

УДК 004.7:[338.22:338.47+656]:578.834

DOI: 10.30857/2786-5398.2021.5.5

Valeriia G. Scherbak, Dariia R. Domashenko
Kyiv National University of Technologies and Design, Ukraine
**DIGITALISATION OF TRANSPORT ENTREPRENEURSHIP
IN THE CONTEXT OF THE COVID-19 PANDEMIC**

The article seeks to explore opportunities for further entrepreneurship development and its intensification in a pandemic setting, in the transport sector in particular, which is associated with the constant search for and implementation of new ideas, technologies, goods, services, manufacturing methods, etc. to retain a business. An emphasis is put that in modern realia as never before, the effective functioning of any company demands for continuous improvement, renewal, reorganization, finding new pathways to manage and run a successful business. It is noted that this approach is based on the latest concept that assumes significant changes in entrepreneurship in the transport industry and will foster further business development. In addition, the study reveals that the application of digital platforms is viewed as the newest tool that has the potential to boost the transport industry growth. However, despite objective reasons, there is still a lack of proper justification for the need to use digital technologies in transport. It is noted that the Industry Development Strategy 4.0 designed by the Ukrainian Association of Industrialists and Entrepreneurs interprets digital transformation as social or technological changes associated with the penetration of digital technology into all areas of human interactions. The essence of these transformations is to find new approaches and management concepts to resolve classic business challenges. The purpose of this article is to verify the feasibility of transport entrepreneurship based on digital platforms. The study provides insights into the benefits and specifics of digitalization in the context of Covid restrictions adjusted the needs of business acceleration. To attain the research objectives, the tools of information and marketing communications were used as well as the outcomes of marketing research to summarize information on the development of courier delivery and taxi services in Ukraine. Based on the analysis of entrepreneurship in the transport industry, the essential characteristics of digital platforms for taxi service have been discussed. It is argued that a customer focus makes the basis of any successful digital strategy. However, according to the study findings, transport companies need a single comprehensive perception of their customers to develop cooperation and offer a personalized approach to them. The summary concludes that digitalization is aimed at retaining the contact between the consumer and the producer to balance twofold interests: on the one hand, to the producer it will result in profit growth, and on the other – the consumer will be able to get the enhanced service quality, thus managing a close relationship between these two market actors, even in the quarantine realia.

Keywords: digitalisation; pandemic; transport; entrepreneurship; online; business.

Валерія Г. Щербак, Дарія Р. Домашенко
Київський національний університет технологій та дизайну, Україна
**ДІДЖИТАЛІЗАЦІЯ ПІДПРИЄМНИЦТВА НА ТРАНСПОРТІ
В УМОВАХ ПАНДЕМІЇ COVID-19**

Статтю присвячено дослідженню можливостей подальшого розвитку та активізації підприємництва в умовах пандемії, зокрема на транспорті, що пов'язується з постійним пошуком і впровадженням нових ідей, технологій, товарів, послуг, методів виробництва тощо з метою збереження бізнесу. Наголошується, що ефективне функціонування будь-якого підприємства в сучасних реаліях, як ніколи раніше, вимагає постійного вдосконалення, оновлення, реорганізації, пошуку нових способів управління і ведення бізнесу. Зазначено, що такий підхід ґрунтується на сприйнятті новітньої концепції,

