

Masters Programmes: Assignment Cover Sheet

Student Number:	2053845
Module Code:	IB9PL0
Module Title:	Understanding Business for Analysts
Submission Deadline:	21/02/2024 (with extension)
Date Submitted:	21/02/2024 (with extension)
Word Count:	2997 (exc. Headings, Subheadings and Diagrams but they are part of the essay and answer).
Number of Pages:	23
Question Attempted: <i>(question number/title, or description of assignment)</i>	1
Have you used Artificial Intelligence (AI) in any part of this assignment?	No.

CONTENTS PAGE

1. Introduction to Uber	3
2. Evaluating the Analytical Maturity of Uber	4
3. A Proposed Uber Analytics Project	10
4. Analytical Practices to Help Uber	10
5. References	20
6. Appendices	23

1. Introduction to Uber

Analytics is emerging as a transformative force in modern times to determine the success and innovation of an organisation, and companies in the mobility services industry are no exception. Central to this transformation lies the effective utilisation of data, which includes the implementation of predictive models, statistical and quantitative analysis, and comprehensive data analysis as described by Davenport and Harris (2017).

A leading entity in leveraging these analytical tools is Uber Technologies Inc. (Uber), which has markedly influenced the domain of urban mobility.

Established in 2009, Uber's specialty in "ride-sharing" has amassed a staggering valuation of \$40 billion by transforming urban transportation with technology-driven solutions that provide a convenient and cost-effective alternative to traditional taxi services (Rogers, 2015). The purpose of this report is to assess Uber's analytics maturity in general and the aforementioned strategies in particular, utilising the DELTA model as described by Davenport (2018) and Król and Zdonek (2020). Additionally, it suggests possible opportunities for future growth, thereby ensuring that the organisation maintains a leading position in the transportation sector through the recommendation of a prospective analytics initiative.

2. Evaluating the Analytical Maturity of Uber

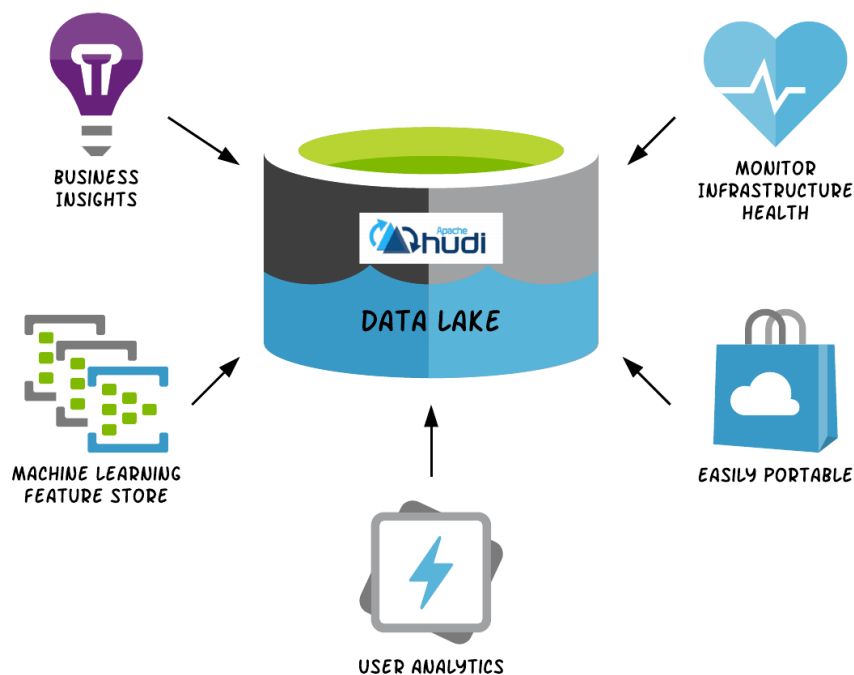
To identify areas for improvement in Uber's analytical maturity, a thorough evaluation of Uber's current analytics framework using the DELTA model is essential. An appendix with a reference to the stages of DELTA (1–5) is included. By translating this framework to Uber, a comprehensive picture of its analytical landscape can be created.

Data: *Stage 4*

Uber utilises a wide range of user data worldwide to analyse transportation patterns and customer preferences. This is achieved through advanced predictive modelling algorithms to inform services from dynamic pricing to accurate estimated time arrivals (ETAs), which take into account various factors such as time, distance, traffic conditions, and driver availability. This underscores Uber's reliance on diverse data types and sources for decision-making (Li et al., 2018; Sun and Azari, n.d.).

Uber seamlessly integrates such diverse data into a unified format using advanced ETL frameworks and workflow management systems like Piper to support their complex data ecosystem. Furthermore, the effectiveness of their comprehensive data inventory, managed via a transactional data lake by Apache Hudi, is evident in its ability to process large volumes of data with improved efficiency and reliability. Specifically, over 500 billion records per day are ingested, serving more than 1 million queries weekly (Agarwal, 2020).

Hudi's incremental reads maintain high standards of data quality by altering only new or modified data, which reduces expenses and accelerates updates. This method avoids the need to reprocess entire datasets while maintaining complete data accuracy. It is ideal for real-time dynamic data updates, like Uber driver earnings, thereby improving user experiences. (Govindarajan, 2023).



