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Innovations in Courier Customer Service and User Satisfaction in the Post-Pandemic Era: Evidence from a Survey Study

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Zbigniew Żebrucki[1], Małgorzata Sowińska[2]

Abstract:

Purpose: *The aim of the study was to examine the impact of customer service innovations introduced or modified during the COVID-19 pandemic on service quality in the post-pandemic period, and to verify users' assessments of those changes.*
Design/Methodology/Approach: *The study was conducted between May and June 2023 using an electronic questionnaire distributed via Google Forms. The survey instrument comprised four sections: sociodemographic metrics, pre-pandemic service assessment, pandemic-period assessment, and post-pandemic service assessment.*
Findings: *The study confirmed that courier service quality improved significantly across all analysed dimensions - transport speed, parcel tracking, delivery methods, contact with couriers, delivery management options, customer service accessibility, and complaint handling - when comparing the pre-pandemic, pandemic, and post-pandemic periods. Pandemic-era innovations (parcel lockers, mobile applications, contactless delivery confirmation, flexible delivery management) became the market standard in the post-pandemic period. A total of 95% of respondents declared that the introduced changes positively influenced their frequency and willingness to use courier services, and 100% confirmed a positive effect on overall service quality, thus confirming the research hypothesis.*
Practical Implications: *The findings indicate that courier operators should continue investing in digital customer service channels, self-service delivery management tools, and real-time tracking capabilities. The results provide a practical benchmark for service improvement priorities - particularly in complaint handling, customer contact accessibility, and last-mile flexibility - which directly affect customer satisfaction and loyalty in the post-pandemic competitive environment.*
Originality/Value: *The article provides current empirical data (2023) on user assessments of customer service quality across major Polish courier operators in the post-pandemic context. It offers an original comparative framework covering three consecutive time periods (pre-pandemic, pandemic, post-pandemic) and links pandemic-driven service innovations to measurable changes in customer satisfaction, filling a gap in Polish empirical research on KEP market service quality.*

Keywords: *Courier services, customer service quality, logistics service quality, COVID-19, post-pandemic, KEP market, parcel lockers, customer satisfaction.*

[1]*Corresponding author, Silesian University of Technology, PhD, Eng.,*
e-mail: Zbigniew.Zebrucki@polsl.pl;
[2]*Silesian University of Technology, M.Sc., e-mail: Malgorzataswnsk@gmail.com;*

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1. Introduction

A high level of customer satisfaction is a key objective for firms offering both products and services, as it provides an important parameter for evaluating not only the quality and usefulness of the delivered output, but also potential problems or shortcomings in service processes.

Customer satisfaction is strongly influenced by the quality of customer service, understood both in terms of process performance (e.g., timeliness, completeness of order fulfilment, possibility to monitor order status) and post-transactional service elements such as access to customer service departments, complaint handling, and the availability of supporting services. A higher level of customer service translates into greater customer satisfaction and increased loyalty to the firm.

Courier services constitute a critical component of contemporary society in the twenty-first century and play an important role in distribution logistics. Regardless of whether customers need to send documents, ship parcels or receive products purchased online, these needs can be fulfilled by courier operators.

The outbreak of the COVID-19 pandemic in 2019 significantly affected the courier services market in Poland, forcing operators to adapt to both sanitary restrictions and a dynamic increase in parcel volumes, which in turn required changes in service delivery processes. These changes, as an inherent element of development, demand careful design and analysis of their current and future impacts, and any modifications to processes directly affect customer service quality.

In this context, the aim of the article is to examine the impact of solutions introduced or modified during the COVID-19 pandemic on customer service quality in the post-pandemic era, and to verify how users of courier services assess these solutions. Accordingly, the following research hypothesis was formulated: changes implemented in courier customer service during the pandemic have a significant impact on customer service quality in the post-pandemic period.

2. Courier Services as Part of the KEP Market

Courier services are a key segment of the KEP market (courier, express and parcel services) and represent one of the most dynamically developing areas of distribution logistics (Matuszczak, 2012). Their growth is driven by ongoing globalisation, the

digitalisation of economic processes and the increasing importance of e-commerce, which has intensified pressure on speed, reliability and flexibility of deliveries (Christopher, 2016; Coyle *et al.,* 2003).

The literature emphasises that courier operators now perform not only transport functions, but also informational and relational ones, as they are responsible for physical fulfilment of the value promise made to customers in sales channels, especially online (Lovelock and Wirtz, 2016; Sarder, 2021).

The KEP market emerged from traditional postal and transport services in response to the need to handle consignments requiring short delivery times, monitoring capabilities and a high level of security (Matuszczak, 2012). Matuszczak (2012) points out that KEP services include parcel, express and courier deliveries, with courier services characterised by the highest degree of "service intensity", reflected in a focus on individual customer needs, flexibility and intensive use of information technologies.

From a logistics perspective, courier services should therefore be viewed as part of logistics customer service, understood as a set of activities ensuring that the right product is delivered at the right time and place, at an acceptable level of cost and quality from the customer's viewpoint (Christopher, 2016).

Janczewska and Janczewski (2020) show that the development of the KEP industry in Poland is strongly correlated with the growth of the e-commerce market and the increasing role of B2C relationships, in which the delivery process is a crucial element of the customer experience.

The authors argue that courier companies operate in a rapidly changing environment in which technologies, communication methods and customer requirements evolve, forcing the introduction of technical, technological and organisational innovations in customer service (Janczewska and Janczewski, 2020). This means that courier services have become one of the key links connecting the digital act of purchase with the physical delivery of the product, and the quality of these services co-determines the success of business models based on online channels (Sarder, 2021).

