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DEVELOPMENT AND FORMS OF SHARED MOBILITY: A CHALLENGE FOR LOCAL GOVERNMENTS AND TRANSPORT COMPANIES

The article discusses sharing economy in transport car sector. It addresses the history of the development and forms of shared mobility and the challenges that local governments and transport companies face in this area.

Methodology: The authors used analysis of the literature. The adopted methodological strategy involved the snowball sampling method, which identifies scientific articles addressing shared mobility. Industry studies and quantitative analyses of open statistical data from databases such as the Local Data Bank of the Central Statistical Office (LDB) and Statista were also used.

Results: The research indicates that the main challenges for local governments and transport companies regarding shared mobility include the lack of common legal and organisational regulations, balancing public and private interests, infrastructure issues, and psychological barriers.

Main contribution of the paper: The article highlights the importance of shared mobility in today's economic reality, considering changing trends, consumer attitudes, and sustainable economic development.

Keywords: shared mobility, transport, development, local governments.

1. INTRODUCTION

The sharing economy (SE) is a new socio-economic trend that offers promising prospects for future development through innovative technologies. New technologies have caused changes not only in production or sales processes (Koopman et al., 2015), but also significant organisational, social, and cultural transformations (Mishra et al., 2015; Parise et al., 2016). One such transformation is the development and spread of the sharing economy, a new form of economic cooperation. The essence of the sharing economy is

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meeting needs by sharing and utilising unused resources, tangible (such as equipment, living space, vehicles, and food) and intangible (such as money, time, and skills). Sharing provides access to necessary functionalities and resources without requiring ownership, thus removing the associated financial burden. (Mężyk, 2020). The sharing economy helps people realise that owning goods can cause more harm than benefit (Nielsen et al., 2015; Banaszek, 2018). Thus, the sharing economy provides an opportunity to utilise without owning. It represents a shift from a one-to-many model to a many-to-many model. The sector's rapid growth connected with new technologies leads to the continuous development of new and competitive (not only price-wise) services, which, according to the European Commission, can have a positive impact on economic growth and job creation in the EU, provided they are regulated and developed responsibly.

Transport is an area where the principles of the sharing economy thrive in C2C (customer-to-customer) and B2C (business-to-consumer) relationships. The offering concerns alternative ways of navigating, replacing private vehicles, public transport or taxis. Shared mobility is a new revolutionary way of using and moving around the city. It aligns with the spirit of the times, encompassing concepts such as the sharing economy and the smart city. It also has a growing concern for residents living conditions and quality of life, particularly in the context of ongoing climate change.

The high density of transport modes in the urban transport system causes numerous problems for city authorities and city logisticians. According to all forecasts, the demand for urban mobility will increase rapidly, due to, among other things, the growing number of people in cities and the expansion of cities over ever larger areas. Under these conditions, shared mobility appears as one of the main tools to mitigate the negative consequences of this phenomenon.

This paper aims to show the impact of shared mobility on the functioning and policies of local governments and transport companies. By characterising shared mobility models, the authors also intend to show how the sharing economy influences the formation of consumer attitudes and trends, and what solutions are being introduced to the transport services market. To achieve this goal, the following research problems were formulated as questions:

- Does shared mobility pose a challenge for local governments and transport companies?
- How do local governments and companies address the sharing economy's challenges?

The basis for the considerations is a thorough and critical analysis of the literature on the subject, both domestic and international. The adopted methodological strategy involved the snowball sampling method, which identifies scientific articles addressing shared mobility, its variants, and related issues. Industry studies and quantitative analyses of open statistical data from databases such as the Local Data

Bank of the Central Statistical Office (LDB) and Statista were also used to supplement the content.

2. LITERATURE REVIEW

Although the sharing economy has gained prominence in recent years (Pouri, Hilty, 2021; Bin et al., 2016; Mondal, Samaddar, 2020; Perkumienė et al., 2021; Roblek et al., 2016), the authors of this article point to a lack of theoretical research on so-called shared mobility in particular (Petrini et al., 2017).

