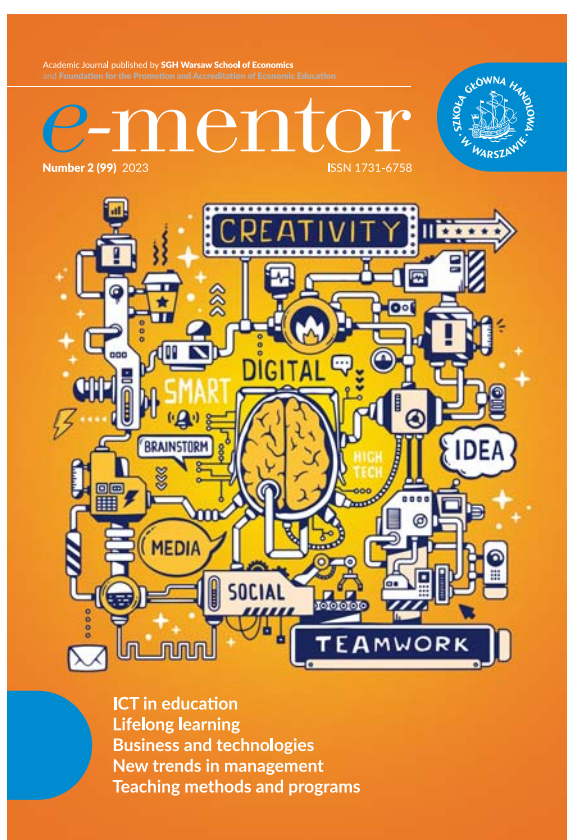


# e-mentor

DWUMIESIĘCZNIK SZKOŁY GŁÓWNEJ HANDLOWEJ W WARSZAWIE  
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# Business model transformation during the COVID-19 pandemic – example of the automotive industry

## Abstract

This article explores the impact of the COVID-19 epidemic on the business models of automotive-sector organizations, specifically authorized passenger car dealerships in Poland. The research aims to determine how business models were transformed during the pandemic. The research methods used include a literature review and opinion polls. The article begins by discussing the significance and evolution of business models and changes in the automotive sector. The results focus on how the pandemic brought about change in business models in the automotive sector, and the conclusion includes information as to limitations and further areas of study.

**Keywords:** business model, business model transformation, dealership, automotive industry, COVID-19

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## Introduction

The ability to adapt and operate flexibly determines the survival of modern businesses. Running a business involves constant questioning, seeking new solutions, and learning from experience to avoid repeating mistakes. The VUCA world is volatile, uncertain, complex, and ambiguous. Volatility means frequent and unpredictable change, while uncertainty means the lack of knowledge about the impact of an event. Complexity involves creating an elaborate network of interconnected information and procedures, and ambiguity means the lack of knowledge as to 'the basic rules of the game'. This means that the cause-and-effect relationship is not recognized and there is no precedent that indicates what to expect (Bennett & Lemoine, 2014). M.T. Lepeley has stated that in the global VUCA environment of the 21<sup>st</sup> century, crises are the norm rather than anomalies. People, organizations and nations will face entropy, should they maintain the dysfunctional status quo. The global crisis caused by the SARS-CoV-2 virus has revealed a deficiency of hard skills. According to Lepeley, during critical times, hard skills seem to hamper the currently developing economic crisis and expose gaps in communication, critical thinking, coordination, and problem-solving (Lepeley, 2021). What is more, many socio-economic implications have tightened-up, such as the issue of social inequality (Munir, 2021), growth of entrepreneurship (Shepherd, 2020), or the understanding and acceptance of the risk of and the ways of dealing with crises (Rouleau et al., 2021). In the VUCA world, leaders do realize that a sustainable future is only possible if organizations are able to sense, adapt, and respond to change. They also unveil the business challenges to reveal the organization's learning gaps associated with individuals and teams, as well as the practices, processes, and systems (Raghuramapatruni & Rao Kosuri, 2017).

The pandemic, and thus the increasing incidence of COVID-19, has affected all areas of human activity, starting from the fundamental issues associated with the protection of human health and life, through the social, demographic, technological, cultural, educational, legal, political and economic spheres. In macroeconomic terms, the pandemic-induced crisis, the effects of which are perceptible worldwide, has resulted in a sharp decline in aggregate supply and aggregate demand. The efforts to inhibit the spread of the Sars-Cov-2 virus, through reduced business activity, have resulted in a sharp decline in aggregate demand. The decrease in consumption and investment has, in turn,

caused a decrease in aggregate supply (Seetharaman, 2020). The restrictions on free movement of goods in international trade contributed to a significant economic slowdown, which has affected companies from all sectors, regardless of their size. This global socio-economic crisis of such an unprecedented scale has additionally induced consumer panic and changed the existing purchasing habits. Under these circumstances, the global financial market has also been experiencing market anomalies, leading to significant drops in global stock indices (McKibbin & Fernando, 2020, p. 45). Numerous scientific studies indicate the impact of the COVID-19 pandemic on the development of individual sectors, including the tourism sector (e.g. Carrillo-Hidalgo, 2023; Romagosa, 2020; Sigala, 2020; Uğur & Akbıyık, 2020), the associated aviation sector (Gultekin & Acik Kemaloglu, 2023; Forsyth et al., 2020; Tuchen et al., 2023) as well as the pharmaceutical sector (Almurisi et al., 2021; Asad & Popesko, 2023; Ayati et al., 2020), the energy sector (Eroğlu, 2020; Ha, 2023; Klemeš et al., 2020), the educational sector, including higher education (Aristovnik et al., 2020; Bansal, 2023; Mielke et al., 2023), and the automotive sector, in particular the emerging problems with disruptions of supply chains (Hojdik, 2021; Jankovic-Zugic et al., 2023; Kazancoglu et al., 2023; Klein et al., 2021). In the unfavorable environment hindering the development of entrepreneurship, many companies have faced the question of how to foresee the pandemic's further impact on the economic situation, mitigate the effects of the global crisis, find new solutions for running family businesses (e.g. De Massis & Rondi, 2020; Sahut et al., 2023), search for creative ideas to overcome the crisis induced by the COVID-19 pandemic (e.g. Agarwal & Audretsch, 2020; de Lara González et al., 2023), and implement new strategies in international businesses (e.g. Rahbari et al., 2023; Verbeke & Yuan, 2021). To this end, scenarios of how Sars-Cov-2 will spread are being developed on a global scale, considering its impact on the economic crisis, the results of which include decreased labor supply, rising costs of business operations, or decreased consumption in various sectors (McKibbin & Fernando, 2020).

The socio-economic crisis caused by a factor of an exogenous nature encourages the companies wishing to maintain their position on the market to reflect on the current manner of customer value development and stakeholder relationship building. From this perspective, the important questions are the following (RQ):

RQ1: What impact does the crisis exert on the manner in which automotive-sector companies conduct business?

RQ2: How does it affect these companies' relations with their stakeholders?

RQ3: What short-term initiatives have the companies undertaken in terms of the existing manner of conducting operations?

RQ4: Striving to maintain their internal consistency, while ensuring flexibility of operation, have the companies changed the architecture of their business, that is have they changed their business model?

