

## THE MAIN REASONS FOR CUSTOMER SATISFACTION WITH PARCEL LOCKER SERVICES: THE CASE OF LITHUANIA

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### ABSTRACT

Many business leaders agree that their performance depends on the quality of the service they provide and its impact on customer satisfaction. In order to survive in the market or to increase their market share, parcel service providers need to be aware of the key factors that affect customer satisfaction with parcel services. The aim of this article is to analyse customer satisfaction with parcel locker service theories, and create a theoretical model to identify the main reasons for customer satisfaction with parcel locker services. The research problem: What are the main reasons for customer satisfaction with parcel locker services? The research methods are based on scientific literature, and data was collected through the questionnaire survey method and analysed by AcaStat software. The theoretical analysis distinguishes the six main reasons for customer satisfaction as price and quality, location dimension, time suitability, technological friendliness, service reliability, and safety. The research data were collected from 438 parcel service delivery users in Lithuania. The results indicate that the main reasons for customer satisfaction are: no need to wait for delivery at home, easy-to-use parcel lockers, 24/7 service possibility, and location convenience. This research is limited, because it was carried out during the pandemic, and the results would need to be verified if the epidemiological situation changes.

KEY WORDS: *customer satisfaction, parcel locker service.*

JEL CODES: L87, O14.

DOI: <https://doi.org/10.15181/rfds.v37i2.2432>

### Introduction

Covid-19 has had a significant impact on e-commerce in the world, and in some cases a negative impact, but overall e-commerce is growing rapidly because of the virus (Bhatti *et al.*, 2020). The growth will accelerate even further in the future, depending especially on the changing behaviour of customers affected by the pandemic. As a result of the tremendous increase in e-commerce, cargo delivery services have faced significant challenges in meeting this demand (Paker, 2021). Self-service technologies for customers have become cost-effective, convenient, and available everywhere in terms of time and location. Business needs technological development to increase the value of services and profits, it is especially important for the innovation model to be more competitive to deliver goods rapidly and create more value for customers (Su, 2021).

The first parcel locker service terminals for sending and receiving parcels started operating in Lithuania in 2012. In terms of customer trust in parcel locker services for delivering goods, quality assurance of delivery, selection of convenient delivery methods and further innovation installation are important. While the

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development of parcel locker terminals has brought some benefits to all countries, to some extent there are still problems (Lin *et al.*, 2019). Many researchers believe that the development of parcel locker services still experiences limited customer expectations (Chen *et al.*, 2018; Zhou *et al.*, 2020). The literature reveals that customers are often reluctant to use a parcel locker service, due to the awkward space, the unreasonable locker design, and possible technical problems (Chen *et al.*, 2018; Zhou *et al.*, 2020).

The research problem: What is the main reason for customer satisfaction with parcel locker services?

The object of the research is customer satisfaction with parcel locker services.

The aim is to analyse theories of customer satisfaction with parcel locker services, and to develop a theoretical model to identify the main reasons for customer satisfaction with parcel locker services.

Objectives:

To show the concept of customer satisfaction, the impact of expectations and technologies, and the quality of customer satisfaction with parcel locker services.

To create a theoretical model of customer satisfaction with parcel locker services.

Based on empirical data, to identify the main reasons for customer satisfaction with parcel locker services.

The research methods are based on scientific literature, and data was collected through the questionnaire survey method and analysed by AcaStat software. The following indicators and statistical methods were used to analyse and process the survey data: descriptive statistics, frequency distribution tables, Cronbach's alpha coefficients, the Mann-Whitney U test, and Spearman's correlation coefficient.

## 1. Theoretical aspects of customer satisfaction with parcel locker services

Many executives agree that the performance of their companies (profitability, market share, etc) depends on the quality management of the operations provided and their impact on the level of customer satisfaction. Delivered service quality can meet or exceed customers' expectations, and is mainly influenced by customers' prior expectations (Angelova, Zekiri, 2011). Customer satisfaction could be viewed as the result of the difference between the customer's perception and expectation of service quality (Appiah-Gyimah *et al.*, 2011; Prawira *et al.*, 2022).

It should be noted that researchers evaluate customer satisfaction differently. Differences in perception are determined by the object of analysis, in other words, the context of satisfaction. Y. Yi (1990), R. A. Westbrook (1987) and Hunt (1977) distinguished between different aspects of customer satisfaction: general perception, evaluation, and psychological reactions focused on the outcome of the service experience. B. Angelova and J. Zekiri (2011), and R. Appiah Gyimah (2011) said that customer satisfaction is characterised by an emotional response resulting from the customer comparing the performance of the product to a certain pre-purchase standard. Another study by W. Wu and D. Riantama (2022) concluded that factors affecting customers' pre-purchasing expectations consist of service-related factors and customer-related factors.

In simple terms, satisfaction is the result of customers' overall assessment of their perception of the service compared to their prior expectations. If customers' perception of the service match their expectations ( $P = E$ ), then they should be satisfied (or at least quite satisfied). If their perception of the service exceeds their expectations ( $P > E$ ), then they will be more than satisfied, even delighted. If their perceptions of the service do not meet their expectations ( $P < E$ ), then they may be dissatisfied, and even disgusted or outraged (Sum Chau, Kao, 2009). Importantly, satisfaction is continuous, from extreme delight to extreme dissatisfaction (Johnston, Clark, 2008).

