



“Redefining Strategic Success: A comprehensive Analysis of
Companies Gaining Competitive Edge via Disruptive
Technologies and Control Mechanisms”

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Abstract

English Version

This thesis critically explores how different players from specific industries are implementing disruptive technologies in order to gain a competitive advantage. To provide a basis, certain success cases are analyzed by the concept of technical and strategic control points in the context of the digital business model. Furthermore, the thesis develops general strategies which are stating at which point in time and for which certain players specific kinds of control points are most important. In order to streamline the research of this thesis, two research questions are addressed.

1. Can a systematic analysis of historical cases provide insights into the key factors that contribute to the successful integration of disruptive technologies and the establishment of control points?
2. Which control points are the most important for a certain group of companies?

The study outlines the transformative strategies employed by new entrants in industries led by traditional incumbents and further emphasizes their focus on leveraging technology and digital innovation to meet the current market conditions. Within all the analyzed industries of banking, automotive and food delivery new entrants were able to set new standards for the whole industry. Derived from these insights the thesis defines certain strategies for new entrants and incumbents that are describing the potential process of a company in the industry to be the dominant player of the ecosystem.

Keywords: Control Points, Digital Business Ecosystem, Strategy, Disruptive Technologies

Sumário

Portuguese Version

Esta tese explora de forma crítica a forma como diferentes intervenientes de indústrias específicas estão a implementar tecnologias disruptivas para obterem uma vantagem competitiva. Para fornecer uma base, alguns casos de sucesso são analisados através do conceito de pontos de controlo técnicos e estratégicos no contexto do modelo de negócio digital. Além disso, a tese desenvolve estratégias gerais que indicam em que momento e para que jogadores determinados tipos específicos de pontos de controlo são mais importantes. A fim de racionalizar a investigação desta tese, são abordadas duas questões de investigação.

1. Pode uma análise sistemática de casos históricos fornecer informações sobre os factores-chave que contribuem para a integração bem sucedida de tecnologias disruptivas e o estabelecimento de pontos de controlo?
2. Que pontos de controlo são os mais importantes para um determinado grupo de empresas?

O estudo descreve as estratégias transformadoras utilizadas pelos novos operadores em sectores liderados por operadores históricos tradicionais e sublinha ainda a sua ênfase na alavancagem da tecnologia e da inovação digital para responder às actuais condições de mercado. Em todos os sectores analisados - bancário, automóvel e de distribuição de alimentos - os novos operadores conseguiram estabelecer novos padrões para todo o sector. Com base nestes conhecimentos, a tese define determinadas estratégias para os novos operadores e para os operadores históricos que descrevem o processo potencial de um operador do sector para se tornar o operador dominante do ecossistema.

Palavras-chave: Pontos de controlo, modelo de negócio digital, estratégia, tecnologias disruptivas

Table of Contents

1	Introduction	1
1.1	Background and Context	1
1.2	Research Problems and Objectives	2
2	Literature Review	3
2.1	Digital Technology and Disruptive Innovation	3
2.1.1	Defining Innovation	3
2.1.2	Defining Disruptive Technologies/Innovations	4
2.2	Competitive Advantage in the Modern Business Landscape	5
2.2.1	Traditional vs. Modern Notions of Competitive Advantage	5
2.2.2	The Role of Innovation in Competitive Advantage	6
2.3	Digital Business Ecosystem and Control Points	7
2.3.1	Defining Digital Business Ecosystem	7
2.3.2	Control Points and their Role within the Digital Business Ecosystem	10
2.4	Theoretical Framework	11
2.4.1	Disruption in Digital Business Ecosystem	11
2.4.2	Control Point Dependence of Value Capture in Digital Business Ecosystem	13
3	Methodology	15
3.1	Research Design	15
3.2	Case Selection Criteria	15
3.3	Data Sources and Data Collection	17
3.4	Literature Review and Document Analysis	19
3.5	Research Limitations	20
4	Status Quo and Emerging Entrants	21
4.1	Digital Banking Revolution: The Emergence and Impact of Neobanks	21

4.1.1	Challenges of Traditional Banks	21
4.1.2	Rise of Neobanks	23
4.1.3	Classification of the Banking Industry	25
4.2	Automotive EVolution: Navigating the Road from Traditional Vehicles to EV Innovation	28
4.2.1	Challenges of Traditional Car Manufactures	29
4.2.2	Rise of EV innovators	30
4.2.3	Classification of the Automotive Industry	32
4.3	Feast of Innovation: The Rise of Tech-Driven Delivery Giants	35
4.3.1	Challenges of the Early Leaders in the Food Delivery Market	36
4.3.2	Rise of Innovators in Food Delivery	37
4.3.3	Classification of the Food Delivery Industry	38
5	Discussion	42
5.1	Dynamics of Market Disruption over Time	42
5.2	Strategies	44
5.2.1	Disruptive Strategy by New Entrants	44
5.2.2	Sustaining Strategy by Incumbents	46
5.2.3	Defending Strategy by Incumbents	46
6	Conclusion	48
7	Appendix	50
7.1	Disruption in Digital Business Ecosystem (Neo-Banking)	50
7.2	Disruption in Digital Business Ecosystem (Electric vehicles)	51
7.3	Disruption in Digital Business Ecosystem (Food Delivery)	52
7.4	Control Points N26	53
7.5	Control Points Revolut	54
7.6	Control Points Monzo	55
7.7	Control Points Rivian	56
7.8	Control Points NIO	57
7.9	Control Points Lucid Motors	59
7.10	Control Points Deliveroo	60

7.11	Control Points Doordash	61
7.12	Control Points Zomato	62
7.13	List of Secondary Data	64
8	References	69

List of Abbreviations

RBV Resource Based View

API Application Programming Interface

SDK Software Development Kit

EV Electric Vehicle

KPI Key Performance Indicator

AI Artificial Intelligence

LSTM Long Short Term Memory

IoT Internet of Things

List of Figures

Figure 1: Theory of disruptive Innovation (Christensen et al., 2015)	5
Figure 2: Transition from the industrial age to the digital age from a product architecture and industry architecture perspective (Bohnsack et al., 2021)	9
Figure 3: Control Point Dependence of Value Capture in Digital Business Ecosystem	13
Figure 4: Flow chart - Case Identification with chatGPT	18
Figure 5: Global Transaction Value of Neobanks in Billion US\$ (Senn-Kalb & Mehta, 2022)	23
Figure 6: Control Point Dependence of Value Capture in Digital Business Ecosystem – Banking	25
Figure 7: Global plug-in Electric Vehicle Sales in Thousands (Hoffmann & Mehta, 2023)	29
Figure 8: Control Point Dependence of Value Capture in Digital Business Ecosystem – Automotive	32
Figure 9: Revenue Forecast for Online Food Delivery (Miller, 2023)	35
Figure 10: Control Point Dependence of Value Capture in Digital Business Ecosystem – Food delivery	39
Figure 11: Dynamics of Market Disruption	42
Figure 12: Control Point Capturing - New Entrants (Bohnsack et al., 2024)	45

List of Tables

Table 1: Disruption in Digital Business Ecosystem	11
Table 2: Relevant Industries	17
Table 3: Stages of disruption - Banking	27
Table 4: Stages of disruption - Automotive	34
Table 5: Stages of disruption - Food Delivery	41
Table 6: Disruption in Digital Business Ecosystem (Neo-Banking)	50
Table 7: Disruption in Digital Business Ecosystem (Electric vehicles)	51
Table 8: Disruption in Digital Business Ecosystem (Food Delivery)	52
Table 9: Control Points N26	54
Table 10: Control Points Revolut	55
Table 11: Control Points Monzo	56
Table 12: Control Points Rivian	57
Table 13: Control Points NIO	59
Table 14: Control Points Lucid Motors	60
Table 15: Control Points Deliveroo	61
Table 16: Control Points Doordash	62
Table 17: Control Points Zomato	63
Table 18: Used Secondary Data	68

1 Introduction

1.1 Background and Context

This dissertation is dedicated to strategy in a business context. In the current business environment, the strategy of a company is of very high importance. As companies operate in an increasingly complex and competitive world, strategy must serve as a compass for organizational success (Dereli, 2015). Just as great generals strategically positioned their forces in the past, today's companies must strategically position themselves to gain a competitive advantage over their competitors. It is more than ever essential to define clear goals and adapt to ever-changing market dynamics to achieve these strategic objectives. Nowadays, characterized by rapid technological progress and globalization, strategic thinking is not only a vehicle to ensure the existence of the company, but can be a catalyst for innovation and thus sustainable growth (Dereli, 2015).

Corporations have to ask themselves how they can achieve strategic success and implement it sustainably. The potential key lies in a holistic approach that uses disruptive technology as a catalyst for innovation (Distanont & Khongmalai, 2018). Companies should not only react to technological advances of competitors, but take the initiative themselves and go innovative and at the same time risky ways in certain areas to achieve a competitive advantage compared to their competitors (Distanont & Khongmalai, 2018).

Control points play a central role in this process. These can take various forms, including unique products, exclusive partnerships, efficient supply chains or proprietary technologies. For example, a company that has a disruptive technology that sets it apart from competitors creates a solid control point. The introduction of technologies that are difficult to replicate creates a barrier for other market players and secures a unique position for the company.

Nevertheless, strategic implementation of checkpoints requires not only initial creation, but also continuous maintenance and development. Companies should be agile enough to react to changes in the competitive environment, optimize their control points and create new ones if necessary (Bohnsack et al., 2024). Within a time of continuous innovation, well-established

control points provide companies not simply with a competitive advantage, but with a foundation for long-term strategic success.

In order to scientifically substantiate all these statements and claims to create a real added value, this thesis deals with the following research questions.

1.2 Research Problems and Objectives

The central research problems addressed in this thesis are shaped by two central questions.

Research Question 1: Can a systematic analysis of historical cases provide insights into the key factors that contribute to the successful integration of disruptive technologies and the establishment of control points?

In the current environment of rapid innovation and the emergence of disruptive technologies, companies are facing the risk of being overtaken by competitors. This research question is focusing on the analysis of cases in which players used disruptive innovations to enter the market. With an in-depth analysis, this thesis seeks to identify strategic approaches and practices that are offering insights in harnessing the potential of disruptive technologies.

Research Question 2: Which Control Points are the most important for a certain group of companies?

In order to gain an advantage, it is crucial for companies to understand the specific factors that hold significant importance in their respective industries or contexts. This research investigation focuses on the significance of control points. Aims to identify the ones that carry the influence, within a chosen group of companies. Through categorizing and analyzing these control points this study strives to offer insights, for companies looking to enhance their position.

2 Literature Review

2.1 Digital Technology and Disruptive Innovation

2.1.1 Defining Innovation

Basically, the whole topic of innovation is concerning new concepts, methods or devices and their introduction. Various companies are using innovation and it can be described as one of the most important drivers of economic growth and competitiveness (Drucker, 2002). In order to completely understand this term, it is of importance to delve deeper.

However, innovation does not simply emerge out of nowhere, but is often a reaction to a variety of factors, such as technological advances, market needs, legal changes or social changes (Baregheh et al., 2009). Understanding the reason for an innovation can provide valuable insight into its development and potential impact. Furthermore, the role of organizational control in promoting or inhibiting innovation is of enormous importance (O'Reilly & Tushman, 2021). Successful companies in this area tend to foster a culture of innovation that is characterized by experimentation, risk-taking and continuous learning (O'Reilly & Tushman, 2021). These companies stand in strong contrast to companies that have rigid structures and therefore do not have the opportunity to work innovatively.

In addition, the emergence of disruptive technologies has democratized the innovation landscape enormously. Today, it is possible for a startup with a revolutionary idea to challenge established players and potentially gain market share, once again highlighting the central role of adaptability, agility and speed in today's innovation landscape (Hippel, 2016). Just about every industry is facing the profound impact of technological innovation, such as healthcare, where technological advances have revolutionized patient care, or the automotive industry, where electric vehicles and autonomous driving are taking center stage (West & Bogers, 2013). Nevertheless, it must also be said that innovation brings challenges. Companies that want to innovate are always in the situation of having to weigh up whether the benefits of an innovation outweigh the associated risks (West & Bogers, 2013).

In summary, innovation is not just about introducing new ideas, but also about successfully implementing and adapting those ideas in the real world. It is about pushing boundaries, challenging the status quo and constantly striving for improvement.

2.1.2 Defining Disruptive Technologies/Innovations

A disruptive technology describes an emerging technology that displaces established technologies by surprise and thereby brings about a significant change in the respective industry or market (Christensen et al., 2015). The normal process involves initially serving a niche market and gradually moving into the mainstream and challenging established market leaders (Christensen et al., 2015). However, it is not just about technological superiority, but also about the resulting changes in user behavior, value propositions and market mechanisms (Christensen et al., 2015).

Their often very low price position, in combination with the unique creation of value, can significantly influence market dynamics and lead to changes in customer or user behavior (Wessel & Christensen, 2012). It should be noted that the distinction between "disruptive" and "sustaining" technologies is mainly based on their market objectives (Frankenberger et al., 2013). This approach was introduced by Clayton Christensen with his "Theory of Disruptive Innovation" (Christensen et al., 2015). Sustaining technologies are characterized by the fact that their goal is to refine and optimize existing technological solutions, while disruptive technologies aim to introduce new paradigms and change the status quo (Christensen et al., 2015). While sustaining innovation is mainly used by industry incumbents, the approach of disruptive innovation is used by new entrants and has the goal of creating new markets and values that often start with simple applications which are more affordable than the existing ones as it can be seen in figure 1 (Christensen et al., 2015).

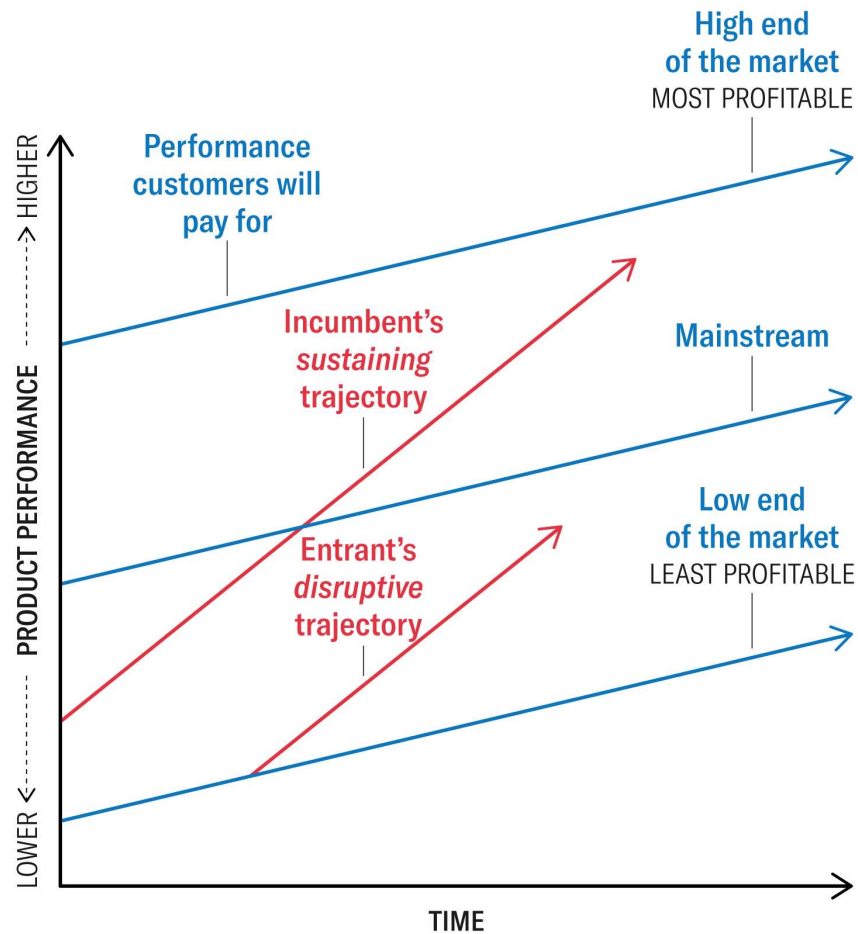


Figure 1: Theory of disruptive Innovation (Christensen et al., 2015)

In technology, the term "disruption" has long been based not only on innovation, but also on the ability of innovation to question established norms, redefine customer expectations and ultimately systematically reshape market structures (McDonald & Gao, 2019).