It should be emphasised that the popularity of the sharing economy has been greatly influenced by digitalisation in business, which has opened up a range of potential opportunities and challenges for economic activity, including a fundamental shift in organisational and distribution models (Wang, Zhang, 2012; Filipiak et al., 2020; Perelygina et al., 2022). This revolution has led to the development of various resources, some of which are technology-based, involving the provision of digital platforms and applications. In this context, the sharing economy has emerged. This concept is understood as a type of shared consumption aimed at solving social problems and providing corresponding benefits. It is based on the widespread use of products or services to transform unsustainable consumption into sustainable and rational consumption (Lamberton, 2016; Luri Minami et al., 2021; Wroblewski, Dacko-Pikiewicz, 2018). The relationships between the sharing economy and sustainable development in any economic field are essential, indicating their significant role in contemporary cooperation between various economic entities.

Given the above, the authors of the article highlighted the relationship between the sharing economy and transport and demonstrated the impact of this phenomenon on sustainable development (Table 1).

Table 1. The sharing economy in the context of transport and sustainable development – a literature review

	Transport Sector	Sustainable development
Sharing Economy	Bardhi, Eckhardt, 2012; Viti, Croman, 2013; Rayle et al. 2014; Stiglic et al., 2015; Wang et al., 2016; Centobelli et al., 2017; Standing et al., 2019; Geissinger et al., 2020; Andreu et al., 2020; Mouratidis et al., 2021; Castellanos et al., 2022.	Gössling, Cohen 2014; May, Crass, 2017; Centobelli et al., 2017; Wang et al., 2019; Raymand et al., 2021.

Source: own study.

Referring to the above literature review, the focus is on the transport sector in the service industry, which underpins the advocacy of the sharing economy by practitioners, industry, policymakers, and researchers.

As mentioned earlier, the significance and potential of sustainable development in the sharing economy are gaining recognition (Curtis, Lehner, 2019). However, the impact of the sharing economy on sustainable development remains under-researched, especially regarding rebound effects. The authors of this article analysed the phenomenon of the sharing economy based on the concept of sustainable development, which plays a significant role in fundamental service industries such as transport. Sustainable development, especially environmental aspects, is a key factor relating to the quality of services from the perspective of the transport industry. This is because the transport services market greatly impacts the natural environment. Considering transport and its implications for sustainable development in the context of the sharing economy, it is proposed to share transport resources to eliminate or minimise, for example, air pollution, and traffic congestion, or improve transport logistics (Wang et al., 2019).

The sharing economy in transport is changing how people move around cities, helping create a more sustainable, efficient, and accessible transport system. By reducing the number of vehicles on the roads and encouraging the use of more eco-friendly modes of

transport, such as bicycles and electric scooters, the sharing economy can contribute to reducing carbon dioxide emissions and other pollutants, partly because car owners often share their space with others (Redman et al., 2013; Koźlak, 2017). Furthermore, shared transport systems often integrate different modes of transport, such as public transport, bicycles, scooters, and electric cars, which promotes a more sustainable and efficient transport system.

2.1. Shared mobility

Shared mobility is one of the segments of the sharing economy that is most fully realised in urban transport systems, which face significant challenges. According to Shaheen et al. (2015), shared mobility is short-term access to shared vehicles by users depending on their needs and convenience, without the need to own vehicles. This phenomenon has intensified due to demographic and cultural changes and is primarily related to the new social approach to the ownership of goods, mainly in developed countries. However, the fundamental development of shared mobility began in the 1990s, mainly due to the rapid growth of telecommunications and information technologies. The service system is based on passengers sharing the modes of transport to meet temporary transport needs without transferring ownership rights from the service provider to the customer (Nansubuga, Kowalkowski, 2021).

Shared mobility is primarily a new, distinct category of urban mobility comprising different types of vehicles (e.g. bicycles, scooters, UTOs, scooters, cars) intended for independent and individual use. They are most often rented via mobile technologies. Once the journey is completed, the vehicle becomes available for subsequent users. The broadly understood shared mobility includes various transport modes and services that allow users short-term access to transport modes if needed.