Numerous empirical studies have looked at the relationship between customer satisfaction, loyalty and retention (Leingpibul *et al.*, 2009). It is a common phenomenon that if after purchasing a product or receiving a service, customers remain satisfied, they meet their expectations and desires, it is likely that they will buy or consume the product or service again. Meanwhile, if customers are frustrated and dissatisfied after purchasing a service, they will not return, and will tell others about their negative experiences, also recommending others not to use the organisation's services (Marazaitė, 2019).

Expectations influence customers' choice of brand or type of product/service at the pre-purchase stage. In subsequent consumption, they serve as a standard against which the quality of service is evaluated, and indirectly influence the repurchase decision. The effective management of customer expectations is therefore fundamental to a company's long-term success (Tam, 2007).

The consequences of customer satisfaction can be described by some examples: if a company satisfies customers, it will have the opportunity to expand its brand to introduce other services or products to the market; happy customers spread positive feedback, which is one of the most important factors in gaining new customers; satisfied customers allow a company to set higher prices for its products (or services) as they agree to pay a higher price for satisfaction and higher quality; it also simplifies the repurchase (or re-use) decision-making process (Leingpibul *et al.*, 2009).

Self-service technology is an interface technology that allows customers to access services when there is no direct contact with the service delivery process (Meuter *et al.*, 2000). Parcel lockers are a kind of self-service technology that is easy, fast and convenient to use. When the parcel is delivered to the pick-up point, the customer receives a message on their phone stating the parcel number, the pick-up code, the pick-up point name, the pick-up point address, and the opening hours. The customer can pick up their parcel at any time of the day (Shang, 2017). Parcel self-service terminals are mostly located near transport stations, store chains, and other customer-friendly locations (Rohmer, Gendron, 2020).

An interesting insight into satisfaction with technological products is found in the discussion by S. Four-nier and D. G. Mick (1999), that it is driven by positive or negative emotions and feelings, such as novelty, wonder, confidence, relief, admiration, helplessness and rejection. When technology allows a person to discover the benefits of a product over time, it creates novelty and leads to satisfaction. Similarly, it is gratifying to feel a sense of respect and wonder, such as the sophisticated technology that can surprise a person, and ease in using it.

Customer satisfaction with parcel locker services depends not only on the expectations formed and the technologies used, but also on the quality of the service. The significance of Logistics Service Quality (LSQ) is important to both customers and logistics providers. The high levels of quality of logistics services ensure customer satisfaction and guarantee a safe position in the market (Huis-konen, 1998; Franceschini, Rafele, 2000; Baki *et al.*, 2009; Kilibarda *et al.*, 2000). C. Rafele (2004) stated that many researchers value and use the LSQ model for customer satisfaction. J. T. Mentzer, D. J. Flint and G. T. M. Hult (2001) present the nine related logistics service quality constructs (personnel contact quality, order release quantities, information quality, ordering procedures, order accuracy, order conditions, order quality, order discrepancy handling, and timeliness) and demonstrate their unidimensionality, validity and reliability across four customer segments of a large logistics organisation.

There are many different models of customer satisfaction research that separate the less important factors and analyse essential customer satisfaction elements and their impact on service demand. The choice of customer satisfaction evaluation model is determined by the nature of the service and the objectives of the study. Yuk Ming Tag *et al.* (2021) determine the following main dimensions that affect customer satisfaction: service price, service diversity, service reliability, fault handling capability, and service convenience. A. La-gorio and R. Pinto (2020) state important elements of a parcel service, such as location convenience and service security, which have a direct positive impact on the customer's intentions to use a parcel locker service.

A theoretical model of customer satisfaction with parcel locker services (see Fig. 1) has been developed through literature reviews. The theoretical model of customer satisfaction assessment shows the relationship between satisfaction, perception, service and expectations. The theoretical model indicates that customer satisfaction with parcel locker services depends on their perception, which relates to the six main reasons: Price and Quality (PQ), Location Dimension (LD), Time Suitability (TS), Technological Friendliness (TF), Service Reliability (SR), and Safety (SF). The model also shows the dimensions of the main reasons.