RQ5: What actions have the company managerial personnel taken in terms of internal and external stakeholder relation management?

This research problem has developed along with the difficulties concerning a changing business environment that affect dealerships' business architecture. The main aim of this paper was to identify the components of dealerships' business models that required changes due to exogenous and unpredictable factors such as the COVID-19 pandemic, in order to ensure companies' position and stability on the market. The designed research tool – a questionnaire – enabled the authors to conduct research on car dealerships in Poland.

The paper is structured as follows. The first section presents a literature review on business model reconfiguration, followed by a description of methodology of the study. This study methodology exposes the designed research tool – a questionnaire, research procedure, and the structure of the respondents – surveyed dealerships. The results of the conducted research are then presented, organized in the same order as in the questionnaire, showing which elements of dealerships' business models have changed due to an exogenous factor such as the COVID-19 pandemic. Finally, the last section illustrates the principal conclusions that can be drawn from our work. In particular, it addresses the research questions posed at the beginning of this paper, implications for further research outlined based on the authors' analysis, findings enhancing to seek for flexible systemic and structural solutions that will secure dealerships against unexpected environmental changes, and managerial implications.

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## Literature review

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The theoretical research began with a bibliometric analysis carried out using two knowledge databases, Web of Science (WoS) and Scopus<sup>1</sup>. Identification of

<sup>1</sup> In this theoretical research study, the authors made a deliberate choice to utilize only the Web of Science (WoS) and Scopus databases, despite being aware of other knowledge bases such as Google Scholar (Publish or Perish). The identification of relevant publications in their investigation relied on titles, keywords, abstracts, and content obtained through publication queries. While both WoS and Scopus enable comprehensive bibliometric analysis and provide valuable data, the structure of the Publish or Perish database poses limitations, making it unsuitable for generating certain information such as abstracts. Furthermore, the authors prioritized the identification of publications from recognized international journals and conferences, which led them to rely solely on the WoS and Scopus databases. WoS and Scopus are renowned for their extensive coverage of high-quality peer-reviewed journals and reputable conference proceedings, ensuring the inclusion of publications that meet the rigorous standards of the research. Additionally, the research was conducted based on the identified literature during the exploratory phase and questionnaire construction, further supporting the authors' decision to utilize the Web of Science and Scopus databases.

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**Table 1**

List of the studies identified in the Web of Science and Scopus databases

Category	Database	
	Web of Science	Scopus
Publication years	2006–2020	2008–2021*
Citations years	2006–2020	2009–2021*
Documents	46	61
Citations	786 / 775*	828
Cities per paper	17	13,57
h-index	12	12

Note. \*W/o self-citations.

\*\* Two studies with the publication date of 2021 were identified in the Scopus database, and were included in the analysis.

\*\*\* Search query: ('business model' OR 'business model innovation') AND ('reconfiguration' OR 'transformation' OR 'evaluation' OR 'change approach').

Source: authors' own work based on the data contained in the knowledge databases used, as of: August 23, 2020.

the publications dealing with the issue of business model reconfiguration began with a search for indexed scientific articles and monograph chapters in post-conference materials. For this purpose, the keywords ('business model' OR 'business model innovation') AND ('reconfiguration' OR 'transformation' OR 'evaluation' OR 'change approach') were proposed.

Table 1 summarizes the results obtained from the two knowledge databases.

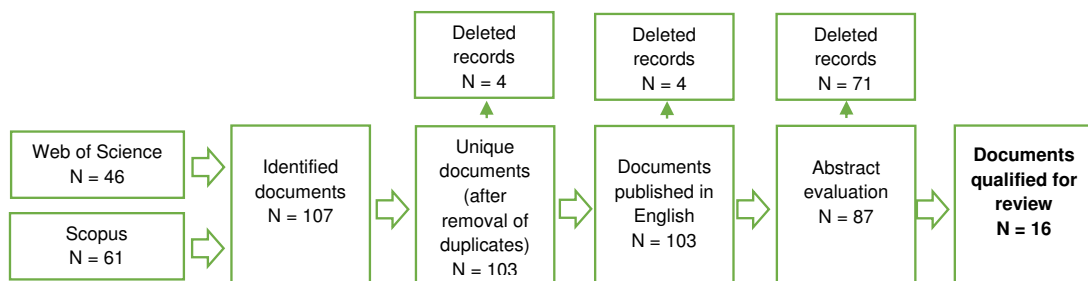
Based on the data generated, the publications identified were evaluated for repeated articles, language, and type of publication, including the results of abstract and entire publication analyses. This part of the research process is shown in Figure 1.

Based on the data presented in Table 1, Figure 2, in turn, shows interest in the issue of business model transformation, expressed in the number of publications indexed in the Web of Science and Scopus databases.

As a result of the bibliometric analysis, sixteen publications dealing with the issue of business models in the context of model transformation were identified. The results of the analysis additionally outlined the cogni-

**Figure 1**

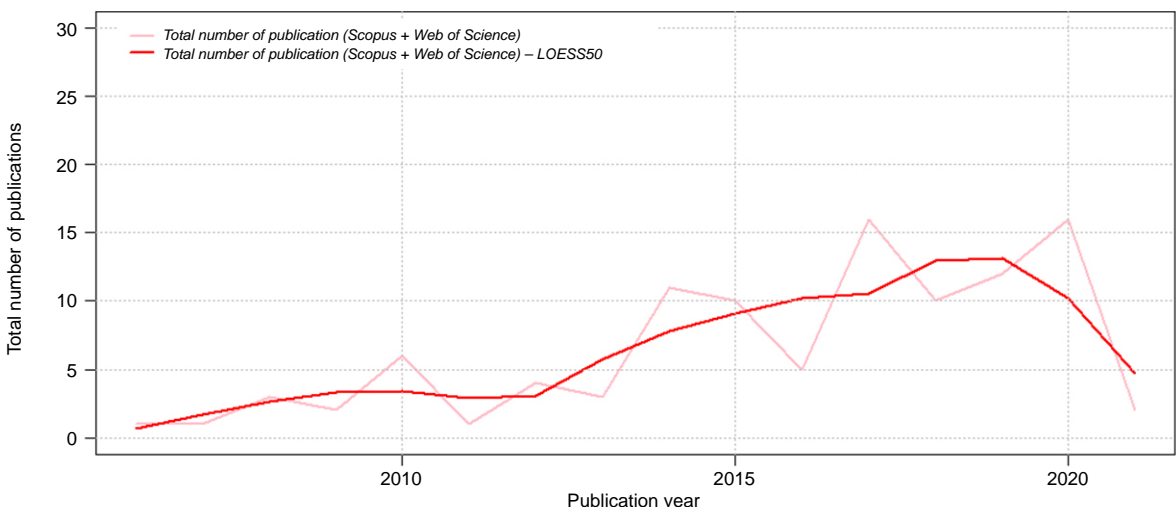
The process of identifying the publications to be used for the systematic literature review



Source: authors' own work based on the data from the Scopus and the Web of Science databases.

**Figure 2**

The number of publications indexed in the Scopus and Web of Science databases



Note. \*LOESS50 – regression at base of 50.

\*\* Search query: ('business model' OR 'business model innovation') AND ('reconfiguration' OR 'transformation' OR 'evaluation' OR 'change approach').