The first shared transport services are attributed to city bike systems. This form of shared transport dates back to the second half of the 20th century. (Kuzma et al., 2022). Poland's first public bike-sharing system was launched in Kraków in 2008, co-financed through the European programme 'Civitas Caravel.' (Puzio, 2020). In 2016, it was replaced by a fourth-generation self-service bike rental system called Wavelo, operated by BikeU. It operated until 2019. This was followed by the RoweRes public bicycle system in Rzeszów (by Romet Rental Systems) and the Wrocław Urban Bicycle System (by NextBike), launched in 2011. The flagship project is the Veturilo public bike system in Warsaw. The second most popular form of shared mobility is car-sharing, and the first car-sharing experience in Poland dates back to 2015, with the start-up company GoGet.pl from Wrocław (Kubera, 2018). Another type of shared service is electric scooters. In Poland, the first electric scooter service available by the minute was launched in 2017 in Warsaw by Blinkcity, responsible for electric scooters and urban bicycle systems in Poland. Electric scooters are the last type of vehicle included in the shared transport system, representing the latest developments in urban micro-mobility. E-scooter systems in Poland first gained attention in 2018, thanks to Lime.

Shared mobility will develop rapidly. On one hand, it is convenient and intuitive, and on the other, it helps solve many problems that cities face globally. The growing interest in vehicle sharing is seen worldwide (Figure 1). Despite the noticeable attachment to ownership and possessing a vehicle in Western culture the shift towards using shared mobility services is gaining importance from a psychological perspective (Prettenthaler, Steininger, 1999).



Fig. 1. The global shared mobility market

Source: Statista: <https://www.statista.com/accounts/pa>

Transformation and changes in the transport sector are integral to its functioning (Cohen, Kietzmann, 2014). Vehicle sharing primarily meets the basic transport needs of the population while also being an alternative, ecological, and economical mode of transport. It contributes to reducing traffic congestion in cities. This helps decrease air pollution emissions and the demand for parking spaces. Fewer cars on the roads create greater travel comfort and safety (Kozłak, Pawłowska, 2017).

2.2. The sharing economy in the transport sector in Poland

The sharing economy in transport involves sharing transport resources, such as cars, bikes, scooters, or e-scooters instead of individual ownership. This type of usage, including transport modes, offers numerous benefits for providers and renters. One key element of this concept is the optimisation of resource use, as instead of needing to own a vehicle, users can access a fleet of cars, which allows existing resources to be used more efficiently (compared to traditional methods) and reduces the need for producing new vehicles (Standing et al., 2019). Vehicle sharing also reduces costs, as actual vehicle usage is cheaper than ownership when considering expenses such as purchase, insurance, fuel, maintenance, parking, and more. Furthermore, sharing models can improve transport accessibility in areas where traditional transport services are limited or insufficient (Schwieterman, Bieszczat, 2017).

In 2020, over 25 million passenger cars were registered in Poland. Meanwhile, one shared vehicle can replace up to 7–11 private cars. Globally, the spread of car-sharing could reduce the number of vehicles by up to one-third.

The choice of goods and services nowadays is quite wide and many items are based on accessibility, with car-pooling as an example of this process (Zhang et al., 2016). This phenomenon involves sharing a seat in a private car in exchange for a specified fee. People search for car-pooling opportunities online and advertise available car seats (Shaheen et al., 2016). The most popular platform is the previously mentioned BlaBlaCar (Kamińska, 2017). BlaBlaCar is the largest global community-based transport network, enabling over 90 million users to carpool in 22 countries. The one-way car-pooling portal is inonecar.com, which connects employees through shared commuting. The service allows users to set departure times and choose travel companions. An example of car-pooling is

the JedziemyRazem platform, which connects people travelling in the same direction or along regular routes and also allows for planning one-time journeys. The second group of services facilitates vehicle rental through publicly available car fleets. An application enabling car rental by the minute is Traficar. It lets users reserve a vehicle, drive it within the city, and leave it anywhere, with the fee based on the kilometres driven. (Kamińska, 2017). The platform started its operations in 2016 and initially operated within Krakow. Today, it is the largest car-sharing company in Poland, currently operating in 26 Polish cities. It has a fleet of over 2,500 cars (www.traficar.pl as of 1.07.24). A similar application called 4mobility started on the Warsaw market. It currently operates in several cities. Its fleet includes over 400 cars. The platform offers car rentals by the minute or hour while providing fuel and parking meters. It also offers short-term rentals for days, weeks, and months. The company rents cars for longer periods of over 6 months (www.4mobility.pl as of 1.07.24.). PANEK S.A., a company founded in 2000 in Lubin, Lower Silesia region, started as a local car rental company. It was established and has been developed and managed by Maciej Panek, who, through his determination and an appropriately chosen strategy, transformed a small provincial company into a nationwide leader in the car mobility industry within just a few years, offering comprehensive services including rentals by the minute, short-term rentals, and daily, monthly, and yearly rentals. The company is also involved in ecological activities, as evidenced by its regularly refreshed fleet consisting exclusively of low-emission hybrid and fully electric cars (www.ipanek.pl as of 1.07.24). The last group of platforms connects passengers with drivers who own their vehicles. These services resemble regular taxis and include Uber and Bolt. Both applications are available in Poland.