що вимагає суттєвих змін в організації підприємництва на транспорті і має стати шансом для успішного розвитку бізнесу. Крім того, виявлено, що використання цифрових платформ є саме тим сучасним інструментом, який має потенціал для подальшого зростання транспортної галузі. Проте, незважаючи на об'єктивні підстави, дотепер відчувається брак відповідного обґрунтування необхідності застосування цифрових технологій на транспорті. Підкреслюється, що Стратегія розвитку індустрії 4.0, розроблена Асоціацією промисловців і підприємців України, пояснює цифрову трансформацію як суспільні або технологічні зміни, які асоціюються з проникненням цифрової технології в усі аспекти взаємодії з людиною. Суть цих трансформацій полягає в пошуку нових підходів та управлінських концепцій для вирішення класичних бізнес-завдань. Метою цієї статті є доведення можливості здійснення підприємництва на транспорті на цифрових платформах. Досліджено переваги та специфіку діджиталізації в умовах карантинних обмежень для потреб прискорення бізнесу. Для вирішення поставлених завдань використано інструменти інформаційно-маркетингових комунікацій, а також маркетингових досліджень – для узагальнення інформації про розвиток кур'єрської служби доставки та таксі в Україні. На підставі аналізу підприємництва в транспортній галузі висвітлено сутність цифрових платформ для служби таксі. Акцентується, що клієнтоорієнтованість є основою будь-якої успішної цифрової стратегії. Проте, як свідчать результати дослідження, компанії потребують єдиного комплексного бачення своїх клієнтів для розвитку співпраці та забезпечення персоналізованого підходу до них у цій сфері. Доведено, що діджиталізація направлена на збереження формування контакту між споживачем та виробником для вирішення двоєдиного завдання: з одного боку, для виробника це означатиме збільшення обсягу прибутків, а з іншого – споживач отримує можливість підвищення якості отриманих послуг, аби в умовах карантину не зник зв'язок між цими двома об'єктами ринку.

Ключові слова: діджиталізація; пандемія; транспорт; підприємництво; онлайн; бізнес.

Валерія Г. Щербак, Дарія Р. Домашенко

Київський національний університет технологій і дизайну, Україна
ДИЖИТАЛІЗАЦІЯ ПРЄДПРИНИМАТЕЛЬСТВА НА ТРАНСПОРТЕ
В УСЛОВИЯХ ПАНДЕМИИ COVID-19

Статья посвящена исследованию возможностей дальнейшего развития и активизации предпринимательства в условиях пандемии, в частности, на транспорте, которые связываются с постоянным поиском и внедрением новых идей, технологий, товаров, услуг, методов производства и т.д. с целью сохранения бизнеса. Отмечается, что эффективное функционирование любого предприятия в современных реалиях, как никогда ранее, требует постоянного усовершенствования, обновления, реорганизации, поиска новых способов управления и ведения бизнеса. Определено, что такой подход основан на восприятии новейшей концепции, требующей существенных изменений в организации предпринимательства на транспорте и должен стать шансом для успешного развития бизнеса. Кроме того, обнаружено, что использование цифровых платформ является тем современным инструментом, который имеет потенциал для дальнейшего роста транспортной отрасли. Однако, несмотря на объективные предпосылки, до сих пор ощущается отсутствие соответствующего обоснования необходимости применения цифровых технологий на транспорте. Подчеркивается, что Стратегия развития индустрии 4.0, разработанная Ассоциацией промышленников и предпринимателей Украины, объясняет цифровую трансформацию как общественные или технологические изменения, которые ассоциируются с проникновением цифровой технологии во все аспекты взаимодействия с человеком. Суть этих трансформаций заключается в поиске новых

подходов и управленческих концепций для решения классических бизнес-задач. Цель этой статьи – доказать возможность осуществления предпринимательства на транспорте на цифровых платформах. Исследованы преимущества и специфика диджитализации в условиях карантинных ограничений для потребностей ускорения бизнеса. Для решения поставленных задач использованы инструменты информационно-маркетинговых коммуникаций, а также маркетинговые исследования – для обобщения информации о развитии курьерской службы доставки и такси в Украине. На основании анализа предпринимательства в транспортной отрасли определена сущность цифровых платформ для службы такси. Акцентируется, что клиентоориентированность является основой любой успешной цифровой стратегии. Однако, как свидетельствуют результаты исследования, компании нуждаются в едином комплексном видении своих клиентов для развития сотрудничества и обеспечения персонализированного подхода к ним в этой сфере. Доказано, что диджитализация направлена на сохранение формирования контакта между потребителем и производителем для решения двуединой задачи: с одной стороны, для производителя это будет означать увеличение объёма доходов, а с другой – потребитель получит возможность повышения качества полученных услуг, чтобы в условиях карантина не исчезла связь между этими двумя объектами рынка.