2.2 Competitive Advantage in the Modern Business Landscape

2.2.1 Traditional vs. Modern Notions of Competitive Advantage

In general, a competitive advantage is based on a company's unique capabilities and resources that enable it to outperform its competitors within the market (Barney, 2014). In this context, the resource-based view (RBV) emphasizes the role of valuable and non-imitable resources in achieving a long-term competitive advantage (Barney, 2014). Examples of these resources can be patents, specific expertise, a strong brand or strategic locations.

Porter's generally recognized strategies state that companies have the option of gaining a competitive advantage through differentiation, i.e. by creating unique values for their customers, or choosing the strategy of cost or quality leadership (Porter, 2011). In this paper, nevertheless, the focus will be on the differentiation strategy, which is driven by innovation, branding and other factors. Technological advances and globalization have evolved the notion of competitive advantage, which in turn means that dynamic capabilities play a crucial role in integrating and building internal and external resources to adapt and successfully respond to rapidly changing circumstances (Teece, 2014). In this context, digital transformation, disruptive technologies and the innovation ecosystem play a central role in maintaining a competitive advantage.

Another relevant framework in this context is the blue ocean strategy, which states that modern companies should not only compete, but also open up new markets that make competition irrelevant - so-called "blue oceans" (Kim & Mauborgne, 2015). Value innovation takes center stage in this context, with companies attempting to overcome the trade-off between value and cost in order to tap into an entirely new customer segment (Kim & Mauborgne, 2015).

Another modern approach is the network perspective, which states that competitive advantages result from the connections and networks that a company builds, especially in technology-orientated industries (Gulati, 2007). As technologies can overcome geographical barriers, ecosystems and platforms play a crucial role, as demonstrated by companies such as Apple or Amazon, whose success is not only due to their products, but also to their ecosystems (Gulati, 2007).

Thus, it can be stated that while traditional notions of competitive advantage focused mainly on resources, the modern paradigm focuses on agility, adaptability, and the ability to innovate and reinvent in a rapidly changing business environment.

2.2.2 The Role of Innovation in Competitive Advantage

Innovation, especially through the integration of disruptive technologies, can be seen as a decisive factor in generating and maintaining a competitive advantage (Christensen & Raynor, 2013). According to Christen and Raynor (2013), innovation goes beyond the creation of new products and services in that it can change or introduce new business models, processes and

organizational structures. Companies can use this to position themselves uniquely against their competitors and maximize customer benefits.

As mentioned in the previous chapters, innovations give companies the opportunity to enter new markets or fundamentally change existing markets (Gregersen et al., 2009). Disruptive technologies, which are ground-breaking innovations, can challenge established business practices and capture market share through more cost-effective or differentiated alternatives (Gregersen et al., 2009). Examples of change through disruptive technologies include the shift from traditional photography to digital photography or the popularity of streaming services in the entertainment industry, which show how innovations can change entire industries (Gregersen et al., 2009).

The importance of agility and adaptability cannot be overstated given the volatility and uncertainty of the modern business world (Teece, 2014). Teece (2014) suggests that companies need to be dynamic given their resources and capabilities. This means that they must be able to embrace market changes, adapt operating models and seize new opportunities in order to remain competitive. In this context, fostering innovation enables companies to cope with market developments and continuously adapt their strategy to changing customer needs by giving them the necessary agility.

In substance, while innovation offers distinct competitive advantages, its true potency lies in a company's ability to adapt, evolve, and redefine the market space. Companies that harness the power of innovation along with agility are better able to secure a competitive advantage in a constantly evolving business ecosystem.

2.3 Digital Business Ecosystem and Control Points

2.3.1 Defining Digital Business Ecosystem

The pervasive influence of digital technologies is driving the paradigm shift from traditional industry structures to digital business ecosystems and represents a fundamental change in the architecture of products and industries (Hanelt et al., 2020). In a sense, companies must adapt to a new reality, as technologies are transforming virtually all areas and value

creation in a digital business ecosystem is linked to the interactivity and interconnectivity of a multitude of players, processes and technologies (Yoo et al., 2010).

A digital business ecosystem is first and foremost a system that is highly adaptable but also very complex, goes beyond the scope of a single company and is made up of various players that develop together and thus create value for the company (Senyo et al., 2019). The very widespread digitalized way of working today is characterized by a shift from linear and modular product architectures to layered and networked structures (Talmar et al., 2020).

This development has significantly led to companies finding themselves in the situation of having to deal intensively with all components of the digital ecosystem and understand not only the individual parts, but also their systemic interactions within the digital landscape (Sanchez & Mahoney, 1996). By implementing digital technologies, companies have the opportunity to leave established and previously well-functioning paths to facilitate the development of new capabilities through innovation (Bohnsack et al., 2021)

Furthermore, the industry architecture has evolved from an entrenched, hierarchical and market-based model to a dynamic and collaborative digital business ecosystem. The capabilities that characterize this new model and make it indispensable are characterized by very dynamic adaptation to consumer preferences and technological progress and the ability to reshape the competitive environment in different sectors (Jacobides et al, 2006).

The development towards digital business ecosystems is not only a technological leap but also a strategic revolution, as it requires companies to redefine their value creation (Jacobides et al., 2015). Within this digital context, strategic alliances, among other things, are of particular importance, as they can sustainably improve the ability to innovate and create value (Adner & Kapoor, 2010).

Successful digital transformation requires an agile approach to strategy, where it is essential to recognize technological trends and constantly evolve the business model (Hanelt et al., 2020). These processes can be supported by data-driven insights, which in turn allow you to adapt quickly to conditions and expectations (Yoo et al., 2010).

2.3.2 Control Points and their Role within the Digital Business Ecosystem

Within a digital business ecosystem, control points are a key tool for executing power and value creation, as they are able to significantly influence a company's competitiveness and associated profitability (Teece, 2018). These control points are bottlenecks within the ecosystem, such as exclusive customer access, unique solutions or ownership of platforms that companies try to control (Pagani, 2013). Google, for example, shows that platform ownership is a key control point as it allows Google to shape its own activities within its platform (Yoo et al., 2010).

As mentioned above, many digital businesses are modular and multi-layered and can be managed through control points and influence certain participants in the ecosystem (Pagani, 2013). APIs and SDKs, which are critical interfaces that allow external developers to access core resources of a platform, can be cited as modern examples of control points and have the ability to maintain a balance between openness to innovation and control (Ghazawneh & Henfridsson, 2012).

Examples of control points within data ecosystems include data collection devices or analytics tools which, when managed effectively, have helped large organizations understand their users and act accordingly (Teece, 2018). The ability of a company to influence the ecosystem is certainly influenced by the strategic and technical nature of a control point. Both focal companies and complementors are able to establish control points to strengthen their position sustainably (Adner & Kapoor, 2010). A focal company is the central entity within a business ecosystem and usually has significant market power, while a complementary company is an entity that offers products that complement and add value to a focal company's offering (Adner & Kapoor, 2010).

Strategic control points relate to a company's market position and influence key market variables, such as Apple's App Store, which is an illustrative strategic control point that impacts developers and customer experience (Eaton et al., 2015). In comparison, technical control points are directly related to a company's specific technological capabilities or intellectual property, such as the management of Google's Android operating system, which sets key standards for the mobile ecosystem (Yoo et al., 2010).

To ensure the management of control points within an ecosystem, effective governance mechanisms are essential to determine how value and power is distributed (Pagani, 2013). The balance of power achieved through the management of control points can contribute significantly to success through innovation. The ever-evolving ecosystem makes it essential for companies to be flexible in their control point strategy (Eaton et al., 2015).

It can therefore be said that control points are dynamic elements and are indispensable when it comes to creating value within a digital business ecosystem. To ensure control and profitability in the digital market, companies must not only establish these points but also continuously adapt them (Pagani, 2013). As technology and the ecosystem evolves, the functions of control points will also change, which means that companies should always maintain their strategic agility (Teece, 2018).

2.4 Theoretical Framework

2.4.1 Disruption in Digital Business Ecosystem

Industry	New Entrant	Case study	Layered modular architecture	Control Points	Position in DBE	Disruption	Change of business model
Industry A	Name of Company	Industry incumbent to Disruptor	Old way of service to new way of service	Strategic Control Points Technical Control Points	Position of Disruptor and how the Disruptor managed to gain market share	Which disruption has the Disruptor used?	Business model of incumbent to business model of disruptor

Table 1: Disruption in Digital Business Ecosystem

The theoretical framework of this work consists partly of a table that is fundamentally based on the concepts of control points, digital business ecosystem and disruption described above. It is intended to categorize and identify innovation patterns in various industries. In addition to organizing data, this table serves to systematically examine and analyze cases.

An important part of the framework is the recognition of the modular layered architecture, which is intended to represent a potential paradigm shift, such as the change from a physical product of an incumbent to a digital product or service of a disruptor that replaces the old product (Sanchez & Mahoney, 1996). The modular nature of digital products or services allows for flexible customization of the product and enables the integration of innovations without having to fundamentally change the business model (Bohnsack et al., 2021). This architecture makes it easier for companies to embed digital technologies at different operational levels and thus continuously improve their value proposition and customer loyalty (Sanchez & Mahoney, 1996).

Embedded in this architecture are control points which, as already described, represent strategic and technical assets of a company and are used by companies in a targeted manner to gain competitive advantages within the digital business ecosystem (Pagani, 2013). These control points act as a pivotal point for companies that adapt their strategy to the dynamic digital environment (Pagani, 2013). The table provides a systematic mapping of these control points, which is critical to understanding how organizations navigate the complexity of digital ecosystems to secure a dominant market position.

As already described, the digital business ecosystem consists of interdependent players that are no longer an isolated entity, but part of a larger, networked community based on collaboration and innovation (Hanelt et al., 2020). The framework is intended to incorporate this concept and demonstrate the complex relationship and interdependence of the relevant companies that determine competitive dynamics and market development (Senyo et al., 2019).

Disruption occurs when established companies are displaced or take a significant share of the market, by new entrants that mostly pursue digital strategies and use the right combination of control points (Christensen et al., 2015). The table is intended to help identify cases where established market practices are being turned upside down and to illustrate the role of digital transformation as a catalyst for market disruption. It is intended to enable a comparative analysis and show which strategy works in which industry.

This table provides a robust basis for exploring the multi-layered nature of digital transformation and provides a theoretical framework that enables methodological

categorization and analysis. The results will contribute to both the academic understanding of rethought strategy and the development of practical strategic guidelines.

2.4.2 Control Point Dependence of Value Capture in Digital Business Ecosystem

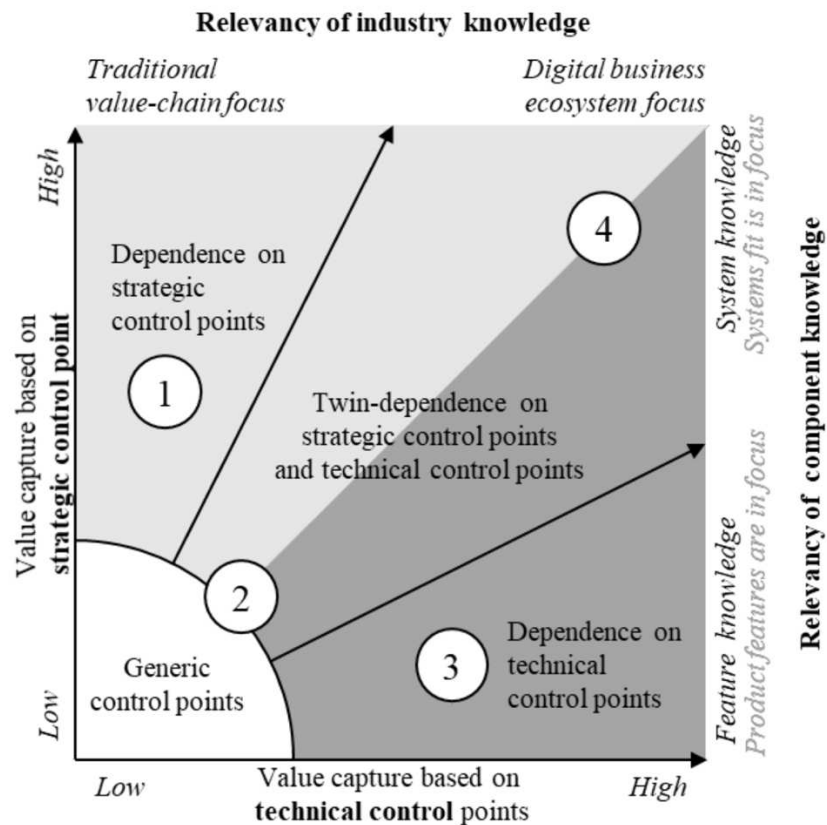


Figure 3: Control Point Dependence of Value Capture in Digital Business Ecosystem

The matrix in Figure 3 is used in this thesis in order to create a more in-depth analysis of the industries and cases and should provide insightful perspectives on how different types of firms capture value. Furthermore, the matrix deals with whether companies tend to develop their added value via strategic or technical control points. The matrix differentiates between the traditional value-chain focus and the relatively new approach of the digital business ecosystem. The traditional value chain focus is primarily concerned with a relatively linear process and continuous improvement of each step of the value chain and as described above, the digital business ecosystem is about a dynamic network that is characterized by agility, adaptability and innovation (Autio, 2021). According to Bohnsack et al. (2024) the matrix differentiates between four circles:

1. Incumbents (Circle 1)

- Firms that have high value capture potential, due to their extensive industry knowledge. Companies in this circle should focus on establishing technical control point in order to maintain their position.

2. Diversifying Entrants (Circle 2)

- In comparison to the other circles, companies within this circle have lower value capture potential because their control points are too generic and due to that their value proposition is not that strong. Unless they involve more in being innovative or partner with incumbents in order to gain more industry knowledge, they are at risk to exit the industry.

3. New Entrants (Circle 3)

- High value capture due to their unique solutions which is highly connected to technical control points. To sustain a more stable position they can, for example, collaborate with a more established player or try to build the industry knowledge by themselves.

4. Integrated Systems Players (Circle 4)

- Companies within this circle represent the highest value capture potential, because these players span all layers of a layered-modular architecture in a digital business ecosystem. These players can dominate the ecosystem and capture superior profits (Bohnsack et al., 2024).

The matrix should initially serve to classify and better categorize the different cases. The matrix is also able to showcase certain patterns of players if they are adjusting their strategy. In the next step, this matrix will be used to develop possible strategies for new entrants as well as for incumbents in an industry.

This chapter provides a stable foundation for the entire thesis by carefully explaining the basic definitions and concepts and providing examples. It is designed to provide the reader with the necessary background information to enable a deeper understanding of the research findings. The detailed presentation is intended to enhance the significance of the research findings and ensure that the reader understands the full scope and implications of this thesis. Ensure that not only the findings of the thesis are understood, but can also be contextualized, increasing their significance and relevance.

3 Methodology

3.1 Research Design

The upcoming chapter will delve into explaining the approach taken in this thesis. To gain an advantage a qualitative method will be utilized to identify and analyze instances where players used disruptive technologies. By employing this approach, the aim is to better comprehend the dynamics within industries and the strategic decisions made by companies (Creswell & Poth, 2017). Additionally, the thesis will provide insights, into how players leverage control points like their brand, know-how or data to differentiate themselves in the market.

To facilitate the identification of relevant cases, artificial intelligence tools are used to analyze and harness content from a large number of articles, journals and industry reports. This approach enables a targeted search for highly relevant cases and should help to recognize precisely which disruptive technologies and strategic control points are important (Davenport & Ronanki, 2018).

The selection criteria for these cases have an emphasis on industries where disruptive technologies play a role and are frequently utilized. Within these chosen industries three companies are selected based on factors such, as innovation and their clear utilization of control points to generate advantages. These selected cases will undergo an analysis to discuss the control points or combinations that they employ. This analysis will include a systematic content analysis in which data will be categorized to identify instances of control points. This approach should lead to an understanding of how companies manage and shape their competitive landscape through innovation.