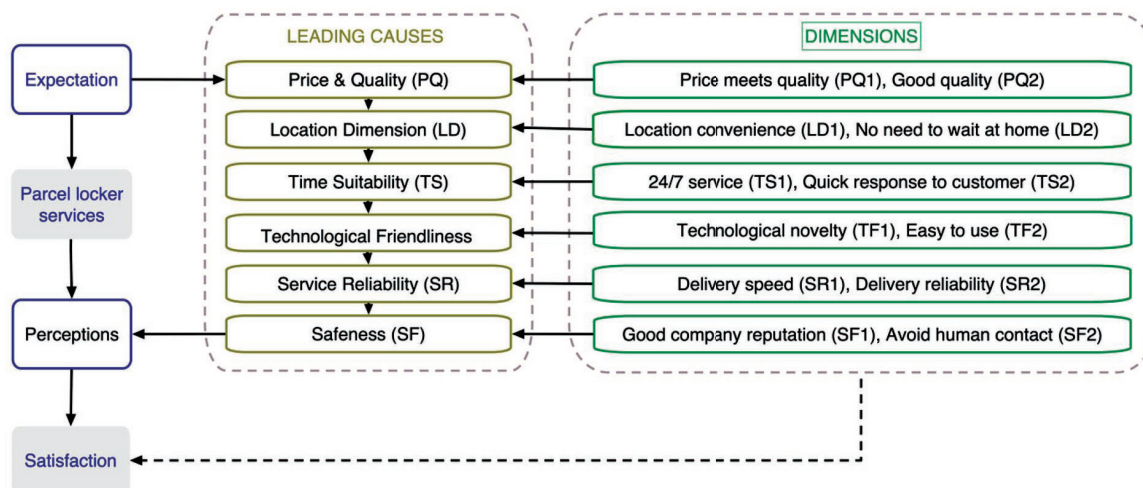


Figure 1. The theoretical model of customer satisfaction with parcel locker services

## 2. Research methodology of the main reasons for customer satisfaction

Research philosophy refers to a system of beliefs and assumptions about knowledge development. There are three types of research assumptions to distinguish research philosophies: ontology, epistemology and axiology. In this study, objectivist ontology research philosophy is selected. Ontology refers to assumptions about the nature of reality. Therefore, the study chose the quantitative analyses methodology.

The quantitative research design ensures findings that are quantifiable, verifiable, replicable and defensible. The survey strategy is the most popular and common in business and management research. The study uses simple random sampling. This means that each element of the population has the right to be included in the sample. Because it was decided to include only the adult population of Lithuania in the survey, the survey sample was calculated from 2,297,000 Lithuanian people. That was the number of adults living in Lithuania in 2021. The sample size was calculated using the sample calculator provided on the web page<sup>4</sup>. For this study, 385 or more surveys are needed to have a confidence level of 95% that the real value is within  $\pm 5\%$  of the surveyed value.

A total of 442 respondents participated in the survey. Four questionnaires were invalid, and only 438 respondents' questionnaires were analysed. According to Table 1, women were more active in the survey (83.3%). The majority of respondents (93%) indicated that they had a university or incomplete university degree. A total of 6.1% of respondents had a secondary education, and only 0.9% had no secondary education.

Most respondents (83%) were between 26 and 55 years old. If the group of men was dominated by respondents aged 26 to 35 (42%) and 36 to 45 (32%), a higher distribution was recorded in the group of female respondents. A total of 35% of women were in the 36 to 45 age group, 27% in the 26 to 35 age group, and 22% in the 36 to 45 age group.

The results of the survey show that the majority (40.9%) of respondents indicated an income of 801 to 1,200 Euros, the next group received 1,200 to 2,000 Euros in income (24.7%), and slightly fewer respondents (21.9%) indicated that their monthly income was between 801 and 1,200 Euros. As expected, the lower incomes were received mostly by younger respondents (18 to 25 years old).

Level of reliability is an important indicator to measure whether a questionnaire is stable. For Likert scale questionnaires that investigate the degree of opinion, it is more appropriate to use Cronbach's alpha coefficient ( $\alpha$ ). When Cronbach's  $\alpha$  coefficient of each variable exceeds 0.8, it indicates that the scale used in the questionnaire is stable and the data results are consistent (Tang *et al.*, 2021). As can be seen from Table 2, Cronbach's  $\alpha$  coefficients were found to be greater than 0.8. It can be concluded that the reliability and robustness of the questionnaire for repeated testing are statistically correct.

<sup>4</sup> <https://www.calculator.net/sample-size-calculator.html>

Table 1. Basic characteristics of valid samples

Item	Category	Frequency	Rate
Gender	Male	73	16.67%
	Female	365	83.33%
Age	18–25	42	9.65%
	26–35	131	29.82%
	36–45	150	34.21%
	46–55	84	19.3%
	Above 56	31	7.02%
Monthly income	Less than 500	24	5.45%
	501–800	96	21.82%
	801–1200	179	40.91%
	1200–2000	108	24.55%
	More than 2001	31	7.27%

Table 2. Cronbach alpha and related statistics of main factors of customer satisfaction

Statements	Items	Cronbach Alpha	Std. Alpha	G6(smc)	Average R
	All items	0.8911	0.8935	0.9228	0.4116
Price meets quality	PQ1 excluded	0.8794	0.8822	0.914	0.405
Good quality	PQ2 excluded	0.8769	0.8796	0.9094	0.399
Location convenience	LD1 excluded	0.8816	0.8842	0.9148	0.4097
No need to wait at home	LD2 excluded	0.8786	0.8815	0.9095	0.4034
24/7 service	TS1 excluded	0.8911	0.8928	0.9206	0.4308
Quick response to customer	TS2 excluded	0.8989	0.9008	0.9216	0.4522
Technological novelty	TF1 excluded	0.8812	0.8841	0.9085	0.4096
Easy to use	TF2 excluded	0.8751	0.8774	0.9091	0.3942
Delivery speed	SR1 excluded	0.8717	0.8745	0.9063	0.3879
Delivery reliability	SR2 excluded	0.8737	0.8766	0.9076	0.3923
Good company reputation	SF1 excluded	0.8886	0.8915	0.9189	0.4276
Avoid human contact	SF2 excluded	0.8891	0.8913	0.9135	0.427