However, a limitation stopping Uber from reaching Stage 5 is their discovery issues. One crucial factor for an organisation to reach Stage 5 is their persistent pursuit of new data and metrics. Discovering fresh insights amid a large number of datasets was challenging due to the lack of detailed metadata and a faceted search. Improper discovery resulted in the creation of duplicate datasets, redundant tasks, and inconsistent answers based on the data used to answer a query (Puttaswamy, 2021).

The organisation struggles with high operational costs that escalate as the platform expands. Handling a diverse and extensive user base with different business needs and lacking clear data on resource allocation and cost responsibilities increases the complexity. This makes it challenging to allocate resources effectively and prioritise tasks, especially when it's critical to maintain high service quality for essential operations without overspending during downtime.

Enterprise (*Stage 3*)

Uber's mission to "reimagine the way the world moves for the better" emphasises its dedication to a governance system that is flexible and responsive. They are designed to provide drivers with adaptable work hours and the opportunity for higher income while also giving customers convenience at reduced prices, ultimately fostering a overall positive organisational culture (Uber, 2024). Moreover, Uber's strategic acquisitions in the grocery delivery sector indicate a focused allocation of resources to maintain and enhance its competitive advantage.

However, Uber's approach to data management raises concerns over data governance and transparency, especially regarding the use of algorithms. The company's reluctance to share data with researchers, policymakers, or the public complicates understanding the full extent of its data practices. Legal pressure in some regions, like Chicago, has led to revelations of bias and racial discrimination in the company's dynamic pricing algorithms, as seen in an analysis of 68 million rides (Wiggers, 2020).

Uber treats drivers as independent contractors rather than employees, which has sparked debates over data access. They do not believe it is necessary to inform their employees of the information it gathers about their work or how the algorithms evaluate their performance.

Drivers are also not allowed to retrieve or erase their personal data, presenting challenges if they switch to a competitor. This may also affect employee engagement and their trust in the company (Keese, 2021). Regulatory problems could also arise when governance claims that the business model is incompatible with the rules and regulations of a specific city. However, they have previously gone to illegal lengths by implanting an automated tool called 'Greyball', making it much more difficult for local regulators to gain information to enforce local laws and regulations (Spott, 2018).

Leadership (*Stage 3*)

Uber's past leadership problems, characterised by a disruptive and authoritative approach, along with controversies during former CEO Travis Kalanick's tenure, are significant factors contributing to the rating of 3.

Uber's culture was widely criticised on a global scale by 2015. Peter Thiel, a Silicon Valley investor, labelled Uber "the most ethically challenged company" in the area. Many attacked the corporation for tolerating illegal and harassing behaviour as long as the violator was a "high performer." This tolerance extended to sexual harassment of women, resulting in Susan Fowler's sincere report of allegations in February 2017, which led to Kalanick's resignation (Fowler, 2017; Chafkin, 2015).

Uber's current CEO, Dara Khosrowshahi, who formerly worked at Expedia, promised to uphold Uber's assertiveness while committing to transform its harmful culture (Cava, 2017). His messages conveyed a more amiable approach to leadership. He initiated a global apology tour, provided complimentary transportation in disaster areas, and established a new set of company values, such as "We do the right thing. Period." and "We embrace diversity." This is emphasised by the growth in the representation of women and ethnic minorities in senior positions at Uber (Spott, 2018).

However, the absence of a Chief Technology Officer could have a significant effect on the company, particularly in the area of decision-making about new technologies. The role not only ensures that technology is leveraged effectively to meet the strategic goals of the organisation but also to drive research and development (R&D) efforts. (Roberts, 2021).

Targets (*Stage 4*)

Uber has pledged to achieve sustainability by transitioning to a fully electric, zero-emission platform by 2040. They have conveyed a long-term goal that aligns with their strategy of environmental stewardship and innovation as part of their company ethos (Uber, 2024). Their targets encompass social impact and responsibility alongside their corporate goals.

Uber employs Key Performance Indicators (KPIs) for strategic management, using them to gauge success and align digital strategies with overall company goals. The company focuses on specific, measurable KPIs within its analytics projects, such as increasing app downloads and keyword rankings, to ensure a practical approach with quantifiable outcomes (Aslan, 2021).

However, Guan et al. (2018) highlight the challenge of effectively forecasting multiple KPIs in on-demand transport services due to factors such as fluctuating traffic and weather conditions. The problem is integrating data with differing granularity, format, and quality from multiple sources.

Additionally, it is challenging to create a unified framework to cover multiple KPIs with different characteristics. For instance, while total demand for orders may show regular patterns, the percentage of orders that are not accepted by any drivers does not. Since these KPIs are inherently dynamic and subject to change across time and space, it is difficult to create models that adequately reflect these spatio-temporal dynamics, thus complicating the process of developing precise targets.

The aggressive expansion of services, including food delivery, may stretch resources and dilute the company's focus on its core competencies in ride-sharing and logistics. Coupled with increased competition and user dissatisfaction, these factors may have contributed to a significant 120.64% decline in net income over the year ending December 31, 2023 (Macrotrends, 2017).

Analysts (*Stage 4*)

Uber's adoption of tools like Visier People emphasises efficient decision-making and optimises the use of its analytics team's time and expertise (Visier, 2020).