***Ключевые слова:** диджитализация; пандемия; транспорт; предпринимательство; онлайн; бизнес.*

Introduction. Digitalisation of processes, digital transformation, digital education, digital marketing – the word "digital" has been on everyone's lips for several years now. The current crisis, with its bombshell effect, has proved that not only does the future of business depend on digitalization, but the present is also at stake if we don't act quickly. The digitalisation of business is a driving force to drive it forward. The digital revolution is changing our lives and society at an unprecedented speed and scale, creating both tremendous opportunities and enormous challenges. An information society called the "digital economy" is being established, shaped and developed. It is clear that digital technologies are becoming an integral part of the socio-economic life of society and a key area of public policy development at the present stage.

In today's market environment, where the speed of life is constantly gaining momentum, scientific and technological developments are taking place and large amounts of information are emerging. This is driving the search for new approaches to the use and processing of data, an automation system for efficient and competitive business operations. The present requires managers to change rapidly and embrace the latest technology to maintain, enhance and integrate development for a sustainable future. Digitalisation is a factor that offers significant advantages for development in this direction. Economic growth and transformation comes from the expansion and more convenient use of digital technology. Consequently, rapid changes for the development and competitiveness of the enterprise towards the use of digital transformation are inevitable.

Analysis of recent research and the unresolved part of the problem. The issues of innovative activity of transport enterprises were studied by such scientists as L.N. Gurch, A.A. Chenchik, who researched the problems of innovative development of transport enterprises [7]; Ya.R. Korniiiko, who considered the management systems of innovation activities in road transport enterprises [8]; K.M. Mikhailichenko, who researched the methodology of formation and development of innovation and investment complexes of the transport industry [9]. Digitalization in a pandemic has become relevant not only in the field of catering, but also in such important aspects of preventing the spread of the corona virus as the use of online applications to prevent a new outbreak of pandemic COVID-19 (I. Gryshchenko, V. Shcherbak, L. Hanushchak-Efimenko, O. Nifatova) [10]. However, despite the existence of a certain amount of scientific research, the

question of the formation of the innovative potential of transport enterprises has not been given sufficient attention.

Objective. To prove that the process of digitalization is characterized by the transformation, implementation of digital technologies to optimize and automate business processes, improve communication with consumers and improve the efficiency of economic activity and affect business development and business operations.

Results and discussion. Today, ordering through a delivery service or online shop is a common thing. Ordinary for the consumer, but for the producer of goods and services this digital transformation in the economy is an urgent issue of today and an important step in the economic activity of the state, a push in the development of their own business and promotion of innovative processes, a competitive advantage in any strategic planning of the industry. It is because we – the people of the twenty-first century – have a fast-paced format of life into which digitalisation has fitted very naturally that modern business has adapted and today goes side by side with the concept of online.

What finally rooted and united them was the global pandemic situation at the level of the entire planet. As a consequence, it was an instant impetus to respond quickly, mobilise and deploy working, effective forces and tools to transition to a new way of doing business. Digital platforms, marketplaces, automation and robotisation of processes, running and managing a business without being tied to a location or even out of time – the pandemic can be considered the engine of digitalisation – the digital transformation that is the anti-crisis form of business development in the conditions at hand.

Most global and national companies are taking these digital changes into account in their medium to long term development. And digitalisation in business is having an impact on the structural transformation of the economy. Transport entrepreneurship has not been left out of today's changes, but has only gained momentum. Today, in particular, we are faced with a wide range of choices: at which fare to travel, in which class of car, how or when to receive a parcel and other settings that are on online platforms. It is undeniable that the restrictions on public transport caused by the Covid-19 pandemic, which have begun and have been severely intensified from time to time, have contributed to the development of taxi services. At one time, competition in this market has prompted an upgrade in transport entrepreneurship, particularly in providing high quality services at reasonable prices, and has also forced one to constantly seek out and find new types, forms and marketing techniques for transport entrepreneurship. Probably everyone in the city today has one of the taxi or courier service relationships downloaded onto their phone. With the advent of mobile apps, the number of people who have started using taxi services has increased significantly. Affordability, speed and safety are the key consumer demands for domestic taxi and passenger car service providers. Thus, calling a taxi through a despatch service and waiting for an hour for a car to arrive is long gone.