In the Polish market, it is also possible to rent other modes of transport that are more environmentally friendly than cars. These include electric scooters and bicycles, which are particularly popular in spring and summer. Currently, almost 70 Polish cities have decided to launch so-called city bikes, with a total of nearly 25,000 shared bicycles and around 3,000 stations across the country. In 9 cities, users can also access almost 7,000 electric scooters (<https://www.teraz-srodowisko> as of 1.07.24). However, using these eco-friendly alternatives to cars comes with drawbacks. It is not possible to reach high speeds. Problems also arise in unfavourable weather conditions. Nevertheless, it is sometimes quicker to reach a specific point. A positive aspect for the environment is the reduction of carbon dioxide emissions released into the atmosphere. Solutions in this area are offered by Bolt or, more recently, the Free Now app. The German start-up TIER has also entered the Polish market. It offers electric bicycles and scooters in 82 locations in Poland (www.tier.app/pl as of 1.07.24).

3. FORMS OF SHARED MOBILITY

Shared mobility encompasses various forms of transport aimed at providing shared access to vehicles and other transport modes, reducing the need for individual car ownership. They can be divided into several main categories: car-sharing (cars by the minute or day), bike-sharing (public bike systems), personal vehicle sharing, ride-sharing, shared micro-mobility, on-demand ride services including ride-sourcing, alternative transit services, and courier network services (Kuzma et al., 2022). Meeting transport needs in shared mobility involves the use of multiple systems and modes of transport.

Shared mobility can be divided into emerging innovative and basic, existing shared services. Innovative services include those that use cutting-edge technologies such as

mobile applications and the Internet as the basis for rides, such as bike-sharing, car-sharing, e-hail, micro-transit, micro-mobility, and ride-sourcing. Basic services, which have existed on the market for some time, include traditional car rentals, limousines, rickshaws, paratransit, taxis, shuttle services, and, above all, public transport. A combination of both classifications includes car-pooling, van-pooling, and slugging services (Kuzma et al., 2022).

3.1. Car-sharing

Car-sharing is one of the most rapidly developing models of the sharing economy in transport in recent years. The term consists of two English words: 'car' and 'sharing,' which together mean sharing or making a car available (Hui et al., 2017). Car-sharing involves the shared use of cars made available to users for a fee for a short period of time (sometimes counted in hours) (Mallus et al., 2017) by fleet operators. The operation of such a system increases the efficiency of vehicle use per day and leads to a reduction in the number of privately registered cars (Godlewska, Szpilko, 2020; Namazu et al., 2018). As a result, this solution contributes to reducing not only congestion in urban areas but also the problem of lack of parking spaces (Wojewódzka-Król, 2021). Customers interested in such a service can pick up their vehicles from specially designated locations and return them after their trip is completed. Special parking zones for such cars are designated in urban areas. Users of this form of transport are charged according to the kilometres driven or the time of use (Millard-Ball et al., 2005).

Three models of car rental and parking have been identified in car-sharing services (Cervero et al., 2007):

- free-floating – involves leaving the car anywhere within a designated zone, e.g. within the city limits except for the outskirts of the city;
- station-based – requires leaving the vehicle only in a designated zone or specific location, with the possibility of booking the car in advance;
- peer-to-peer – based on the voluntary sharing of private cars to customers registered in a special database.