Team members who have relocated to various international offices and brought fresh perspectives to new environments are evidence that Uber also fosters engagement through opportunities for internal movement. Global mobility can be highly motivating for employees looking for diverse experiences within the same company, which has led to Uber being prevalent in over 600 cities in 82 countries. (Willis and Tranos, 2021).

Additionally, Uber's Data Science Workbench provides a hosted environment that accommodates a variety of tools, languages, and computer systems. This platform encourages cooperation and information sharing, which are essential for the continuous learning and development of data science specialists who excel in an atmosphere that promotes best practices and repeatability (Uber Blog, 2021).

The rapid growth of analytics has led to a high demand for trained analysts, which often exceeds the available supply, making it challenging to hire suitable individuals. Upon joining the team, analysts encounter a challenging learning process that necessitates thorough training to understand and work with an organisation's distinct, complex data environments. Keeping up with fast advancing analytics technologies requires continuous investment in learning and development, which can be challenging if resources are scarce.

According to the analysis, here are the prioritised success elements for Uber to enhance their analytical maturity.

Stage in DELTA	Stage (1-5)	Priority
Data	4	4
Enterprise	3	1
Leadership	3	2
Targets	4	3
Analysts	4	5

Uber demonstrates a high level of analytical maturity, with an average rating of 3.6 on the DELTA framework; however, they should concentrate on enhancing its leadership and enterprise phases as their primary goal.

3. A Proposed Uber Analytics Project

Urban Impact Report

The Urban Impact Report is a proposed analytics project for moving the organisation up the DELTA Framework. By leveraging its extensive trip data, Uber could analyse and report on the socio-economic impacts of its services in urban areas and ultimately improve their services in areas with low social development (underserved areas).

This would involve studying metrics such as economic impacts on local businesses, user experience, ride accessibility and affordability, carbon emissions, and traffic congestion rate.

4. Analytical Practices to Help Uber

Theme 1: Business Ethics Canvas (BEC)

The BEC, introduced by Vidgen et al. (2020), is a detailed framework designed to analyse and direct the ethical aspects of a project. The exploration of ethical implications in different subject areas is done systematically, guaranteeing stakeholder engagement and aligning actions with responsible corporate practices. The BEC offers a systematic method to assess Uber's efforts to improve services in underdeveloped regions, emphasising the intentional ethical aspects included in our strategy through colour-coded indicators: green (positive), yellow (neutral), and red (negative). An appendix with a reference to BEC is included for more context. 'Utility' shows the objectives of the project, while 'Solution Ideas' shows implementation features.

The project necessitates Uber improving its data collection and integration methods while improving the quality of data for potential usage beyond urban mobility. This directly contributes to the 'Common Good', where analysing patterns of service usage and demand in underserved areas allows for targeted improvements for all customers.

Implementing fair pricing strategies and service distribution promotes 'Justice' by ensuring equal access to services without discrimination. This advances 'Enterprise' by embedding fairness into strategic planning, using analytics to address service disparities, and creating a positive organisational culture for its users.

The project focuses on safeguarding customers' 'Rights' to mobility and access to critical services through efficient transport, while also strengthening Uber's leadership by portraying

it as proactive and attentive to the needs of underdeveloped communities. Thus fostering closer connections with municipal stakeholders and the public.

Uber's dedication to social responsibility and sustainable development, embodied in the concept of 'Virtue,' significantly impacts its 'Targets'. Consistently tracking progress and measuring impact are vital to achieving ambitious targets while limiting environmental effects

Focusing on the challenges faced by 'Users and Customers' boosts 'Analysts', as it encourages the development of the analyst team by giving them the experience to work on significant, high-impact projects that directly affect company strategy and public discourse. Pressure like this can develop very experienced and intellectual skill sets.

These examples demonstrate how using a BEC can improve Uber's analytical maturity with regard to DELTA. Here is an extensive BEC that has several such instances.