3.2 Case Selection Criteria

The most important criterion when selecting cases is the existence of clearly defined and identifiable control points that the company uses to gain an advantage. The industries that are the focus of this thesis are the fintech, food delivery and automotive (EV) industries, as these have undergone many changes in recent years due to emerging technologies and contain cases that are of enormous relevance to the thesis.

Industry	Description	Sources
Banking	In the banking sector, companies are selected based on their innovative use of technology to disrupt traditional financial services. The companies must be able to demonstrate a significant impact on the market, which is made possible by their innovations (Gomber et al., 2018).	“On the Fintech Revolution: Interpreting the forces of innovation, disruption, and transformation in financial services” by Peter Gomber, Robert J. Kauffman etc.
Food Delivery	Within the food delivery industry, the focus will be on companies that are focusing on a revolution in the way food is ordered, prepared and delivered. The companies will show how logistical challenges and consumer preferences have been overcome and how a differentiated service is provided (Ahuja et al., 2022).	“Ordering in: The rapid evolution of food delivery“ by Kabir Ahuja, Vishwa Chandra etc.

Automotive (EV)	The automotive industry, especially with regard to electric vehicles, focuses on companies that are exemplary and leading the way in changing traditional paradigms in this industry. The selected cases are intended to illustrate how companies are using advanced technologies to overcome major challenges in this industry better than their competitors (Gersdorf et al., 2020).	“McKinsey Electric Vehicle Index: Europe cushions a global plunge in EV sales” by Thomas Gersdorf, Patrick Hertzke, etc.
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Table 2: Relevant Industries

For the analysis within this thesis, only companies that have reached a certain size and recognition within their industry are selected to ensure the validity of the results. Market presence and the degree of innovation are taken into account to ensure that the companies utilize leading practices in the use of control points (Pagani, 2013). In addition, a certain diversity should be taken into account in the selection process in order to create a comprehensive understanding of control points and their use. This approach should enrich the analysis by highlighting different applications of control points and strategies for gaining competitive advantage. As long as these criteria are adhered to, the research should reveal findings that are both specific to the cases analyzed and transferable to the industry as a whole (Patton, 2014).

3.3 Data Sources and Data Collection

The first phase of data collection consists of identifying suitable cases. To make this research more efficient and as valuable as possible, AI tools such as chatGPT will be used to

find cases that meet the research criteria outlined in the theoretical framework. The use of artificial intelligence should help to search through large amounts of data and literature and thus enable a precise and meaningful identification of relevant case studies. The aim is to objectively identify cases in selected industries, especially those that have made great progress in digital transformation.

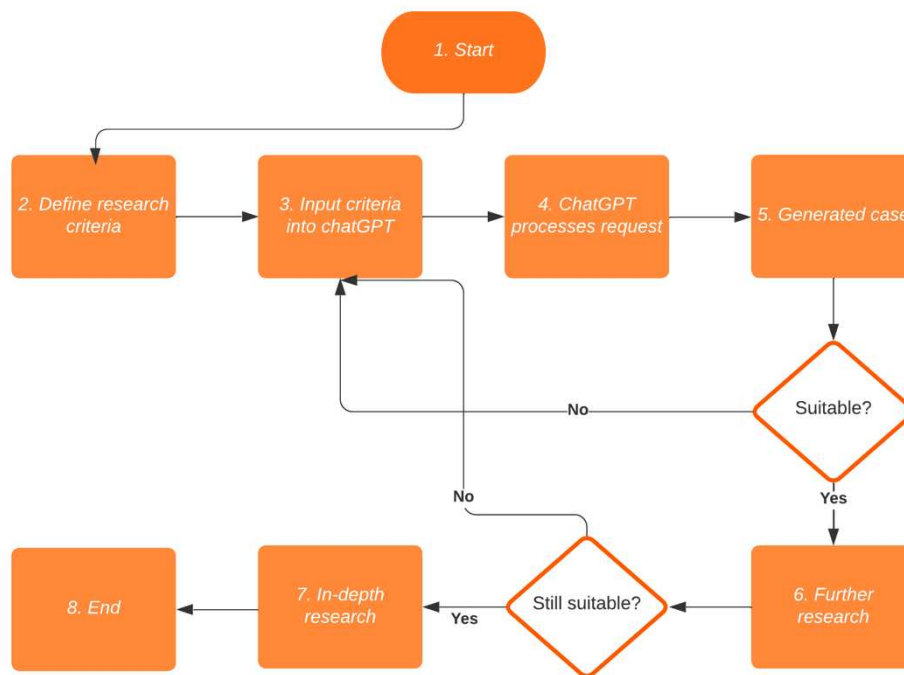


Figure 4: Flow chart - Case Identification with chatGPT

Subsequently, each of the cases identified as suitable will be analyzed in detail. To ensure a comprehensive understanding of the case, articles and reports from renowned magazines and industry publications such as the Financial Times will be analyzed, and their content collated. This approach is intended to provide nuanced insights into the company's strategy. When selecting sources, credibility and relevance will be taken into account to ensure that the data and information is reliable and relevant.

In addition to the qualitative data collected, the study also records key performance indicators (KPIs) for the various companies. KPIs are quantitative measures of performance and success that provide concrete evidence of the impact and effectiveness of the respective company's digital strategy (Parmenter, 2015). These KPIs will include the revenue and the

numbers of users or customers to provide an objective basis for evaluating the success of each individual case.

The combination of an AI-based case identification, a comprehensive literature review and a KPI analysis enables a comprehensive and robust data collection process. Within this approach, modern research methods involving technologies such as artificial intelligence will be combined with traditional methods to improve the quantity and quality of the data collected.

3.4 Literature Review and Document Analysis

The literature research forms an essential part of this work and takes place after the identification of the right cases. The analytical table "Disruption in Digital Business Ecosystem" is intended to serve as a lens and illustrate the changes within industries due to new entrants. In order to incorporate current findings into the work as comprehensively as possible, it is necessary to expand the conventional academic resources within the thesis and take so-called "grey literature" into account (Páez, 2017). This "grey literature" consists of reports, white papers and industry analyses that have not been reviewed by experts, but which often provide up-to-date information on ground-breaking developments (Adams et al., 2016).

The research is primarily aimed at current literature and news in order to do adequate credit to the rapid development in the field of digital innovations. Tools such as Google Scholar and other databases will be used to find this current literature and related information. The analysis of the existing literature will be comprehensive and systematic, using content and thematic analyses to identify concise topics and findings. As already mentioned, the inclusion of "grey literature" is of particular importance for new emerging topics where scientific research has not yet kept pace with the advanced development of the industries (Garousi et al., 2019). The aim is to enrich the analysis with practical, real-world application perspectives that may not be documented in academic studies. Summarizing the findings from academic and grey literature enables a deeper understanding of the issues. By critically evaluating all sources, both academic and non-academic, the credibility and relevance of the research should be maintained. The overview of used literature as secondary data can be found in the appendix.

It can therefore be stated that a thorough literature review, including the systematic inclusion of grey literature, provides a solid foundation for the research of this thesis. The

overall aim of the thesis is to provide a broad and deep understanding of the dynamic and multi-layered nature of digital disruption in business ecosystems.

3.5 Research Limitations

General research limitations usually result from inherent restrictions, particularly with regard to the accessibility of data and the rapidly changing development of the topic being researched. Consequently, there is a risk that the use of publicly accessible data will not fully capture and thus map the complex, proprietary strategies of companies in the field of digital innovation. In addition, ongoing developments may make the results of this work less relevant. The likelihood of this happening is unfortunately not negligible in today's very dynamic business landscape but must be accepted.

Certainly, it is reasonable in this context to conduct interviews with employees from specific companies and discuss strategic and competitive aspects of disruptive technologies. Unfortunately, access to executives with the required knowledge and willingness is severely limited for me as a student with a limited network. This can negatively influence or limit the depth of the thesis. Furthermore, the use of a survey was not utilized, as the topic requires a high level of expertise due to its specificity and complexity, which is simply not available to a potentially very large proportion of participants in a student survey. The potential to obtain objective and accurate responses that provide clear insights into the intricacies of control point utilization within digital ecosystems is likely to be very limited.

To mitigate these limitations, this thesis utilizes a comprehensive literature review, which will form the qualitative basis and be enriched with the analysis of specific company KPIs. The literature review leads to a comprehensive understanding of the specific case and industry, while the analysis of KPIs provides a measurable component to evaluate the impact and effectiveness of digital strategies. This approach should enable an objective and analytical evaluation and should help to create the greatest possible added value.

4 Status Quo and Emerging Entrants

To comprehend the pertinent control points and their combinations for a new company in a specific industry, a thorough analysis was conducted on three successful cases within each of the chosen industries concerning their control points and disruptions. These cases were subsequently compared with each other utilizing the "Disruption in Digital Business Ecosystem" table. The section below provides information on relevant industries, describing existing challenges and disruptions, as well as innovations of paramount importance. Moreover, it highlights companies that have utilized such disruptions to expand their market share. Subsequently, the following chapter examines the control points and how these mechanisms are used.

4.1 Digital Banking Revolution: The Emergence and Impact of Neobanks

4.1.1 Challenges of Traditional Banks

The banking industry has historically been a very important part of the economic system and still offers essential financial services such as deposit accounts or transactions. In the recent past, traditional banks have focused on offline business and have increasingly emphasized personal service (Bradford, 2020). One point of criticism that banks have often had to accept is that they work inefficiently and opaquely while adapting to technological innovations from outside only to a limited extent and if so, very slowly (Bradford, 2020). This is a problem that neobanks such as N26 or Revolut are taking up and capitalizing on. Other problems that are omnipresent for traditional banks are listed and described below:

1. Inadequate adaption to digital trends

- The digital age and the associated digital transformation has inevitably brought and continues to bring a redefined customer expectation in combination with new technological possibilities in the banking sector (Nair & Menon, 2017). Traditional banks have proven in the past that it is very difficult for them to respond to digital trends. There have been attempts to digitize services in the past, but it appears that these are not as comprehensive and in-depth as those of digital-first banks (Nair & Menon, 2017). These superficial attempts at

digitalization are not able to meet the growing expectations of customers, which in turn leads to a potential loss of customers.

2. Legacy systems and lack of agility

- Another problem is that traditional banks are often reliant on outdated systems (Bradford, 2020). In addition to reduced efficiency, this problem leads to an impairment of the bank's endeavor to act innovatively and agilely in order to adapt to changing market conditions (Bradford, 2020). In contrast to this inflexibility is the enormous agility of neobanks, which are able to continuously adapt their features to changing conditions.

3. Failure to leverage data effectively

- One area that is very important today is the effective use of data, where traditional banks have enormous problems in harnessing it (Temelkov, 2020). In contrast, neobanks use sophisticated data analytics to harness data to work more effectively and tailor their products to the needs of their customers (Temelkov, 2020). The underutilization of data by traditional banks leads to a less appealing product, which in turn leads to potential customer churn.

4. Customer experience and engagement

- The customer experience and the associated customer loyalty is another very important challenge for traditional banks (Lazareva, 2022). The user-friendliness and functionalities of traditional banks' products often leave a lot to be desired and neobanks are showing how it's done (Lazareva, 2022). This gap in the digital user experience often leads customers, especially young, tech-savvy customers, to neo-banks that meet their needs.

5. Overreliance on physical branch networks

- Another problem that most traditional banks face is the continued focus on maintaining extensive physical branch networks (Sarkauskaite, 2023). As digital interaction is favored by younger people today, this has become a significant problem. Another disadvantage for traditional banks is the enormous cost of these branches. Neobanks, on the other hand, operate with lower fixed costs and can therefore be more agile in the market (Sarkauskaite, 2023).

In summary, traditional banks face enormous challenges: They are slow to adapt to technological advances, underutilize data and are unable to meet changing customer needs

(Temelkov, 2020). To remain competitive in this space, banks must adopt a comprehensive approach to digital transformation, which is essential to maintaining market share.

4.1.2 Rise of Neobanks

The problems of traditional banks described above have given rise to neobanks such as N26, Revolut and Monzo, all of which have increased their turnover and number of users significantly in recent years as noticeable in Table 6.3 in the appendix. A neobank is a digital bank that operates without physical branches and is part of the wider fintech (financial technology) revolution that aims to modernize and simplify banking services (Temelkov, 2020). These players are challenging traditional banks through the use of digital technologies, which in turn lead to greater flexibility and improved customer satisfaction (Kashyap et al., 2016). As can be seen in Figure 5, neobanks have gained significantly in transaction value and therefore market share over the last 6 years.

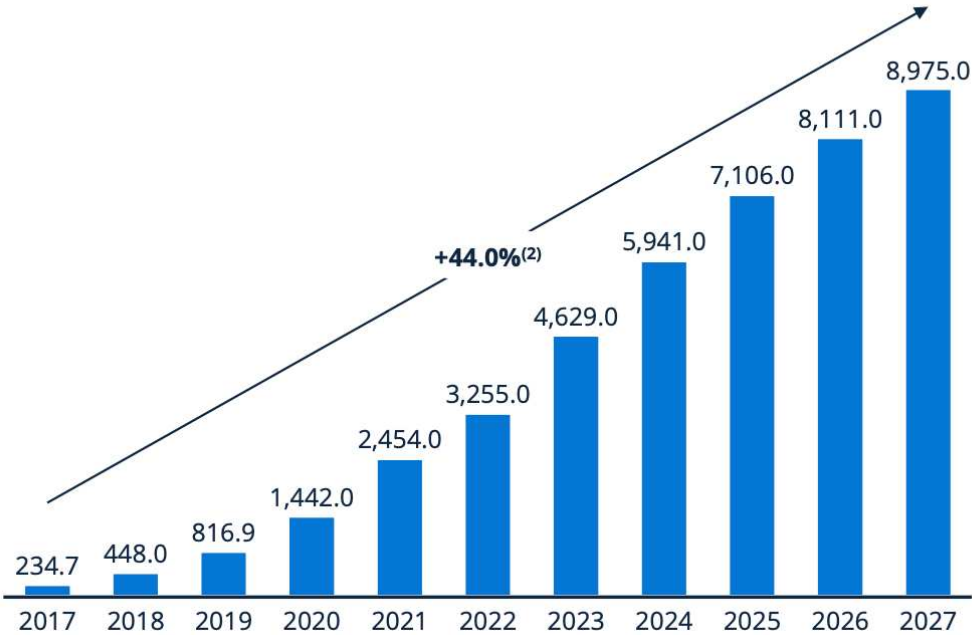


Figure 5: Global Transaction Value of Neobanks in Billion US\$ (Senn-Kalb & Mehta, 2022)

Within the table "Disruption in Digital Business Ecosystem", the companies N26, Revolut and Monzo were compared with each other and analyzed with regard to their disruptions and control points. In the following, the most important disruptions in combination with certain control points and their effects will be described.

One of the most important and differentiated approaches of neobanks is their mobile-first approach, which represents a significant strategic change and can be directly linked to the control point digital infrastructure (Woodford & Darrah, 2019). By prioritizing the use of smartphones, they offer a level of convenience that can only be provided to a limited extent by traditional banks. This simplifies access for customers and appeals to a modern, tech-savvy customer group, which in turn leads to an increased market share (Kashyap et al., 2016).

Compared to traditional banks, neobanks can be extremely agile, which is particularly important in the context of international banking services. Neobanks can offer accounts in different currencies and free international transfers, where traditional banks can only keep up to a limited extent due to their outdated systems (Salomon, 2021).

With regard to transparency, neobanks have broken with traditional practices. Neobanks are generally very transparent and do not work with hidden fees, as traditional banks have sometimes done due to their high level of complexity (Morgan, 2022). This leads to growing trust in the brands of the various neobanks in the long term.

One of the truly distinctive features of neobanks is its real-time notifications, which provide immediate information about transactions and account activity (Kashyap et al., 2016). On the one hand, this feature improves the customer experience and on the other, it also conveys a sense of control and security (Woodford & Darrah, 2019). One factor that contributes to an increased sense of security is the integration of security mechanisms such as bio-metric authentication that protect customer data and thus strengthen trust.

