

Digital Business: A Primer

Matthew N. O. Sadiku¹, Uwakwe C. Chukwu², Abayomi Ajayi-Majebi³, Sarhan M. Musa¹

¹Roy G. Perry College of Engineering, Prairie View A&M University, Prairie View, TX, USA

²Department of Engineering Technology, South Carolina State University, Orangeburg, SC, USA

³Department of Manufacturing Engineering, Central State University, Wilberforce, OH, USA

ABSTRACT

Digitalization is the digital transformation of any business into a digital business using digital technologies. The businesses that have gone through the process of digitization are successful in economic, financial, and customer satisfaction. Digital business relies on technology to operate and grow. It applies digital technology to reinvent business models and transform a company's products and customer experiences. The paper presents a primer on digital business.

KEYWORDS: *technology, digitalization, digital technologies, digital transformation, digital business*

How to cite this paper: Matthew N. O. Sadiku | Uwakwe C. Chukwu | Abayomi Ajayi-Majebi | Sarhan M. Musa "Digital Business: A Primer"

Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-6 | Issue-5, August 2022, pp.816-822, URL: www.ijtsrd.com/papers/ijtsrd50574.pdf



Copyright © 2022 by author (s) and International Journal of Trend in Scientific Research and Development Journal. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) (<http://creativecommons.org/licenses/by/4.0>)



INTRODUCTION

Digitalization or digitization has been gaining momentum and popularity in recent years. Digitalization plays a crucial role in contributing towards the United Nations Sustainable Development Goals. Without transformation of existing businesses, both economic and environmental challenges of the future cannot be solved sustainably [1]. Digital transformation is one of the largest forces in today's competitive market. The concept of digital transformation uses a customer-centric focus to guide the implementation of digital technologies in business models. The digital business models offer highly engaging, revenue-generating services that are consumed differently than traditional goods and services. Digital business is the end goal, and digital transformation is the process that companies undergo in order to get there. In addition to technology changes, digital transformation has also redefined customer experience. Digital transformation should not only be considered as an exciting opportunity to view your business through a new lens, it should be regarded as providing for leveraging technologies in new ways [2]. For a successful digital transformation,

organizations need bold leadership committed to change and a focus on the impact of digital change on customers, products, and services.

Digital technologies have refashioned our ways of communicating, working, consuming, living, and doing business. They have challenged existing business models and continue to do so. Technologies such as artificial intelligence, machine learning, deep learning, robotics, big data, cloud computing, edge computing, blockchain, 5G, cybersecurity, Internet of things, virtual reality or augmented reality can impact a business and make it grow. Digital technologies have profoundly altered society and continue impacting virtually all business. Just about everything can be digitized. Products and processes that were once physical are now digital. Unfortunately, the vast majority of businesses are not ready for the move to digital business models.

WHAT IS DIGITAL BUSINESS?

The term, 'digital business' was popularized when Nigel Fenwick wrote a blog post "2013: The Year of Digital Business." Nigel said: "As mobile, social,

cloud, and big data come together we see the emergence of digital business strategy: the ability to leverage digital technologies to transform the customer value equation and drive competitive advantage” [3]. The traditional way of doing business is compared with digital business as shown in Figure 1 [4].

Digital business aims to create value, improve revenue and growth, and accelerate the performance of an organization. It is the creation of new value chains and business opportunities that traditional businesses cannot offer. Digital businesses employ technologies (such as AI, IoT, robotics, machine learning) to create new value in business models, customer experiences, and capabilities that support its core operations. Digital business has evolved into more than selling online; it creates competitive advantage. Digital business focuses more on how technology allows companies to create new value and experiences that differentiate companies and give them a competitive edge over their peers. Therefore, in order for an organization to undergo digital transformation, it needs digital business. As illustrated in Figure 2, a digital business model focuses on harnessing digital technologies to create a value proposition [5].

Digital business is not just about technology, disruption or even business in the strict sense, but about people and processes. It is business with a people-centric or customer-centric view, whereby digital technology is used to enable people (customers, employees, managers, partners, vendors, etc.) to succeed, optimize all business functions, and make business more relevant and profitable. Organizations, executives, and people use digital business to improve the ways they serve their customers, collaborate, and operate. Digital transformation heavily depends heavily on a company’s executive team to serve as inspirational leaders.