Source: authors' own work based on the data from the knowledge databases.

**Table 2**  
 Characteristics of the business model evaluation parameters

Evaluation parameter	Authors
Factor implying generation of business model changes	Bocken et al., 2015; Sewpersadh, 2023
Activities of improving character	Chesbrough, 2010; Demil & Lecocq, 2010; Gassmann et al., 2014
Identification of stakeholders	Bocken et al., 2015; Froud et al., 2009
Impact of customer needs and expectations	Magretta, 2002
Types of contact with customers	Chesbrough, 2010; Gassmann et al., 2014
Identification of the dominant source of profit (customer value proposition)	Demil & Lecocq, 2010; Dubosson-Torbay et al., 2002; George & Bock, 2011; Johnson et al., 2008; Magretta, 2002; Morris et al., 2005, Schaltegger et al., 2016; Wirtz et al., 2010
Identification of key resources	Chesbrough, 2010; Johnson et al., 2008
Cost structure	Chesbrough, 2010; Gassmann et al., 2014
Profit structure	Dubosson-Torbay et al., 2002; Gassmann et al., 2014; George & Bock, 2011; Johnson et al., 2008
Identification of customer segments	Dubosson-Torbay et al., 2002; Magretta, 2002; Morris et al., 2005, Osterwalder et al., 2005
Distribution channels	Chesbrough, 2010

Source: authors' own work based on the literature specified in the table.

tive gap caused by a lack of publications describing the business model reconfiguration resulting from the exogenous factor of the COVID-19 epidemic. A subsequent research question was presented accordingly.

Much attention has been devoted in the literature on the subject to business model changes. Numerous studies addressing this issue contain various expressions that are used to reflect the essence of the phenomenon of change, such as "reinventing business model" (Johnson et al., 2008), "business model renewal" (Doz & Kosonen, 2010), "business model adaptation" (Saebi et al., 2017), or "business model development" (Andries et al., 2020).

The systematic review of the literature on the subject enabled the business model elements propounded by various researchers to be identified. Some of these elements, such as *customer value proposition* (Bohnsack et al., 2014, p. 288; Boon & Lüdeke-Freund, 2013, p. 16; Schaltegger et al., 2016, p. 6; Yunus et al., 2010, p. 311), or *resources/key resources* (Hienerth et al., 2011, p. 346; Provance et al., 2011, p. 5630; Yunus et al., 2010, p. 311) are mentioned in many business model canvas templates. The theoretical model propounded in this work (Table 2) is based on the business model concept developed by A. Osterwalder and Y. Pigneur (2010). It has been modified to allow for the specific nature of the automotive sector under examination, based on the definition proposed by the authors of the article.

## Methodology

### Theoretical model

Based on the theoretical research presented in the first section of the article, a research tool was designed which enables the research questions formulated to be answered and, consequently, the objectives set to be achieved. It should be emphasized here that

the survey questions and answers were modified to allow for the specific nature of the automotive-sector organizations under examination. This means that the undertaken attempt to assess business model transformation necessitated identification of business model elements, followed by identification of the factors that might shape those elements. Subsequently, a research tool was designed in the form of a questionnaire containing twelve closed questions and respondent's particulars (Appendix 1).

### Research procedure

The empirical procedure was carried out in July and August 2020, on a non-probabilistically selected sample of dealerships. The non-probability sampling of the entities surveyed was determined by the criterion possession of a new vehicle dealership license and a permit for servicing and sale of parts and accessories. A particular organization was additionally selected according to its size, expressed as the number of employees and the number of new vehicle dealership licenses. It should be emphasized here that small organizations, employing less than nine persons, were not invited to take part in the research. The study was carried out using an opinion poll and in CAWI (Computer-Assisted Web Interview) form. Forty invitations were sent, and twenty correctly completed questionnaires were received (response rate = 0.5).

### Structure of the respondent group surveyed

The survey questionnaire was addressed to the management personnel and the specialists employed in functional areas of an organization, such as management, sale of new and used cars, and after-sales service (servicing and/or sale of spare parts). Consequently, twenty correctly filled in questionnaires were received from respondents employed in executive (4),

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**Table 3**

Structure of the organizations surveyed in distribution by the number of employees

Dealership size by the number of employees	Number of car brands sold (number of licenses/permits)			
	Less than 3	3	more than 3	Total
10–49 employees	13			13
50–249 employees	5	1		6
over 250 employees			1	1
Total	18	1	1	20

Source: authors' own work.

managerial (13) and specialist/expert (3) positions. More than one answer could be given to the question concerning the area of functioning. Accordingly, the employment structure, in distribution by functional areas, was as follows: management department (8), sales cars department (4) and after-sales department (servicing and/or spare parts) (12). The ratio of the company size structure, expressed by the number of employees, regardless of the form of employment, to the number of the licenses/permits held by the entity is presented in Table 3.

For the purpose of this article, the number of the licenses/permits held is identifiable as the number of the car brands which the entity surveyed is licensed to sell and for which it can provide after-sales services.

## Results

Based on the review of the literature on business model elements, questions were incorporated into the research tool designed to allow identification and intensification of the impact exerted by exogenous and endogenous changes on the entities under examination.

In the first question, the respondents were asked whether reconfiguration of the existing manner of functioning within the stakeholder and competitor sphere had been noticed in the organization prior to the outbreak of the COVID-19 epidemic in Poland<sup>2</sup>. The answer distribution is shown in Figure 3. It should be emphasized here that out of the twenty organizations surveyed, in two cases the respondents

did not state that the organization had not projected such reconfiguration, therefore, the results presented concern eighteen organizations.

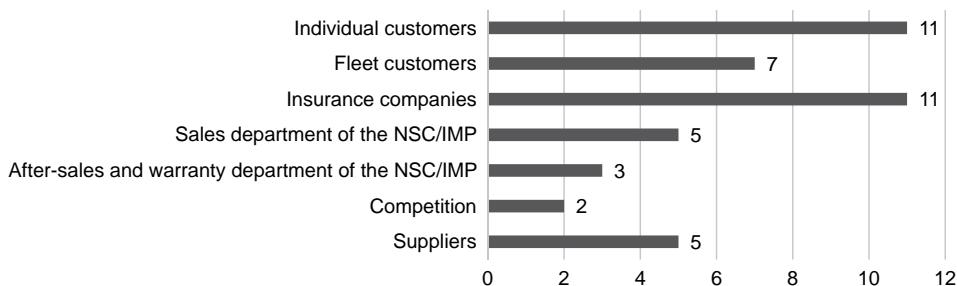
As Figure 3 indicates, the dealerships under examination recognized the need to change the business model elements. The responses obtained show that with regard to the first element, more than half of the respondents declared the need for a change in relations with individual customers (private users, small enterprises) (11) and fleet users (fleets, leases, car rental companies, etc.) (7). By contrast, with regard to the key partners segment, insurance companies as well as the importer's sales department and the suppliers were taken into account. It is worth emphasizing here that in only two cases was there a recognized need for changes with regard to competition, which includes various types of authorized service stations (dealerships, and authorized entities that sell original and non-original spare parts) as well as organizations selling and providing maintenance services as independent entities (unlicensed).