In terms of its functionality, car-sharing can be divided into three types. The first is classic car-sharing, which requires users to rent and return the car at the same location. This most often involves specifying the exact time of pick-up and return of the vehicle (Heilig et al., 2018). The second type is free-floating car-sharing, which allows the car to be picked up and returned at any location convenient for the user. Car bookings in the free-floating system can be made even a few minutes in advance, e.g. via a mobile application or website. This provides users with the convenient option of returning the vehicle anywhere and anytime. This is the main difference from classic car-sharing, where the booking time must be specified in advance. The third system offers the possibility to return the car to a different location from where it was collected. This type is called one-way car-sharing (Seik, 2000).

3.2. Car-pooling

Car-sharing is often confused with car-pooling. Car-pooling started earlier but, like car-sharing, developed significantly in the age of the Internet and mobile applications. The term means drivers offer a seat to others wishing to travel in a particular direction. The primary aim of car-pooling is to increase the number of passengers on a car journey. This system makes passenger cars resemble public transport (Shaheen et al., 2016b). The car-pooling system is mainly developed in places where the availability of public mass

transport is insufficient. This mode is typically used by people travelling to school, university or work and is often practised informally. Car-pooling mainly operates based on mobile applications functioning as social networking sites, including Uber or Lyft (Correia, Viegas, 2016). Such a solution has cost-saving benefits for both parties (Godlewska, Szpilko, 2020).

3.3. Bike-sharing

A similar solution for shared urban mobility is bike-sharing systems, which is the possibility of renting a bike on-demand from a docking station and returning it to the same or any other dock within the same system (Wojewódzka-Król, 2021). Bike-sharing stations are usually unattended, concentrated in urban areas, and offer one-way station-based access (bicycles can be returned to any station) or round-trip station access (bicycles must be returned to the pick-up station). Bike-sharing provides a variety of pick-up and drop-off locations for bicycles. Most public bike-sharing operators cover the costs of maintenance, storage and parking. Typically, rides lasting less than 30 minutes are included in membership fees (Shaheen et al., 2016a). The benefits of public bike-sharing systems are numerous, such as avoiding parking and maintenance issues with private bicycles, providing more convenient connections to public transport, reducing travel times and costs in city centres, improving physical health, and offering opportunities for more social and recreational experiences (Li, Kamargianni, 2018).

3.4. Ride-sharing

Ride-sharing involves shared trips by multiple travellers on similar or overlapping routes (origins/destinations) and departure times, using the same vehicle, usually a car or van (Fagnant, Kockelman, 2018). Ride-sharing significantly reduces congestion by decreasing the total number of vehicles on the roads by encouraging travellers to share rides. These practices are facilitated by communication technologies such as the Internet, smartphone applications, and connected vehicles. It represents a new type of point-to-point transport network service based on a dynamic platform, where drivers offer their private vehicles to passengers seeking transportation to similar destinations (Chen et al., 2017; Di, 2018). Individual participants in ride-sharing benefit from shared journeys because travel costs are reduced and journey times are shortened.

3.5. Van-pooling

Van-pooling typically involves 7 to 15 people who regularly commute in a van or a similar-sized vehicle, sharing the travel costs. This form of mobility usually has a coordinator. Its advantages include (Ferguson et al., 1994) reliability, social interactions, stress reduction, financial, environmental, and ecological benefits, as well as productivity.

3.6. Ride-sourcing

Ride-sourcing is understood as companies providing transport networks or flexible mobility on demand. It offers a solution for interactive and shared mobility systems, involving a paid ride-sharing service that uses private vehicles for paid rides on demand. In such systems, the service charge includes fuel costs, vehicle depreciation, driver remuneration, company fees for connecting service providers with end consumers, and any taxes related to service regulation (Atasoy et al., 2015).

In ride-sourcing systems, a fleet of private vehicles provides users with transport services that are uninterrupted, personalised and highly flexible, accommodating individual

requests and offering door-to-door service (Atasoy et al., 2015). Carranza et al. (2016) note that a key advantage of ride-sourcing is the cost savings on vehicle purchase, operation and maintenance. Moreover, ride-sourcing programmes enable users to use their travel time for activities other than driving, such as reading, making phone calls and sending emails or messages. However, as Calvert and Chatterjee (2016) caution, this shared mode of transport is heavily reliant on information and communication technologies.