In terms of branding, neobanks are characterized by the development of a strong and resonant brand identity (Kashyap et al., 2016). By being able to provide constant feedback, customers potentially feel heard and part of a community (Marous, 2018). This is in direct contrast to the often-rigid customer interaction of conventional banks.

4.1.3 Classification of the Banking Industry

As noticeable in figure 6, traditional banks and neobanks are classified in the matrix, which is explained within the Literature Review. In the past, traditional banks that can be classified within circle 1 of the matrix, have relied on strategic control points and used their extensive industry knowledge to constantly optimize their value chain. Examples for strategic control points that were set by traditional banks in the past, are their extensive branch network and their long-term customer relationships that were key to be successful in the past. In order to become an integrated system player that integrates across all layers of the ecosystem, traditional banks have to leverage this industry knowledge in order to modify their captured control points and set up new technical control points, with a focus on data and digital infrastructure.

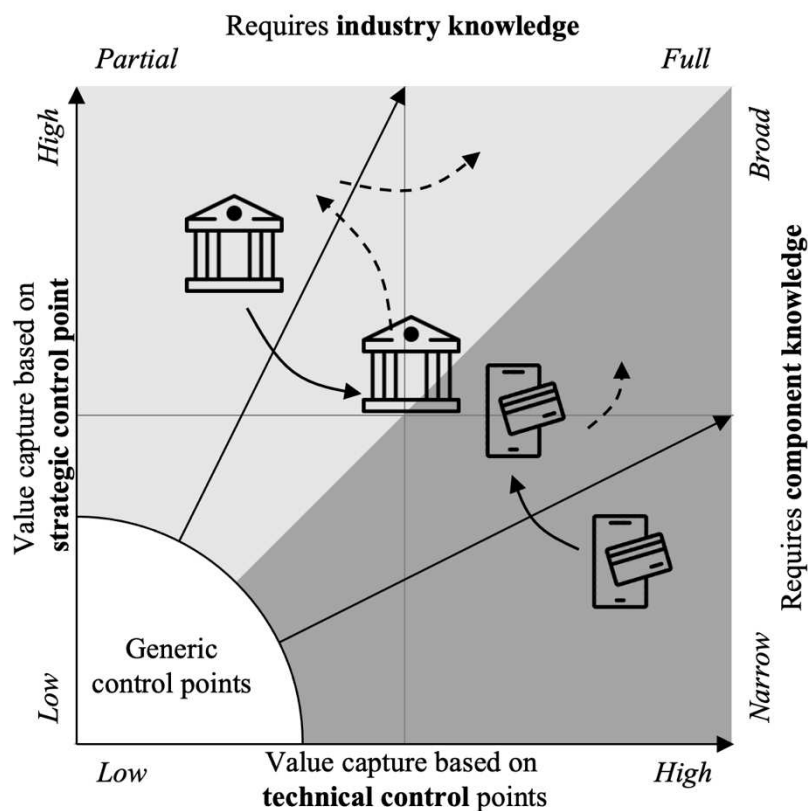


Figure 6: Control Point Dependence of Value Capture in Digital Business Ecosystem – Banking

In contrast, neobanks have adopted a more dynamic approach, focusing primarily on technical control points like digital and unique infrastructure and attempting to use these to expand their strategic control points (Appendix 7.1). They are therefore clearly assigned to

Circle 3. As already described, the strength of neobanks lies in their skillful use of digital innovations and their agility to adapt to new market trends and customer needs in the digital ecosystem (Kashyap et al., 2016). In order to dominate in this market neobanks have to use their established control points and build new strategic control points, that are currently conquered by the traditional banks.

Point in time	Stage	Players	Actions	Control Points
T0	Initial Stage	Traditional banks	<ul style="list-style-type: none"> Operate within established banking norms, with a focus on in-person services and conventional banking products 	<ul style="list-style-type: none"> Brand Customer Access Networking Financial Resources
T1	Pre-disruption	<ul style="list-style-type: none"> Traditional banks Neobanks 	<ul style="list-style-type: none"> Market is changing (digitization) Traditional banks begin to digitize some services Neobanks emerge Development of technical solutions Entrance of disruptors in market 	<ul style="list-style-type: none"> Data Unique solution Digital Infrastructure Modularity

T2	Disruption	Neobanks	<ul style="list-style-type: none"> • Disruptors leveraging technical solutions with a focus on solving rising challenges of the market • Innovative features • Lower fees • Start to challenge incumbents • Attract tech-savy customers 	<ul style="list-style-type: none"> • Scalability • Customer Access • Brand
T3	After-disruption	<ul style="list-style-type: none"> • Traditional banks • Neobanks 	<ul style="list-style-type: none"> • Competition increases • Traditional banks are losing market share • They try to adjust their products to gain back market share from disruptors • Disruptors are constantly improving their products with up-to-date solutions 	<ul style="list-style-type: none"> • Data • Unique Solution • Brand • Customer Access • Agility

Table 3: Stages of disruption - Banking

In summary neobanks like N26, Revolut and Monzo have established a presence, in the banking industry by employing technologies and prioritizing customer satisfaction. This process can be observed in table 5. Although traditional banks are currently trying to adjust their products in order to gain back market share the unique methods of neobanks not only disrupt banking norms but also establish new standards, for delivering digital financial services and represents a paradigm shift in how financial services are conceived and experienced by users (Kashyap et al., 2016).

4.2 Automotive EVolution: Navigating the Road from Traditional Vehicles to EV Innovation

The automotive industry has undergone a profound transformation in recent years. The introduction of electric cars has ushered in a new era that is characterized in particular by the transition from cars with classic combustion engines to sustainable technology-based vehicles (Wells & Nieuwenhuis, 2014). This change, which represents an enormous technological leap, represents a huge challenge to the standards set by established car manufacturers (Lllopis-Albert & Rubio, 2021). Pioneering EV companies such as Rivian, NIO and Lucid Motors are now at the forefront of this revolution and are constantly trying to implement new technologies to expand their product to meet changing customer needs. These companies are changing and reshaping the market with their cutting-edge technologies and visionary concepts. As can be seen in appendix 7.2, all three of the companies analyzed have experienced enormous growth.

Due to the growing awareness of environmental issues and the resulting demand for more sustainable yet comfortable transport solutions, these EV pioneers are seizing the opportunity to redefine the meaning of driving (Davis, 2023). The approach of these companies, which is based on innovation, technological solutions and customer-based development, poses enormous challenges for traditional car manufacturers such as BMW and Ford (Lllopis-Albert & Rubio, 2021). These dominant players in the automotive industry have focused on the production of petrol-powered vehicles for decades and are now struggling to adapt to the changing conditions within the industry (Wells & Nieuwenhuis, 2014).

The challenges for traditional car manufacturers are made up of various factors. As already mentioned, the biggest challenges for traditional car manufacturers are adapting to new technologies, changing consumer preferences and moving away from tried-and-tested vehicle

manufacturing processes (Wells & Nieuwenhuis, 2014). These issues present themselves as major problems despite the financial resources usually available on a large scale. EV innovators are using their digital infrastructure, their agility and their specific expertise in a targeted manner to initially gain a certain niche in the market and, in the long term, to take over large parts of the market (Shenvi, 2021). Figure 7 shows how the market for plug-in electric vehicles has developed in recent years. It is assumed that this growth will continue and that this market will take over a significant part of the market for conventional vehicles. In the following, the most important advantages of EV pioneers are summarized and how traditional manufacturers are dealing with them.

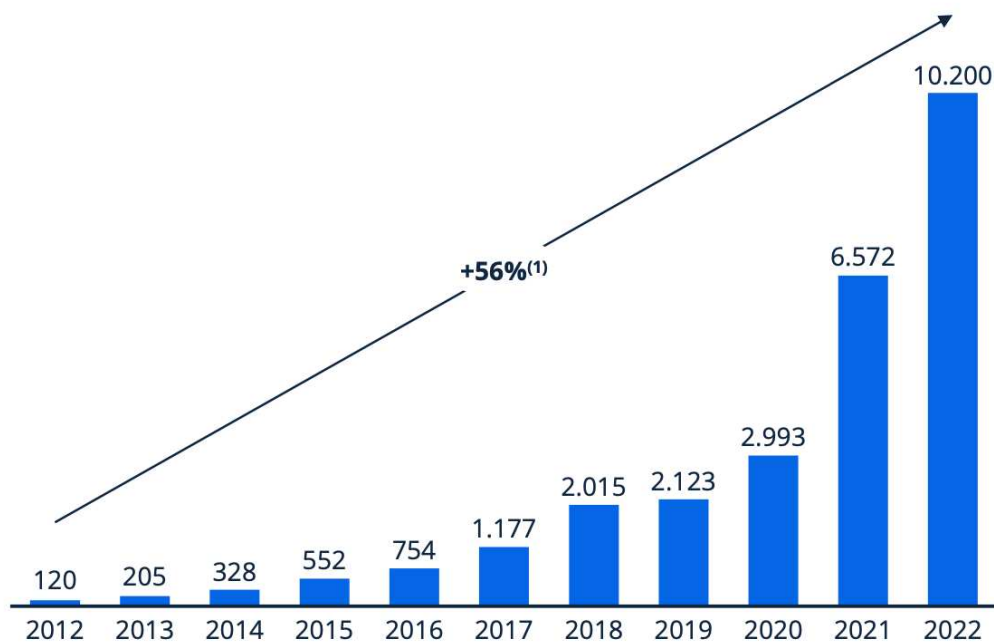


Figure 7: Global plug-in Electric Vehicle Sales in Thousands (Hoffmann & Mehta, 2023)

4.2.1 Challenges of Traditional Car Manufactures

For decades, traditional manufacturers have concentrated on the construction and optimization of classic combustion engines. Global change in terms of sustainability and increasing regulations are forcing these companies to increasingly focus on electric drives (Wells & Nieuwenhuis, 2014). The priority is therefore to redesign the entire product. This problem gives rise to a wide range of challenges, such as the development of specific expertise. This knowledge base differs significantly here and requires a steep learning curve. Furthermore, manufacturing processes cannot simply be adopted. Electric vehicles, for example, require

sophisticated software integration in addition to precise battery management (Davis, 2023). In addition to a reconfiguration of manufacturing processes, a cultural change is required within the company.

Furthermore, traditional car manufacturers have long relied on the mechanical capabilities of their vehicles and now find themselves in the situation of having to deal with the integration of data-driven technologies into their vehicle concepts (Lllopis-Albert & Rubio, 2021). One challenge in this context is the integration of a data-based approach into vehicles that were not originally designed with connectivity in mind (Johnson, 2023). In order to meet increased customer needs, manufacturers today must use vehicle-generated data to optimize vehicle performance and offer comprehensive data analysis capabilities (Johnson, 2023). At this point, we can speak of a paradigm shift to a service where continuous customization through data is of particular importance.

As already mentioned, the traditional view that vehicles are a stand-alone product must be called into question by the rapid development of technology. Traditional vehicle manufacturers are currently facing the complex challenge of integrating the vehicle product into a broader, networked ecosystem (Wells & Nieuwenhuis, 2014). This ecosystem is made up of a broad network of services and infrastructures as well as software, energy and maintenance systems. In order to cope with this change, traditional companies need to deviate significantly from their core business model and adopt a comprehensive, service-orientated approach that is expected by the modern consumer (Wells & Nieuwenhuis, 2014).

4.2.2 Rise of EV innovators

How these challenges are solved by the analyzed EV innovators is explained in the following sub-chapter.

The innovative developers of electric vehicles are meeting the challenges of technological shifts and modularity with a modular approach to the design and manufacture of their vehicles (Ewing, 2020). It allows them increased agility in terms of design and scalable production which resembles a system of interchangeable building blocks. This is particularly useful for modular battery packs which can be customized without fundamentally changing the vehicle design (Ewing, 2020). In addition, the functionality and service life of the vehicles can

be continuously improved through over-the-air updates (Greyb, 2021). This agility helps companies like Rivian to constantly respond to market trends and technological developments.

The modularity of EV innovators creates a foundation for continuous innovation and positions them at the forefront of this niche market by redefining automobiles in the digital age.

Moreover, EV innovators like NIO are already extensively using data analytics and big data to continuously improve their vehicles and increase customer satisfaction (Na, 2019). The integration of IoT and AI into their vehicles leads to the creation of a data ecosystem, which in turn leads to granular performance tracking and continuous improvements in terms of battery and energy management (Na, 2019). In addition, the data collected is analyzed and enables functions such as predictive maintenance, which identifies potential problems and suggests preventive measures. These vehicles are constantly learning units in which every journey contributes to collective intelligence (Na, 2019). When it comes to autonomous driving, these companies use real-time data to train their AI systems and ensure that the vehicle's autonomous capabilities become more robust and reliable with every mile driven (Shenvi, 2021).

Additionally innovative electric vehicle manufacturers are proactively addressing the issue of the creation of more than a car by utilizing a software ecosystem to ensure the continuous improvement of their product (Magas, 2023). This principle of continuous improvement is similar to the consumer electronics model, where devices are kept up to date through incremental updates.

As part of comprehensive energy management, vehicles are being integrated into smart home systems. The vehicle thus becomes part of the home and can be integrated into the home's energy ecosystem through vehicle-to-grid technology, which leads to greater convenience and the promotion of energy independence and sustainability (Zamanov, 2023). In addition, research into autonomous ride-sharing centers by EV innovators illustrates a shift away from viewing the vehicle purely as a product towards a service orientation (Shenvi, 2021). This model is taking into account the change in consumer behavior, which in turn reflects the broad social trend towards service-oriented consumption.

4.2.3 Classification of the Automotive Industry

Having analyzed the specific cases of EV innovators, it becomes evident that these players are primarily focusing on control points like data, digital infrastructure and modularity and mainly have the specific feature knowledge (Appendix 7.2). In comparison to the neobanks they as well concentrate on some strategic control points and focus on industry knowledge due to the fact that they are creating a more expensive product and can't solely rely on strategic control points and their feature knowledge. One strategic control point they extensively focus on is the creation of an innovative brand that is strictly differentiating these innovators from the traditional companies. As described, these EV innovators are having their focus on the digital business ecosystem and try to get rid of the traditional value chain focus. Within the matrix they can be ranked between circle 2 and 3 within figure 8. Leveraging their technical and few strategic control points could be a strategy in order to be able to capture superior profits.

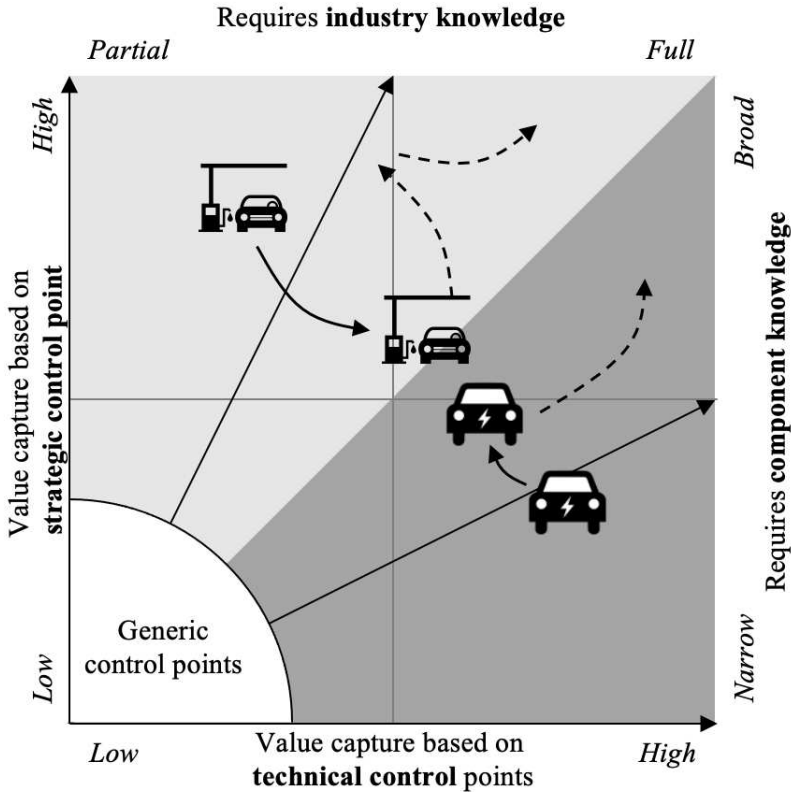


Figure 8: Control Point Dependence of Value Capture in Digital Business Ecosystem – Automotive

Traditional car manufactures can be classified in circle 1 but in comparison to traditional banks, they even more focus on the traditional value chain. Their industry knowledge is very

high due to decades of experience in automotive design, manufacturing and distribution which as well brings a relatively high value capture potential at their moment due to established brand recognition and a customer loyalty (Wells & Nieuwenhuis, 2014).