Digital business is changing the way organizations use and think about technology. Most organizations go digital to achieve four things: flexibility, scalability, culture, and quality.

COMPONENTS AND ELEMENTS OF DIGITAL BUSINESS

To create a digital business requires the following components:

- **Artificial Intelligence:** This is regarded as one of the most efficient methods in digital businesses. Artificial intelligence is the branch of computer science that deals with designing intelligent computer systems that mimic human intelligence. Typically, AI systems demonstrate at least some

of the following human behaviors: planning, learning, reasoning, problem solving, knowledge representation, perception, speech recognition, decision-making, language translation, motion, manipulation, intelligence, and creativity. Artificial intelligence is used in business operations and gaining insights for decision making. Today, AI is integrated into our daily lives in several forms, such as personal assistants, automated mass transportation, aviation, computer gaming, facial recognition at passport control, voice recognition on virtual assistants, driverless cars, companion robots, etc. [6]. For example, DocuSign uses AI as the connective tissue for all enterprise applications.

- **Internet of Things:** This can help develop smart products. The IoT is a link between objects in the real world with the virtual world, thereby enabling anytime, anywhere connectivity for anything. It allows all types of elements (sensors, actuators, personal electronic devices, laptops, tablets, digital cameras, smart phones, alarm systems, home appliances, industrial machines, etc.) to autonomously interact with each other. The goal of IoT is to integrate and automate everything from home appliances to plants on factory floors [7].
- **Digital Engineering:** This transforms customer journeys, enabling the rapid innovation that launches new brands and industry-first technology that resets customer expectations.
- **Digital strategy:** A strategy is a document that explains “why” and “how” you plan to reach your goals. Digital has the potential to drive revenue growth. Implementing an effective digital strategy across front-, middle- and back-office IT environments is crucial to staying relevant. A company must invest in technology projects that will drive digital experiences and win, serve, and retain customers. Organization culture can ensure digital strategies thrive, because the progressive internal cultures can help attract new talent and engage the existing team develop innovative digital solutions.

Common elements of a digital business that differentiate digital from traditional processes include [8]:

- Use existing technologies
- Embrace the concept
- Explore new business models
- Use existing technologies to cut costs and provide a better customer experience.
- Embrace the concept of digital transformation

- Explore new business models that put customer experience at the center
- Leveraging AI to improve customer experience
- Capturing data to improve business intelligence

APPLICATIONS OF DIGITAL BUSINESS

Digital business is mainly used in a context of digital transformation, holistic business optimization, disruption and integration/convergence. It is also about digital marketing, retail banking, ecommerce, social business, etc. Home businesses can take advantage of digital technologies to reach thousands more customers than before. A variety of companies have entered the ecosystem, seeking opportunities created by digital disruption and the application of digital business models. Typical applications of digital business are presented as follows.

- **Digital Marketing:** According to the American Marketing Association (2013), “Marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large” [9]. Marketing has always been about connecting with your customers in the right place and at the right time. It is the technique by which businesses advertise their products and services to their customers. Offline marketing is not as effective as it used to be. Digital marketing helps you reach a larger audience than you could through traditional, offline methods. Digital marketing, also known online marketing, is any form of marketing that exists online, where customers spend much of their time. It is the marketing efforts that occur on the Internet as businesses leverage digital channels such as search engines, social media, and email to connect with current and prospective buyers [10]. Digital marketing is experiencing tremendous growth and is no slowing down.
- **Intelligent Business Automation:** This offers one solution to this by allowing to quickly build and deploy business applications that increase business efficiency. Doing manual processes is extremely time-consuming and relatively slower than automated techniques. When the processes are done manually, there are higher chances of mistakes. Digital transformation gradually shifts away from manual processes toward a customer-centric, technology-focused business model.
- **E-Commerce:** Digital marketing and e-commerce have completely changed the channels through which we reach and persuade customers. If you are selling products, having an e-Commerce website is necessary. Ensure your e-

Commerce website supports a variety of e-payment methods. With more and more people shopping online than ever, e-commerce sales are rising yearly. Amazon is a good example of online shop and e-commerce business. Without digital technologies, the whole supply chain of Amazon would disintegrate.

