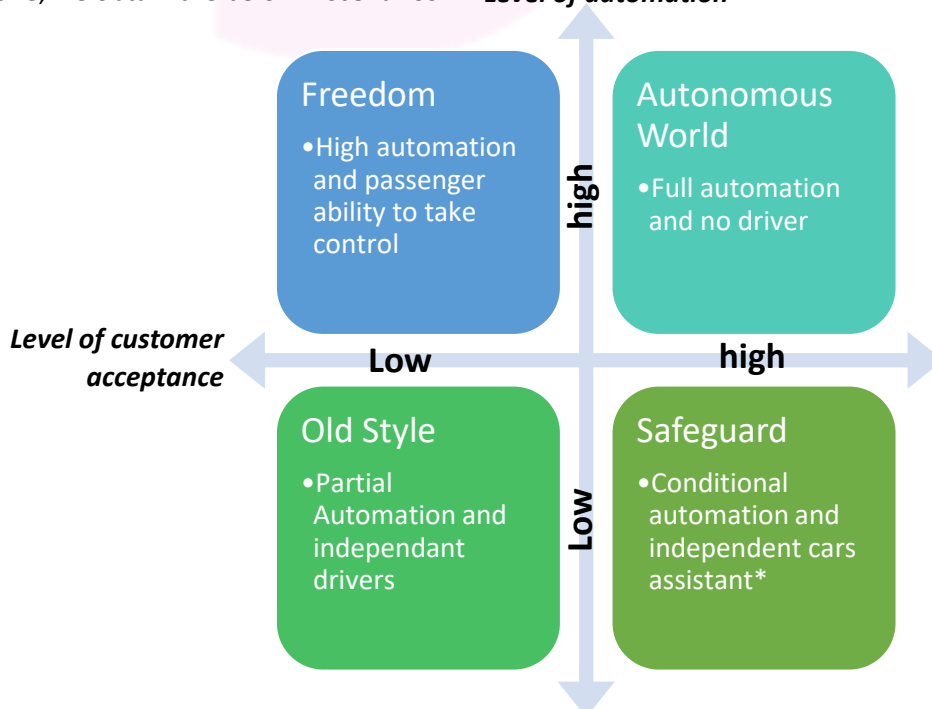
## Porter's 5 Forces

The porter's five forces shows opportunities and potential threats regarding AV ridesharing. Because of the technology, the bargaining power of supplier is supposed to decrease over the following years as we would remove the driver. However, it currently contradicts the bargaining power of **buyer which require human** when using such technologies**. Building trust** between our partners, customers and us, is essential to the success of the AV ridesharing. The framework also highlight the fact that other companies also developpe such technologies. It is, therefore, essential to **seat Lyft as the driver of the harmonization and the mediator for this new industry** to create an opportunity to growth through appropriate marketing and branding. Finally, at the opposite of Uber which develop its technology in House, Lyft works in partnership with other companies (Waymo, Aptive) which provide the company an advantage when it comes to try, to improve and to deploy such technology. (View Appendix B: Porter's five forces analysis)

The outcomes of the two-above analysis shows that the **AV ride sharing industry is complex, competitive, not mature and costly**. The implementation and the development of the technology itself is a big challenge as the consumer level of acceptance will drive the demand for such rides. The consumer acceptance is also important as more than 42% don't trust the technology or are worried about giving up control; and 30% would not want because of safety concerns. (Ofek & Waghmare, 2019)

# Scenario Planning

From the external analysis we find two critical uncertainties, **the level of automation and the consumer level of acceptancy** are key factors when it comes to determine which technology to develop. When both factors are put into perspective, we obtain the below 4 scenarios.