3. Definition and Characteristics of Courier Services

The definition of courier services must take into account both their technical-operational and service-related aspects. In practice, courier services cover the collection of consignments from senders, sorting, line-haul transport, local distribution, monitoring and delivery to recipients in accordance with an agreed standard of time and quality, while ensuring high availability of information on shipment status (Matuszczak, 2012; Janczewska and Janczewski, 2020).

The literature highlights several distinguishing features of courier services, including short delivery times, registration of consignments, real-time tracking and the relational character of customer contact (Gulc, 2017; Marczuk, 2017).

Analysing courier service quality from the customer perspective, Gulc (2017) notes that the core of KEP services consists of courier deliveries, which were originally used for the transport of highly important and valuable items. Their distinctive feature is the high level of control over consignments and the direct role of couriers as individuals responsible for customer contact, which means that quality assessment focuses not only on operational parameters (e.g., delivery time, completeness), but also on how the service encounter is performed (courtesy, competence, communication) (Gulc, 2017).

Marczuk (2017) confirms that, from the customer's viewpoint, the most important attributes of courier services include timeliness, reliability, flexibility and the level of communication, and that changing customer expectations lead to the "ageing" of some quality indicators (e.g., price) and an increase in the importance of others, related to technologies and convenience of use (Marczuk, 2017).

Courier services are therefore characterised by a complex quality profile. It encompasses a material component—associated with physically delivering consignments without damage, at the right time and place—and an immaterial component, including information transparency, ease of sending and receiving parcels, complaint handling and the overall experience of contact with the operator (Lovelock and Wirtz, 2016; Sarder, 2021).

In the context of logistics service quality, constructs such as logistics service quality (LSQ), developed in studies by Uvet (2020) and other authors, indicate that reliability, timeliness, information quality, discrepancy handling and the level of contact between personnel and customers are key determinants of customer satisfaction (Uvet, 2020).

4. The Importance of Courier Services for the Economy and Customers

The importance of courier services for the economy is particularly evident in the context of the development of e-commerce, online sales platforms and consumption models based on high product availability. Christopher (2016) notes that, under such conditions, distribution logistics-and especially the last-mile delivery phase-becomes a crucial source of value for end customers.

Esper, Jensen, Turnipseed and Burton (2003) show that delivery strategies in online retailing affect the assessment of the entire purchasing process, and that, from the user perspective, the method of delivery is one of the key elements of brand experience (Esper *et al.,* 2003).

Polish studies on logistics customer service in the KEP industry indicate that courier operators perceive service quality as an important factor of competitive advantage, and that the development of new communication technologies (tracking systems, mobile applications) significantly changes the way relationships with customers are built (Janczewska and Janczewski, 2020; Cichoń, 2024). Cichoń (2024) analyses customer opinions regarding a selected courier company and shows that users assess not only delivery time, but also information quality and ease of contact, which confirms the importance of relational and informational elements in the evaluation of courier services (Cichoń, 2024).

At the international level, research on the impact of logistics service quality on customer satisfaction and loyalty confirms that LSQ is one of the key determinants of buyer behaviour (Uvet, 2020; Yoganandan, 2024). Yoganandan (2024), applying the SERVQUAL framework to logistics services, demonstrates that dimensions such as tangibles, reliability, responsiveness, empathy and assurance are positively correlated with customer satisfaction and loyalty, which directly affects firms' ability to maintain their market position (Yoganandan, 2024).

Rashid and Rasheed (2024) show that, in e-commerce, logistics service quality directly influences product satisfaction and thus the evaluation of the entire purchasing process (Rashid and Rasheed, 2024).

The COVID-19 pandemic and the subsequent post-pandemic phase further highlighted the importance of courier services. The pandemic affected both the scope of use of courier services and user expectations regarding safety, flexibility and communication, pointing to the growing significance of contactless deliveries and self-service collection forms (Toruńska and Mirowska, 2022).

In post-pandemic conditions, users began to treat a high level of delivery quality as a standard, which additionally strengthens the role of innovations in customer service as a factor determining satisfaction with courier services (Rashid and Rasheed, 2024; Yoganandan, 2024).

5. Additional Services and Customer Service Innovations

Courier services increasingly take the form of extended services, in which the core process of physical movement of consignments is complemented by a bundle of additional services. Matuszczak (2012) describes typical solutions such as pickup from the sender, electronic service ordering, parcel tracking, cash-on-delivery, flexible delivery time windows, collection points and return handling.

Janczewska and Janczewski (2020) add to this catalogue a range of technical, technological and organisational innovations, including the use of mobile applications, parcel lockers, SMS and e-mail notifications, and the development of

self-service collection forms, which allow services to be better tailored to heterogeneous user needs (Janczewska and Janczewski, 2020).

In service marketing, Lovelock and Wirtz (2016) argue that value for the customer is created not only by the core service, but also by facilitating and enhancing services that increase convenience, control and perceived security (Lovelock and Wirtz, 2016). In the courier sector this implies that competitive advantage increasingly depends on the quality of the digital interface, the availability of information and the simplicity of procedures related to complaints and returns, rather than solely on delivery time (Sarder, 2021; Uvet, 2020).

Empirical studies by Senlikci and Gulc (2023) show that delivery service quality in e-commerce-including timeliness, information quality, problem handling and convenience of using additional services-significantly affects customer satisfaction and behavioural intentions such as repeat purchases and recommendations (Senlikci and Gulc, 2023).