In this study, the questionnaire design used dimensions related to customer satisfaction factors for the parcel locker. The questionnaire was divided into four main parts according to the survey's objectives. The first part of the questionnaire consisted of three questions to find out if the respondents used parcel locker services, which services they preferred, and how often they used the parcel lockers to send and collect parcels. The second part of the questionnaire focused on customer satisfaction and dissatisfaction. The theoretical model of the study identified six main reasons for satisfaction with the parcel service, and came up with 12 statements. The statements and their codes are presented in Table 3. To evaluate the statements, a five-point Likert scale was used. To assess the disadvantages of the parcel locker service, nine statements were made, relating to price, delay in delivery, lack of a parcel locker, parcel damage, parcel locker technical defects, no availability to send a large parcel, not suitable for customers with disabilities, high occupancy rate, and no delivery at weekends. The service disadvantages were assessed by the organisations providing this service in Lithuania, so it was decided not to analyse this information in this article.

Table 3. The main reasons and statements of customer satisfaction with parcel locker service

No	Main reasons	Codes	Statements
1	Price and quality (PQ)	PQ1	Price meets quality
		PQ2	Good quality
2	Location dimension (LD)	LD1	Location convenience
		LD2	No need to wait at home
3	Time suitability (TS)	TS1	24/7 service
		TS2	Quick response to customer
4	Technological friendliness (TF)	TF1	Technological novelty
		TF2	Easy to use
5	Service reliability (SR)	SR1	Delivery speed
		SR2	Delivery reliability
6	Safety (SF)	SF1	Good company reputation
		SF2	Avoid human contact

Source: Lemke (2016); Shang et al. (2017), Chen et al. (2018), Yuen et al. (2019), Tang et al. (2021).

The third part of the questionnaire tries to determine which organisations' parcel locker services are used mainly by the respondents, and which organisations' services they would or would not recommend to their friends. The fourth part of the questionnaire contains four demographic questions about respondents' gender, age, education and monthly income. This allows customer satisfaction with parcel locker services to be analysed according to their different characteristics.

### 3. Survey data analysis

Smart locker services in Lithuania have been analysed by revealing the websites of companies providing these services, and the following primary services have been identified: parcel delivery (send and receive a parcel); courier-parcel locker terminal, where a courier arrives at a location specified by the sender and picks up a parcel, which is then delivered to the recipient via a parcel locker; parcel locker terminal-courier service, where the sender delivers the parcel to the parcel locker, while the courier, after the pick-up of the parcel, delivers it to the recipient to the specified address; parcel storage service. Services requiring additional courier services (from the location of the parcel locker terminal to the recipient's location/from the sender's location to the smart locker) are correspondingly more expensive than standard smart locker services (from parcel locker to parcel locker).

The survey asked respondents to indicate which parcel locker services they mainly used (see Fig. 2). The questionnaire showed that 50.5% of respondents use parcel pick-up services. Another equally important service for respondents was the parcel delivery service (33.3%). Less popular among the respondents is the service of using a courier to deliver or receive parcels. These services were used on average by just over 6% of respondents. The least attractive service is parcel storage.

Based on the research data, men sent parcels more often than women (Mann-Whitney U – 741;  $p < [2 - \text{tailed}] - 0.139$ ). Although the percentage frequency shows that women are more likely than men to collect parcels from smart lockers, the difference, however, is not statistically significant (Mann-Whitney U – 817;  $p < [2 - \text{tailed}] - 0.019$ ). Although the parcel locker-courier and courier-parcel locker services are not popular among respondents, the difference between men and women in the use of these services is also statistically significant. It should be noted that the survey covered both private and business customers in general.

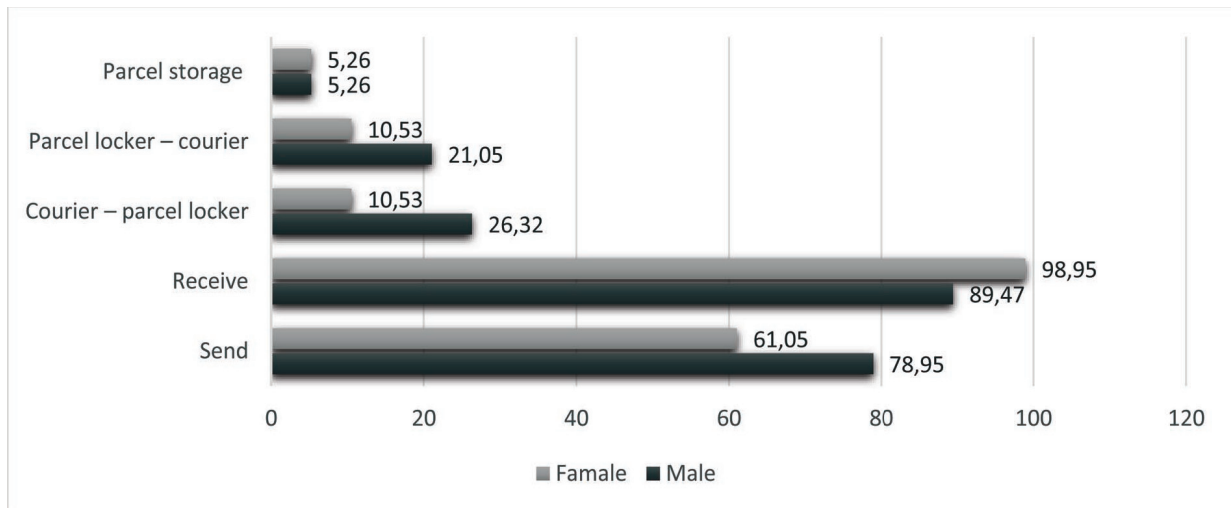


Figure 2. The distribution of smart locker services used by gender (in %)