Point in time	Stage	Players	Actions	Control Points
T0	Initial Stage	Traditional automotive manufactures	<ul style="list-style-type: none"> • Focus on manufacturing internal combustion engine vehicles • Investments in efficiency and reliability of the product 	<ul style="list-style-type: none"> • Brand • Customer Access • Know-How • Financial resources
T1	Pre-disruption	<ul style="list-style-type: none"> • Traditional car manufactures • Emerging EV Providers 	<ul style="list-style-type: none"> • Incumbents start to concept electric vehicles • EV only providers emerge • Advanced features of electric vehicles like superior range and performance 	<ul style="list-style-type: none"> • Digital Infrastructure • Modularity • Data • Unique solutions

T2	Disruption	Emerging EV providers	<ul style="list-style-type: none"> • EV providers scale up and gain market share • Innovative features • Fast charging networks • Battery innovations • Direct-to-consumer sales • Start to challenge incumbents 	<ul style="list-style-type: none"> • Digital Infrastructure • Modularity • Data • Scalability • Brand • Networking
T3	After-disruption	<ul style="list-style-type: none"> • Traditional car manufactures • Emerging EV providers 	<ul style="list-style-type: none"> • Competition increases • Traditional car manufacturers are losing market share • Traditional car manufacturers invest heavily in electrification of popular models • Competition focuses on details of the product 	<ul style="list-style-type: none"> • Customer Access • Brand • Agility • Unique Solutions

Table 4: Stages of disruption - Automotive

To summarize it, traditional car companies are facing market obstacles as they transition to electric vehicles. On the hand innovators, in the electric vehicle sector are boldly tackling these challenges head on by employing vehicle designs, advanced data analytics and creating comprehensive ecosystems around their products. Their approach not addresses immediate issues but also establishes benchmarks and expectations for the future of the automotive industry. As it can be observed in table 6 this dynamic represents a transformation in transportation emphasizing the significance of adaptability, innovation and a holistic mindset, in our evolving world of mobility.

4.3 Feast of Innovation: The Rise of Tech-Driven Delivery Giants

The relatively immature online food delivery market has similarly undergone a transformation in recent years, changing the way consumers are dining out and interacting with restaurants. The industry, which was initially dominated by traditional take-away models, has undergone a revolution with the emergence of online food platforms (Miller, 2023). Grubhub and Just eat were pioneers in this industry, pioneering the concept of online aggregation of restaurants and changing the catering landscape forever (Pang et al., 2022). The successes of these pioneers are currently being challenged and, in some cases, overtaken by new players in the industry as they utilize new perspectives and disruptive technologies to operate more efficiently and successfully, as it can be observed in Appendix 7.3.

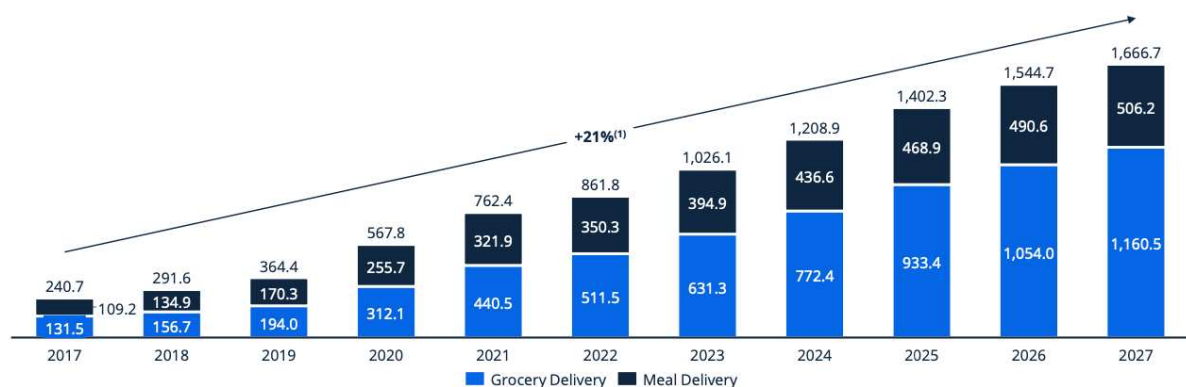


Figure 9: Revenue Forecast for Online Food Delivery (Miller, 2023)

Since the market continues to grow, as can be seen in figure 9, it is necessary to understand how these new players are securing their market share, and in addition to their

strategy, understand the challenges that the pioneers in this industry face. Insights into these challenges and how they are being overcome by the innovative companies will be outlined.

4.3.1 Challenges of the Early Leaders in the Food Delivery Market

1. Adapting to Rapid Technological Changes

- The initial leaders in this market were able to capitalize on the internet boom to connect consumers with restaurants. Due to the rapid pace of technological development in recent years, these companies now face the challenge of constantly updating their platforms, such as websites or apps, to meet the latest technological standards (Miller, 2023). A particularly important shift in strategy has been towards mobile technology, which involves developing user-friendly mobile apps and optimizing the ordering process for mobile devices (Miller, 2023).

2. Meeting evolving Consumer Expectations

- Consumer expectations have changed or increased significantly over time, as they are no longer satisfied with just convenient home delivery, but expect faster delivery times, live tracking of the supplier and a huge selection of food (Pang et al., 2022). Traditional delivery companies have to reorganize their service and change their strategy to meet these expectations.

3. Complying with Food Quality Standards

- A major challenge was maintaining the quality and freshness of the food delivered, as transport often takes place over long distances and under different environmental conditions (Miller, 2023). The former market leaders had to try to ensure this with the help of better planning and a better network.

4. Addressing Operational and Logistical Challenges

- Companies such as Grubhub and Just Eat have always faced logistical challenges in balancing supply and demand as they expand their operations, especially at peak times. To solve these operational challenges, more complex solutions had to be implemented, leading to higher costs and increased complexity in business operations (Pang et al., 2022).

5. Shifting Consumer Preferences

- With the increase in food delivery, companies also have to adapt to the emerging habits and preferences of their customers. These new preferences include a

greater variety of options, including health-conscious and environmentally friendly offerings, which in turn has put companies in a position to diversify their offerings (Pang et al., 2022).

4.3.2 Rise of Innovators in Food Delivery

The aforementioned innovators in the food delivery industry such as Deliveroo, Zomato and Doordash have been able to revolutionize the sector by tackling the challenges described above.

Zomato has made significant strides in adapting to technological change by implementing sophisticated machine learning (AI) and artificial intelligence techniques to improve the customer experience and establishing the control point of data (George, 2023). An example of this is the introduction of bi-directional Long Short Term Memory (LSTM) to accurately predict preparation time and deliver on time and fresh, dramatically increasing customer satisfaction (Goel, 2021).

In response to the growing competition in the industry, Doordash has broadened its horizons beyond traditional food delivery and has expanded its service to other products such as beauty or Lifestyle products (Naik, 2021). This strategic expansion is supported by AI-driven algorithms that optimize delivery routes, effectively reduce waiting time and vastly improve the overall efficiency of the delivery network (Naik, 2021). This combination of different technologies is directly connected to the establishment of the control point of customer access.

According to Pang et al. (2022) Deliveroo has responded to the challenge of meeting customer expectations by integrating Snowflake's cloud data warehouse. The integration has enabled Deliveroo to analyze data faster and respond quickly to changes in customer demand. The company has been able to identify areas with a lack of supply and develop and supply these as new areas (Pang et al., 2022).

To overcome the operational and logistical challenges, Deliveroo has focused on the control point of digital infrastructure, by implementing the Deliveroo Toolkit, developed by the American food company Maple, to help optimize food preparation and kitchen operations by providing restaurants with real-time dashboards to identify potential bottlenecks and better

predict order quantities (Sen, 2021). The toolkit has helped to streamline food preparation and delivery processes and increase efficiency.

It can be said that the innovative approaches of the new players in this industry have set new standards. The targeted use of these disruptive technologies has not only helped them adapt to the rapidly changing market landscape, but has also set new benchmarks for efficiency, customer satisfaction and operational excellence. This innovation has overcome many of the challenges and potentially paved the way for future growth.

4.3.3 Classification of the Food Delivery Industry

Regarding the control points in comparison to the other industries the food delivery industry is a young industry and the early leaders of this industry were not that focused solely on strategic control points and the traditional value chain. They are focusing on strategic and technical control points and also take the digital business ecosystem into account which classifies them between circle 2 and 4 of the matrix. They focus on technical control point such as a robust platform but also heavily rely on their brand recognition and customer base. These pioneers need to decide whether they first of all want to leverage their strategic or technical control points in order to be on top of competition.

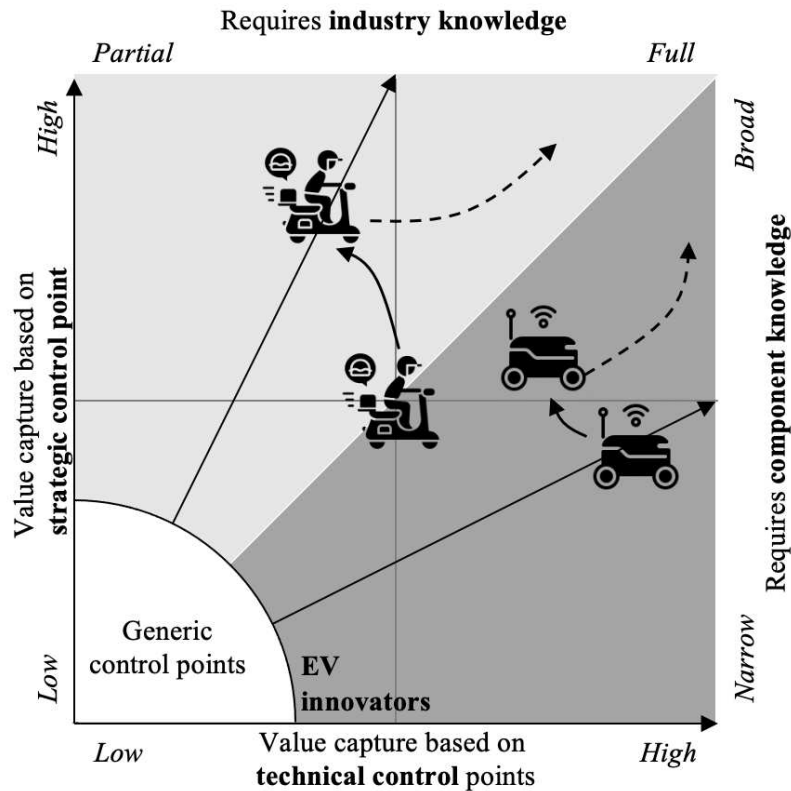


Figure 10: Control Point Dependence of Value Capture in Digital Business Ecosystem – Food delivery

New Entrants like Deliveroo, Doordash or Zomato are way more focused on the technical control points, like digital infrastructure and data, due to their heavy reliance on technology and advanced platform features (Appendix 7.3). They also have their focus more on their feature knowledge and unique solutions that is differentiating them from other competitors. Due to that fact they can be classified between the circles 2 and 3.

Point in time	Stage	Players	Actions	Control Points
T0	Initial Stage	Food delivery pioneers	<ul style="list-style-type: none"> Pioneers establish online ordering platforms 	<ul style="list-style-type: none"> Network Digital Infrastructure Customer Access

			<ul style="list-style-type: none"> • Partner with a variety of restaurants 	<ul style="list-style-type: none"> • Brand
T1	Pre-disruption	<ul style="list-style-type: none"> • Pioneers • Innovators 	<ul style="list-style-type: none"> • Innovators enter the market with more user-friendly apps • Offer more options and features • Pioneers try to adjust their product 	<ul style="list-style-type: none"> • Digital Infrastructure • Data • Unique solutions
T2	Disruption	Innovators	<ul style="list-style-type: none"> • Innovators disrupt by expanding rapidly • Offering subscription models and leveraging on data • Integrating other services like grocery delivery 	<ul style="list-style-type: none"> • Digital Infrastructure • Scalability • Brand • Customer Access
T3	After-disruption	<ul style="list-style-type: none"> • Pioneers • Innovators 	<ul style="list-style-type: none"> • Market saturation leads to consolidation • Companies that cannot keep up 	<ul style="list-style-type: none"> • Agility • Modularity • Brand • Customer Access

			<p>exit the market or be acquired</p> <ul style="list-style-type: none"> • Surviving players are focus on described challenges and are expanding their offerings 	
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Table 5: Stages of disruption - Food Delivery

It can be said that the innovative approaches of the new players in this industry have set new standards. The targeted use of these disruptive technologies has not only helped them adapt to the rapidly changing market landscape, but has also set new benchmarks for efficiency, customer satisfaction and operational excellence. This innovation has overcome many of the challenges and potentially paved the way for future growth.

5 Discussion

As the three industries have now been analyzed and it has been clearly shown which innovations have been used by new entrants to gain market share and challenge industry incumbents. The following chapter intends to show how different players in the markets can capture control points to become the major player in the digital business ecosystem using different strategies.

5.1 Dynamics of Market Disruption over Time

The discussion is based on figure 11 which is a graph-based figure and illustrates the dynamics of market disruption over time, with specific focus on how and when different entities – incumbents and new entrants – capture control points to enhance their market performance.

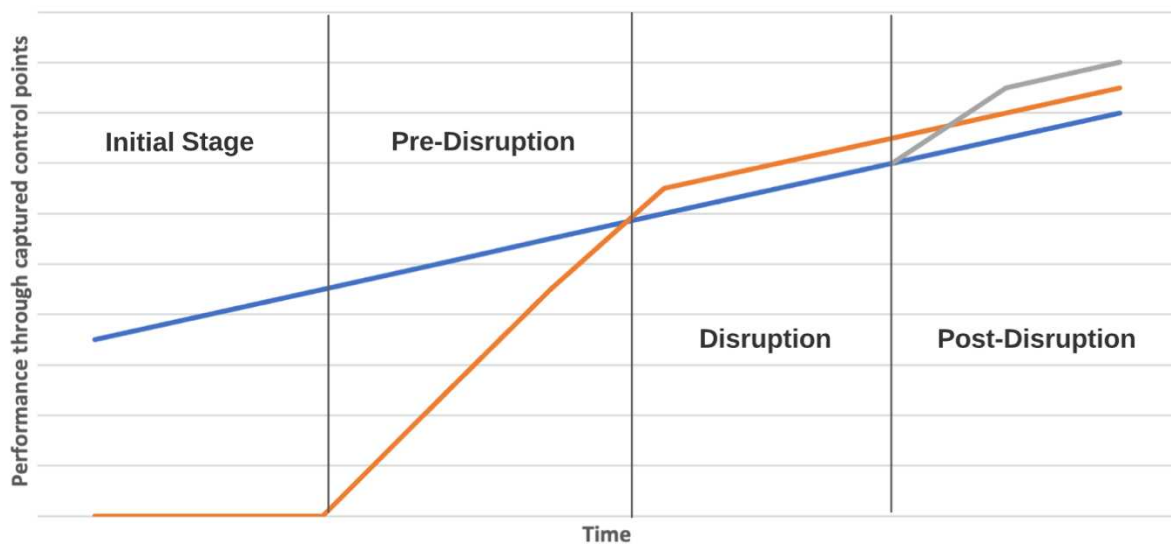


Figure 11: Dynamics of Market Disruption

The y-axis measures the level of performance achieved through the acquisition and utilization of control points. This is a proxy for the competitive advantage or market share that a company holds due to its strategic and technical control point:

1. **Strategic and Technical Control Points:** As already described control points are strategic (like brand strength, regulatory influence, and customer access) or technical (like proprietary technologies, intellectual property, and innovative business models)

assets or capabilities that a company can leverage. These control points do not directly translate into performance of the company but provide a potential for it.