In the next question, the respondents were asked to identify the areas in which the dealerships generated improvements in the periods before (bC-19) and during (dC-19) the COVID-19 epidemic. The question was intended to identify when improvement measures began in selected areas of an organization. The results are shown in Figure 4.

The data obtained demonstrated that, in the group of the organizations surveyed, changes of a streamline nature were triggered by an exogenous factor identified as the COVID-19 epidemic. The changes mainly concerned the area of car sales, servicing and

**Figure 3**

Stakeholder relationships in the dealerships surveyed (N=18) in 2018–2020 (prior to the COVID-19 pandemic)



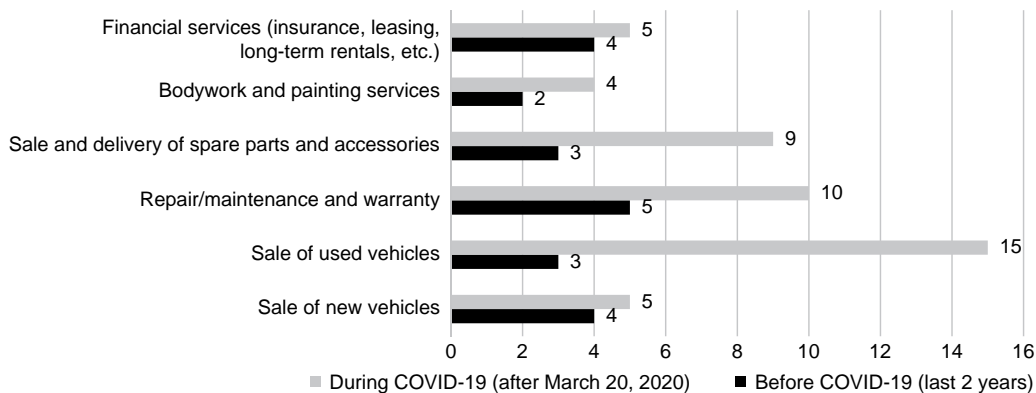
Note. \*NSC/IMP –manufacturer/importer representative.

\*\* Due to the multivariate nature of the answers, the total number does not add up to eighteen.

Source: authors' own work.

**Figure 4**

Breakdown of the answers provided to the question regarding the areas identified as those requiring activity improvements during the bC-19 and dC-19 periods (N=20)



Note. Due to the multivariate nature of the answers, the total does not add up to eighteen.

Source: authors' own work.

warranty, as well as the sale and delivery of certain accessories.

Subsequently, the respondents were asked about customer segmentation in the entities surveyed during the bC-19 and dC-19 periods (Figure 5).

The responses in the research questionnaire were divided into three customer segments: business to customer (B2C) (e.g., individual customers, companies with < 2 vehicles), business to business (B2B) (e.g., fleets), and business to governance (B2G) (e.g., state authorities, state institutions), with an additional answer that the organization does not group the customers by the categories presented in the answers. Based on the results obtained, apart from the noticeable shift from B2C to B2B, the beginning of the COVID-19 epidemic did not have any significant impact on customer segmentation in the organizations surveyed.

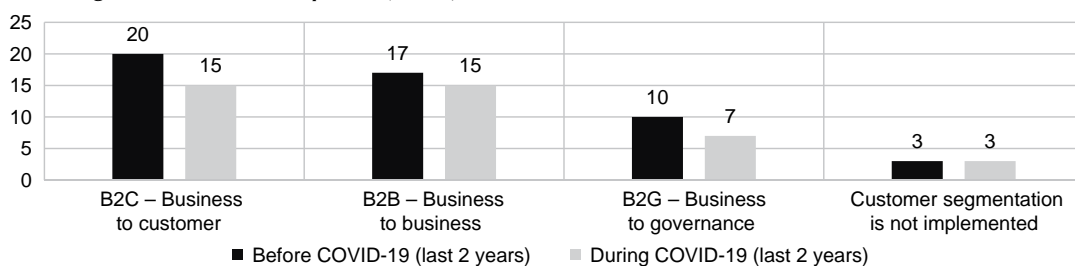
The next stage was to identify the transformation of the business model element identified in the approach presented by A. Osterwalder as value proposition. For this purpose, the respondents were asked about the changes associated with transformation of product range, relative to satisfaction of customer needs and expectations regarding expansion of the product/service range in the sales, repair and

maintenance, spare parts, and financing departments. The results are shown in Figure 6.

The authors of the article classified the business model element under examination as distribution channels. The changes in the dealerships' product and service range as well as their method of reaching customers should be considered in terms of both the surveyed entities' responses to the changing geometry of customer needs and expectations as well as the conscious discounting of the benefits associated with identification of those expectations/needs, including implementation of solutions enabling their materialization within the structure of the products and services offered. In the long term, this might have a positive effect on car dealerships' competitive position on the market. By extending the results obtained, it can be observed that in the last two years of bC-19, the digitization of vehicle presentation, sale and financing was of marginal interest in the group of the organizations surveyed, with a clear increase in the reaction during the epidemic. With regard to after-sale services, a door-to-door service was, in turn, implemented by eight entities during the bC-19 period and 14 during the dC-19 period, while it was stated that it was only implemented by small organizations that function as licensed dealerships offering sales

**Figure 5**

Breakdown of the answers provided to the question regarding the types of customers with which the organizations surveyed did business during the bC-19 and dC-19 periods (N=20)



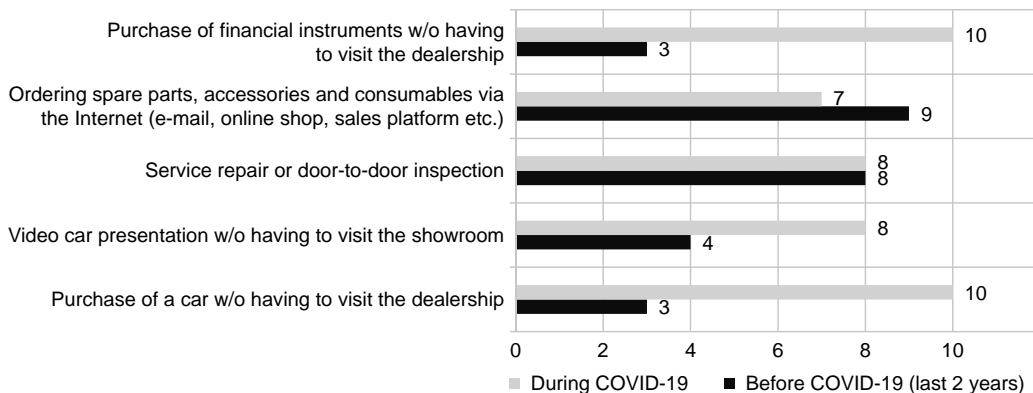
Note. Due to the multivariate nature of the answers, the total does not add up to eighteen.

Source: authors' own work.

# Business model transformation during the COVID-19...

**Figure 6**

Breakdown of the answers provided to the question regarding changes in the surveyed organizations' product and service ranges



Note. Due to the multivariate nature of the answers, the total does not add up to eighteen.

Source: authors' own work.

and after-sale services for a single car brand. Similar interdependencies were observed in the digitization of the car parts and accessories sales process.