The use of parcel locker services was also analysed by the age group of respondents. According to the data collected, two groups of respondents, 26 to 35 (37%), and 36 to 45 (38%) years old, were the most likely to use parcel locker services. According to the data on parcel lockers, not only the above-mentioned groups of respondents (26 to 35 [30%], and 36 to 45 [35%]), but also the group of respondents aged 46 to 55 (20%) used this service a lot.

Fig. 3 shows how often customers send and collect parcels from a parcel locker terminal. The usual frequency for respondents to collect parcels is once or twice a month (84.2% of respondents). An analysis of the delivery data shows that around 7% of respondents use a parcel locker delivery service once or twice a year.

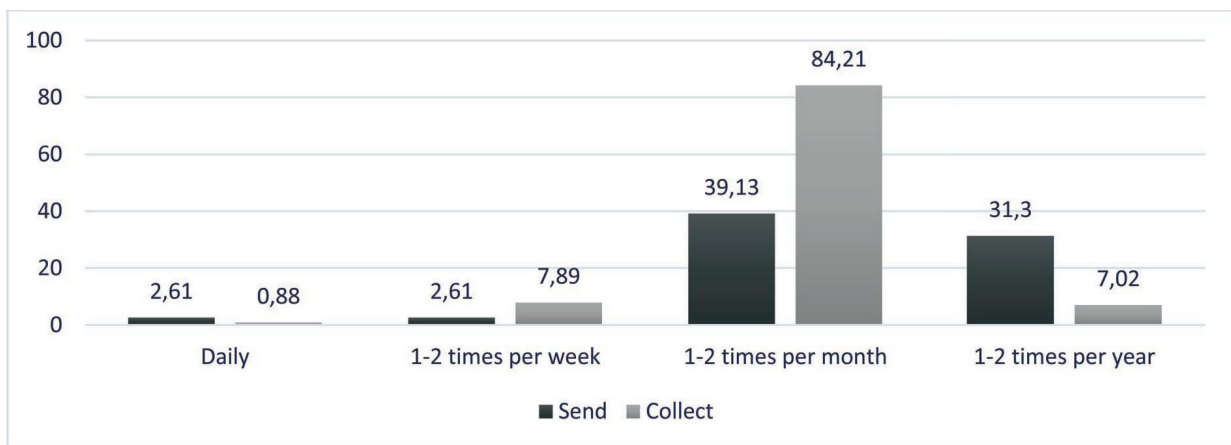


Figure 3. Percentage frequency of use of parcel locker services

The survey data also showed that around 24% of respondents do not use a parcel locker to send items. The survey found a gender difference in the frequency of sending items by parcel locker. Men are most likely to send parcels once or twice a year (42% of men), while women are most likely to send parcels once or twice a month (42% of women). This difference was not observed when analysing the statistics on parcel collection. Both women and men are most likely to pick up parcels once or twice a month.

Fig. 4 shows a bar chart of the calculated means for statements. The mean values indicated the four critical reasons for customer satisfaction with parcel locker services: no need to wait at home, easy use, 24/7

service, and location convenience. The second group of variables should include delivery speed, good quality, avoidance of human contact, delivery reliability, and price meets quality variables. There were three less important reasons in the assessment of customer satisfaction with parcel locker services: technical novelty, quick response to the customer, and good company reputation.