2. **Bargaining Power:** The acquisition and utilization of control points increase a company's bargaining power with stakeholders such as suppliers, customers and partners. This could be described as a more immediate and direct outcome of capturing control points.
3. **Value Capture Potential:** Due to a better bargaining position, a company is in a better position to capture value due to its business model. This refers to the potential to translate bargaining power into actual economic benefits, such as increased revenue or profit margins.
4. **Performance:** Performance can be seen as the overall outcome from effectively converting control points into bargaining power and converting bargaining power into value capture potential. It describes the end result of the process, rather than a direct consequence of capturing specific control points.

The x-axis of the of this matrix is describing the progression of time across four distinct stages:

1. **Initial Stage:** Incumbents of the different industries like BMW in the automotive industry or Deutsche Bank in the banking industry are dominating the market with traditional strategic control points through brand recognition, an extensive customer base or financial resources (Nair & Menon, 2017). At this point in time the described new entrants of the industries are not existing.
2. **Pre-Disruption:** New Entrants, such as neobanks, start to introduce disruptive technologies and digital-based business models, rapidly gaining technical control points and challenging incumbents (Bradford, 2020).
3. **Disruption:** At this point in time the performance of new entrants is potentially surpassing that of the incumbents, due to the effective exploitation of technical control points, leading to a significant market shift.
4. **Post-Disruption:** The market stabilizes after the disruptive phase. Incumbents either adapt by adopting new technologies and strategies, possibly regaining some control points and market share, or fail to do so and continue to decline in performance relative to new entrants.

5.2 Strategies

The different graphs within figure 11 are representing the certain strategies of the players in the market. In the following these strategies are explained and enriched with examples from the analyzed industries.

5.2.1 Disruptive Strategy by New Entrants

This strategy is represented by the orange graph in figure 11. From the analysis of the various cases, it can be deduced that all of the new market entrants analyzed focused on capturing technical control points. The most important technical control points consist of data, digital infrastructure and modularity. For neobanks, the focus here was on building a stable digital platform and the targeted use of data with the help of technology. In addition, the mobile-first approach has enabled these players to provide customers with a very convenient and user-friendly experience that was not previously offered by traditional banks (Lazareva, 2022). The same applies to the analyzed players in the food industry which have also focused on these control points. Players focusing on electric transportation have focused on developing revolutionary solutions, such as battery swapping technology or a very powerful battery, in order to differentiate themselves from their competitors (Wells & Nieuwenhuis, 2014). These companies have therefore managed to seize technical control points with the help of disruptive technologies. It can be said that it is reasonable for new entrants in the initial stage and pre-disruption stage to concentrate on technological control points and thus initially serve a niche market.

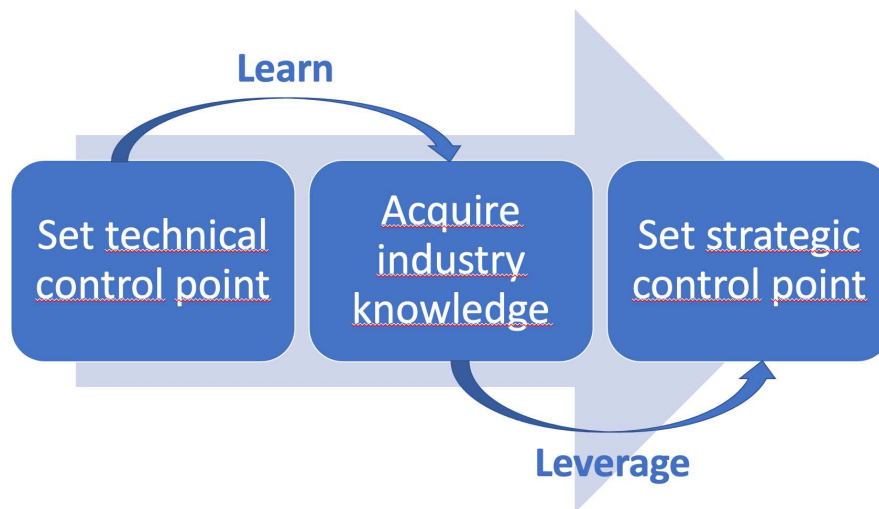


Figure 12: Control Point Capturing - New Entrants (Bohnsack et al., 2024)

In the pre-disruption stage, the focus for the new entrants lies on further expanding the technical control points in the ecosystem and further developing their component knowledge. At the same time, it is a top priority for these companies to use the component knowledge and technical control points they have built up to gain industry knowledge in order to build up strategic control points, which are initially in the hands of the incumbents (Bohnsack et al., 2024). This process is described in figure 12. Neobanks have focused on the strategic control points of customer access, which they address by targeting untapped market segments and offering services such as simplified account openings or simplified international banking. Innovative EV players are trying to establish a distinctive brand that stands for innovation, sustainability and performance, such as Rivian, which defines itself through outdoor adventure and a sustainable conscience (Davis, 2023). They try to do this through their unique technological solutions.

As it can be seen in figure 11, the pre-disruption phase is a very important one for these players, as it is during this phase that the company's brand and its product are rapidly improved so that they challenge the established companies.

The phases of disruption and post-disruption are characterized by enormous competition between new entrants and incumbents. In this phase, it is important for new entrants to maintain the control points they have established in order to strengthen their market position in the business ecosystem and continuously improve their product. The further course depends very much on the uniqueness of the new entrant's business model and the incumbent's strategy.

5.2.2 Sustaining Strategy by Incumbents

This strategy is represented by the blue graph in figure 11. It is a strategy adopted by industry incumbents and is aimed at maintaining and gradually enhancing their market position without making radical changes that could potentially disrupt their own established business models. As it can be seen the performance of the companies that are using this strategy is gradually rising due to constant improvements and the implication of basic technologies and new trends.

Traditional banks for example have relied on their extensive branch network, a wide customer base, and established reputations to maintain their market position. Their sustaining strategy has been focused on incremental innovations such as introducing online banking services and enhancing security features to retain customers and meet the digital transformation demands without majorly altering their core business model (Nair & Menon, 2017).

Another example for a sustaining strategy are incumbent automakers like General Motors and Ford, that have traditionally invested in incremental improvements such as enhancing fuel efficiency, incorporating advanced safety features, and providing luxury options to sustain their market share (Lllopis-Albert & Rubio, 2021). These improvements were aimed at existing customers and to stay competitive without overhauling their business models for the emerging electric vehicle market.

The first two stages of figure 11 for incumbents are characterized by a sustaining strategy. Due to the increased competition by new entrants in the phase of disruption the incumbents have to decide which way they want to pursue for the future. If they are sticking to the sustaining strategy the incumbents are facing various risks like becoming obsolete and losing market share. Nevertheless, incumbents have the possibility to actively change their strategy and try to maintain their market position. This strategy is described in the next section.

5.2.3 Defending Strategy by Incumbents

This strategy is represented by the grey graph in figure 11. The defending strategy is relevant for the phases of disruption and post-disruption and is derived from the sustaining strategy by incumbents. Due to insufficient adaption, underestimating disruption or too much

focus on traditional strengths incumbents are in the situation to be challenged by new entrants and are potentially already overtaken when it comes to their performance through captured control points.

The defending strategy is based on various factors that are directly linked to capturing technical or strategic control points and is aiming to actively engage in measures to directly counter the competitive threat posed by new entrants and regain lost ground. For companies that want to pursue this strategy it is of utmost importance to use their set strategic control points and learn component knowledge in order to leverage this gained knowledge to set technical control points. Examples for this step are appearing in the analyzed industries. Traditional banks focus on the digital transformation and are heavily investing in their digital infrastructure, overhauling their online banking platforms and mobile apps to offer functionalities comparable to those of neobanks (Lazareva, 2022). Furthermore, different traditional banks have formed partnerships or acquired fintech startups to rapidly integrate innovative technologies and services. Companies like Ford or Volkswagen are accelerating their shift towards electric vehicles, announcing significant investments in EV technology (Lllopis-Albert & Rubio, 2021). These players also actively extending their component knowledge by strategic collaborations with technology companies and startups to leverage external expertise in battery technology, software and sustainability.

If incumbents are actually engaging in the defending strategy and diverge from the traditional sustaining strategy, these companies have the chance to become an integrated system player that integrated across all layers of the ecosystem and is due to that able to dominate the ecosystem while capturing superior profits. The success of this strategy is highly depended on various factors of the industry like market maturity, regulatory environment and customer loyalty but in general it can be said, that if companies are pursuing this approach it is likely to defend their market share against new entrants.

The discussion provides an overview about specific strategies of different players in the market and is stating in which situation the companies should focus on certain control points. These strategies are taking different factors into consideration and should state a guideline for further strategic processes.

6 Conclusion

The major thrust of this thesis has been to examine how companies can use control mechanisms like control points within the digital business ecosystem in order to gain competitive advantage and become the leading player of a certain industry. With this goal pursued, historical cases of companies that initially entered the market and restructured the industry sustainably by introducing innovation with the help of disruptive technologies were analyzed. The research questions stated at the beginning of this work are addressed once again in the following and subsequently answered with the help of the results of this thesis.

Research Question 1: Can a systematic analysis of historical cases provide insights into the key factors that contribute to the successful integration of disruptive technologies and the establishment of control points?

To answer this question, various companies from the banking, automotive and food delivery industries were analyzed. Using the "Disruption in Digital Business Ecosystem" framework, they were analyzed in terms of their business model, their disruption in the market, their position in the digital business ecosystem and their relevant control points. One result was the finding that all the companies analyzed initially focused on technical control points in order to penetrate the market and exploited existing challenges faced by established companies for this purpose. In order to establish these technical control points, these players used disruptive technologies and thus initially played a market that was not yet served by the players that were already in the market and which is often made up of tech-savvy users. Furthermore, the analyzed players used technical control points such as data, digital infrastructure or modularity to strengthen their market position and to concentrate on expanding control points in the further process. The challenges faced by established companies were analyzed as well. Another finding in this analysis was that in the industries analyzed, the incumbents mostly focus on the traditional value chain and do not target the digital business ecosystem like the nine market participants analyzed. This perspective gives the new entrants the opportunity to establish themselves more effectively on the market. Based on these findings, strategies were developed for the various market participants, which were used to answer the second research question.

Research Question 2: *Which Control Points are the most important for a certain group of companies?*

In order to answer the second research question, the findings from the analysis of the different industries were used to develop universal strategies for different market participants based on the active use of control points. In order to visualize these strategies in terms of the company's performance, the figure "dynamics of market disruption" was developed, which divides the process of disruption into four phases and shows the performance of the different strategies with regard to the control points.

The strategies compared indicate at which point in time it is important for which market participant to focus on a certain type of control point. The disruptive strategy for new market participants states that, as already described, the initial focus should be on establishing technical control points. In the further course of the disruption, however, these players must try to use their technical control points to establish strategic control points that were initially in the hands of the incumbents in order to stabilize their market position and be competitive in the long term. At the same time, the sustaining strategy for incumbents states that the focus is initially on the strategic control points that have already been captured and that the product is improved in the further course of the disruption with the help of the slow expansion of technical control points. The defending strategy for incumbents was derived from the first two strategies and states that established market players who have always focused on strategic control points must change their focus and actively react to the disruption of new market players. This change in focus is based on the targeted development of technical control points and is intended to improve the product so that it can keep up with the performance of the new market players.

It can therefore be said that the strategies describe which type of control points are particularly relevant for which player in the market at which point in time in order to achieve sustainable success and be the dominant player in the digital business ecosystem.

In conclusion, by analyzing the different industries and companies and developing potential strategies for market participants, the two research questions have been answered and this thesis contributes to the research on the concept of control points in the context of the digital business ecosystem.

7 Appendix

7.1 Disruption in Digital Business Ecosystem (Neo-Banking)

Industry	New entrant	Case Study	Layered modular architecture	Control Points		Position in DBE	Disruption	Change of business model	KPI	
				Strategic CPs	Technical CPs				Turnover	Number of users
Banking and Financial Services	N26	Traditional Banks -> N26	(traditional banking to Digital Service (online banking))	Customer Access, Brand, Agility	Data, Digital Infrastructure, Scalability	N26 functions as a focal firm in the digital business ecosystem. It plays a central role in delivering digital banking services directly to consumers, leveraging technological innovations and strategic partnerships.	Mobile-First Approach Real-Time Notifications International Banking Features Security Features	N26 evolves from traditional banking to a platform offering a wide range of digital financial services, including low-fee international transfers and investment options, thereby diversifying its revenue sources beyond conventional banking fees.	2015 - EUR 4.7 Mio. 2023 - EUR 182 Mio. <i>N26 (2022)</i>	2016 - 0.1 m. users 2022 - 8 m. users <i>Statista Research Department (2023)</i>
Banking and Financial Services	Revolut	Traditional Banks -> Revolut	Physical Service (traditional banking) to Digital Service (online banking and financial services)	Overeducation, Networking, Agility	Data, Unique solution, Modularity	Revolut is also a focal firm. With its broad range of financial services, including traditional banking services, cryptocurrency trading, and stock trading, it occupies a central position in the ecosystem, significantly impacting consumer behavior and the competitive landscape.	Budgeting and Analytics Tools Pets for Savings Overdraft Transparency Community-Driven Development	Revolut's business model expands from offering simple payment solutions to a broader range of financial services, including cryptocurrency trading and stock investments, thus diversifying and scaling its revenue generation capabilities.	2016 - GBP 2.36 Mio. 2021 - GBP 636.21 Mio. <i>Statista Research Department (2023b)</i>	2018 - 1.5 m. users 2023 - 30.93 m. users <i>Statista Research Department (2023)</i>
Banking and Financial Services	Monzo	Traditional Banks -> Monzo	Transition from Physical Service (traditional banking) to Digital Service (app-based banking)	Customer Access, Agility, Brand	Data, Digital Infrastructure, Content	Monzo, much like N26 and Revolut, operates as a focal firm within the digital banking ecosystem. Its emphasis on customer engagement, community building, and digital-first banking solutions places it at the core of the ecosystem, influencing market trends and customer expectations.	Cryptocurrency Exchange Foreign Exchange Stock Trading Subscription-based Premium Services	Monzo's model shifts from traditional fee-based services to a freemium model with premium features, leveraging digital platforms to offer diversified banking services and create new revenue streams.	2017 - GBP 3 Mio. 2022 - GBP 440 Mio. <i>Curry (2023)</i>	2017 - 0.1 m. users 2022 - 7 m. users <i>Curry (2023)</i>

Table 6: Disruption in Digital Business Ecosystem (Neo-Banking)