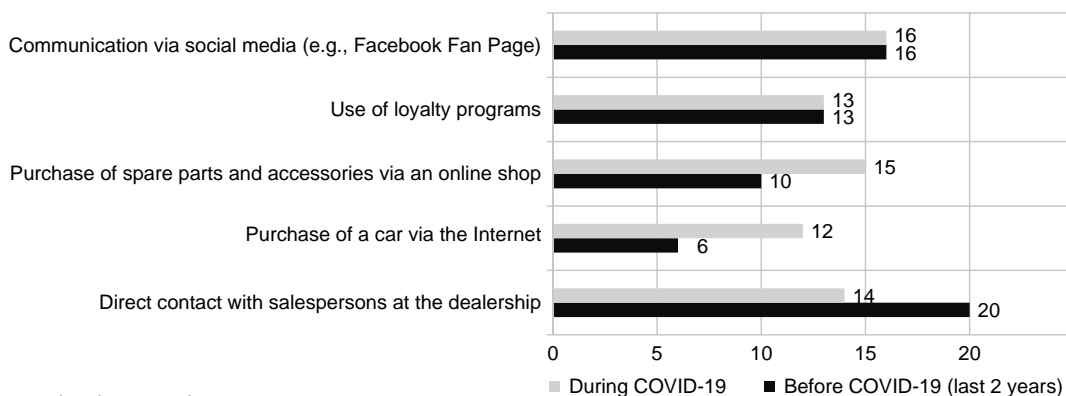
The respondents were further asked about the customer communication methods used in the organization during the bC-19 and dC-19 periods. A breakdown of the answers provided to this question is presented in Figure 7.

The results presented in Figure 7 indicate that no significant changes occurred in the area under examination. Notably, during the epidemic, the entities surveyed followed the automotive industry trends regarding the sale of vehicles via the Internet, with a clear decline in direct contact. The second area entails the search for new sales channels using online platforms, with regard to both the sale of vehicles and the sale of parts and accessories.

Figure 8, in turn, provides a breakdown of the responses provided to the question regarding the customers' impact in relation to adjustment of external processes to customer needs and expectations. Similar results were observed in this research area, with a focus on the monitoring and implementation of changes, based on observation of customer needs and expectations.

**Figure 7**

Types of customer communication methods used in the entities surveyed during the bC-19 and dC-19 periods (N=20)



Source: authors' own work.

It is worth highlighting the results of the research carried out on a sample of car dealerships in Poland. 91.36% of these dealerships declared that improvements were planned based on customer requirements. (Sliż, 2016, p. 538); similar conclusions were drawn based on a study of process maturity in dealerships and their automotive-industry partners (Sliż, 2016a).

The respondents were further asked to state the areas identified as the main sources of profit in the organizations surveyed during the two periods under analysis (Figure 9).

The results obtained reveal that the greatest decline in profit was observed in the genotypic activity of the dealerships selling new cars, including the sale of genuine parts and accessories. A slight increase in the sale of used cars as well as in repair/maintenance and warranty services was observed (Figure 9).

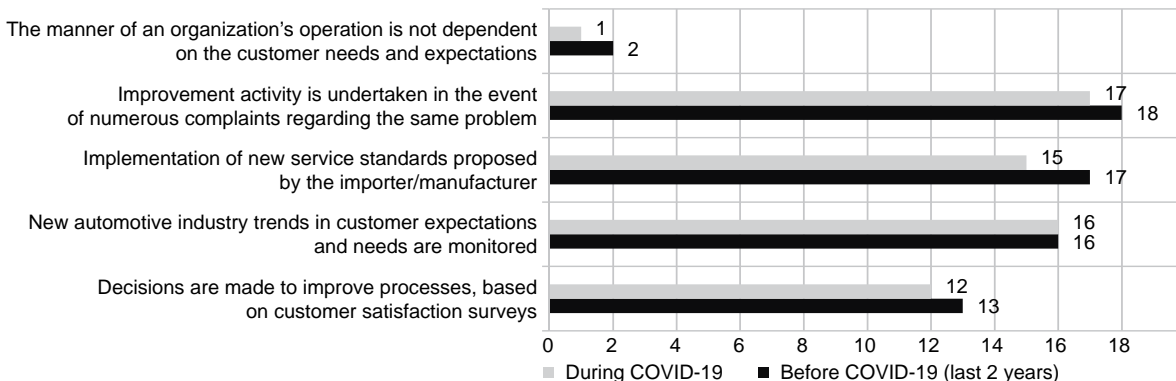
Figure 10, in turn, provides a breakdown of the respondents' answers to the question regarding the use of key resources during the bC-19 and dC-19 periods.

As indicated in Figure 10, the greatest change can be observed in the area of relational resources, the importance of which decreased during the epidemic. What is more, there is a notable growing importance



**Figure 8**

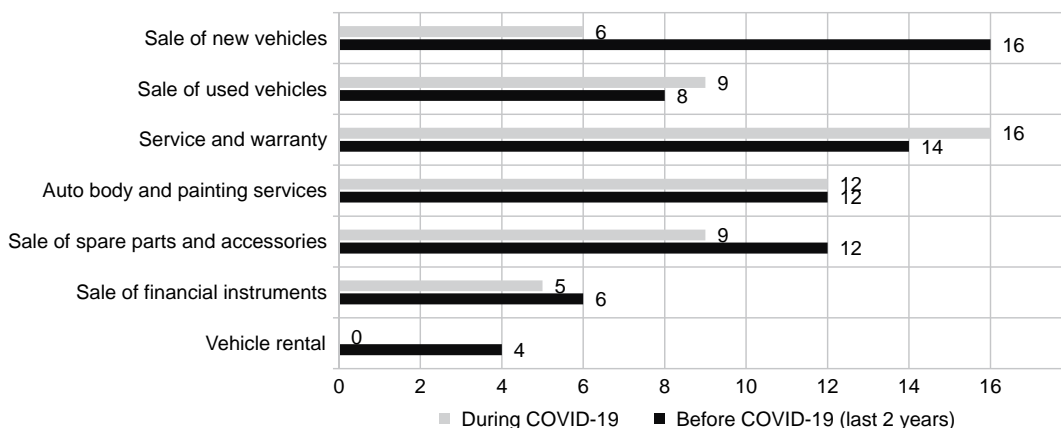
The impact of customer expectations and needs on the manner in which dealerships operated during the bC-19 and dC-19 periods (N=20)



Source: authors' own work.