*Level of automation*

**Freedom**
- High automation and passenger ability to take control

**Autonomous World**
- Full automation and no driver

*Level of customer acceptance*

high

Low                    high

**Old Style**
- Partial Automation and independant drivers

**Safeguard**
- Conditional automation and independent cars assistant*

Low

The below table analysis summarize the advantages and disadvantages of each scenario

| Scenario | Description | Advantages | Disadvantages |
|---|---|---|---|
| Partial automation and independent drivers (1) | Cars have automated functions, but the driver always has to be in place. (level 2) technology. The customer need a physical presence to trust the drive | The passenger get familiar with the autonomous driving system during certain trip (Highway). It remains driver responsibility. | The cost related to the driver continue to exist. Technology not fully connected. |
| Conditional automation and independent cars assistant (2) | Cars can drive under limited conditions. The drivers become an assistant that must be ready to take control in case of unexpected issue. | The passenger is comfortable with the technology, the driver is a customer travel companion and safeguard against possible system issues. Could slightly reduce accident on the road. | The cost related to the driver continue to exist however should be adjusted as the drivers mostly does not drive. Responsibility can be an issue. Low development of such technology. Most companies jumped to level 4 and 5 directly |
| High automation and passenger ability to take control (3) | Cars can drive by themselves from one place to another to pick up passengers under certain condition. The passenger can become the driver of the car. He can take control in case of trouble. An independent contractor can be required | The system work independently. Offer the possibility to the passenger to act if he/she prefers. Because of partnership, Lyft is not responsible when driving system crash. In case of driver taking control of the car, he become responsible in case of accident. Or possibility to have a driver. The costs related to the driver are mostly eliminated. | High automation is currently developed by few partners, only tested in certain areas such as Boston. It also means reviewing marketing and branding to fit new business model. Need adjustment from the government and organisations in charge of road traffic and safety. Cybersecurity risk. Risk of increase in maintenance cost and social issues as data collection. |
| Full automation and no driver (4) | Cars drive by themselves from one place to another to pick passenger and drive automatically to their destination. Passengers are comfortable and confident they never need to act. There are no independent contractor. | The system works by itself. Passenger are comfortable with not driving or having a driver. True expected decrease in the number of accidents. Communication between cars is possible. Costs related to the driver are totally removed. | Increase in maintenance cost. High risk of cybersecurity issues. Data collection very high and risk of controversies. Need to totally review marketing, branding. Responsibility might be address to Lyft. branding to fit new business model. Need adjustment from the government and organisations in charge of road traffic and safety |

(Ofek & Waghmare, 2019)

**Scenario 1** (Partial automation and independent drivers) is the most predictable scenario as in 2020, it is almost the solution provided by certain car manufacturers. Moreover, OpenPilot system is one of the first available solution to transform any recent car into a self-driving car. (Comma, 2020) However, those systems are limited and always require a permanent driver presence as they include a low number of sensors and cameras. (Ofek & Waghmare, 2019) Such solution still could be an encouragement to drivers from our network to learn more about self-driving technologies and get passengers use to it. It is important to highlight that such solution would not solve actual issues related to independent contractor cost and accidents. (Ofek & Waghmare, 2019) **Scenario 2** (Safeguard- Conditional automation and independent cars assistant) is closely similar to scenario 1 in term of outcome. It still would require independent contractors to supervise the car actions. It might induce issues in terms of responsibility if drivers are not defined anymore as mention but rather as 'companions. Regarding **scenario 3 and 4,** competitors as Uber have developed technologies that can be compared to our scenarios planning but Lyft partners also focus on these technologies and certain partnership are currently getting tested in New England areas. However, the technology is very young, and customer are worried of using and trusting it which reveal a need to promote and communicate around the technology. (Ofek & Waghmare, 2019)

## Toward high automation and beginning of passenger experience

The above scenarios allows Lyft to address a new market and to position itself as the solution to educate future passengers and improve technology implementation for the next 5 years. **The common variables to all scenario appear to be the customer awareness, the technology youth, the lack of harmonization and cohesion.** In the other hand, potential future threats are already present and need to be highlight. Based on these variables, and the above analysis, Lyft should, over the 3 to 5 years:

1. **Create an alliance to involve all the actors of New England AV industry such as car manufacturer, automated system makers, representants of the government, insurance, lawyers, judges and potential drivers and passengers.** The objective will be to make meeting and conferences to discuss and program the changes surrounding the technology. Themes as law adjustment regarding drivers' statues under automated driving system, traffic and sign harmonization will need to be debate and further study to encourage the technology implementation. The executive team should be fully involved in this connection as it aims to create a more cohesive environment and ecosystem around AV ridesharing in the rest of Massachusetts and New England.

2. **Review its marketing plan and review its pricing, marketing and branding to adapt it to the improved ridesharing model is essential.** Encouraging both drivers and passengers to engage with the technology can decrease future cost . Bonus point and rewards could be program to passengers who use highly automated vehicles to encourage their usage. Drivers moving toward AV technology could be supported in their investment in exchange of a lower payment for example. Price should motivate early adopters. Therefore, most of the marketing plan need to be adapted to improve customer technology awareness.

3. **Define what should be the 'Lyft passenger experience'** to encourage current partners to adapt their car and their process toward a passenger experience rather than a driving experience can drive innovation. By defining this experience, car manufactures, and AV makers could start shaping product that will fit Lyft future offer. Favouriting electrical cars would allow to look forward and to try to generate a positive environmental impact. A marketing team should be dedicated to this task with the objective to make market research and focus on this aspect.

4. **Organise competitions in universities as in 2015 to encourage cybersecurity research, business development, customer awareness and law enforcement.** Potential current freshman in Harvard, MIT and any other New England university, will be the users and the owners of tomorrow cars. Engaging with them can allow to improve current system, create new technologies and solve future issues. Also, it is an effective way to find new partners and to lower cost related to research and development.

5. **Start looking at data collection, data protection and cybersecurity.** Knowing that more than 90% of manufactured car will have internet in 2020, deployed solution need to keep in mind this threat to avoid lawsuits or future restrictions. Partnering with a company such as Blackberry can be the opportunity to secure the system according to the company need.

## Conclusion

AV are challenging for Lyft, as they also disrupt its business model. Because of the need of creating a more cohesive environment and ecosystem around AV ridesharing in the rest of Massachusetts and New England. It is therefore essential for the company to start addressing solution and prevent future issues especially those related to cybersecurity and data protection. **Focusing on related actors, marketing and customer experience are first steps to fully implement the technology into Lyft New England Business Model**. It is finally important to remember the company current issues to be profitable and the need to find solutions that improve research and development while reducing costs.