7.2 Disruption in Digital Business Ecosystem (Electric vehicles)

Industry	New entrant	Case Study	Layered modular architecture	Control Points			Position in DBE	Disruption	Change of business model	KPI	
				Strategic CPs	Technical CPs	Brand, Know-How, Network				Turnover	Number of produced cars
Automotive (electric vehicles)	Rivian	Traditional Automotives -> Rivian	Physical Vehicle Manufacturing (traditional combustion engine vehicles) to Digital-Integrated Electric Vehicle Production (advanced electric trucks and SUVs with digital integration)	Know-How, Brand, Networking	Modularity, Digital Infrastructure, Scalability	Brand, Know-How, Agility	Rivian acts as a central player in the niche segment of electric adventure vehicles. It leads in terms of product innovation and market strategy, influencing the ecosystem around adventure-oriented EVs.	<p>Software-Centric Approach</p> <p>Regular Software Updates</p> <p>Scalable Software Platform</p> <p>In-House Software and System Integration</p>	<p>Rivian's business model evolution includes moving from standard automotive production to creating a lifestyle-centric brand. They offer vehicles that are not just modes of transportation but also tools for adventure, backed by an ecosystem of digital and electric technology.</p>	<p>2021 - USD 55 Mio.</p> <p>2023 - USD 3.783 bn.</p> <p><i>Stock Analysis (2023)</i></p>	<p>2021 - 1,000 Cars</p> <p>2023 - 39,700 Cars</p> <p><i>Kane (2023)</i></p>
Automotive (electric vehicles)	Nio	Traditional Auto Manufacturers (e.g., Ford, GM) -> NIO	Traditional Auto Manufacturing (Internal Combustion Engine Vehicles) to Digital-Integrated Electric Vehicle Production (NIO's Advanced Electric Vehicles)	Networking, Brand, Agility	Modularity, Digital Infrastructure, Data	Networking, Brand, Agility	NIO is a focal firm in the luxury electric vehicle segment, especially in the Chinese market. It drives innovation and customer experience, shaping the ecosystem for luxury EVs.	<p>High-Performance Prototypes</p> <p>AI Integration</p> <p>Battery Management (SwapSolutions)</p> <p>User-Centric Operating Model</p> <p>Digital Ecosystem Development</p>	<p>NIO's business model has evolved from conventional vehicle manufacturing to a more integrated, service-oriented approach. This includes a focus on creating an entire ecosystem around their vehicles, encompassing not only the physical car but also digital services, customer experiences, and innovative features like their battery swap technology.</p>	<p>2018 - USD 0.72 bn.</p> <p>2023 - USD 6.92 bn.</p> <p><i>Companies Marketcap (2023)</i></p>	<p>2018 - 8,101 Cars</p> <p>2022 - 122,485 Cars</p> <p><i>Good Car Bad Car (2022)</i></p>
Automotive (electric vehicles)	Lucid Motors	Traditional Auto Manufacturers (e.g., BMW, Mercedes-Benz) -> Lucid Motors	Traditional Auto Manufacturing (Internal Combustion Engine Vehicles) to Advanced Electric Vehicle Production (Lucid Motors' High-Performance EVs)	Brand, Know-How, Agility	Unique solution, Modularity, Digital Infrastructure	Brand, Know-How, Agility	Lucid Motors serves as a focal firm in the high-end luxury EV market. The company's focus on superior range, performance, and technology positions it as a leader and influencer in its segment.	<p>Industry-Leading Electric Range</p> <p>Powertrain Technology</p> <p>In-House Engineering</p> <p>Innovative Thermal Management</p> <p>Proprietary Power Electronics</p>	<p>Evolving from traditional manufacturing to a provider of integrated luxury electric vehicles and technology solutions, emphasizing a comprehensive ecosystem around their vehicles.</p>	<p>2019 - USD 4.6 Mio</p> <p>2022 - USD 608 Mio</p> <p><i>Carlier (2023)</i></p>	<p>2021 - 125 Cars</p> <p>2023 - 4,267 Cars</p> <p><i>Kane (2023b)</i></p>

Table 7: Disruption in Digital Business Ecosystem (Electric vehicles)

7.3 Disruption in Digital Business Ecosystem (Food Delivery)

Industry	New entrant	Case Study	Layered modular architecture	Control CPs		Position in DBE	Disruption	Change of business model	KPI	
				Strategic CPs	Technical CPs				Turnover	Number of Users
Food Delivery	Zomato	Early leaders of the food delivery market (Uber eats India) -> Zomato	Evolved from Basic Online Restaurant Listings to Advanced Digital Food Aggregation and Delivery.	Customer Access, Brand, Agility	Scalability, Digital Infrastructure, Data	As a focal firm, Deliveroo connects customers with a wide range of restaurants and delivery partners. It plays a central role in its market segment, significantly influencing customer choices and restaurant operations through its platform.	Cloud Infrastructure and Services Generative AI Integration Advanced ML Runtime and Deployment Operational Streamlining Using AI and ML	Shifted from a simple restaurant listing service to a multifaceted digital food delivery and aggregation platform, emphasizing an integrated ecosystem of AI, data analytics, and personalized customer experiences.	2019 - INR 14 bn. 2022 - INR 55.4 bn. Statista Research Department (2023a)	2019 - 5.6 m. users 2022 - 14.7 m. users Statista Research Department (2023c)
Food Delivery	Deliveroo	Early leaders of the food delivery market (Just eat) -> Deliveroo	Shifted from Conventional Food Delivery to Digital and AI-Enhanced Operations	Customer Access, Networking, Agility	Digital Infrastructure, Data, Scalability	Big Data and Machine Learning Snowflake Data Warehouse Deliveroo Toolkit Dispatch Engine, 'Frank' Real-Time Data Analysis	Transitioned from a basic food delivery service to a comprehensive, technology-driven food delivery ecosystem, integrating advanced digital solutions to enhance customer experience and operational efficiency.	2015 - GBP 18 Mio. 2022 - GBP 1.975 bn. Iphed (2023)	2017 - 1.6 m. users 2022 - 7.4 m. users Iphed (2023)	
Food Delivery	DoorDash	Early leaders of the food delivery market (Gohub) -> DoorDash	Transitioned from Traditional Food Delivery to Digital-Integrated, Technology-Driven Service	Customer Access, Brand, Financial Resources	Digital Infrastructure, Modularity, Unique Solution	DoorDash also stands as a focal company, orchestrating interactions between customers, restaurants, and delivery personnel. Its substantial market presence and influence in shaping the food delivery landscape underscore its role as a key player and leader in the sector.	Optimized Delivery with Machine Learning Predictive Algorithms for Delivery Times Autonomous Robot Delivery Data-Driven Operational Efficiency Complex Data Analytics for Delivery Management	Evolved from traditional food delivery to a sophisticated digital platform, focusing on technology-enhanced logistics and customer engagement, creating an interconnected ecosystem for food delivery services.	2017 - USD 0.11 bn. 2022 - USD 6.58 bn. Help Luma (2023)	2018 - 4 m. users 2022 - 32 m. users Help Luma (2023)

Table 8: Disruption in Digital Business Ecosystem (Food Delivery)

7.4 Control Points N26

N26		
Strategic Control Points	Customer Access	N26s emphasis, on technology has played a role in revolutionizing customer access within the banking industry. By offering banking services through smartphones N26 has successfully targeted tech individuals who prioritize mobility, an often neglected segment by traditional banks. This approach not leveraged the increasing preference, for solutions but also expanded N26s market presence beyond the limitations of brick and mortar banking resulting in a stronger market position (Salomon, 2021).
	Brand	N26 has successfully set itself apart in the banking sector by creating a brand image that focuses on innovation, user friendliness and transparency. This approach is, in contrast to the perception of banking as opaque and traditional. By resonating with customers who are looking for alternatives to banking N26s brand has played a role, in capturing a significant portion of the market especially among those who feel neglected or disappointed by traditional banks (Woodford & Darrah, 2019).
	Agility	N26s operational model has a flexibility that enables them to quickly develop products and adapt to changes, in the market and regulations. This agility has played a role, in N26s growth as they consistently meet the evolving demands of both the fintech industry and their customers. It positions them at the forefront of the industry while maintaining a market share (Morgan, 2022).
Technical Control Points	Data	N26s adoption of data analytics to provide customer experiences assess risks and detect fraud is a remarkable leap forward compared to conventional banking analytics. This smart application of data not improves user satisfaction. Enhances security but also positions N26 as a banking service that genuinely understands the unique requirements of individual customers. As a result it has an impact, on its market presence and competitiveness (Salomon, 2021).
	Digital Infrastructure	One of the highlights of N26, in the realm is its digital infrastructure that operates on the cloud. This sets it apart, from banks that rely on outdated systems. The modern and flexible nature of this infrastructure allows for scalability, smooth integration of technologies and ongoing enhancement of services. Having such a robust infrastructure is essential for N26 to effectively handle its expanding customer base particularly as it ventures into markets and aims to preserve customer confidence (Salomon, 2021).

	Scalability	N26s platform is designed to scale due, to its cloud based architecture and modular design. This allows the bank to expand its services and customer base without requiring investments in infrastructure, which's common for traditional banks. The ability to scale quickly is a factor in N26s growth and its entry, into new markets, which has significantly increased its global presence and market share (Morgan, 2022).
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Table 9: Control Points N26

7.5 Control Points Revolut

Revolut		
Strategic Control Points	Agility	Revolut has shown agility in how it adjusts to market dynamics and meets the evolving demands of its customers. This is especially evident, in their response to the pandemic, where they efficiently catered to the increased need for banking services. The way they rapidly introduced offerings like cryptocurrency trading and stock trading well as their expansion, into the U.S. Market showcases a business model that is both flexible and responsive (European Business Magazine, 2018).
	Orchestration	Revolut does a job of bringing a wide variety of financial services in one convenient platform. It offers everything, from currency exchange and budgeting tools to cryptocurrency trading and stock trading. This all in one approach creates a market for a digital banking experience. By integrating tools Revolut becomes a go to solution, for customers improving their engagement and loyalty (Colin, 2021).
	Networking	Networking plays a role, in fintech companies like Revolut because they frequently collaborate with financial institutions, regulatory bodies and technology providers to broaden their range of services. For instance when Revolut expands into countries it faces the challenge of navigating through regulatory environments and establishing partnerships with local banks and financial service providers. These partnerships enable Revolut to offer tailored services that cater to markets while ensuring compliance, with regulations ultimately bolstering its presence in the market (Ferreira, 2023).
	Data	Data plays a role, for Revolut as it empowers the provision of financial services and offers valuable customer insights. Through the apps analytics tools users gain access to information, about their spending patterns enabling them to make informed decisions regarding their

Technical Control Points		finances. Utilizing data Revolut strengthens risk management detects fraud effectively and tailors financial products to meet the needs of each user (Colin, 2021).
	Unique Solution	Revolut provides a one of a kind solution, by integrating services that are typically provided individually. One notable example is their currency accounts, which provide real time exchange rates and the option to hold multiple currencies. These distinctive offerings set Revolut apart in a fintech industry. Greatly contribute to its competitive advantage (Colin, 2021).
	Modularity	Revolut's platform showcases its flexibility through its API based structure, which facilitates integration of services and third party applications. This modular approach empowers Revolut to quickly expand and adjust its offerings in response, to evolving market trends and technological advancements. Moreover it enables Revolut to tailor its services to cater to a range of customer requirements thereby solidifying its position, in the market (European Business Magazine, 2018).

Table 10: Control Points Revolut

7.6 Control Points Monzo

Monzo		
Strategic Control Points	Customer Access	Monzo's success can be largely attributed to its ability to connect directly with customers, particularly millennials and Gen Z individuals, who are typically more tech savvy and inclined, towards banking solutions. By providing a banking experience that prioritizes accessibility and engaging with customers through platforms Monzo has deviated from traditional banking methods and successfully reached a demographic that had been either underserved or dissatisfied, with conventional banking services. This direct customer interaction has allowed Monzo to gather feedback customize its services according to customer requirements and cultivate a strong and loyal customer base (Creswick, 2019).
	Agility	Monzo's ability to swiftly respond to customer feedback introduce features. Navigate external challenges such, as the COVID 19 pandemic sets it apart from traditional banks. The bank's agility has enabled it to surpass customer expectations. Consistently enhance its range of products through innovation (Woodford & Darrah, 2019).

	Brand	Monzo has done a job in establishing an unique brand image especially among younger customers. Their vibrant branding, exemplified by the eye catching coral bank card and their relatable tone of communication have set them apart from banks. Monzos brand is not, about its identity but also about being seen as transparent user friendly and socially interactive. This strong brand image has played a role, in gaining trust and recognition in the competitive fintech industry (Woodford & Darrah, 2019).
Technical Control Points	Content	Monzo offers a wide range of content within their application. Monzo has been thinking with its content providing users with features such as, in app budgeting, instant notifications and even a gambling block feature – things that are not existing in traditional banking apps. By improving and adapting its content according to user feedback and the evolving market demands Monzo has managed to stay of the competition (Marous, 2018).
	Data	Data plays a role at Monzo serving as a technical control point. By leveraging data analytics Monzo gains insights, into customer behavior spending habits and preferences. This enables them to provide experiences and tailor services to needs. Additionally, the data driven approach assists, in managing risk detecting fraud and creating features that cater to customer requirements (Creswick, 2019).
	Digital Infrastructure	Monzo relies on its infrastructure, which includes its app, APIs and underlying technology as a foundation. This infrastructure plays a role, in providing the user friendly experience that Monzo is renowned for. The strength, security and scalability of Monzos infrastructure have been instrumental, in facilitating the expansion of its user base while ensuring consistent quality and reliability of services (Marous, 2018).

Table 11: Control Points Monzo

7.7 Control Points Rivian

Rivian		
Strategic Control Points	Know-How	Rivian possesses expertise, in the fields of electric vehicle (EV) technology and software integration. Their ability to design vehicles like the R1T with features such as the tank turn capability, combined with their emphasis on software as an aspect of the vehicle experience distinguishes them within the EV market. This specialized knowledge is crucial, for driving innovation and staying ahead in a landscape (Davis, 2023).

	Brand	Rivian has done a job in establishing a brand that's all, about adventure, sustainability and innovation. This kind of branding really resonates with a group of customers who appreciate environmentally friendly and cutting edge vehicles. Building a brand is crucial because it shapes how customers see and stick with the company, which's key for staying competitive and achieving lasting success, in the market (Na, 2019).
	Networking	Rivian highly values its partnerships and connections with companies, like Amazon and Ford. These strategic alliances bring benefits, including support, access to potential customers and opportunities for collaborative innovation and expansion. In the industry networking plays a role for startups such, as Rivian as it allows them to tap into valuable resources navigate regulatory complexities and establish a strong brand presence (Na, 2019).
Technical Control Points	Modularity	Rivians decision to utilize a platform, for their vehicles offers great flexibility in terms of vehicle design and production. This adaptability allows Rivian to quickly adapt and expand their range of vehicles, which's crucial, in an industry that constantly seeks innovation and aims to cater to a range of consumer preferences (Davis, 2023).
	Digital Infrastructure	Rivian places importance, on incorporating software and digital integration into their product strategy. This includes features like over the air updates and software defined vehicle capabilities. By having a infrastructure in place Rivian can consistently enhance and upgrade the functionalities of their vehicles ensuring better user experiences and operational efficiency. These aspects are crucial, for staying competitive in todays technology driven market (Johnson, 2023).
	Scalability	Scaling up production and operations is vital, for Rivian especially as it moves from being a startup to becoming a player in the industry. The ability to expand manufacturing capabilities manage the supply chain effectively. Reach markets is critical, for meeting increasing demand benefiting from economies of scale and ensuring long term financial stability (Johnson, 2023).