**Figure 9**

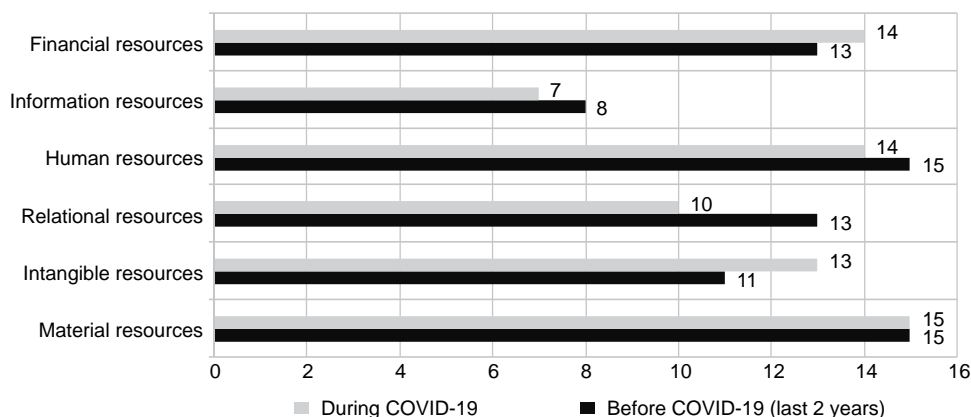
Areas responsible for generating dealerships' profit during the bC-19 and dC-19 periods (N=20)



Source: authors' own work.

**Figure 10**

The dealerships' use of key resources during the bC-19 and dC-19 periods (N=20)



Source: authors' own work.

of intangible resources. Also, from the perspective of the dealerships surveyed, tangible and financial resources play an important role.

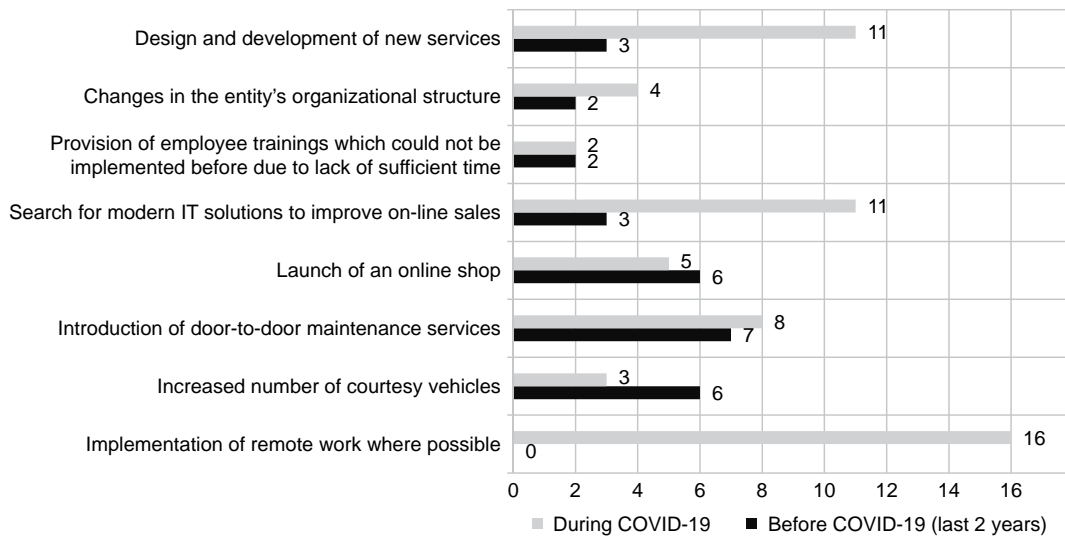
Considering an analysis perspective focused on the changes in the business models of the entities

surveyed, the category of improvement activity was adopted as a significant one. In this respect, the respondents were asked which of the above-mentioned types of activity had been implemented in the organization during the two periods under analysis (Figure 11).

# Business model transformation during the COVID-19...

**Figure 11**

Improvement measures during the bC-19 and dC-19 periods (N=20)



Source: authors' own work.

The results obtained clearly indicate that the form of work has changed, and thus measures have been taken to implement remote work (teleworking) during the dC-19 period. Also, an external factor necessitated the search for new types of services (11) and IT solutions enabling Internet sales (11), and caused changes in the organizational structure (4). In many of the organizations surveyed, improvement measures were taken during the bC-19 period, which possibly enabled the dynamic response to changes during the onset of the epidemic in Poland.

With regard to identification of the surveyed group of organizations' key stakeholders, the respondents were asked about their recognition of stakeholders within the category of key partners. It is worth

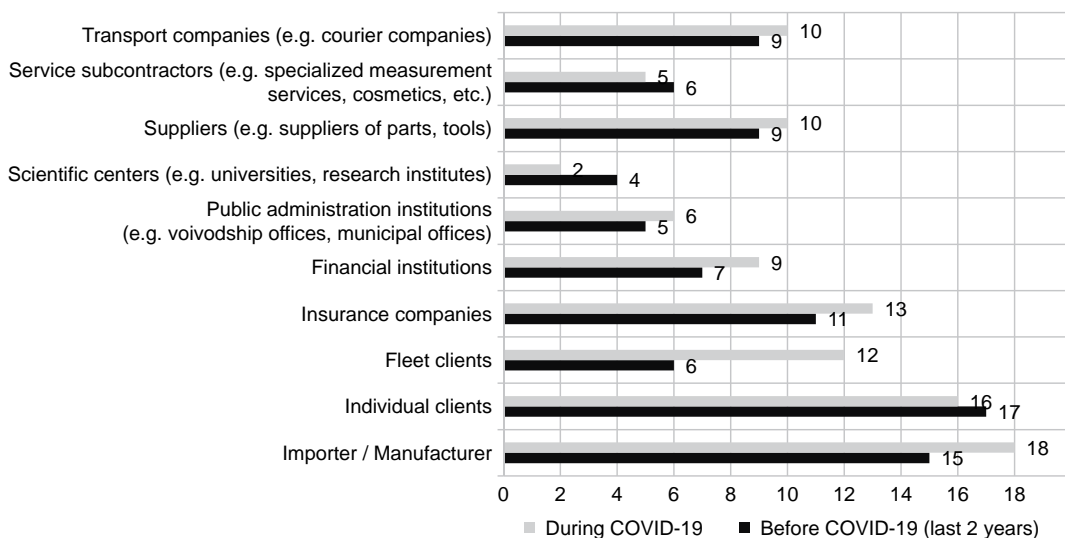
emphasizing here that the structure of the answers is similar, highlighting the growing importance of the role the license-granting authority (importer) as well as the insurance companies and financial organizations play. The significant increase in the importance of fleet customers is noteworthy as well.

Figures 13 and 14 provide a breakdown of the answers to the questions regarding the change in the levels of costs and income in the group of entities under examination.

In this regard, in five cases, an increase was observed in the dealerships' costs of running their business during the COVID-19 pandemic, whereas in nine cases – there was a decrease. During this period, none of the dealerships recorded an increase in revenues.

**Figure 12**

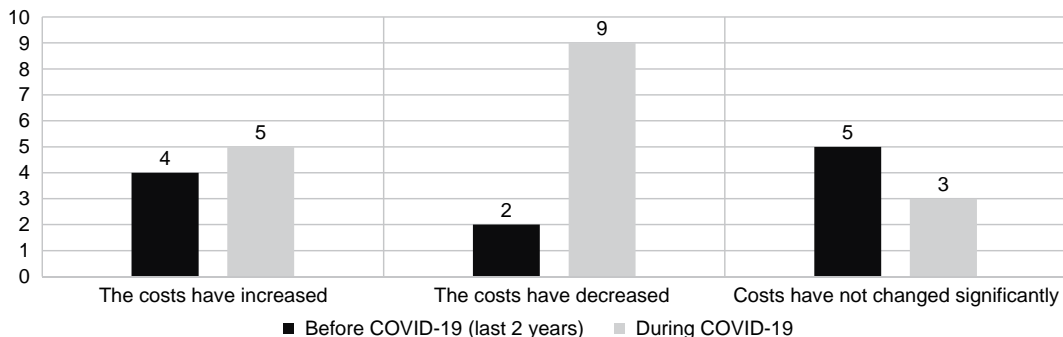
Identification of the dealerships' key partners during the bC-19 and dC-19 periods (N=20)



Source: authors' own work.