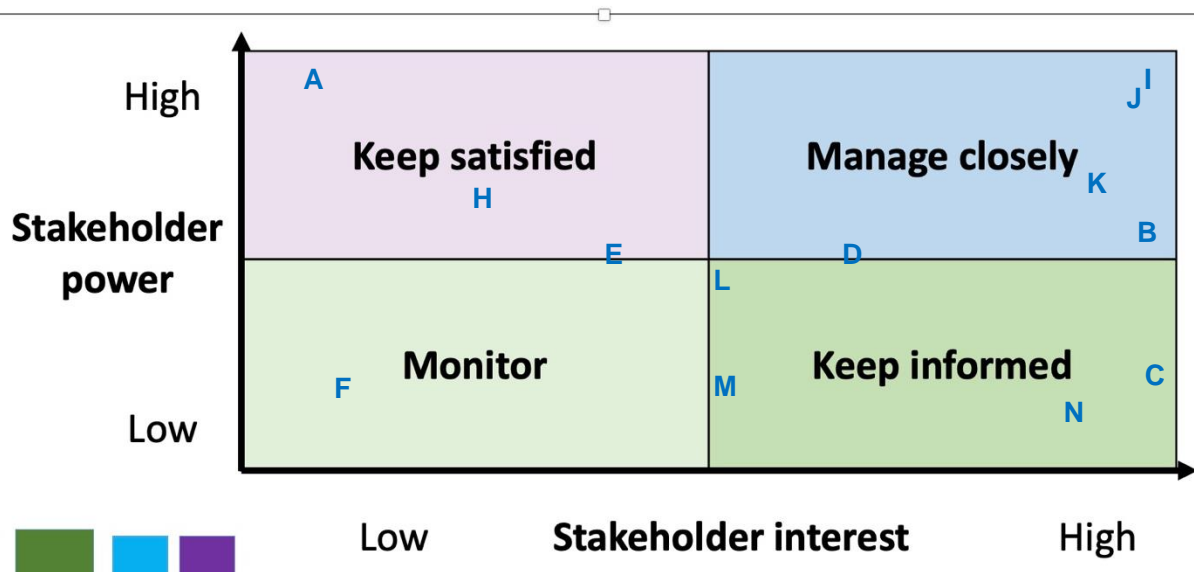
Virtue	Users & Customers	Solution ideas	Stakeholders	Utility
<div data-bbox="76 192 304 342">Align Uber with a sense of responsibility and social equity making them a committed partner in sustainable urban development.</div> <div data-bbox="76 394 293 495">Shows commitment to using innovative approaches in the public eye</div> <div data-bbox="76 546 288 613">Emphasises the value of community partnership.</div> <div data-bbox="76 687 304 1055">Could prompt additional introspection on Uber's role and responsibilities towards the communities it serves, which can either create positive media engagement or reveal hidden negatives to the public. This includes the ethical considerations of treating drivers as independent contractors rather than employees</div> <div data-bbox="76 1120 301 1261">Uber's initiatives might be perceived as selfish, prioritising their public image and profit over genuine urban improvement.</div>	<div data-bbox="384 203 612 495">Customers in underserved areas being able to enjoy the benefits from more reliable and affordable transportation options, that they may previously not have been able to access due to economic, physical, or geographic limitations</div> <div data-bbox="384 546 612 770">Provide equitable work opportunities for drivers in low social development areas. Recruit them from within the communities, to further supporting local employment and the economy.</div> <div data-bbox="384 822 612 963">Local businesses that could see increased revenue due to more customers being able to travel to the area the business is located.</div> <div data-bbox="384 1014 612 1193">Existing transport users may be affected by the change in transportation dynamics, and it might affect the quality of their life.</div> <div data-bbox="384 1245 612 1366">People in the underserved areas who lack of technology access will not be able to benefit. (DATA)</div>	<div data-bbox="692 203 920 405">Dynamic pricing models that are sensitive to the economic realities of lower-income areas to improve affordability. Offer subsidised rates during off-peak hours to encourage usage.</div> <div data-bbox="692 456 920 636">Introduce offline booking options and expand payment options to include cash to cater to those for areas with limited internet access.</div> <div data-bbox="692 687 920 777">Add safety and security precautions tailored to different community needs.</div> <div data-bbox="692 828 920 949">Create partnerships for drivers to receive background checks and additional training on safety protocols.</div> <div data-bbox="692 1001 920 1270">Have a wider range of vehicle options. This includes smaller cars for the typical narrow, congested streets of a lower socio-economic area. Also accessible vehicles for passengers with disabilities, so everyone can use the service.</div> <div data-bbox="692 1321 920 1523">Have designated pick-up drop-off zones in areas where street addresses may not be precise, making it easier for riders and drivers to connect.</div>	<div data-bbox="1000 203 1182 271">Local residents and communities</div> <div data-bbox="1000 322 1182 378">Drivers in low social development areas.</div> <div data-bbox="1000 430 1182 530">Government and transport authorities involved in transportation.</div> <div data-bbox="1000 582 1131 627">Environmental advocates</div> <div data-bbox="1000 678 1163 734">Existing transport providers.</div>	<div data-bbox="1308 203 1522 327">Understand the social equity implications of Uber's services in underserved communities.</div> <div data-bbox="1308 378 1522 468">Enhanced mobility and access for customers in low social development areas</div> <div data-bbox="1308 519 1522 743">Increased economic opportunities. Job creation in businesses and for drivers. Better connectivity to otherwise inaccessible locations for customers travelling for employment.</div> <div data-bbox="1308 795 1522 851">Improved public safety through reliable transportation options</div> <div data-bbox="1308 902 1522 1081">Tailor services to meet the specific needs of underserved communities to build stronger relationships and improve company's reputation.</div> <div data-bbox="1308 1133 1522 1211">Environmental damage from extra vehicle emissions, contributing to climate change</div> <div data-bbox="1308 1263 1522 1352">Strain on local infrastructure if demand leads to an increase in traffic congestion.</div>
Common good	Justice	Rights		
<div data-bbox="92 1666 469 1733">Increased public-safety and community cohesion through reliable and safe transportation options</div> <div data-bbox="92 1785 469 1818">Supports local economies by increasing the demand for local businesses.</div> <div data-bbox="92 1870 493 1926">Depends on the willingness of city officials and the public to engage with and act on the findings.</div> <div data-bbox="92 1977 493 2078">Could reduce traffic congestion by ride-sharing and eco-friendly options, contributing to a healthier urban environment. However, a lack of these options would increase traffic congestion.</div> <div data-bbox="92 2130 493 2186">May require significant investment in data collection and analysis, diverting resources from other initiatives.</div>	<div data-bbox="590 1688 871 1733">Fair allocation of resources to underserved areas</div> <div data-bbox="590 1785 890 1841">Can lead to equitable access to transportation in underserved communities.</div> <div data-bbox="590 1892 991 1960">Different fare structures for fairness across different user groups could lead to lower profit at the cost of increasing social accessibility.</div> <div data-bbox="590 2011 991 2056">Service biases in affluent vs. underserved areas.</div>	<div data-bbox="1104 1688 1497 1756">Respect for the right to mobility and access to essential services and efficient transport.</div> <div data-bbox="1104 1818 1513 1886">Privacy concerns with extensive data collection on urban mobility and behaviour patterns</div> <div data-bbox="1104 1937 1497 2004">Neglecting the needs and rights of those who do not use Uber's services in the urban planning process.</div> <div data-bbox="1104 2101 1474 2168">Right to a clean and sustainable urban environment may be challenged by increased vehicle emissions</div>		