4. THE ROLE OF LOCAL GOVERNMENTS IN THE DEVELOPMENT OF SHARED MOBILITY

It is widely indicated that the future of cities lies in mobility, especially its multimodal integration and optimisation of transport usage (Nikitas et al., 2017). Urban areas are seen as key centres of sustainable growth on a global scale, due to the ongoing trend of population increase and their dominant influence on shaping new usage patterns (Ly, 2020; Thynell et al., 2010; Chodkowska-Miszczuk, Lewandowska, 2018). Therefore, the role and actions of local governments become highly significant.

Local governments play a key role in the development of shared mobility, shaping policies and infrastructure and cooperating with private companies and local communities. Local governments can and should influence the development of shared mobility by creating supportive policies and legal regulations that ensure safety and compliance with local laws, and generally foster the development of the sharing economy in the transport sector (Castellanos et al., 2024). Local governments should provide financial support to start-ups or businesses operating in the sharing economy by introducing subsidies, tax reliefs, and other incentives to encourage using such services. Local governments should also introduce incentives for companies that offer eco-friendly solutions, such as electric vehicles, which contribute to emission reductions.

As part of the development and maintenance of infrastructure, local governments should build and maintain cycling and pedestrian infrastructure to facilitate the use of shared bicycles or scooters. Dedicated parking spaces for shared vehicles and charging stations for electric vehicles should be created. Integration with public transport also plays an important role and should be achieved through the construction of transfer hubs, enabling easy changes in transport modes (Docherty et al., 2018).

Local governments should play an important role in promoting the sharing economy and education in this regard. They should conduct educational and informational campaigns promoting the benefits of shared mobility, such as cost savings, and ecological and health benefits. Local governments should cooperate with local organisations (for example, in the form of public-private partnerships) and communities to promote and implement shared mobility services.

The role of local governments should also include supporting research and innovation in new technologies and business models related to shared mobility. To ensure appropriate conditions for the development of sharing economy services, local governments should consider the needs of residents in spatial planning, such as creating low-emission zones and areas with restricted car traffic (Zhang et al., 2022), which encourage the use of environmentally friendly modes of shared transport. It is also important to control and monitor services provided by the sharing economy to better plan and adapt infrastructure and the scope of services offered to meet the demand. Evaluation and adaptation of the implemented solutions should also be the responsibility of local governments, which should regulate these solutions according to the needs of local communities. Local

governments should also introduce and enforce safety regulations concerning the safety of users of shared transport modes, such as mandatory helmets for electric scooter users (Lukasiewicz et al., 2022).

In conclusion, by actively engaging in the development of shared mobility, local governments can significantly contribute to creating more sustainable, efficient, and environmentally friendly transport systems that benefit residents and the environment (Janczewski, Janczewska, 2021).

5. CHALLENGES FOR TRANSPORT COMPANIES

It is undeniable that shared mobility is transforming the traditional transport industry. The potential in the form of innovative technology contributes to social, environmental, and economic efficiency. This scenario puts pressure on conventional transport companies (bus operators, taxi companies, etc.), which are forced to improve and upgrade their services to retain customers (Machado et al., 2018). Therefore, the current transport sector must remain vigilant and continuously build the ability to develop new business strategies and adapt to different circumstances, and incorporate new technologies.

Shared mobility clearly demonstrates the importance of openness to mutual cooperation and dialogue between all the parties involved in shaping the urban reality: city administrations, mobility service providers, companies and institutions in the city, residents, and policymakers. Simply put, it is important to consider the perspectives of multiple parties. Most shared mobility services are provided by private companies, some by community initiatives, and a very small number are entirely public shared modes.

Existing shared mobility programmes have involved a series of discussions and negotiations between the public and private sectors. The role of private companies in the shared mobility industry raises concerns about e.g. the feasibility and acceptability of related sharing activities. One aspect that still needs to be adequately explored is the implications of integrating shared mobility services, mainly provided by private companies, into the existing public transport, which is characterised by strong government regulations. It is important here to identify synergies between the existing public transport network and emerging shared mobility programmes in such a way that the provision of these services contributes to achieving the primary goal of sustainable mobility (Cohen, Kietzmann, 2014; Akyelken et al., 2018; Akyelken et al., 2018).