Table 12: Control Points Rivian

7.8 Control Points NIO

NIO

Strategic Control Points	Networking	In terms of partnerships and community building networking plays a role, for NIO. They establish collaborations with investors such as Tencent and Baidu. Form partnerships to advance their technology and expand their infrastructure. Moreover NIOs emphasis on creating a community through initiatives like NIO House and NIO Day cultivates a customer base, which's vital, for their long term success (Greyb, 2021).
	Brand	NIO has accomplished the creation of a top tier brand, within the vehicle (EV) industry in China. This brand is not renowned for its high performance EVs but for embodying a luxurious lifestyle and fostering a sense of community through initiatives like NIO House and NIO Life. This powerful brand image plays a role in attracting and maintaining a customer base that prioritizes more, than the practical aspects of owning a vehicle placing equal emphasis on the overall experience and status it brings (Greyb, 2021).
	Agility	In the changing vehicle (EV) market being adaptable is extremely important. NIOs success can be attributed to its ability to swiftly adjust to shifts, in the market advancements in technology and changing consumer preferences. This adaptability is clearly seen in NIOs expansion of battery swapping stations their response to policy changes such as Chinas BaaS policy and their ability to navigate competitive pressures. NIOs agility enables them to innovate and introduce technologies or models, to the market ahead of competitors (Greyb, 2021).
Technical Control Points	Modularity	NIO takes an approach, to vehicle design and battery technology, which is clearly seen in their battery swapping system. The batteries are designed for interchangeability providing users with an better experience. Moreover this modularity allows NIO to upgrade their technology without the need to completely redesign the vehicle. Designing with modularity not enables scalability and adaptability, in manufacturing but simplifies maintenance and upgrades (Shenvi, 2021).
	Data	Data plays a role, for NIO especially when it comes to driving and customer experience. The information gathered from their vehicles and user interactions enables NIO to constantly enhance their products and services. This encompasses improving driving performance, safety measures and gaining an understanding of customer preferences. By utilizing data NIO can offer personalized services that foster customer loyalty while also gaining valuable insights, for future business strategies (Greyb, 2021).
	Digital Infrastructure	NIO places importance on investing in infrastructure particularly in their autonomous driving systems known as NIO Aquila Super Sensing and NIO Adam Super Computing. This infrastructure plays a role, in gathering and analyzing volumes of data, which enables advanced functionalities, like autonomous driving and intelligent navigation. Moreover it

		seamlessly integrates with customer service and community engagement platforms ultimately enhancing the user experience (Shenvi, 2021).
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Table 13: Control Points NIO

7.9 Control Points Lucid Motors

Lucid Motors		
Strategic Control Points	Brand	Lucid Motors has established itself as an vehicle (EV) brand, including a strategy that is important, for setting itself apart in a highly competitive market. The brand is closely linked to performance, luxury and sustainability which resonates with a group of consumers who prioritize these qualities. This positioning assists in crafting an identity and enables the company to charge prices influencing how consumers perceive and remain loyal, to the brand (Ewing, 2020).
	Know-How	Lucid Motors deep understanding of electric vehicle technology in the areas of batteries and powertrain systems gives them an advantage. This expertise sets them apart, from competitors. Allows them to deliver cutting edge solutions such as the Lucid Air, which offers exceptional range and performance. Their technical know how also opens doors for partnerships as demonstrated by their collaboration with Aston Martin giving them an edge in the evolving market, for electric vehicles (Magas, 2023).
	Agility	In the evolving industry, especially in the field of electric vehicles (EVs) being agil is crucial. Lucids is able to adjust to market dynamics, technological progress and customer preferences is an advantage. This agility is evident, in their growth strategies, product innovation cycles and efficient operational scalability (Magas, 2023).
Technical Control Points	Unique Solution	Lucid stands out in the market with their solution in relation, to their EV technology and the way they prioritize customer experience. Their top of the line electric vehicles offer range, performance and luxury features. What sets them apart is their one of a kind customer buying experience, which can be enjoyed both online and in their studios. This distinctiveness plays a role, in providing them an edge and building a valuable brand (Ewing, 2020).
	Modularity	Lucid Motors vehicle design and technology offer an advantage through their modularity. This enables them to utilize their technology in vehicle models and different applications as demonstrated by their collaboration, with Aston Martin. The modular approach brings cost

		savings, faster development cycles and the ability to meet the needs of the market (Ewing, 2020).
	Digital Infrastructure	Lucids commitment, to improving their infrastructure including the utilization of Bynders asset management system plays a significant role in boosting their operational efficiency and expanding their market presence. This robust infrastructure is crucial for managing their brand assets ensuring a customer experience, across multiple channels and facilitating their global expansion endeavors (Ewing, 2020).

Table 14: Control Points Lucid Motors

7.10 Control Points Deliveroo

Deliveroo		
Strategic Control Points	Customer Access	Deliveroo has completely transformed the way customers connect with high quality restaurants by providing them with delivery options. Their user friendly app and website make it incredibly easy to browse through menus customize orders, track deliveries in time. Receive personalized recommendations. By taking charge of customer access, in this manner Deliveroo not enhances the overall user experience but also fosters loyalty and encourages repeat business. This is especially important, in a food delivery market (Pang et al., 2022).
	Networking	Networking plays a role, for Deliveroo as it involves building connections with a range of restaurants and a large community of delivery riders. This extensive network allows Deliveroo to provide a variety of food options catering to consumer tastes. Additionally the companys success, in managing and growing this network impacts its ability to serve locations effectively and stay ahead of competitors by offering speedy and dependable services (Pang et al., 2022).
	Agility	Deliveroo demonstrates an ability to quickly adapt to changes, in the market and meet the demands of its customers. This flexibility is evident in their expansion into markets the introduction of services like grocery deliveries during the pandemic and their ability to adjust to regulatory changes, in various regions. By staying agile Deliveroo effectively takes advantage of emerging market opportunities while also minimizing risks ensuring that it remains relevant and competitive (Pang et al., 2022).

Technical Control Points	Digital Infrastructure	The foundation of Deliveroo's business model lies in its infrastructure comprising an advanced app and website. This infrastructure plays a role, in facilitating intricate logistical processes ranging from order placement to delivery. It seamlessly connects with restaurant systems oversees rider dispatches and efficiently manages customer interactions. This centralized control is key, to Deliveroo's ability to scale effectively enabling the company to expand its services into regions and adapt to diverse market demands without incurring additional expenses (Hursthouse & Rosenthal, 2017).
	Data	Deliveroo utilizes the power of data analytics to streamline their operations. They leverage data to predict customer demand estimate food preparation durations and determine the delivery routes. This data driven approach allows Deliveroo to minimize waiting times, optimize delivery efficiency and ultimately enhance customer satisfaction. Additionally data analytics plays a role, in marketing efforts and menu suggestions, which in turn boosts order frequency and fosters long term customer loyalty (Sen, 2021).
	Scalability	Deliveroo places importance on scalability as an aspect of their technological control. Their digital platform and business model allow them to easily adjust their operations in response, to demand effortlessly enter markets. Incorporate new restaurants and riders without the need for substantial infrastructure investments. The ability to scale quickly is essential for managing peak demand periods expanding service options such, as grocery delivery and staying ahead in an industry that is constantly changing (Sen, 2021).

Table 15: Control Points Deliveroo

7.11 Control Points Doordash

Doordash		
Strategic Control Points	Brand	DoorDash has managed to create a reputation, in the field of food delivery. This recognition of their brand is incredibly important in attracting and keeping customers. The trust and familiarity that DoorDash has established set them apart from the competition making them the preferred choice, for food delivery. Additionally the strength of their brand greatly contributes to their ability to form partnerships with restaurants and expand into markets (Goel, 2021).

	Financial Resources	DoorDash being a company that is publicly traded and backed by investments possesses financial capabilities. These resources empower DoorDash to pursue marketing tactics embrace advancements explore new markets and withstand economic challenges. The companys financial strength allows it to invest in acquiring customers developing technologies and expanding its presence in the market while ensuring its edge (George, 2023).
	Customer Access	DoorDash holds a position, in providing customers with access to a selection of local restaurants. Through its partnerships and wide range of cuisine offerings DoorDash makes it convenient for consumers to explore dining options. This broad accessibility gives DoorDash an edge in the market as it allows them to gather customer data and preferences ultimately solidifying their position, in the industry (George, 2023).
Technical Control Points	Digital Infrastructure	DoorDash relies heavily on its infrastructure encompassing its app, website and backend systems as a crucial aspect of its operations. This infrastructure plays a role, in facilitating logistics tracking orders in real time analyzing data and engaging with customers. A strong digital infrastructure is pivotal, for managing the number of transactions guaranteeing reliability and delivering a seamless user experience (Ramirez, 2023).
	Modularity	The flexibility of DoorDashes platform plays a role, in its success. By integrating restaurants catering to diverse market requirements and expanding services across various regions DoorDashes technology proves to be highly adaptable. This modularity allows DoorDash to enhance its offerings, such as grocery delivery and alcohol delivery while easily adjusting to evolving market demands without the need, for system changes (Goel, 2021).
	Unique Solution	DoorDash has an approach, to integrating machine learning that helps with recommendations, efficient delivery routes and predicting demand. This use of technology gives DoorDash an advantage by optimizing delivery times improving the customer experience and effectively managing their team of Dashers. The innovative implementation of machine learning algorithms sets DoorDash apart in a market focused on technology and efficiency (Ramirez, 2023).

Table 16: Control Points Doordash

7.12 Control Points Zomato

Zomato

Strategic Control Points	Customer Access	Zomatos effective use of customer access centers revolves around its application and platform enabling millions of users to connect with a diverse selection of restaurants. This direct and convenient access not caters, to customer requirements but also establishes Zomato as a player in the food delivery sector. Their strategy capitalizes, on trends to improve user interaction and stimulate expansion (Shastri, 2022).
	Brand	Zomato stands out in the food delivery industry due, to its strong brand presence, which is built on innovative marketing strategies and a robust online presence. The brand effectively utilizes marketing techniques and various social media platforms to establish an attractive identity that appeals particularly to younger customers. This approach plays a role, in retaining customers and expanding its market reach (Shastri, 2022).
	Agility	Zomatos ability to adapt swiftly to changing market trends and consumer preferences is evident, in its foray into grocery delivery during the COVID 19. This flexibility is supported by a business model and a creative approach, to providing services enabling Zomato to capitalize on emerging prospects and overcome obstacles (Shastri, 2022).
Technical Control Points	Scalability	Zomato has created a platform that can handle a volume of transactions and adapt to changing demands. They have achieved this by utilizing cloud based solutions and a flexible digital infrastructure, which enables them to effectively manage user growth and handle increased orders during times (Naik, 2021).
	Digital Infrastructure	Zomato heavily relies on its app and website both of which play a role in its day, to day operations. These digital platforms incorporate state of the art technology to efficiently process orders track deliveries and provide personalized customer experiences through AI integration. They serve as the foundation, for Zomatos service delivery and operational effectiveness (Shastri, 2022).
	Data	Zomato greatly benefits from its utilization of data, which gives it an advantage, over its competitors. By employing AI and machine learning techniques to analyze customer behavior make analytics and offer recommendations Zomato effectively converts extensive data into useful insights. This approach not helps optimize operations. Also ensures that customers receive tailored experiences (Naik, 2021).

Table 17: Control Points Zomato

7.13 List of Secondary Data

Type	Name	Source	Research area
Scientific article	“Neobanks: Banks by other name?” by Terri Bradford	Federal Reserve Bank of Kansas City	Banking
Scientific article	“Fin Tech firms- A new challenge to Traditional Banks: A Review” by Vijith M Nair, Dileep G Menon	International Journal of Applied Business and Economic Research	Banking
Scientific article	“DIFFERENCES BETWEEN TRADITIONAL BANK MODEL AND FINTECH BASED DIGITAL BANK AND NEOBANKS MODELS” by Zoran Temelkov	SocioBrains	Banking
Scientific article	“Problems and prospects of the transformation of traditional banking into financial and banking ecosystems” by Natal’ya A. Lazareva	Economics and Management	Banking
Online article	“Traditional Banks” by Zivile Sarkauskaite	https://swissmoney.com/traditional-banks/	Banking
Report	“FinTech - In-depth Market Insights & Data Analysis” by Leonie Senn-Kalb and Dev Mehta	Statista Market Insights	Banking

Online article	“Digital banks Monzo, Revolut, Starling and N26 compared” by Isabell Woodford and Kim Darrah	https://sifted.eu/articles/challenger-banks-monzo-starling-revolut-n26-compared	Banking
Online article	“Building and scaling one of the world’s fastest-growing mobile banks” by Lukas Salomon	https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/building-and-scaling-one-of-the-worlds-fastest-growing-mobile-banks	Banking
Online article	“The Impact of Digital-Only Banks on the Traditional Banking Industry” by Steve Morgan	https://www.finextra.com/blogposting/22636/the-impact-of-digital-only-banks-on-the-traditional-banking-industry	Banking
Online article	“Monzo: A Guide to Building the Digital Bank of the Future” by Jim Marous	https://thefinancialbrand.com/news/fintech-banking/digital-banking-future-mondo-monzo-challenger-75087/	Banking
Report	“Blurred lines: How FinTech is shaping Financial Services” by Manoy Kashyap et. al.	PricewaterhouseCoopers	Banking
Online article	“Revolut: Fintech’s Unicorn Disrupts the Traditional Banking World” by European Business Magazine	https://europeanbusinessmagazine.com/business/revolut-fintechs-unicorn-disrupts-traditional-banking-world/	Banking
Online article	“Revolut: required study for any student of disruption” by Nicolas Colin	https://sifted.eu/articles/revolut-disruptive-innovation	Banking
Online article	“Revolut vs. Traditional Banking: Why Fintech is the Future” by Pedro Ferreira	https://www.financemagnates.com/fintech/revolut-vs-traditional-banking-why-fintech-is-the-future/	Banking

Online article	“Six ways Monzo provides an excellent customer experience” by Matthew Creswick	https://www.hubledigital.com/blog/six-ways-monzo-provides-an-excellent-customer-experience	Banking
Book	“EV business models in a wider context: Balancing change and continuity in the automotive industry” by Peter Erskine Wells und Paul Andre Henri Francois Nieuwenhuis	Springer eBooks	Automotive
Scientific article	“Impact of digital transformation on the automotive industry” by Carlos Ilopis-Albert and Francisco Rubio	Technological Forecasting and Social Change	Automotive
Online article	“Tesla Vs. Rivian: Why The EV Market Is Not A Zero-Sum Game” by Philipp Davis	https://seekingalpha.com/article/4654331-tesla-vs-rivian-why-the-ev-market-is-not-a-zero-sum-game	Automotive
Online article	“NIO’s Ecosystem Strategy to Rule the World of EVs” by Dipak Shenvi	https://thestrategystory.com/2021/07/12/nio-business-model-ecosystem-strategy/	Automotive
Report	“eMobility: in-depth market analysis” by Julia Hoffmann and Dev Mehta	Statista Market Insights	Automotive
Online article	“Here’s how Rivian is using software to scale past EV rivals” by Peter Johnson	https://electrek.co/2023/11/10/rivian-using-software-to-scale-past-ev-rivals/	Automotive

Online article	“Lucid Motors Creates The World’s Most Advanced Battery-Electric Car: A Conversation With CEO Peter Rawlinson” by Mark Ewing	https://www.forbes.com/sites/markewing/2020/11/19/lucid-motors-creates-the-worlds-most-advanced-battery-electric-car-a-conversation-with-ceo-peter-rawlinson/?sh=6ef00a6d3060	Automotive
Online article	“NIO Business Model: Aiming for Apple Like Ecosystem” by Greyb	https://www.greyb.com/blog/nio-strategy/	Automotive
Online article	“A gentle innovation by Rivian” by Yoonseok Na	https://www.hankookandcompany.com/en/m/innovation/innovation-247.do	Automotive
Online article	“Lucid Motors Can Still Be the Next Tesla. Here’s Why” by Julia Magas	https://investorplace.com/2023/10/lucid-motors-can-still-be-the-next-tesla-heres-why/	Automotive
Online article	“The Intersection of Electric Cars and Smart Homes: Investigating the integration of electric car charging with smart home systems, enabling automated charging, energy management, and optimization” by Nick Zamanov	https://cyberswitching.com/the-intersection-of-electric-cars-and-smart-homes/	Automotive
Report	“Online Food Delivery: Market data & analysis” by Matt Miller	Statista Market Insights	Food Delivery
Scientific article	“An analysis of Deliveroo’s operation strategy and food takeaway industry” by Xiaoyao Pang et. al.	Advances in economics, business and management research	Food Delivery

Online article	“Disrupt Or Be Disrupted: The Innovative DoorDash Disruption” by Sasi George	https://appscrip.com/blog/innovative-doordash-disruption/	Food Delivery
Online article	“How does DoorDash make money Business Model” by Shikhar Goel	https://thestrategy.com/2021/12/28/how-does-doordash-make-money-business-model/#google_vignette	Food Delivery
Online article	“How Zomato Uses Machine Learning” by Amit Raja Naik	https://analyticsindiamag.com/how-zomato-uses-machine-learning/	Food Delivery
Online article	“How Deliveroo uses machine learning to power food delivery” by Ishpita Sen	https://outsideinsight.com/insights/how-deliveroo-uses-machine-learning-to-power-food-delivery/	Food Delivery
Online article	“Deliveroo – The “Disruptor Disruptor” Ushering in “Digital Economy v3.0”” by Stephen Hursthouse and Stephen Rosenthal	https://www.thembsgroup.co.uk/internal/deliveroo-the-disruptor-disruptor-ushering-in-digital-economy-v3-0/	Food Delivery
Online article	“DoorDash: Business Model, SWOT Analysis, and Competitors 2023” by Matthew Ramirez	https://pitchgrade.com/companies/doordash	Food Delivery
Online article	“In-depth Business Model of Zomato – 360 Degree Analysis” by Aditya Shastri	https://iide.co/case-studies/business-model-of-zomato/	Food Delivery

Table 18: Used Secondary Data

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