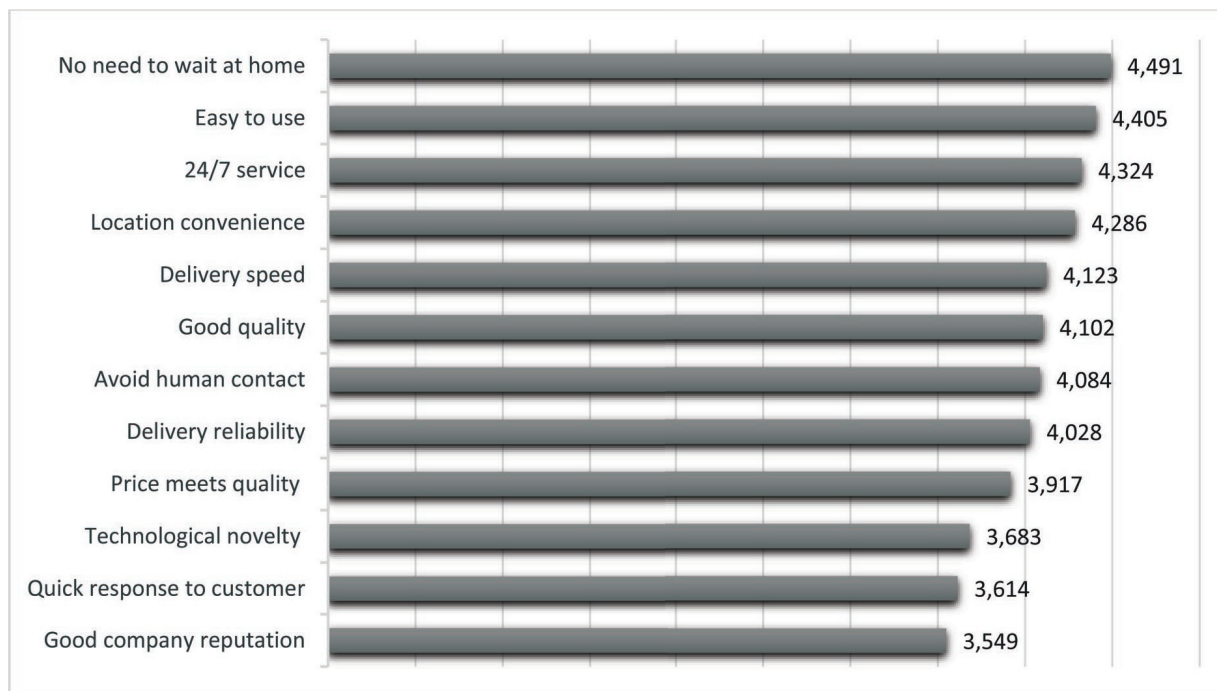


Figure 4. Reasons for customer satisfaction with parcel locker (mean values)

Comparing the mean values based on gender, statistically significant differences were not observed. Still, the highest mean difference between men and women was observed for simplicity of use, software and technical novelty, service quality, and human contact avoidance characteristics. The importance of these variables was more significant for men. Women, more than men, were rated for the reliability of delivery, quick response to customer problems, and price meeting quality.

Analysing the data by age group of respondents, the three most important reasons for satisfaction with the service were identified for each group of parcel locker users. As can be seen in Table 4, the main reasons for satisfaction in the 18 to 25 age group were the possibility to avoid waiting at home for a parcel delivery, the easy-to-use service, and the quality of the service. For the 26 to 35 age group, the most important satisfaction factors are the unlimited service time, the possibility to avoid waiting at home, and the convenient location of the parcel locker terminals. For the 36 to 45 age group, the most important satisfaction factors are not having to wait at home for the parcel, the easy-to-use service, and the convenient location of the parcel lockers. For the 46 to 55 age group, the most important satisfaction factors are the ease of use, not having to wait at home, and the unlimited service time.

When comparing the importance of the price of the parcel service, it was found to be more important for younger respondents (aged between 18 and 35). The quality of the parcel service factor is equally important for all groups of respondents by age. The location of the parcel locker is least important for the youngest (18 to 25 years) and the oldest users of the service. As might be expected, ease of use of the parcel locker service is least important for younger users.



Table 4. Reasons for customer satisfaction with parcel locker service by age group (mean values)

Variable category	LD2	TF2	TS1	LD1	SR1	PQ2
Age 18–25	4.273	4.273	3.818	3.818	3.909	4.091
Age 26–35	4.438	4.364	4.562	4.394	4.161	4.129
Age 36–45	4.514	4.447	4.216	4.447	4.25	4.027
Age 46–55	4.476	4.5	4.333	4.273	4.19	4.182
56 and older	5	4.286	4.571	3.75	3.429	4.143
All	4.491	4.405	4.324	4.286	4.123	4.102
Variable category	SF2	SR2	PQ1	TF1	TS2	SF1
Age 18–25	3.909	3.818	4	3.727	3.909	3.455
Age 26–35	4.031	4.032	4.25	3.5	3.806	3.667
Age 36–45	4.056	4.114	3.757	3.818	3.606	3.514
Age 46–55	4.19	4.048	3.714	3.762	3.381	3.571
56 and older	4.429	3.857	3.714	3.5	2.8	3.2
All	4.084	4.029	3.917	3.683	3.614	3.549

Table 5 shows that, irrespective of the respondent's income, the satisfaction of users of the parcel locker service is most strongly influenced by the possibility of avoiding waiting for a parcel at home, and by the ease of use of the service. Unlimited service time is more important for customers with higher incomes, and less important for those with incomes up to 800 Euros. The analysis also shows some exceptions, in other words, for customers with incomes up to 500 Euros. Speed of delivery is also important.

Table 5. Reasons for customer satisfaction with parcel locker services by income (mean values)

Variable category	LD2	TF2	TS1	LD1	SR1	PQ2
Up to 500 Eur	4.5	4.333	4.167	3.667	4.333	4.167
501–800 Eur	4.609	4.391	4.174	4.083	3.909	4.091
801–1,200 Eur	4.634	4.545	4.512	4.477	4.35	4.357
1,201–2,000 Eur	4.346	4.385	4.346	4.577	4.231	4.115
2,001 Eur and more	4.25	4	4	3.625	3.375	3.25
All	4.519	4.421	4.337	4.306	4.147	4.144
Variable category	SF2	SR2	PQ1	TF1	TS2	SF1
Up to 500 Eur	4.167	3.833	4	3.667	3.5	3.667
501–800 Eur	4.182	3.952	3.909	3.714	3.579	3.25
801–1,200 Eur	4.171	4.075	4.095	3.789	3.737	3.842
1,201–2,000 Eur	3.769	4.231	3.846	3.667	3.538	3.5
2,001 Eur and more	4.375	3.625	3.625	3.125	3.5	2.875
All	4.087	4.04	3.952	3.68	3.619	3.541

For customers with high incomes (1,201 to 2,000 Euros), it is also important to have a convenient parcel locker terminal location, while avoiding human contact is important for customers with incomes between 501 and 800 Euros, and for those with incomes above 2,001 Euros.