In 2016, the world's largest aggregator, Uber, entered the Ukrainian taxi market. It, together with other major operators such as Uklon and Bolt, revolutionised the taxi market in major cities. Moreover, through the online platform, it is now possible not only to order a ride in a car, but also to rent an electric scooter or a bicycle to move around the city. For example, Bolt is an Estonian company that provides search, reservation and payment services for car, motorbike and electric scooter rentals through a mobile app with the same name. The company was founded in 2013 by Markus Villig (a 19-year-old student at the time) with the aim of uniting all taxi services in Tallinn and Riga into one platform. The service was launched in August 2013, and coverage of foreign markets began in 2014.

As of 2020, in a pandemic, one of the most important projects was the launch of the Isolated car category – to ensure safe transportation as much as possible when driving is absolutely necessary.

Uklon has two apps: one of them, the Uklon Rider App, is designed for passengers, allowing them to call for a car or arrange for a parcel weighing up to 20 kg to be delivered to their home or door. More than 50,000 people use it. Uklon Share is a ride-sharing service which helps to find a hitchhiker on popular routes at popular times (morning and evening rush hours). The hitchhikers share the cost of the trip between them, which makes the trip cheaper. The story behind Uber's creation was a simple idea: to make it so that everyone could order a trip with a few clicks on their smartphone. That idea later grew into a global company, opening up new opportunities for millions of users and partners around the world. "Wheels growing out of smartphones" is how NB Business magazine noted the current situation in the taxi industry. – The Ukrainian taxi market – has completely changed". The three pillars on which the Ukrainian taxi market stands – Uber, Uklon and Bolt – have accustomed customers to their online relationships and have ensured that the market is growing by 15% annually. The market continues its inexorable growth, which in annual terms is plus 12–15% in major cities of the country. 40 billion UAH, 220 thousand drivers and 280 million journeys per year – three years ago this was the assessment of the taxi market made by the Office for Effective Regulation (BRDO). Today its volume has already reached UAH 60 billion – these are the data of Ukrainian Taxi Association. The growth process is facilitated by the increasing digitalisation of the process of communication between customers and taxi service providers. Currently booming online ordering aggregators started in Ukraine in mid-2016, with the arrival of US-based Uber. This company and two others like it – the Ukrainian Uklon, founded in 2010, and the Estonian Bolt, launched locally in 2018 – have now become the biggest players in the country. Together, they have significantly changed the market, simplifying car ordering to a few taps of a smartphone screen and reducing overall waiting times to a matter of minutes. Customers now rate drivers, can track their rating and the path of the ordered car.

The leaders are actively attracting more and more new users, displacing traditional services. According to various estimates, online bookings via aggregators already account for 60–80% of all taxi requests by customers in the capital. Another type of transport service is courier services. Food delivery is always a whole event and a small celebration. Now, during the pandemic, we have the opportunity to have a meal with the food of our favourite establishments and support the restaurant industry from the comfort of our own homes. Ironically, however, the idea of delivery was born back in the last century. And over time, restaurants, chains and then individual services began delivering food to order. Throughout the 20th century, food delivery services gradually evolved. But everything changed rapidly with the advent of the Internet - suddenly it was possible to get food right at the front door of your home. Now delivery has taken on a variety of forms: we can order McDonald's, dinner from a high-end restaurant across town, groceries from the supermarket, or a complete week's ration at once. As our needs change over time, delivery services are finding new ways to communicate with consumers. Delivery services are taking different approaches to service communication – playing on our emotions, coming up with extra occasions for sudden treats and linking to current social issues, like in the days of the pandemic.

When food delivery was an innovation and a forced measure, now it has become part of our daily lives. Sometimes it's an event, sometimes it's still a necessity, but we always enjoy the food that the courier brings us as a little celebration. Rocket - originally the business model was to deliver food from restaurants. The research used by the entrepreneurs indicated that this was a key market. Since the COVID-19 pandemic began, the project has been delivering food from supermarkets. The core of Rocket's business is a mobile app that locates the customer and shows them the available range of groceries or food for delivery. Entrepreneurs try to offer a wide range of products, because it determines how actively customers will use the app. According to Google Play, the Rocket mobile app has been downloaded more than 1.7 million times. In comparison, Bolt Food has been downloaded more than 1 million times and Glovo more than 10 million times. The highest