These findings are consistent with the results reported by Marczuk (2017) and Gulc (2017) in the Polish context, where innovations in customer service emerge as an increasingly important determinant of user satisfaction with courier services (Marczuk, 2017; Gulc, 2017).

In the post-pandemic era many innovations - mobile applications, online tracking, collection points, parcel lockers, and contactless delivery confirmations- have become market standards.

Studies by Rashid and Rasheed (2024) and Yoganandan (2024) suggest that further improvements in logistics service quality will be driven by deeper personalisation, higher transparency and greater use of data to better align service processes with customer expectations (Rashid and Rasheed, 2024; Yoganandan, 2024).

Against this background, it is justified to examine the relationship between innovations in courier customer service and user satisfaction in the post-pandemic period, which constitutes the starting point for the empirical part of this article.

6. Methodology

The main objective of the survey was to identify opinions and evaluate the quality of customer service in courier services. In addition, respondents' views on new or improved customer service solutions introduced during the COVID-19 pandemic and their impact on service quality in the post-pandemic period were analysed.

The study covered seven major operators active on the Polish courier services market, namely DHL, DPD, FedEx, GLS, InPost, Pocztex/Poczta Polska and UPS. Data were collected between 25 May and 11 June 2023 using an online

questionnaire made available exclusively in electronic form via the Google Forms platform.

The questionnaire consisted of four sections: a sociodemographic section, a section assessing services in the pre-pandemic period, a section referring to the pandemic period, and a section assessing services in the post-pandemic period.

A total of 200 respondents participated in the survey. The minimum required sample size was set at 187 respondents using a sample size calculator. The target population was defined as 79% of the adult population of Poland (30,892,855 individuals) using the Internet. The maximum margin of error was set at 6%, and the proportion was assumed at 50%.

Respondents were selected using random sampling from among individuals who used courier services during the COVID-19 pandemic and in the post-pandemic period.

7. Research Results

A detailed sociodemographic profile of the sample is presented in Table 1. The survey included 128 women (64% of respondents) and 72 men (36%). The largest age group was respondents aged 26-40 years (87 individuals, 43.5%), followed by those aged 18-25 years (72 individuals, 36%). Respondents aged 41–60 years accounted for 17% of the sample (34 individuals), while those over 60 years represented 3.5% (7 individuals).

Seventy percent of respondents lived in large cities with more than 100,000 inhabitants. Medium-sized cities, small towns and villages accounted for 15.5%, 7.5% and 7% of the sample, respectively. With regard to occupational status, the largest group comprised employed persons (128 individuals, 64% of the sample), followed by students and pupils (66 individuals, 33%). In addition, the survey included 5 retirees (2.5%) and 1 unemployed person (0.5%).

Table 1. *Sociodemographic characteristics of the sample*

Variable	Subgroup	n	%
Gender	Female	128	64%
	Male	72	36%
Age	18-25 years	72	36%
	26-40 years	87	43,50%
	41-60 years	34	17%
	over 60 years	7	4%
Place of residence	Village	14	7%
	Small town (up to 20,000 inhabitants)	14	8%
	Medium-sized town (up to 100,000 inhabitants)	31	16%

	Large city (over 100,000 inhabitants)	140	70%
Employment status	Student/Pupil	66	33%
	Employed	128	64%
	Retired	5	3%
	Unemployed	1	1%

Source: *Authors' own study on the basis of research.*

The results indicate that 81% of respondents used courier services both before the outbreak of the pandemic and in its initial phase, whereas 19% did not use such services in the analysed period. In terms of frequency of use, more than half of the respondents (55%, i.e., 89 individuals) declared using courier services once a month, while 34% (55 individuals) reported using them once every 2-3 weeks.

The next question focused on the level of use of courier services in the post-pandemic period compared to the pandemic. The results show that 43% of respondents declared using courier services more frequently than during the pandemic, while 42% reported maintaining the same frequency of use. This distribution of responses suggests that the pandemic contributed to the increased popularity of courier

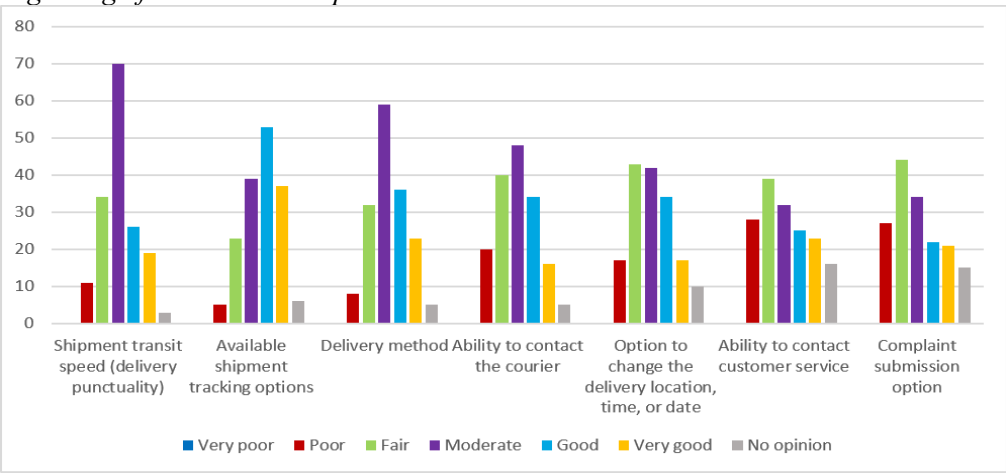
The level of customer service before the pandemic was assessed in a differentiated manner (Figure 1). Transport speed was most frequently rated as moderate (70 responses; 43%). Available tracking options received predominantly good ratings (53 responses; 33%). Delivery methods were most often assessed as moderate (59 responses; 36%), similarly to the possibility of contacting the courier (48 responses; 29%).