- **Automotive Manufacturing:** The traditional business model in the automotive industry is shown in Figure 3 [11]. The automotive industry has created competitive advantages through advances in the fields of mechanical and electrical engineering. Moving from the traditional to the digital business model gives the industry opportunities to create the autonomous cars of the future. Some of the digital services that can be encapsulated in cars may include insurance services, travel suggestions, infotainment, monitoring car diagnostics, driver health services, etc. Some automotive companies like Ford, GM, Audi, BMW, Tesla, Nissan, and Mercedes-Benzs have promised to deliver self-driving cars soon.

EXAMPLES OF DIGITAL BUSINESSES

Digital business platforms (DBPs) such as eBay, Google, and Uber Technologies have seen enormous growth. Amazon, Netflix, and Uber are some examples of digital businesses. These companies would have no business without the technologies of the Internet.

- *Uber* is a transportation technology that allows its users to ride from one place to another. It is digital business that allows customers to schedule a taxi online and view trips. It is a platform that uses GPS, mobile devices, and apps to connect people and drivers through the Internet. It has transformed the taxi industry and offered low-cost services to consumers. Figure 3 shows the Uber business model [3].
- *Netflix* was primarily a DVD-rental company. It has switched from e-business to digital business. It uses technology to manage an inventory system and mail people CDs or DVDs. It provides the ability to consume movies and TV shows at any time or place.
- *Disney* has switched from traditional business to a digital one. It provides many services and improves the experience of the customers.

Other popular digital businesses include [12]:

- Social media and content marketing
- Web design
- Online retail (clothing companies, online bakeries, bookstores, etc.)
- Drop-shipping

- Industry consulting
- Wedding planning
- Virtual assistants

BENEFITS

Digital business design is about serving customers, creating unique value propositions, leveraging talent, achieving improvements in productivity, and increasing profits [13]. Digital businesses require little effort to set up and manage. You build a website, call it a platform, and you have a digital business. The cost of running a digital business is relatively low. There is no risk involved in starting a digital business. Other benefits of digital business include [12]:

1. **Automation:** Digital businesses have one thing in common: they automate everything.

Digital businesses use technology to not only automate business processes but also create new value in their business models, customer experience, and internal capabilities. For example, automating a customer service will provide the consumers of that sector with high-quality information and support.

2. **Enhances Productivity:** Automating manual processes has a huge impact because everything will be done with the help of robots and thereby minimize mistakes.

3. **Lower Operational Costs:** The ultimate aim of any business is to save time and money. Digitalizing the organization will be more efficient and less expensive.

4. **Governance and Reliability:** The automated services are very consistent, enabling the user to rely on them. Reliability is now the digital transformation imperative.

5. **Better Decision Making:** When the information is analyzed, it will help transform it into knowledge which helps in making better decisions.

6. **Better Engage Customers:** Digital business reinvents how to interact with their customers, employees and partners. It enables the business to generate new growth, meaningful differentiation, and real economic value.

7. **People-centricity and Humanization:** It is important to put people at the center of your technology strategy. Nothing works when we ignore that human element. We cannot do business if we cannot be “human” and inefficient at the same time. Since we are not robots, we cannot always focus on being more productive, collaborative, and connected. We need space to nurture and cultivate our freedom and creativity.

CHALLENGES

There are some challenges we all face in the age of digital business. The real challenge is being digital. Digital technologies are complex and are everywhere. Digital-driven changes can be complex as well. The complexity, speed, and effectiveness of digital business models make it increasingly difficult for companies to master the challenges of transformation. This makes it difficult to convince senior management that digital transformation is worth the effort and expense.

Many organizations are in a nascent stage of developing a broad understanding of IT's potential. The success of the IT effort largely depends on communicating the company's strategy and enlisting managers in making decisions about technology. Many organizations flounder here and they can overcome the hurdle by investing in digital literacy [14].

CONCLUSION

A digital business is one that uses technology to sell to its customers. Digital business has become the need of the hour for all types of businesses. No business will escape the impact of emerging digital business models and disruptive technologies. In the global community that is obsessed with all things smart and mobile, businesses that fail to keep pace with the latest digital technologies will soon become irrelevant. Various megatrends as well as digital technological trends will change the digital business modes of the future. Business leaders must adopt a mindset and embrace perpetual change.