**Figure 13**

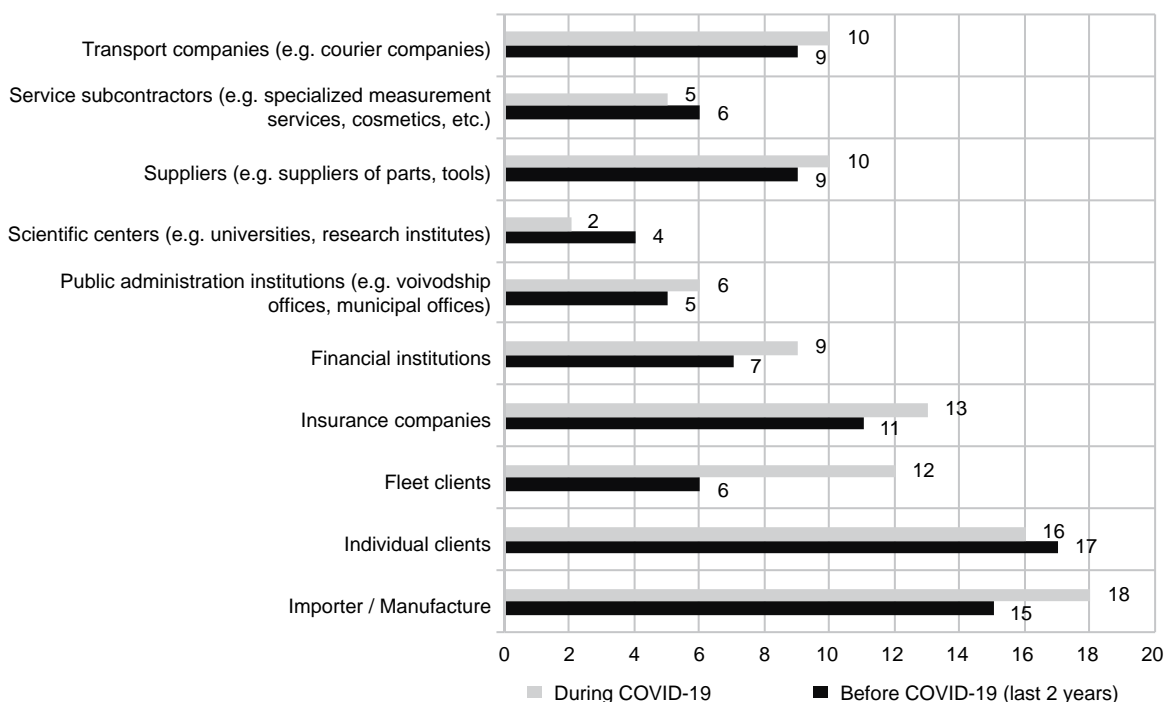
Assessment of the change in the level of costs in the group of the dealerships surveyed



Source: authors' own work.

**Figure 14**

Assessment of the income level change in the group of the dealerships surveyed



Source: authors' own work.

Based on the above, it is worth considering in further research whether this increase resulted from the need to introduce organizational changes to businesses.

**Discussion**

When attempting to assess business model flexibility in the group of the dealerships under examination, it is worth taking a look at the results from a summary perspective. The authors based their presentation of the results on the business model developed by A. Osterwalder and Y. Pigneur, adjusting its elements to the specificity of the automotive sector. Following the answers most frequently provided by the respondents, the key business model elements applied by the dealerships surveyed in their economic practice

for the two years prior to the Sars-Cov-2 pandemic outbreak are presented in Table 4.

When comparing the basic business model elements used by the dealerships under examination, it should first of all be noted that there was a significant change with regard to value creation for customers. Before the outbreak of the COVID-19 pandemic, the dealerships surveyed primarily sought their sources of profit in the sale of new vehicles and in the provision of repair/maintenance and warranty services. After the outbreak of the COVID-19 pandemic, servicing and warranty became the most important source of the profit generated. The impact of customer needs and expectations on dealerships' operations did not change significantly after the outbreak of the COVID-19 pandemic. The improvement measures undertaken by

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**Table 4**

Summary of the business model elements used in the dealerships surveyed prior to the COVID-19 pandemic

Factor implying generation of business model changes				
Individual customers Insurance companies Fleet customers Sales Department of the NSC/IMP Suppliers				
<b>Stakeholder identification</b> <ul style="list-style-type: none"> <li>Individual customers (17)</li> <li>Importer/manufacturer (15)</li> <li>Insurance companies (11)</li> </ul>	<b>Improved areas</b> <ul style="list-style-type: none"> <li>Repair/maintenance and warranty (5)</li> <li>Financial services (insurance, leasing, long-term rentals, etc.) (4)</li> <li>Sale of new vehicles (4)</li> </ul>	<b>Impact of customer needs and expectations</b> <ul style="list-style-type: none"> <li>Improvement measures are undertaken in the event of numerous complaints regarding the same problem (18)</li> <li>Implementation of new service standards proposed by the importer/manufacturer (17)</li> <li>New automotive industry trends in customer expectations and needs are monitored (16)</li> </ul>	<b>Types of customer communication</b> <ul style="list-style-type: none"> <li>Direct contact with salespersons at the dealership (20)</li> <li>Communication via social media (e.g., Facebook Fan Page) (16)</li> <li>Use of loyalty programs (13)</li> </ul>	<b>Identification of customer segments</b> <ul style="list-style-type: none"> <li>Business to customer (17)</li> <li>Business to business (15)</li> <li>Business to government (10)</li> </ul>
	<b>Improvement measures</b> <ul style="list-style-type: none"> <li>Introduction of door-to-door maintenance services (7)</li> <li>Increased number of courtesy vehicles (6)</li> <li>Launch an online shop (6)</li> </ul>			
<b>Cost structure</b> <ul style="list-style-type: none"> <li>Costs have not changed significantly (5)</li> </ul>		<b>Profit structure</b> <ul style="list-style-type: none"> <li>Income has decreased (11)</li> </ul>		

Source: authors' own work.

the dealerships surveyed prior to March 2020 mainly involved servicing and warranty, financial services (insurance, leasing, long-term rentals, etc.), and sales of new vehicles, whereas in the period from March to July 2020, improvement measures concerned servicing and warranty, with additional implementation of improvements with respect to used vehicle sales, spare parts, and supply of accessories. At the same time, the number of the indicated improvement measures with regard to implementing remote work increased significantly after the outbreak of the COVID-19

pandemic. Greater emphasis was placed on electronic communication with customers, which translated into a change in the service distribution channels, from direct sales to online sales, without the customers having to visit showrooms. However, this did not reduce dealerships' operating costs. Several business model elements showed no significant changes after the outbreak of the COVID-19 pandemic, which include the key stakeholders, the customer segments, and the key resources used by the dealerships under examination to provide services (Table 5).