The possibility to change the place, time or date of delivery was usually rated as sufficient (43 responses; 26%), as was the possibility to contact customer service (39 responses; 24%) and to submit complaints (44 responses; 27%). For contact with the courier, contact with customer service and complaint handling, at least 20 responses (12%) indicated a poor rating.

These results point to the need for improvements in the analysed areas in order to increase customer satisfaction and service quality. The key areas requiring enhancement included complaint handling, ease of contact with customer service and couriers, options for managing the delivery process, and transport speed.

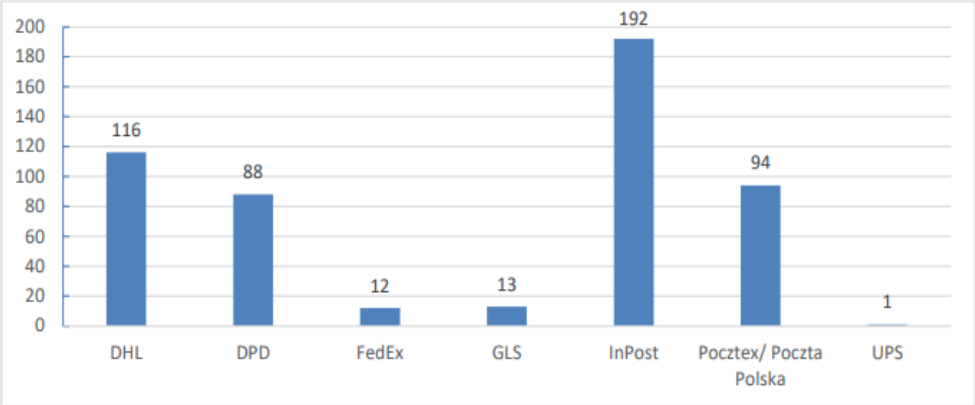
The most frequently chosen courier operator (Figure 2) was InPost, selected by 192 respondents (96%). The following positions were occupied by DHL (116 responses; 58%), Pocztex/Poczta Polska (94 responses; 47%) and DPD (88 responses; 44%). These findings indicate a clear dominance of InPost over other operators active on the Polish courier services market.

Figure 1. *Assessment of selected aspects of customer service before and at the beginning of the COVID-19 pandemic*



Source: *Authors' own study on the basis of research.*

Figure 2. *Most frequently chosen courier operators*



Source: *Authors' own study on the basis of research.*

For the question regarding transport speed during the pandemic (Figure 3), InPost was the only operator to receive a very good rating, with 137 responses (75% of respondents). Among the other frequently chosen operators, good ratings predominated for DHL (81 responses; 45%), DPD (63 responses; 35%) and Pocztex/Poczta Polska (50 responses; 27%).

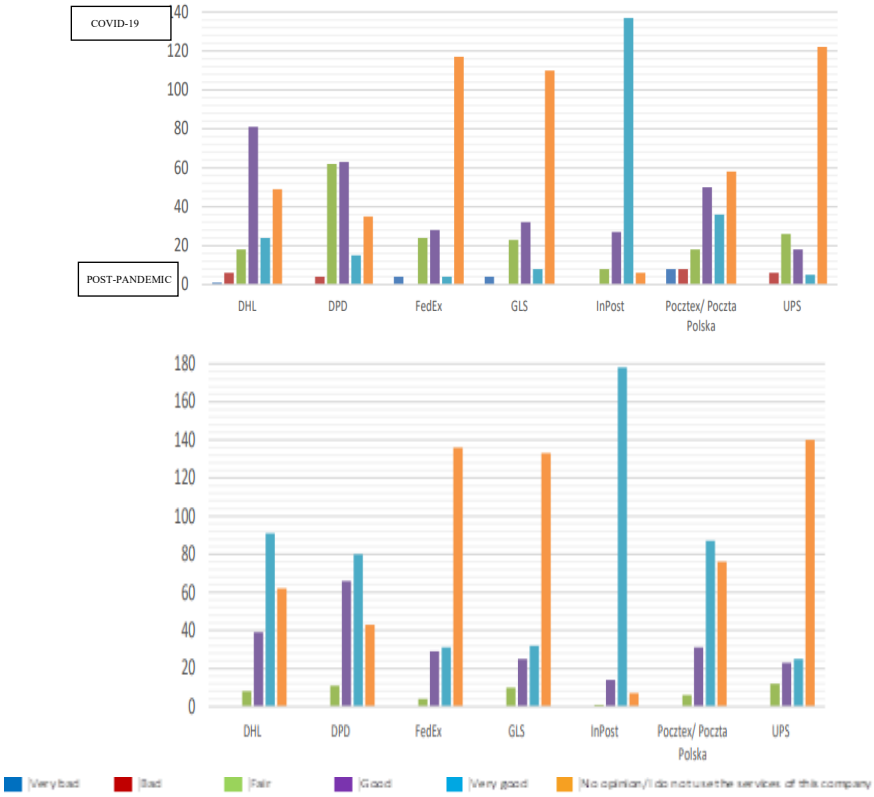
In the post-pandemic period, the assessment of transport speed improved markedly. For all analysed operators, very good ratings became the most frequent, which, when compared with earlier moderate ratings, indicates a significant increase in quality in this area. The highest share of very good ratings was recorded for InPost (89%), which was the only operator to exceed 50% of such responses. For the remaining

operators, the shares of very good ratings were 45% for DHL, 44% for Pocztex/Poczta Polska and 40% for DPD.