Digital business is still evolving. Digital Business World Congress brings together inspiring speakers, global influencers and authorities, who discuss different roles, industries, and technologies from the current digital revolution perspective. It is an ideal forum for executive leaders who want to understand the digital economy and new business models.

It is a great advantage to have a degree in digital business that covers emerging technologies in depth. The digital industry is actively seeking professionals who are proficient in digital technologies along with marketing skills. Several educational institutions are now offering courses on digital business and allowing student to specialized in this cutting-edge field. More information about digital business can be found in the books in [15-25] and the following related journal: *Digital Business*.

REFERENCES

- [1] P. M. Bican and A. Brem, “Digital business model, digital transformation, digital

- entrepreneurship: Is there a sustainable ‘digital’?” *Sustainability*, vol. 12, June 2020.
- [2] P. Merchant, “5 Digital Solutions to help your business take off,” October 2020, <https://www.entrepreneur.com/article/357079>
- [3] “Digital business: Transformation, disruption, optimization, integration and humanization,” <https://www.i-scoop.eu/digital-transformation/digital-business/>
- [4] M. M. Al-Debi, R. El-Haddadeh, and D. Avison, “Defining the business model in the new world of digital business,” *Proceedings of Americas Conference on Information Systems*, 2008.
- [5] “Digital business model – How digital transforms value,” <https://www.garyfox.co/digital-business-model/>
- [6] M. N. O. Sadiku, "Artificial intelligence," *IEEE Potentials*, May 1989, pp. 35-39.
- [7] M. N. O. Sadiku, and S. M. Musa, and S. R. Nelatury, “Internet of things: An introduction,” *International Journal of Engineering Research and Advanced Technology*, vol. 2, no.3, March 2016, pp. 39-43.
- [8] “What is digital business?” <https://www.liferay.com/resources/1/digital-business>
- [9] A. Rangaswamy et al., “The role of marketing in digital business platforms,” *Journal of Interactive Marketing*, vol. 51, August 2020, pp. 72-90.
- [10] L. Alexander, “The who, what, why, & how of digital marketing,” <https://blog.hubspot.com/marketing/what-is-digital-marketing>
- [11] I. Chrysakis, “How the digital business model can transform and boost the car Industry,” April 2017, https://www.researchgate.net/publication/316967359_How_the_Digital_Business_Model_can_Transform_and_Boost_the_Car_Industry
- [12] Simplilearn, “What is digital business?” May 2022, <https://www.simplilearn.com/digital-business-article>
- [13] A. Slywotzky and D. Morrison, "Becoming a digital business: - It's not about technology," *Strategy & Leadership*, vol. 29, no. 2, 2001, pp. 4-9,
- [14] S. Mithas and H. C. Lucas, “What is your digital business strategy?” *IT Professional*, vol. 12, no. 6, November-December 2010, pp. 4-6.
- [15] D. Chaffey, D. Edmundson-Bird, and T. Hemphill, *Digital Business and e-commerce Management*. Pearson UK, 2019.
- [16] P. Weill and S. Woerner, *What's Your Digital Business Model? Six Questions to Help You Build the Next-Generation Enterprise*. Harvard Business Press, 2018.
- [17] B. W. Wirtz, *Digital Business Models*. Springer International Publishing, 2019.
- [18] B. Libert, M. Beck, and J. Wind, *The Network Imperative: How to Survive and Grow in the Age of Digital Business Models*. Harvard Business Review Press, 2016.
- [19] E. Coupey, *Digital Business: Concepts and Strategies*. Routledge, 2016.
- [20] V. Morabito, *The Future of Digital Business Innovation: Trends and Practices*. Springer 2016.
- [21] R.T. Kreuzer, T. Neugebauer, and A. Pattloch, *Digital Business Leadership: Digital Transformation, Business Model Innovation, Agile Organization, Change Management*. Springer 2018.
- [22] B. Armstrong and G. J. Lee, *Digital Business*. India: Silk Route Press, 2022.
- [23] C. Jones, *Content Advantage (Clout 2.0), The: The Science of Succeeding at Digital Business through Effective Content (Voices That Matter)*. New Riders, 2nd edition, 2018.
- [24] V. Morabito, *Trends and Challenges in Digital Business Innovation*. New York: Springer International Publishing, 2014.