Theme 2: Power/Interest Grid

Identifying and engaging the relevant stakeholders directly impacts the success of a project, as it ensures a project's goals are compatible with those interested and allows the organisation to develop strategies to monitor them (Ackermann et al., 2011).

Consequently, a power/interest grid is used to determine the necessary engagement levels for each stakeholder group involved with Uber's project, recognising that different stakeholders require varied levels of attention and resource allocation.

Maylor et al. (2016) provide the power/interest grid, which categorises Uber's key stakeholders.



Letter	Stakeholder	Interest	Power	Action
A	Local Government	Low	High	Keep Satisfied
B	Uber Drivers	High	Medium	Manage Closely
C	Customers in Targeted Areas	High	Low	Keep Informed
D	Local Taxi Services	High	Medium	Keep Informed/Manage Closely
E	Transport Authorities	Medium	High	Monitor/Keep Satisfied
F	Environmental Ambassadors	Low	Low	Monitor
H	Investors	Medium	High	Keep Satisfied
I	Uber Corporate Management	High	High	Manage Closely
J	Uber Analysts Team	High	High	Manage Closely
K	Uber Finance Team	High	Medium	Manage Closely
L	Uber Legal Team	Medium	Medium	Keep Informed

Letter	Stakeholder	Interest	Power	Action
M	Uber Human Resources Team	Medium	Low	Keep Informed
N	Local Businesses	High	Low	Keep Informed

Corporate management is responsible for overseeing the project's planning and implementation, making them the primary stakeholder with the highest level of accountability.

Drivers are highly interested in the project as it directly affects their earnings and working conditions. Their power is moderate; while individual drivers have limited influence, collectively, they can impact service delivery. Their feedback is essential for creating "Enterprise," and it's critical to supervise them fairly carefully in order to try and increase employee engagement—especially given the discontent that exists now regarding their status as independent contractors.

Conversely, lower interest groups like the government may only need periodic updates on serious issues. Providing them with the necessary information without overwhelming them helps conserve resources and respects their limited interest, as they would naturally be busy with other affairs. This helps keep them satisfied, which is essential as they can have a high impact on traffic flow, public safety, and economic development. Their capacity to control and grant the required permissions gives them high authority that can be used to support "Enterprise" in strategic planning and policy alignment.

Investors have medium interest in operational specifics but high power over corporate governance and strategy. Their concerns have the power to influence "Leadership," since if Khosrowshahi can keep up good connections, they will be able to contribute additional resources to the project, influence financial choices, and ultimately ensure the project's success. Engaging with environmental ambassadors, albeit time consuming, can improve public opinion and advance 'Targets' by helping to incorporate sustainability metrics into performance evaluation.

Although customers may have limited control over decisions, the value of their contributions should be acknowledged. Their involvement and commitment to the project should be recognised, ensuring effective communication channels are established to address any concerns and keep them informed about relevant updates and developments. After all, they will be one of the project's primary beneficiaries, and their usage data is critical to improving

'Data', since it aids in the refining of demand forecasting models and customer experience analytics.

Active collaboration with local taxi services could be seen as a bold move for 'Leadership' to satisfy all parties and create a more unified transportation network. This is because competing taxi services have a high interest in Uber's moves, given the direct competition, and their power is medium since they can influence market dynamics and customer preferences, potentially resulting in a loss.

The analytics, legal, and financial teams are all closely managed. Analysts must be confident in handling complex data and highly skilled; otherwise, no project would be established, which aligns with 'Analysts'. The HR team's role in talent recruiting and development is equally critical to ensuring that 'Analysts' are of high quality.

The legal staff needs project knowledge to overcome regulatory challenges. A good governance structure is critical for "Enterprise" and enables effective 'Leadership'. The finance team's involvement in cost analysis and budgeting is critical. Their contribution has a direct impact on 'Targets', ensuring that financial KPIs are reached and resources are allocated efficiently.

The transport authorities are in control of overseeing traffic flow; therefore, they will have a medium level of interest in what happens to the traffic in underserved areas, alongside a high level of authority. Collaborating with them can optimise routing algorithms and peak time strategies, which feed into the 'Data' stage by improving traffic pattern analysis. This can also increase driver satisfaction, related to 'Enterprise'.