The distribution of responses in the question concerning parcel tracking options during the pandemic (Figure 4) was similar to the previous question. InPost achieved the highest rating, with 73% of respondents indicating a very good assessment. DHL (65 responses; 36%) and DPD (60 responses; 33%) were most often rated as good, while Pocztex/Poczta Polska received predominantly very good ratings (54 responses; 30%). Other operators were assessed less frequently, but also received mainly good ratings.

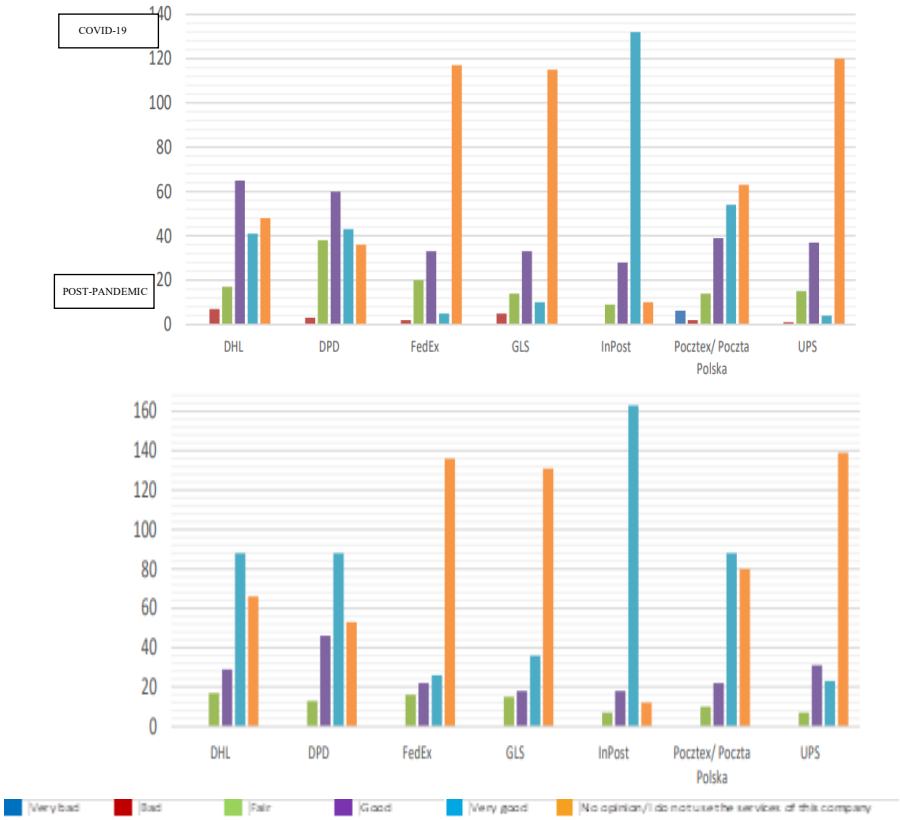
In the post-pandemic period, further improvements were observed in this area. All operators, except UPS, were rated very good. UPS obtained a good rating from 31 respondents (15.5%). InPost again achieved the highest share of very good ratings (81.5%). DHL, DPD and Pocztex/Poczta Polska each received 88 very good ratings, corresponding to 44% of all responses.

Figure 3. *Satisfaction with transport speed during the COVID-19 pandemic and in the post-pandemic period*



Source: *Authors' own study on the basis of research.*

Figure 4. *Satisfaction with parcel tracking options during the COVID-19 pandemic and in the post-pandemic period*



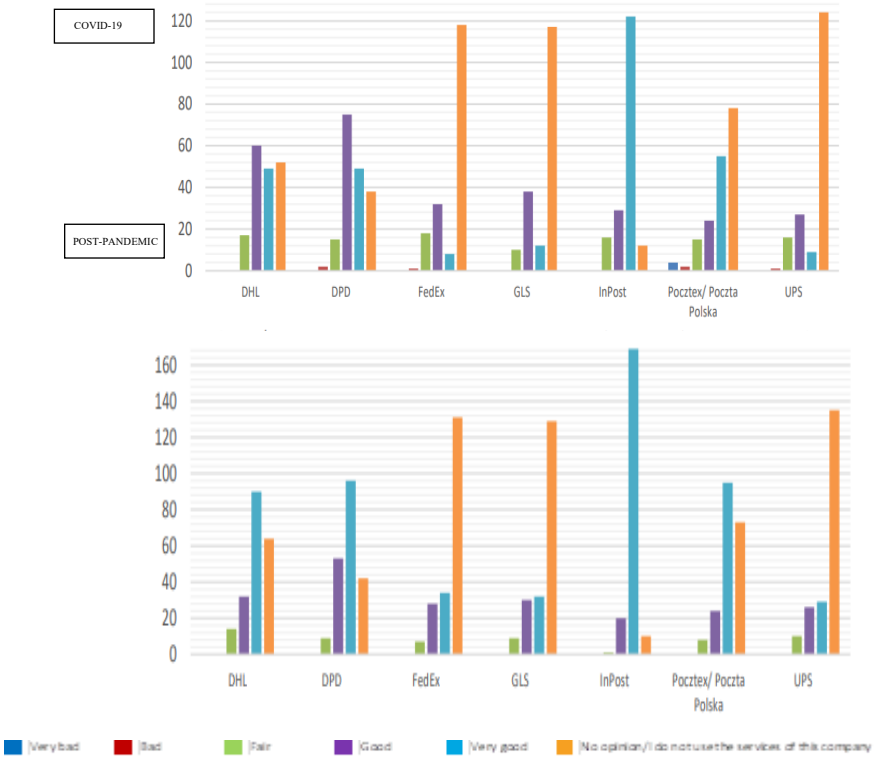
Source: *Authors' own study on the basis of research.*

The next question addressed extended delivery options to collection points, such as shops, petrol stations and parcel lockers (Figure 5). During the pandemic, the highest ratings were obtained by InPost (122 responses; 67%) and Pocztex/Poczta Polska (55 responses; 30%), both assessed as very good, while other operators were rated predominantly good.