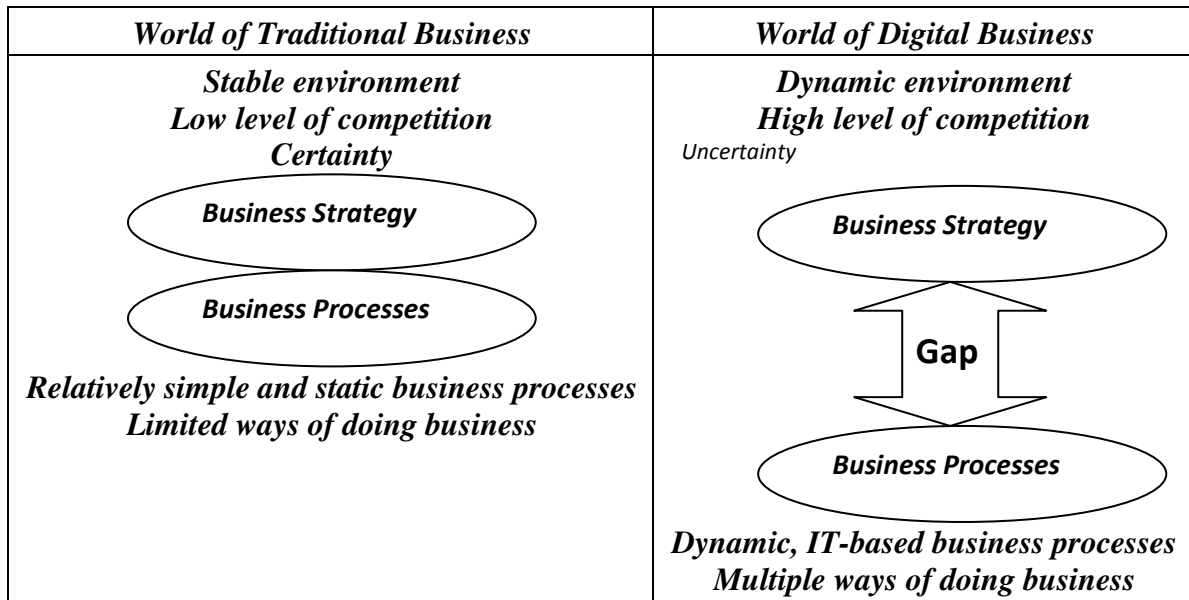


Figure 1 Comparing the traditional way of doing business with digital business [4].

How Digital Changes The Business Model

CUSTOMER

1. Experience orientation
2. Merging of online/offline
3. Intuitive user design.
4. On-demand orientation
5. Security
6. Transparency
7. Convenience
8. Customer experience driven

PARTNER

1. Open source
2. Radical collaborations
3. Dynamic Infrastructures
4. Non-intermediary
5. Customer-relationships
6. Digital twin
7. Smart factory
8. Virtual personal assistant

NETWORK

1. Social networks
2. Social collaboration
3. Swarm intelligence
4. Trust
5. Digital platforms
6. Loose coupling of networks
7. Knowledge sharing
8. Autonomous organization

INFLUENCES

DIGITAL TRENDS

1. Artificial intelligence
2. Big data
3. Immersive media
4. Internet of Things
5. Voice assistants
6. Blockchain
7. Robotics
8. 3D Printing

MEGATRENDS

1. Individualization
2. Health
3. Cyber-security
4. Urbanization
5. Social imbalance
6. Gender shift
7. Mobility
8. Sustainability



VALUE

PROPOSITION

CHANNELS

1. Individual customer profiles
2. Automation
3. Chatbots
4. Gesture and voice recognition
5. Multi-sensor technology
6. Augmented reality
7. Digitally interactive surfaces
8. Omnichannel
9. Seamless trade

RESOURCES

1. Sensors and actuators
2. IT Infrastructure
3. Process tools
4. Brands
5. Patents
6. Customer and market data
7. Cloud
8. Problem-solving mindset
9. Liquidity and investors

ACTIVITIES & SKILLS

1. Creative thinking
2. Digital analytics
3. Transformation management
4. Individualized working
5. Individual learning
6. Agility
7. Space and work design
8. Work-life blending
9. Platform thinking

FINANCE

1. Price transparency
2. Dynamic pricing
3. Sharing economy
4. Swapping
5. Solutions as a service
6. Use instead of ownership
7. Mobile payment
8. Crypto currencies
9. Crowdsourcing

Figure 2 Digital business model – How digital transforms value [5].