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# APPENDIX

## Appendix A: PESTEL analysis

|  | Context | Result and Objectives |
|---|---|---|
| Political | In Boston, the city encourages the development and the adoption of AVs toward electric and shared. (Ofek & Waghmare, 2019)<br>Government create program to encourage goals. (Culafi, 2018)<br>Other New England states are not yet at Boston stage of adoption (Barry, 2018)<br>Potential decrease in death and free up parking spaces. Ride sharing combine with AV and electric vehicles can significantly decrease the CO2 emissions. (Ofek & Waghmare, 2019) | Possibility to extend in Massachusetts and around in new England.<br>Governments support technology shows promises in term of public organisations.<br>Need to reinforce current communication by considering alliance or meeting. |
| Economical | Expected future growth of AV technology combine with a decrease in car sales. Expected change in marketing and branding. (Ofek & Waghmare, 2019) | Marketing and branding as to be reviewed to include AV technologies as a selling point. |
| Social | Customer are not yet ready to trust the technology, only 44% would ride one. (Ofek & Waghmare, 2019)<br>Potential disruption of job as auto insurance.<br>Potential change in consumer habit, need and desires, customers are not yet willing to give up the 'driving experience' (City of Boston, 2020)<br>60% would not buy a self-driving car but AVs is expected to reduce crash by 90% (Ofek & Waghmare, 2019)<br>Customers are price sensitive (Culafi, 2018) | Need to reinforce trust with the technology, can we start negotiating with auto insurances to prevent issues, encourage driver's investment toward electric AV and review our pricing to ensure that price encourage earlier technology adoption by passengers. |
| Technological | Young technology, but leader being our partner (Waymo). (Waymo, 2020)<br>Most current technologies required human presence. (Ofek & Waghmare, 2019)<br>Less developed technologies are involved in accident (Tesla, Uber Freight). (Ofek & Waghmare, 2019)<br>Other technologies are being developed (OpenPilot). (Comma, 2020)<br>AV could be threatened by external attacks (hackers) (Blackberry, 2020)<br>Expensive to deploy. (Ofek & Waghmare, 2019) | Current partnership with Waymo and Aptive have to be encourage, while making them profitable for us. We need to avoid potential future accident with our technology to reduce risk and fears from our customer with this technology. We also need to pay close attention to reduce the cost of the technology development to ensure low customer pricing. Regarding cybersecurity we need to start making partnership to prevent risk related to cars control. Additional partnership are needed. |
| Environmental Ethics | An important amount of data can be collected→ potential customer future concerns<br>Potential problems regarding responsibility. (Ofek & Waghmare, 2019) | It is important to consider the growing concern around data collection and usage. There is a need to review our collection policy to facilitate future issues and contest. regarding responsibility, we need to go ahead and start proposing solution to facilitate future lawsuits. |
| Legal | Law enforcement regarding independent contractor. (Ofek & Waghmare, 2019)<br>No current regulation regarding safety standards or pricing.<br>Different physical infrastructure in place in roads (Ofek & Waghmare, 2019)<br>Responsibilities are not fully defined | Labour being Lyft main cost, law shift is problematic. AV aims to change public transportation and reduce the drudgery of work. There is a need to reinforce the integration of the technology in the law. |

## Appendix B: Porter's five forces

| Forces | Effect | Context | Result |
|---|---|---|---|
| Bargaining power of Suppliers | LOW | 2 out of 3 testing partners in Massachusetts are partnering with Lyft. Close partnership with Harvard and MIT to encourage technology development. Drivers currently have the highest power because of law enforcement and the low switching cost. The expected number of owned cars is expected to decrease | There can be included in the level of automation 4<br><br>Increase Benefice for Lyft development.<br><br>Because of the technology youth, drivers/ companions will be required to ensure customer trust |
| Threats of substitute | LOW | Recent analysis shows that Lyft market shares have been growing. (+21% in 4 years). Vehicles sales have flattened over the last years. The number of rides sharing compare to the number of taxis rides, is way above since 2018 and other transportation ways are low threat to the business model | Expected continue growth. New England being a good market as cities such as Boston are inclined to develop AV, electric share rides. Ride Sharing shares growing and AV being a solution to decrease cost can allow Lyft to increase its community. |
| Bargaining power of Buyers | HIGH | Customers are price sensitive and not yet fully ready for these technologies and the switching cost for them is low. Customer aware of Lyft are more likely t be aware of another app as Uber or Carb. | Lyft need to guide them to AV by ensuring low price despite the technology Communication and marketing can increase both brand and technology awareness |
| Threats of new entrants | HIGH | AV is very attractive and other companies as Tesla already have a develop technology. However, both, AV and share riding industries currently have legal issues. | Lyft has to strengthen its relationship with customers to ensure its market shares. However, Lyft is currently at a lower risk as legal issues limit market penetration. |
| Competitive rivalry | HIGH | Uber represented 70% of the market shares in 2019. The company is developing in house AVs. Other companies are thinking about developing their own service (Tesla) | Uber is the main competitor. Fixed cost being the main cost of the industry. Making partnership, lower cost related to AV development and implementation and decrease cost. |