Compared to the pre-pandemic period, ratings for this dimension improved from moderate to good or very good, depending on the operator. This trend can be linked to the introduction of new delivery options and the expansion of collection point networks, which increased the availability of these solutions.

In the post-pandemic period, all analysed operators were rated very good in this area. The highest shares of very good ratings were recorded for InPost (84.5%), DPD (48%), Pocztex/Poczta Polska (47.5%) and DHL (45%).

Figure 5. *Satisfaction with available delivery options during the COVID-19 pandemic and in the post-pandemic period*

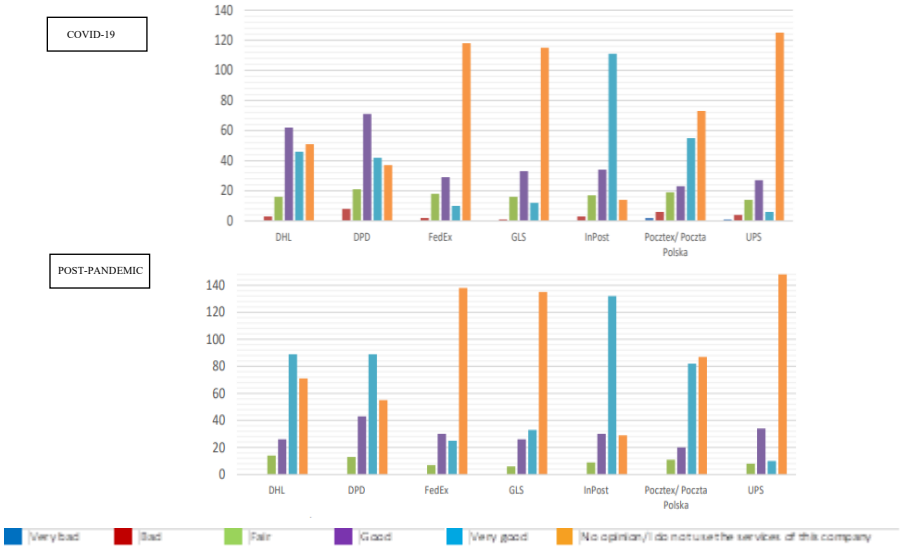


Source: *Authors' own study on the basis of research.*

Another question concerned the increased or newly introduced possibilities of contacting couriers (Figure 6). During the pandemic, InPost (111 responses; 61%) and Pocztex/Poczta Polska (55 responses; 30%) achieved the highest ratings, both assessed as very good, while other operators received predominantly good ratings. Compared to the pre-pandemic period, in which moderate ratings dominated, a clear improvement in this area was observed.

In the post-pandemic period, the assessment of contact with couriers improved further. DHL (44.5%), DPD (44.5%), GLS (16.5%), InPost (66%) and Pocztex/Poczta Polska (41%) were rated very good, whereas FedEx (15%) and UPS (17%) were assessed as good. In the subsequent question, respondents assessed the increased possibilities of modifying delivery parameters, such as changing the delivery date or time, changing the address or indicating an alternative address (Figure 7). During the pandemic, these solutions were evaluated very positively—five operators received very good ratings and two were rated good. This area showed the greatest and fastest improvement, as before the pandemic delivery modification options were assessed only as moderate.

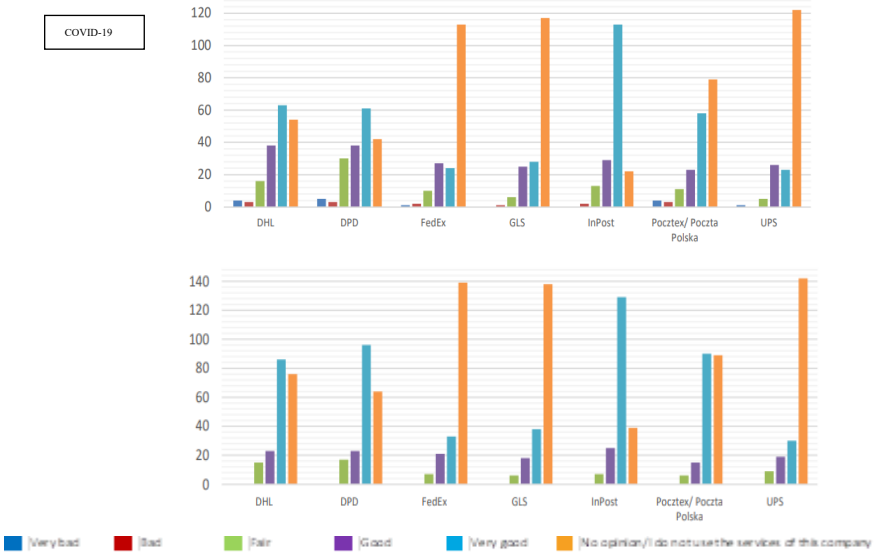
Figure 6. *Satisfaction with the possibility of contacting couriers during the COVID-19 pandemic and in the post-pandemic period*



Source: *Authors' own study on the basis of research.*

In the post-pandemic period, all operators again achieved the highest shares of very good ratings. The best results were recorded for InPost (64.5%), DPD (48%), Pocztex/Poczta Polska (45%) and DHL (43%).