score on Google Play is Glovo with 4.3, Rocket with 3.8 and Bolt Food with 3.7. App Store users give Rocket a lower score of only 3.9, while Bolt Food has 4.4 and Glovo 4.8. The average bill per order in Ukraine is 300 UAH, in the capital it is 330-345 UAH. The average bill of users of iOS devices is 10-20 UAH higher than that of Android users. The first ones more often make repeated orders within a month. The cost of one order at Rocket almost entirely consists of the cost of courier services. The highest unit cost is in Kyiv and in the cold season. In summer the prime cost of one order is 45–55 UAH, in winter it is 60–65 UAH. The major part of the cost price is paid by consumers who pay 40 UAH for delivery and another part is paid by restaurants that give 30% plus VAT from the price of each order. Those 30% are the platform's earnings. The founders of this Ukrainian platform are convinced of the huge potential of food delivery from supermarkets. Food delivery is a new market to Ukraine in the form of Rocket, and supermarket grocery delivery is a totally new story. There were players who even operated in this market for a few years, but they had a slightly different model.

At the same time, another service was gaining momentum – the delivery of cargo orders: it is no secret that after a year of living in quarantine conditions, our usual sending or receiving of cargo is no longer associated with a visit to the nearest branch of a logistics operator. Now it is possible to order and receive everything, from documents to huge metal constructions, via courier. In terms of figures, in the first quarter of 2021 the number of delivery requests increased by 53% and demand for pick-up increased by 43% compared to the same period last year. In the direction of targeted logistics, Delivery is actively developing and the quarantine year, with the forced need to minimise contact with others and stay at home, has contributed significantly to this. New addressable logistics services have been developed and integrated for customers, and digitalisation of services has also become an important part of the service. By developing a mobile app, the company has made customers' lives easier by creating the ability to manage services "in one click" and in their "pockets", not just in the customer's personal office. So, for example, in addition to the standard services of branch locating, issuing receipts, and cargo tracking, the mobile app also offers "one-click" convenient solutions, such as reordering for pick-up and pick-up on a daily basis. Customers can easily create a pick-up/delivery order on their smartphone and add the delivery to an existing receipt.

CONCLUSIONS. The digital economy as the main sign of modernity affects all spheres of society. As a trend of global economic and social development, digitalization affects different spheres in different ways. Each country's place in the global community depends on the extent to which digitalisation affects national economic and social life. The advantages of the digitalisation of business in transport in the context of the Covid -19 pandemic are: 1) the installation of beacons on cars allows you to watch in real time the movement of a taxi to your address rather than relying on the word of the driver in case he is late; 2) the application locates the customer and shows a list of taxis ready to take your order in theory; 3) the software calculates the fare itself and is guaranteed to match what the taxi driver will tell you upon arrival at your destination; 4) the system automatically selects the nearest available taxi – thanks to this a car arrives in a few minutes; The disadvantages of the digitalisation of transport entrepreneurship in the Covid-19 pandemic are: 1) a very significant stratification in the quality of cars. For the same money, you can get a brand-new Golf or a very shabby Lad – it depends on your luck; 2) some digital app employees have access to all of the users' personal data (although companies claim to use it only for legitimate purposes). The analysis shows that the advantages far outweigh the disadvantages (almost threefold).

References

Література

1. Kolesa, shcho rostut zi smartfoniv. yak ukrainskyi rynok taksi povnistiu zminyvsia za p'iat rokiv i teper ochikuie na prykhid kytaiskoho hihanta [Wheels 1. Колеса, що ростуть зі смартфонів. як український ринок таксі повністю змінився за п'ять років і тепер очікує на