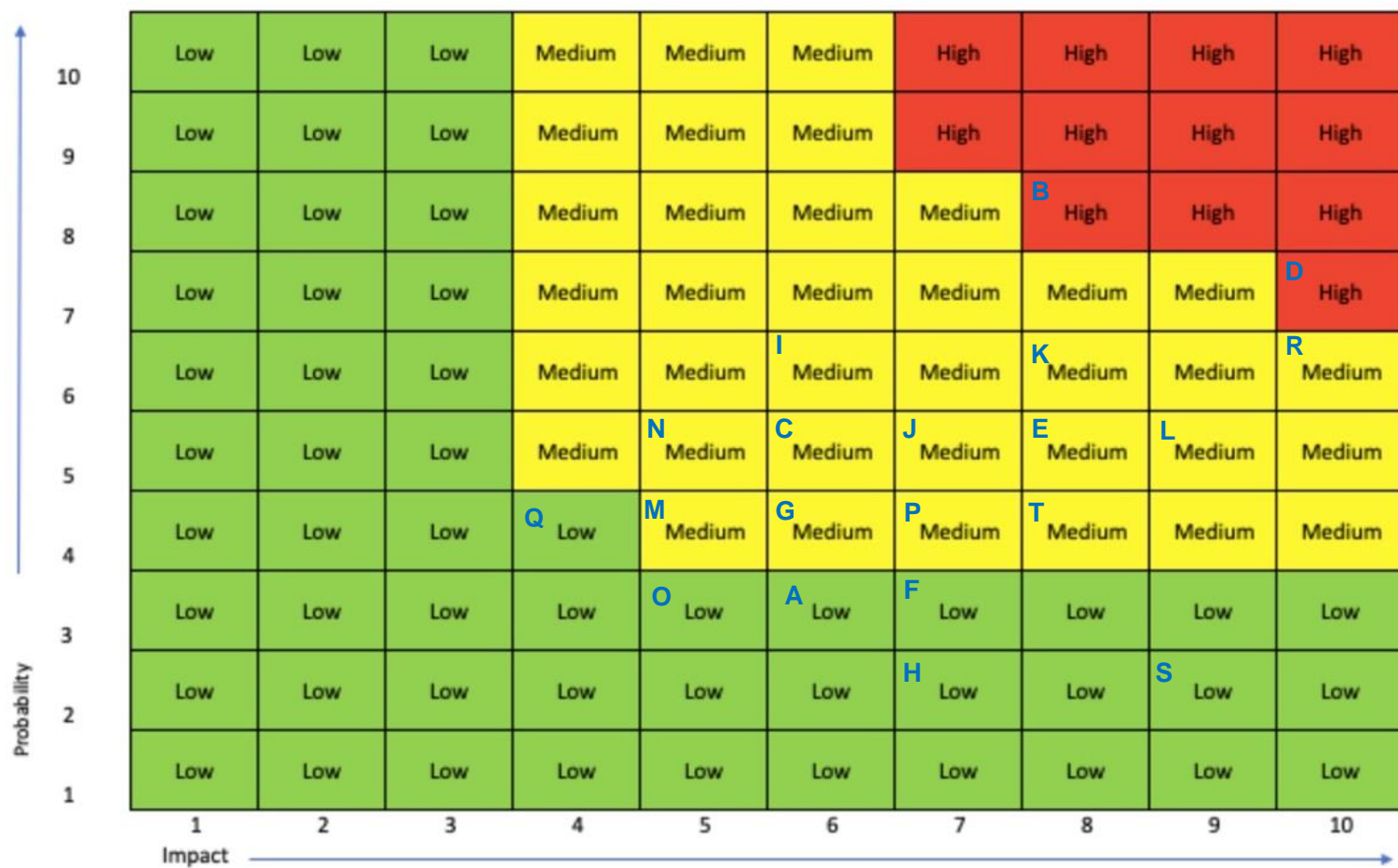
Local businesses would be interested in potential increased customer traffic, and this would benefit 'Leadership' which would enhance 'Leadership' by demonstrating how Khosrowshahi's positive activities contribute to economic growth. Nevertheless, they have a low level of power, hence the consequences of not involving them are not severe.

Theme 3: Probability-Impact Chart

It is inherent that projects entail a certain level of uncertainty and, consequently, risk. When risks are not effectively managed, they can disrupt project schedules, exceed allocated budgets, and lead to subpar quality outcomes.

To proactively address potential risks, Uber can utilise a Probability/Impact Chart (Dumbravă, et al., 2013), which assesses risks qualitatively based on their likelihood and impact. This approach allows Uber to identify and prioritise risks, create contingency plans, and implement preventive measures to mitigate the identified risks. The chart provides a visual representation of the risks, aiding in decision-making and enabling the effective management of high-risk items. Risks characterised as "red" require immediate action.

As shown below, the majority of the risks are associated with Leadership and Enterprise, which are the two most vulnerable stages on the DELTA scale (3). Hence, it is crucial to assess these risks carefully to avoid any further decrease.