Figure 7. *Satisfaction with the possibility of modifying delivery parameters during the COVID-19 pandemic and in the post-pandemic period*

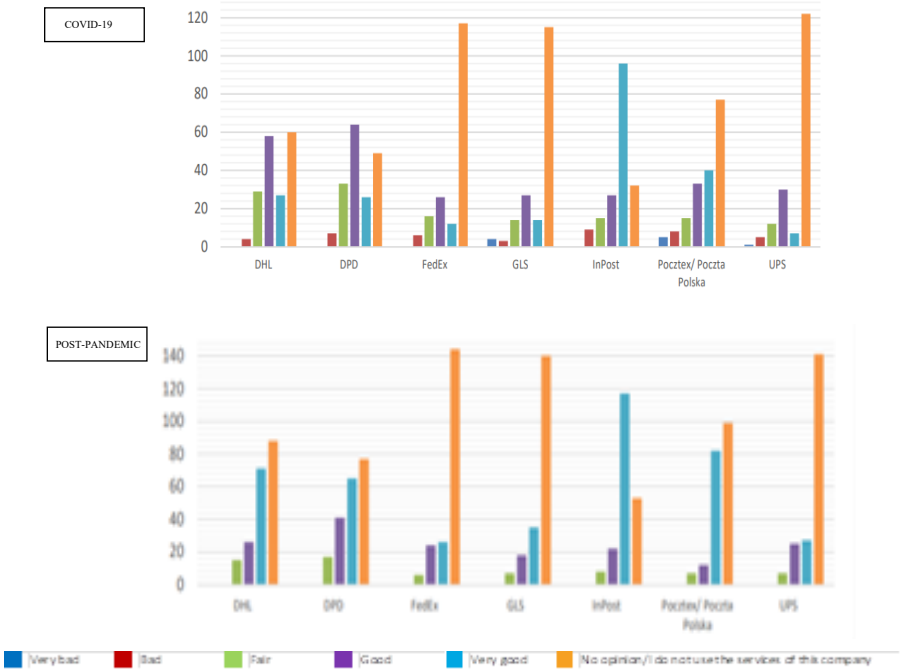


Source: *Authors' own study on the basis of research.*

The question concerning satisfaction with the possibility of contacting customer service (Figure 8) showed that all analysed operators received very good ratings in the post-pandemic period. This represents an improvement compared to the pandemic period, when good ratings predominated, and to the pre-pandemic period, when moderate ratings were most frequent. A notable finding is the absence of negative ratings ("poor" or "very poor") in the post-pandemic period, which confirms significant enhancements in this area.

A similar distribution of responses was observed for satisfaction with the possibility of submitting complaints (Figure 9). Again, all operators obtained very good ratings, despite the relatively low number of responses. This may indicate a limited number of complaints and, where they occurred, efficient and effective complaint handling.

Figure 8. *Satisfaction with the possibility of contacting customer service during the COVID-19 pandemic and in the post-pandemic period*



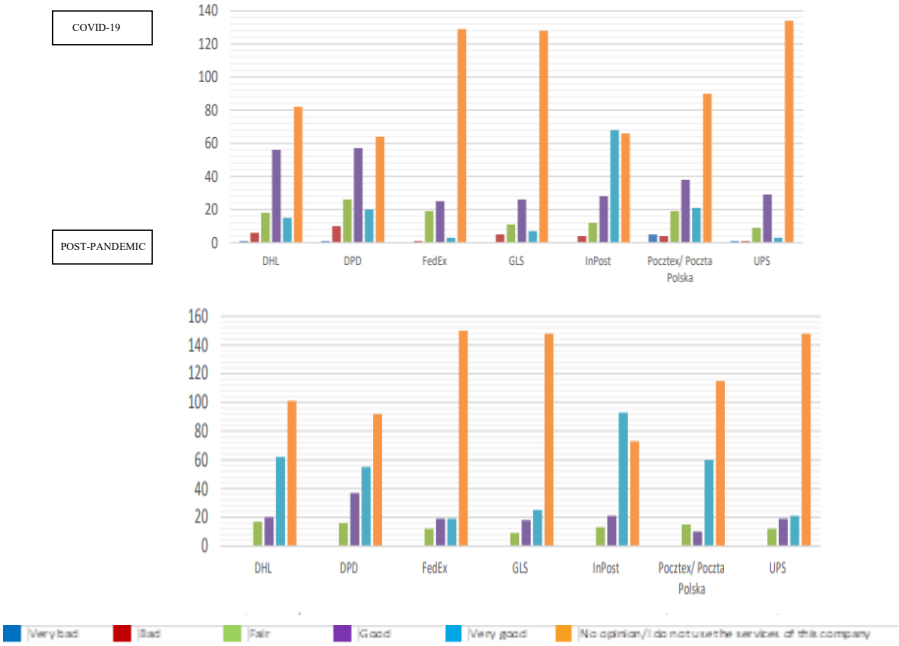
Source: *Authors' own study on the basis of research.*

In the next question, respondents evaluated specific solutions introduced or modified during the pandemic (Figure 10). All analysed solutions received very high ratings: very good was the most frequently indicated rating for each solution and was chosen by at least 67.5% of respondents.