- growing from smartphones. how the Ukrainian taxi market has completely changed in five years and is now waiting for the arrival of the Chinese giant]. *Zhurnal NB = NB Magazine*. URL: <https://biz.nv.ua/ukr/markets/uber-bolt-uklon-yak-roste-i-v-yakomunapryamku-rozvivayetsya-rinok-taksi-v-ukrajini-50160887.html> [in Ukrainian].
2. UKLON. *Vikipediia = Wikipedia*. URL: <https://uk.wikipedia.org/wiki/Uklon> [in Ukrainian].
3. BOLT. *Vikipediia = Wikipedia*. URL: <https://uk.wikipedia.org/wiki/Bolt> [in Ukrainian].
4. Yakykh zmin zaznav servis Bolt? [What changes has the Bolt service undergone?]. URL: <https://blog.bolt.eu/uk/bolt-ukraine-quarantine-changes/> [in Ukrainian].
5. Istoriia Uber [Uber history]. URL: <https://www.uber.com/ru/newsroom/history/> [in Russian].
6. Dostavka yizhi: istoriia ta komunikatsii [Food delivery: history and communication]. URL: <https://bazilik.media/dostavka-izhi-istoriia-ta-komunikatsii/> [in Ukrainian].
7. Hurch, L. M., Chenchyk, A. A. Marketynhove doslidzhennia rynku transportnykh posluh Ukrainy [Marketing research of the market of transport services of Ukraine]. URL: http://vlp.com.ua/files/23_22.pdf [in Ukrainian].
8. Korniiiko, Ya. R. (2012). Suchasnyi rozvytok transportnoi systemy Ukrainy [Modern development of the transport system of Ukraine]. *Problemy pidvyshchennia efektyvnosti infrastruktury = Problems of improving the efficiency of infrastructure*, № 35. URL: <http://jrn1.nau.edu.ua/index.php/PPEI/article/viewFile/3092/3046> [in Ukrainian].
9. Mykhailychenko, K. M. (2013). Innovatsii yak chynnyk modernizatsii transportno-dorozhnoho kompleksu Ukrainy [Innovations as a factor in the modernization of the transport and road complex of Ukraine]. *Visnyk ekonomiky i transportu promyslovosti = Bulletin of Economics and Transport Industry*, № 44, P. 64–70 [in Ukrainian].
10. Shcherbak, V., Gryshchenko, I., Ganushchak-Yefimenko, L., Nifatova, O., Tkachuk, V., Kostiuk, T., Hotra, V. (2021). Using a sharing-platform to prevent a new outbreak of COVID-19 pandemic in rural areas. *Global Journal of Environmental Science and Management*, 7(2), 155–170. doi: 10.22034/gjesm.2021.02.01.
- прихід китайського гіганта. *Журнал НБ*. URL: <https://biz.nv.ua/ukr/markets/uber-bolt-uklon-yak-roste-i-v-yakomunapryamku-rozvivayetsya-rinok-taksi-v-ukrajini-50160887.html>.
2. UKLON. *Вікіпедія*. URL: <https://uk.wikipedia.org/wiki/Uklon>.
3. BOLT. *Вікіпедія*. URL: <https://uk.wikipedia.org/wiki/Bolt>.
4. Яких змін зазнав сервіс Bolt? URL: <https://blog.bolt.eu/uk/bolt-ukraine-quarantine-changes/>
5. История Uber. URL: <https://www.uber.com/ru/newsroom/history/>
6. Доставка їжі: історія та комунікації. URL: <https://bazilik.media/dostavka-izhi-istoriia-ta-komunikatsii/>
7. Гурч Л. М., Ченчик А. А. Маркетингове дослідження ринку транспортних послуг України. URL: http://vlp.com.ua/files/23_22.pdf.
8. Корнійко Я. Р. Сучасний розвиток транспортної системи України. *Проблеми підвищення ефективності інфраструктури*. 2012. № 35. URL: <http://jrn1.nau.edu.ua/index.php/PPEI/article/viewFile/3092/3046>.
9. Михайличенко К. М. Інновації як чинник модернізації транспортно-дорожнього комплексу України. *Вісник економіки і транспорту промисловості*. 2013. № 44. С. 64–70.
10. Shcherbak V., Gryshchenko I., Ganushchak-Yefimenko L., Nifatova O., Tkachuk V., Kostiuk T., Hotra V. Using a sharing-platform to prevent a new outbreak of COVID-19 pandemic in rural areas. *Global Journal of Environmental Science and Management*. 2021. No. 7 (2). P. 155–170. doi: 10.22034/gjesm.2021.02.01.