**Table 5**

Summary of the business model elements used in the dealerships surveyed during the COVID-19 pandemic

<p><b>Stakeholder identification</b></p> <ul style="list-style-type: none"> <li>• Importer/manufacturer (18)</li> <li>• Individual customers (16)</li> <li>• Insurance companies (13)</li> </ul>	<p><b>Improvement measures</b></p> <p><b>Improved areas</b></p> <ul style="list-style-type: none"> <li>• Sale of used vehicles (15)</li> <li>• Repair/maintenance and warranty (10)</li> <li>• Sale and delivery of spare parts and accessories (9)</li> </ul> <p><b>Improvement measures</b></p> <ul style="list-style-type: none"> <li>• Implementation of remote work where possible (16)</li> <li>• Design and development of new services (11)</li> <li>• Search for modern IT solutions to improve online sales (11)</li> </ul>	<p><b>Impact of customer needs and expectations</b></p> <ul style="list-style-type: none"> <li>• Improvement measures are undertaken in the event of numerous complaints regarding the same problem (17)</li> <li>• New automotive industry trends in customer expectations and needs are monitored (16)</li> <li>• Implementation of new service standards proposed by the importer/manufacturer (15)</li> </ul> <p><b>Sources of profit</b></p> <ul style="list-style-type: none"> <li>• Service and warranty (16)</li> <li>• Auto body and painting services (12)</li> <li>• Sale of used vehicles (9)</li> <li>• Sale of spare parts and accessories (9)</li> </ul>	<p><b>Types of customer communication</b></p> <ul style="list-style-type: none"> <li>• Communication via social media (e.g., Facebook Fan Page) (16)</li> <li>• Purchase of spare parts and accessories via an online shop (15)</li> <li>• Direct contact with salespersons at the dealership (14)</li> </ul>	<p><b>Identification of customer segments</b></p> <ul style="list-style-type: none"> <li>• Business to customer (15)</li> <li>• Business to business (15)</li> <li>• Business to government (7)</li> </ul>
	<p><b>Identification of key resources</b></p> <ul style="list-style-type: none"> <li>• Tangible resources (15)</li> <li>• Human resources (14)</li> <li>• Financial resources (14)</li> </ul>		<p><b>Distribution channels</b></p> <ul style="list-style-type: none"> <li>• Purchase of financial instruments w/o having to visit the dealership (10)</li> <li>• Purchase of a car w/o having to visit the dealership (10)</li> <li>• Service repair or door-to-door inspection (8)</li> <li>• Video car presentation w/o having to visit the showroom (8)</li> </ul>	
<p><b>Cost structure</b></p> <p>Costs have increased (9)</p>		<p><b>Profit structure</b></p> <p>Income has decreased (1) Income has not changed significantly (1)</p>		

Source: authors' own work.

The influence of the COVID-19 pandemic on the automotive industry is noticeable in literature. Recent studies concentrate on the fragility of the international supply chain caused by exogenous factors. The COVID-19 pandemic outbreak has strengthened the use of digital services in the supply chains of manufacturers and suppliers in the automotive industry. Scholars stress that digital solutions could be a trigger for new business models in the automotive industry. The combination of digital technologies and product-related makes it possible to create a stronger relationship between manufacturers and suppliers in the manufacturing ecosystem. These relationships support the manufacturing ecosystem in surviving

the influence of different environments (Jankovic-Zugic et al., 2023). Moreover, problematic areas related to sustainable and resilient supply chains pre-COVID-19 and during COVID-19 are examined. These areas concern supply chain traceability, demand planning and production management, purchasing process planning, optimization in logistics operations, inventory management, and top management support. Based on the findings, it is recommended AI technologies be matched as a solution to these problematic areas in the automotive industry to increase resilience and sustainability in operations (Kazancoglu et al., 2023). Some scholars highlight that disruption of supply chains is just one of the occurring problems in the

automotive industry. The COVID-19 pandemic might have had a significant negative short-term impact on investment capacity, while the transition to alternative powertrains and the digital transformation of the automotive industry require large investment and restructuring. The long-term impact is highly uncertain and will depend on the capacity to maintain a comparative advantage (Klein et al., 2021). Literature also highlights the impact of the COVID-19 pandemic on automotive industry development, concentrating on global innovative trends that have become dominant for the future direction of this industry, especially the development of electromobility and alternative drives, integration of Industry 4.0 elements into production processes or the growing pressure on the educational level of employees, and digitization (Hojdik, 2021).

The presented and selected studies do not examine exhaustively the research problems arising from the COVID-19 pandemic in the automotive industry. In unpredictable environment conditions, managers should seek value-creation opportunities. In the short term, this results in business model transformation, while in the long term it entails adaptation by managers of strategies in a disruptive business environment in order to be competitive on the market and to deal with global challenges, for example search for solutions aimed at building resilient supply chains.

## Conclusion

The authors' research focuses on the impact of previously unencountered exogenous factors on changes in the dealership business model. The global socio-economic crisis caused by the outbreak of the COVID-19 pandemic poses a significant challenge for management, as benchmarking solutions for crisis management are no longer available. The main transformation in dealerships' operations has been in customer value creation, with a shift from new vehicle sales to servicing and warranty as the primary source of profit. Furthermore, there has been a significant change in stakeholder relations, with a decline in direct contact in favor of IT tools, doubling the number of dealerships offering online vehicle purchases. In response to the socio-economic crisis, car dealerships have made substantial operational changes within a short time frame. This includes the establishment of remote work positions and the exploration of modern IT solutions to enhance online sales. Dealerships have also focused on verifying the scope of services provided and expanding their product and service range. They have sought flexible solutions to adapt to changing external conditions and ensure business continuity and financial stability during crises. Importantly, dealerships have always made meeting customer needs and expectations a priority, and this allows a creative approach to be adopted in solving crises, such as improving used vehicle sales. The research conducted in this study primarily examines the short-term effects of the COVID-19 pandemic and the flexibility of the business model. However,

it is important to consider the long-term effects of the global crisis on dealerships' strategies and operations. Future research could extend the study to include other authorized dealerships in Central and Eastern European countries to compare research results and explore systemic and structural solutions that work best in a global socio-economic crisis. The findings of this study are significant for managerial personnel, providing insights into the impact of external factors on organizational functioning. The research demonstrates how the COVID-19 pandemic has shaped contemporary organizations, particularly within the automotive sector. It highlights the importance of aligning products and services with customers' current needs and expectations. Managers in the automotive sector can learn about business model transformations during the pandemic and might be motivated to seek highly flexible systemic and structural solutions to react proactively and dynamically to emerging factors in the organizational environment.

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## Notes

- [1] In this article, a *dealership* is understood as a trade and service organization operating based on a concession agreement, in which the concession grantor is a car manufacturer or importer, and the concession operator is an enterprise. A dealership can operate under three different concessions: for the sale of new cars, after-sales and warranty services, and the sale of original parts and accessories.
- [2] The start date of the pandemic in Poland was March 20, 2020.

Appendices are available in the online version of the journal.

The full list of references is available in the online version of the journal.

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