Risk	Risk Description	Probability (1-10)	Impact (1-10)	Mitigation Response	Stakeholders Associated	Stage of DELTA affected.
A	Inadequate data collection	4	7	Employ a variety of data collection techniques and collaborate with regional organisations to gain first-hand knowledge.		Data
B	Resistance from local taxi services	8	8	Talk to the local services and look into joint venture or partnership possibilities.		Leadership
C	Technology adaptation challenges	5	6	Allocate resources for R&D and small-scale pilot projects before going live.		Enterprise/Leadership
D	Safety and security concerns	7	10	Improve the safety features within the app, hold safety seminars, and cooperate with the local law enforcement.		Targets
E	Regulatory hurdles and compliance	5	8	Work closely with local authorities to understand and comply with regulations, seeking to influence policy.		Enterprise
F	Economic sustainability for drivers	3	7	Analyse market conditions to ensure competitive yet sustainable fare structures.		Enterprise/Targets
G	Community mistrust or scepticism	4	6	To build trust, start campaigns for openness and community involvement.		Leadership
H	Environmental impact concerns	2	7	Promote eco-friendly vehicles and ride-sharing options to minimise carbon emissions.		Targets
I	Increased competition from local and new entrants	6	6	Focus on promoting Uber's unique selling points and showcase superior quality.		Leadership
J	Payment method diversity and accessibility	5	7	Integrate multiple payment methods, including cash and local payment systems, to ensure inclusivity.		Enterprise
K	Infrastructure inadequacies	6	8	Collaborate with local authorities to address infrastructure needs		Enterprise
L	Data privacy and security breaches	5	9	Strengthen data protection measures and educate users and drivers about data security practices.		Data
M	Overdependence on technology	4	5	Offer alternative booking options and ensure customer support is readily available for		Analysts

				non-technical users. Have employees ready to offer cheap technology education initiatives.		
N	Driver training and retention	5	5	Implement background training programmes and provide ongoing support and incentives to retain drivers.		Analysts
O	User interface issues	3	5	Continuously update and test the app interface based on user feedback, focusing on simplicity and accessibility.		Targets
P	Impact on local businesses and economy	4	7	Work with local businesses to support local economic growth.		Enterprise
Q	Fluctuations in demand and supply	4	4	Use predictive analytics to manage and balance demand and supply effectively.		Data
R	Negative public perception	6	9	Proactively communicate project benefits and successes, manage PR effectively, and engage in community service.		Leadership
S	Technology becoming outdated	2	8	Invest in forward-looking technology and remain adaptable to emerging trends.		Leadership
T	Lack of individual skills for project implementation	4	8	Develop training programmes and hire local experts and organisations.		Analysts

Conclusion

To sum up, the implementation of the Urban Impact Report, as highlighted by the suggested analytical techniques, represents a strategic move for Uber to advance its services in regions with low social development. By aligning with the DELTA framework and engaging a diverse set of stakeholders, this project not only promises to foster sustainable urban mobility and contribute to the social and economic upliftment of underserved communities, but also positions Uber at the forefront of analytical maturity in the modern transportation sector.

5. References

1. Ackermann, F. and Eden, C., 2011. Strategic management of stakeholders: Theory and practice. *Long Range Planning*, 44(3), pp.179-196.
2. Agarwal, N., 2020. Building a Large-scale Transactional Data Lake at Uber Using Apache Hudi. Available at: <https://www.uber.com/en-GB/blog/apache-hudi-graduation/>
3. Aslan, Y., 2021. Redeveloping Digital Strategies of Uber to Improving Business Performance. ResearchGate. Available at: https://www.researchgate.net/publication/351060076_Redeveloping_Digital_Strategies_of_Uber_to_Improving_Business_Performance
4. Cava, M., 2017. Uber's new CEO promises change to culture and board, signals IPO plans. *USA Today*, 30 August. Available at: <https://www.usatoday.com/story/tech/2017/08/30/ubers-new-ceo-promises-change-board-changes-signals-ipo-plans/617184001/>
5. Chafkin, M., 2015. What makes Uber run. *Fast Company*, October, pp.3050250. Available at: <https://www.fastcompany.com/3050250/what-makes-uber-run>
6. Codebasics, 2023. How Uber Uses Data Analytics To Increase Supply Efficiency? Available at: <https://codebasics.io/blog/How-Uber-Uses-Data-Analytics-To-Increase-Supply-Efficiency>
7. Davenport, T. and Harris, J., 2017. *Competing on Analytics: Updated, with a new introduction: The new science of winning.*
8. Davenport, T., 2018. DELTA Plus Model & five stages of analytics maturity: A primer. *International Institute for Analytics*, pp.1-12.
9. Dumbravă, V. and Iacob, V.S., 2013. Using probability–impact matrix in analysis and risk assessment projects. *Descrierea CIP/Description of CIP–Biblioteca Națională a României, Conferința Internațională Educație și Creativitate pentru o Societate Bazată pe Cunoaștere–ȘTIINȚE ECONOMICE*, 42, pp.76-96.
10. Fowler, S., 2017. Reflecting on one very strange year at Uber. Available at: <https://www.susanjfowler.com/blog/2017/2/19/reflecting-on-one-very-strange-year-at-uber>