The strength of the relationship between two rank variables or quantitative variables that are not normally distributed is assessed using Spearman's correlation coefficient, which measures the strength of the relation-

ship by using the ranks of the variables rather than the variables themselves. The rejection of hypothesis H0 is determined by the p-level of the significance of the observation. If the p-level of the observed significance level is lower than the chosen significance level  $\alpha$  ( $p\text{-level} < \alpha$ ), hypothesis H0 is rejected, and it is concluded that the correlation is significant. If the p-level is greater than or equal to the significance level  $\alpha$  ( $p\text{-level} \geq \alpha$ ), the correlation is not significant and the variables are independent (Bilevičienė, Jonušauskas, 2011).

According to Table 6, the correlation coefficient between delivery reliability (SR2) and delivery speed (SR1) is highest at 0.683, and significant at the 0.001 level. The correlation between the parcel locker service price (PQ1), quality (PQ2), parcel delivery speed (SR1), and reliability (SR2) was above 0.5, indicating a moderate correlation intensity.

Table 6. Spearman rho correlation coefficients between variables

	PQ1	PQ2	LD1	TS1	SF1	TS2	TF2	SR1	SR2	TF1	SF2	LD2
PQ1	1											
PQ2	.564**	1										
LD1	.396**	.416**	1									
TS1	.311**	.247*	.428**	1								
SF1	.221*	.307**	.267**	.360**	1							
TS2	.238*	.147	.220*	.077	.456**	1						
TF2	.459**	.482**	.320**	.430**	.384**	.145	1					
SR1	.522**	.567**	.459**	.325**	.457**	.524**	.546**	1				
SR2	.507**	.492**	.429**	.223*	.449**	.437**	.556**	.683**	1			
TF1	.385**	.548**	.299*	.181	.374**	.109	.551**	.494**	.575**	1		
SF2	.341**	.298**	.136	.323**	.052	-.016	.452**	.240*	.311**	.557**	1	
LD2	.269**	.378**	.265**	.316**	.048	.105	.440**	.375**	.364**	.323**	.522**	1

\*\* $p < 0.01$ , \* $p < 0.05$

The correlation between parcel locker service quality (PQ2), parcel delivery speed (SR1), and technical and software novelty (TF1) was higher than 0.5, showing a moderate intensity correlation. There was also a moderate intensity correlation between quick response to customer problems (TS2) and parcel delivery speed (SR1); between ease of use (TS1), parcel delivery speed (SR1), reliability of parcel delivery (SR2), and technological novelty (TF1); between technological novelty (TF1) and reliability of parcel delivery (SR2); between the technological novelty of parcel locker services (TF1) and avoidance of human contact (SF2); and between avoidance of human contact (SF2) and no need to wait for the parcel at home (LD2).

## Conclusions

The analysis of the literature has identified common components of customer satisfaction: customer satisfaction is a reaction, and this reaction is related to specific elements, and the response occurs at a specific time. Customer satisfaction is the result of customers' overall assessment of their perceptions of the service compared to their prior expectations. Effective management of customer expectations is therefore fundamental to a company's long-term success.

A theoretical model for assessing customer satisfaction with parcel locker services was developed by theoretical analysis. The recent model shows the interaction between expectations, service, perception and the satisfaction of the parcel service customer. Customer satisfaction with parcel services depends on six main factors: price and quality, location dimension, time suitability, technological convenience, service reliability, and security.

The survey showed that 50.5% of respondents used a parcel pick-up service from parcel locker terminals, while 33.3% of respondents used a parcel locker service to send parcels. The 26 to 35 (37%) and 36 to 45 (38%) age groups are the most frequent users of parcel locker services. While men send parcels by self-service locker more often, women pick up parcels from parcel lockers more often.

The analysis of respondents' average satisfaction with parcel locker services identified four main reasons for their satisfaction: no waiting at home for a parcel, easy-to-use parcel lockers, the service is not time-limited, and the convenience of the location of the parcel locker. The second group of less important variables included speed of delivery, quality of service, no human interaction, reliability of delivery, and price-quality balance. The study also identified three reasons that were less important for customer satisfaction: technical novelty, quick response to customer concerns, and company reputation.

When looking at the importance of reasons for satisfaction with the service by gender, it was found that men were more interested than women in technical novelty, the quality of the service, and no human interaction; whereas women prioritise reliability of delivery, the quick response to customer concerns, and the price-quality balance.

The correlation coefficient between delivery reliability and delivery speed is the highest at 0.683 and significant at the 0.001 level. The correlation between parcel locker service price, quality, parcel delivery speed and reliability was above 0.5, indicating a moderate correlation intensity.