Among the many challenges faced by companies wishing to provide transport services is the creation of an efficient model for fleet relocation and battery charging. Operators of e-scooters, for example, face such problems. Additionally, there is the need to manage supply and demand in such a way as to avoid accusations of profit maximisation while shifting the problems generated by e-scooters to local authorities and the community. Interest in car-sharing is also growing yearly, offering a new perspective on urban mobility and becoming an alternative solution to taxis and public transport. In this situation, it is important to consider the connection between the service provider and the customer using it. Thus, attention should be paid to digital technologies that enable sharing and connecting interested parties while reducing costs (Godlewska, Szpilko, 2020).

Understanding the local context, establishing relationships with the community, and adapting to the specifics of the city are crucial for the success of the company entering a given market to a much greater extent than millions spent on cooperation with a well-known influencer or on advertising. Without these measures, a shared mobility company or service may leave the city much faster than it entered it.

It is also necessary to meet the different expectations of various customers in shared mobility. It seems beneficial to establish cooperation with other companies. Trying new solutions, the company Traficar, in collaboration with Castorama, offered the possibility of renting 6 Renault Kangoo delivery vans. The cars were designed to transport larger purchases of up to 800 kg. In response to enquiries from entrepreneurs, Traficar introduced a car rental option for businesses, known as fleet-sharing (<https://www.traficar.pl>, as of 05.04.2020). This option became an alternative to company cars and taxi rides. Another solution will be an option where companies can rent cars for their employees.

The 21st century is increasingly concerned with the environment and the mass use of natural resources (Cherry, Pidgeon, 2018; Cohen, Kietzmann, 2014). Customers also attach great importance to environmental protection. Therefore, electric-powered modes of transport are becoming increasingly important among entities responsible for shared mobility. Among all shared mobility modes in Poland, up to 25% are electrically powered (and when including electric-assisted bicycles, this figure rises to 30%). Therefore, considering the 'environmental aspect' in building infrastructure and providing services by transport companies seems to be obligatory in the future. In conclusion, transport companies face new challenges in response to the changing reality of mobility. Several of the many challenges shared mobility service providers will need to address have been highlighted.

6. CONCLUSION

Currently, environmental considerations and the need for more socially and financially efficient modes of transport are paving the way for a new generation of transport users. Two features that seem to concern and unite all users are environmental care and familiarity with technological devices. Another noticeable trend, as confirmed by the research of Fluery et al. (2017), is the increasing number of shorter journeys involving middle-aged, well-educated people with at least average incomes. These changing consumer preferences, as well as stricter regulations on vehicle technical standards and breakthrough technological solutions, contribute to a fundamental shift in the behaviour of individual transport users. Users are increasingly opting for multiple modes of transport, combining the advantages of the various solutions offered by shared mobility solutions.

Shared mobility represents a real transport alternative and a new quality, different from individual transport, public transport or on-demand mobility services (e.g. taxis). Sharing opens a new chapter in the history of urban mobility. It complements existing models rather than opposing them. Shared mobility is, on the one hand, convenient and intuitive; on the other, it helps solve many of the challenges plaguing modern cities (congestion, traffic jams, poor air quality, and lack of parking spaces). Additionally, innovations and technological advances allow for the introduction of new types of vehicles and new business and operational models. Shared mobility is a new, distinct category of urban transport that fosters urban sustainability and addresses the pressing needs of modern cities: e.g. improving air quality (by eliminating transport emissions), better utilisation of existing urban resources (e.g. infrastructure, space, residents' time), reducing the rate of individual motorisation, and improving quality of life. Shared mobility is also intended to foster social inclusion and mitigate transport exclusion, particularly for people without private modes of transport (Whitmore et al., 2022).

However, to effectively harness the advantages of new forms of transport, it is necessary to create the conditions for their development. This is a complex task – from

promoting awareness of the social benefits of shared transport, raising awareness of their availability, and demonstrating their advantages to users, to striving for local and central government regulations that keep pace with innovation and the spirit of the times. Equally important is improving the efficiency and effectiveness of urban transport, integrating different branches of transport, reducing the need for private car ownership, and thus reducing the number of vehicles on the roads, resulting in a significant reduction in congestion, air pollution, and noise emissions (Mitropoulos et al., 2021; Kopec, 2019). Shared mobility highlights the importance of openness to mutual cooperation and dialogue between all parties that shape the urban reality: city administrations, mobility service providers, companies and institutions, residents, and policymakers.

All authors have read and agreed to the published version of the manuscript.

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