11. Govindarajan, V., 2023. Setting Uber's Transactional Data Lake in Motion with Incremental ETL Using Apache Hudi. Available at: <https://www.uber.com/en-GB/blog/ubers-lakehouse-architecture/>
12. Guan, J., Wang, W., Li, W. and Zhou, S., 2018. A Unified Framework for Predicting KPIs of On-Demand Transport Services. *IEEE Access*, 6, pp.32005–32014.
13. Kesse, M., 2021. The Big Problem with Uber's Big Data: Ethics and Regulation of Data Ownership. Available at: <https://mastersofmedia.hum.uva.nl/blog/2021/10/20/the-big-problem-with-ubers-big-data-ethics-and-regulation-of-data-ownership/>
14. Król, K. and Zdonek, D., 2020. Analytics Maturity Models: An Overview. *Information*, 11(3), p.142.
15. Li, L., Onuk, K. and Tindal, L., 2018. Databook: Turning Big Data into Knowledge with Metadata at Uber. Available at: <https://www.uber.com/en-GB/blog/databook/>
16. Macrotrends, 2017. Uber Technologies Net Income 2017-2023 | UBER. Available at: <https://www.macrotrends.net/stocks/charts/UBER/uber-technologies/net-income>
17. Maylor, H., 2021. *Project Management*. 5th edn. Pearson. Available at: <https://www.perlego.com/book/3739844/project-management-pdf>
18. Maylor, H. and Söderlund, J., 2016. Project management research: Addressing integrative challenges. In: *Designs, Methods and Practices for Research of Project Management*, pp.41-48.
19. Puttaswamy, K., 2021. Uber's Journey Toward Better Data Culture From First Principles. Available at: <https://www.uber.com/en-GB/blog/ubers-journey-toward-better-data-culture-from-first-principles/>
20. Roberts, G., 2021. Uber CTO Quits with No Replacement in Sight. *Just Auto*. Available at: <https://www.just-auto.com/news/uber-cto-quits-with-no-replacement-in-sight>
21. Rogers, B., 2015. The social costs of Uber. *U. Chi. L. Rev. Dialogue*, 82, pp.85.
22. Santosh, S., 2021. End-to-End Predictive Analysis on Uber's Data. *Analytics Vidhya*. Available at: <https://www.analyticsvidhya.com/blog/2021/10/end-to-end-predictive-analysis-on-ubers-data/>
23. Spott, P., 2018. *UBER: A Case Study in Strategy, Leadership and Change*. The College of St. Scholastica.
24. Sun, C. and Azari, N., n.d. *Gallery: A Machine Learning Model Management System at Uber*.

25. Uber, 2024. Uber Values. Available at:
<<https://www.uber.com/gb/en/careers/values/>>
26. Uber Blog, 2021. The Evolution of Data Science Workbench. Available at:
<<https://www.uber.com/en-GB/blog/evolution-ds-workbench/>>
27. Vargas-Hernández, J.G., 2020. Uber's Strategy as a Competitive Business Model of Sharing Economy. ResearchGate. Available at:
<https://www.researchgate.net/publication/338302494_Uber's_Strategy_as_a_Competitive_Business_Model_of_Sharing_Economy>
28. Vidgen, R., Hindle, G. and Randolph, I., 2020. Exploring the ethical implications of business analytics with a business ethics canvas. *European Journal of Operational Research*, 281(3), pp.491-501.
29. Visier., 2020. Uber's Criteria for Choosing their People Analytics Solution | Visier. Available at: <<https://www.visier.com/blog/ubers-criteria-for-choosing-their-people-analytics-solution/>>
30. Wiggers, K., 2020. Researchers find racial discrimination in 'dynamic pricing' algorithms used by Uber, Lyft, and others. VentureBeat. Available at:
<<https://venturebeat.com/ai/researchers-find-racial-discrimination-in-dynamic-pricing-algorithms-used-by-uber-lyft-and-others/>>
31. Willis, G. and Tranos, E., 2021. Using 'Big Data' to understand the impacts of Uber on taxis in New York City. *Travel Behaviour and Society*, [online] 22, pp.94–107.

6. Appendices

Stages of the DELTA model.

Stage 1: Analytically Impaired

Stage 2: Localised Analytics

Stage 3: Analytical Aspirations

Stage 4: Analytical Companies

Stage 5: Analytical Competitors

The Acronym of the DELTA model.

D - Data: The quality and accessibility of data. Assess the organisation's ability to capture, clean, and maintain data effectively.

E - Enterprise: The organisation's orientation towards analytics. Assesses if the organisations culture promotes data-driven decision-making across all levels.

L - Leadership: How the organisation's leaders embrace analytics. Assesses whether leaders not only understand but also advocate for the use of data analytics in data-driven decision-making.

T - Targets: The business objectives that analytics can address. Assesses how clearly an organisation has defined the outcomes it seeks to achieve through data-driven analytics.

A - Analysts: The skills and availability of those within the organisation who work with data. Assesses if the organisation has the human resources to interpret analytical models.

BEC Context

Virtue 7 How does this solution define me as a human person? How does it define us as a company, an organization, a society, etc.? What do I or what do we expect to be?	Users & Customers 1 What types of users and customers have the challenges our solution addresses?	Solution ideas 1 What are the product, feature, or enhancement ideas that solve problems for our users and customers?	Stakeholders 2 Who is affected by, or can affect, the proposed solution? What is their stake in the proposed solution?	Utility 3 What are the benefits of the intended solution? What are the harms created? Who benefits and who is harmed?
Common good 6 What is the community (or what are the communities) in which the decision has to be made? What is the common good?	Justice 5 How fair is the solution? Does it treat everyone in the same way or does it show favoritism and discrimination?		Rights 4 Whose rights are respected or infringed by this action? What are those rights?	