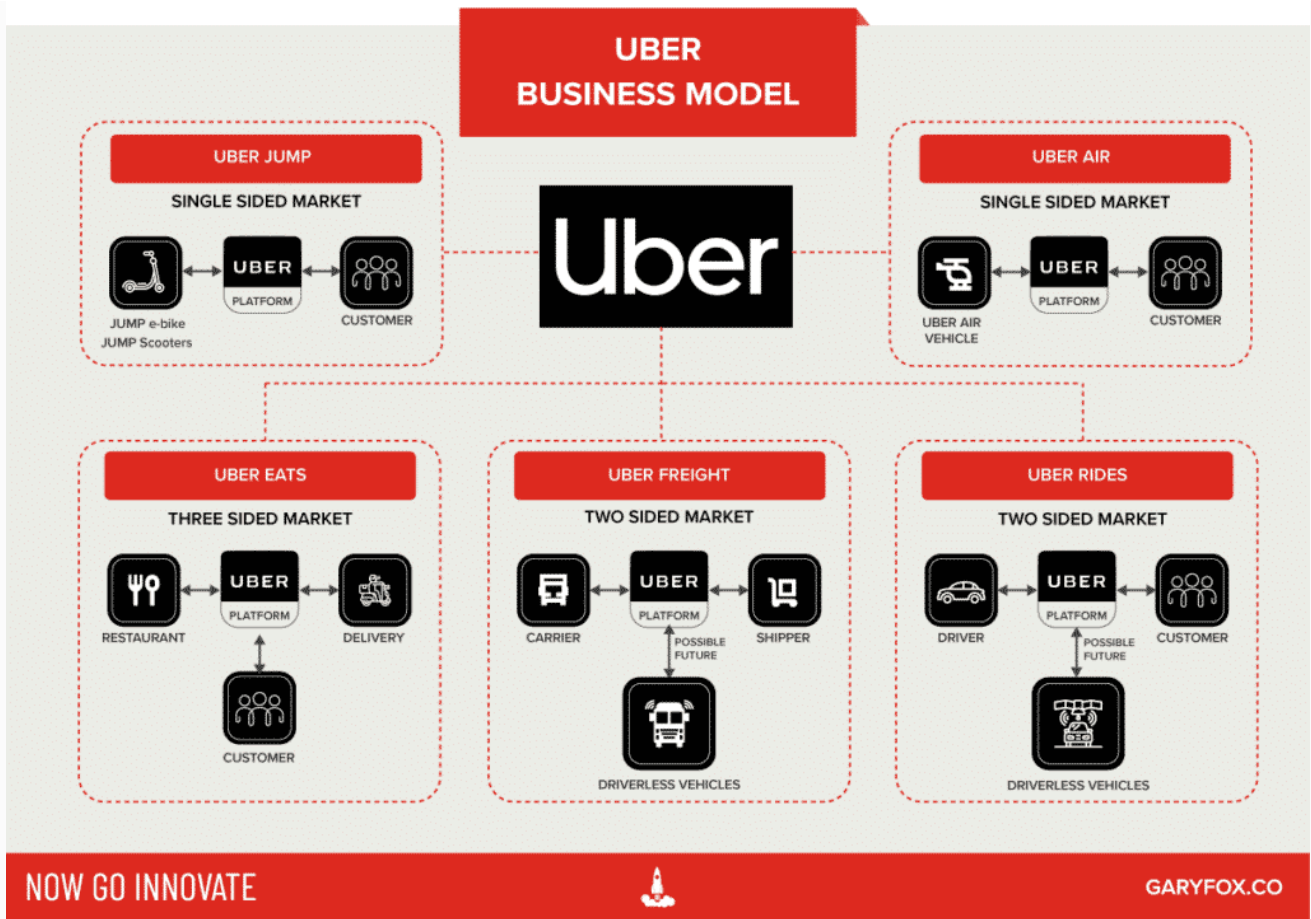


Figure 3 How Uber has different sided platform models [3].



Figure 4 The traditional business model in the car industry [11].