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## PAGRINDINĖS KLIENTŲ PASITENKINIMO SIUNTŲ PRISTATYMO Į PAŠTOMATUS PASLAUGOMIS PRIEŽASTYS – LIETUVOS ATVEJIS

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### Santrauka

Tyrimo problema: pagrindinės paštomato paslaugų teikimo klientams pasitenkinimo priežastys? Mokslinio tyrimo tikslas – išanalizavus vartotojo pasitenkinimo paštomatų paslaugomis teorijas ir parengus teorinį analizės modelį, nustatyti pagrindines klientų pasitenkinimo paštomatų paslaugomis priežastis.

Tyrimui atlikti taikytas kiekybinis tyrimo metodas, anketinė apklausa. Tyrimo imtis, esant 95 % pasikliutinajam intervalui, yra 385 respondentai. Tyrimo duomenims analizuoti ir apdoroti pasitelkiami šie pagrindiniai rodikliai ir statistiniai metodai: aprašomieji statistiniai duomenys, dažnių pasiskirstymo lentelės,

apklausoje naudojamos skalės patikimumui įvertinti – apskaičiuoti Cronbacho alfa koeficientai, Mann-Whitney U testas, Spearmano koreliacijos koeficientas.

Vartotojų pasitenkinimo paštomatų paslaugomis teorinis modelis atskleidžia jo klientų lūkesčių, paslaugos, suvokimo ir pasitenkinimo sąveiką. Klientų pasitenkinimas paštomato paslaugomis priklauso nuo šešių pagrindinių priežasčių: kainos ir kokybės (PQ); vietos dimensijos (LD); laiko tinkamumo (TS); technologinio patogumo (TF); paslaugų patikimumo (SR) ir saugumo (SF).

Apklausa atskleidė, kad 50,5 % respondentų naudojami siuntų atsiėmimo paštomatuose paslauga, 33,3 % respondentų šia paslauga naudojami siųsdami siuntinius. Mažiau populiarios yra mišriosios paštomato ir kurjerio teikiamos paslaugos. Tyrimo duomenys atskleidė, kad siuntas paštomatais dažniau siunčia vyrai nei moterys (Mann-Whitney U,  $p < 0,1396$ ). Nors procentinis dažnis rodo, kad moterys dažniau nei vyrai siuntas iš paštomatų atsiima, šis skirtumas statistiškai nereikšmingas (Mann-Whitney U,  $p < 0,019$ ).

Surinkti duomenys atskleidė, kad siuntos siuntimo paštomatu paslaugomis daugiausia naudojami 26–35 (37 %) ir 36–45 (38%) metų respondentų grupės. Savo siuntas juose respondentams dažniausia tenka atsiimti vieną arba du kartus per mėnesį (84 % respondentų). Apie 70 % respondentų paštomatų siuntimo paslaugomis naudojami 1–2 kartus per mėnesį arba metus. Analizuojant siuntų siuntimo paštomatu dažnio lyčių aspektu duomenis pastebėta, kad vyrai siuntas siunčia rečiau (42 % vyrų – 1 arba 2 kartus per metus) nei moterys (42 % moterų – 1 arba 2 kartus per mėnesį).

Analizuojant respondentų pasitenkinimo paštomato paslaugomis vidurkius, nustatytos keturios pagrindinės jį lemiančios priežastys: siuntos nereikia laukti namuose, paštomatu paprasta naudotis, paslauga neribota laike, galima rinktis paštomato vietą. Antroji mažiau svarbių kintamųjų grupė apėmė pristatymo greitį, gerą paslaugos kokybę, kontakto su žmonėmis vengimą, pristatymo patikimumą ir kainos bei kokybės atitikimą. Atlikus tyrimą nustatytos trys kliento pasitenkinimą mažiausiai lemiančios priežastys: techninis naujumas, greitas reagavimas į kliento problemas ir gera įmonės reputacija.

Vertinant pasitenkinimo paslauga priežasčių svarbą lyties aspektu, pastebėta, kad vyrai labiau nei moterys vertina techninio naujumo, paslaugos kokybės ir kontakto su žmonėmis vengimo charakteristikas. Tuo tarpu moterims svarbesni siuntos pristatymo patikimumas, greita reakcija į kliento problemas ir kainos bei kokybės atitikimas.

Spearmano koreliacijos koeficientas rodo, kad tarp pristatymo greičio (SR2) ir siuntos pristatymo patikimumo (SR1) yra stiprus koreliacinis ryšys (0,683, kai reikšmingumo lygis – 0,001). Vidutiniškai stiprus koreliacijos ryšys fiksuotas ir tarp kainos bei kokybės, pristatymo greičio ir patikimumo veiksnių. Vidutiniškai stipri koreliacija nustatyta ir tarp paštomato paslaugos kokybės, siuntos pristatymo greičio bei programinio ir techninio naujumo. Greita reakcija į klientų problemas koreliuoja su siuntos pristatymo greičiu. Naudojimosi paštomato paslaugomis paprastumas vidutiniškai koreliuoja su siuntos pristatymo greičiu, patikimumu ir techniniu naujumu. Pristatymo patikimumas koreliuoja su techniniu naujumu, techninis naujumas – su galimybe išvengti žmogiško kontakto, pastarasis – su galimybe išvengti siuntos laukimo namuose.

PAGRINDINIAI ŽODŽIAI: *klientų pasitenkinimas, siuntų paslaugos.*

JEL KLASIFIKACIJA: L87, O14.

*Received: 2022-04-10*

*Revised: 2022-05-09*

*Accepted: 2022-05-20*