These results confirm the substantial development of courier services during the COVID-19 pandemic. On the basis of the empirical findings, the research hypothesis stating that changes implemented in courier customer service during the pandemic

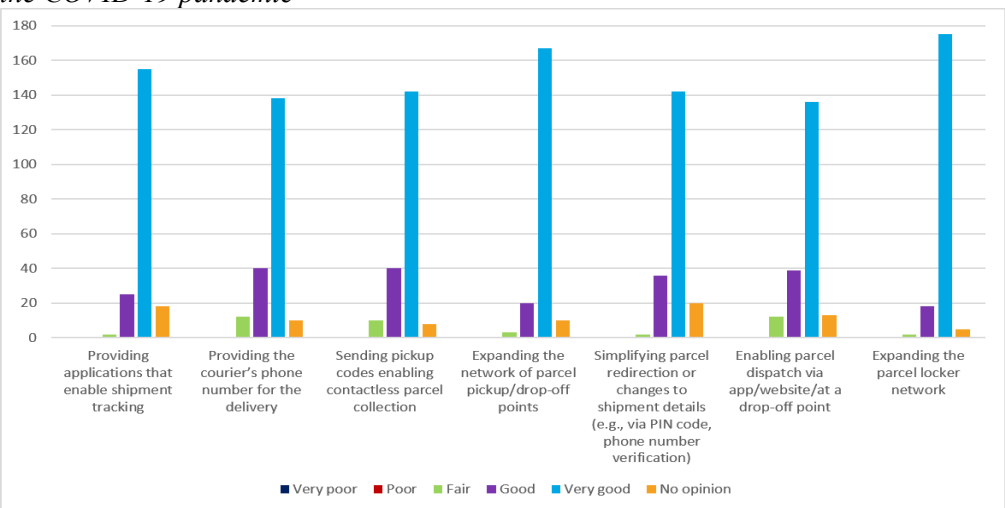
have a significant impact on customer service quality in the post-pandemic period was supported.

Figure 9. *Satisfaction with the possibility of submitting complaints during the COVID-19 pandemic and in the post-pandemic period*



Source: *Authors' own study on the basis of research.*

Figure 10. *Evaluation of customer service solutions introduced or modified during the COVID-19 pandemic*



Source: *Authors' own study on the basis of research.*

The penultimate question in the survey concerned the impact of new or improved solutions on the frequency of using courier services. The vast majority of respondents (95%, i.e., 190 individuals) declared that these changes influenced their willingness and frequency of using courier services, while only 5% (10 individuals) gave a negative answer.

The final question addressed the impact of new or improved solutions on the quality of courier services. All respondents indicated a positive effect. These results allow the conclusion that the level of customer service in the courier services sector has improved and that changes implemented during the COVID-19 pandemic have significantly contributed to the increase in service quality.

8. Conclusions

The outbreak of the COVID-19 pandemic in 2019 had a significant impact on how courier services are delivered, necessitating substantial changes in their operation. The restrictions introduced to limit the spread of the virus reduced societal mobility and hindered the performance of basic everyday activities, including shopping. As a consequence, the e-commerce sector developed dynamically, which translated into increased demand for courier services. Courier operators undertook actions aimed at adapting their offerings to changing conditions and rising customer expectations.

The study results indicate that the main areas in which changes were introduced include:

1. **Transport speed:** Transport speed is one of the key elements of customer service, as delivery timeliness affects satisfaction, loyalty and the number of complaints. During the pandemic, when recipients were largely staying at home, the importance of transport speed increased. Courier companies implemented measures to improve delivery timeliness, including expansion of sorting capacity in distribution centres and development of vehicle fleets handling last-mile deliveries.
2. **Parcel tracking:** Parcel tracking solutions enabled recipients to monitor shipment status and location. In this area, operators implemented mobile applications allowing parcels to be added using reference numbers, sent e-mail notifications with tracking links, SMS messages with information on planned delivery time, and functions for tracking delivery vehicles.
3. **Delivery methods:** Operators allowed recipients to choose alternative delivery locations, such as collection points in shops, operator branches, newsagents, parcel lockers and petrol stations. During the pandemic, the network of such points in Poland expanded rapidly, increasing the availability and flexibility of parcel collection. Operators also enabled parcels to be dropped off at collection points using pre-paid labels generated online. Alongside infrastructure development, the number of parcel lockers increased significantly, with InPost as the market leader operating more than

28,000 devices and being the first to introduce remote, contactless parcel collection through a mobile application.

4. **Contact with couriers:** The possibility of direct contact with couriers played a particularly important role during the pandemic and has been maintained in the post-pandemic period. It allows recipients to obtain more precise information on delivery time and to communicate important instructions, such as the need to leave the parcel in a specified place or redirect it to another location.
5. **Delivery management options:** Delivery management solutions enabled recipients to independently modify delivery parameters without contacting customer service. The scope of possible changes included, among others, altering the delivery date, changing the destination address, indicating a safe place for leaving the parcel and rescheduling the delivery time. These modifications were available following user verification, for example via phone number or PIN code sent in an SMS or e-mail message.
6. **Contact with customer service:** During the pandemic many companies simplified access to customer service channels by extending service hours and developing chat functionalities—both automated and consultant-supported—available on websites and in mobile applications.
7. **Complaint submission methods:** Operators introduced online complaint forms available on websites and in mobile applications, which allowed complaints to be submitted regardless of time and day of the week. Traditional complaint channels remained available, but digital solutions were promoted as more efficient.

Overall, the empirical results confirm that changes implemented in courier customer service during the COVID-19 pandemic have significantly improved customer service quality in the post-pandemic period and positively influenced both the frequency of using courier services and user satisfaction.

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