A study on the sustainability of the universal postal service and defining its role in accordance with the changing needs of users

Phase I - Methodology for assessing the sustainability of the universal postal service and defining the necessary types and data sets, based on which the model will be tested

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TCOM DOO BEOGRAD

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Service:	**A study on the sustainability of the universal postal service and defining its role in accordance with the changing needs of users**

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SUMMARY

The aim of the first phase of the Study on the sustainability of the universal postal service and defining its role in accordance with the changing needs of users is to propose a research methodology based on which data would be collected in the second phase and then the proposed model would be tested in the third phase. The proposed model should provide directions for defining the universal postal service to ensure the availability and sustainability of the universal postal service following the needs of users and changes in the market, while at the same time preserving economic sustainability. As a basic methodological concept, multi-criteria decision-making will be used, specifically the FUZZY AROMAN method, as one of the newest methods in this field. To implement the multi-criteria decision-making procedure, experts from the field of postal traffic will evaluate the offered alternatives using linguistic evaluations, and according to each criterion that is considered important for making a decision. To facilitate the assessment of experts, as well as to contribute to objectivity, they will be presented with appropriate statistical data, as well as the results of forecasting variables of interest. Also, each of the experts declares the importance of each of the criteria when deciding on choosing the appropriate universal postal service concept. The expert team that would be surveyed in order to conduct this research would be composed of representatives of the public postal operator, the Regulatory Authority for Electronic Communications and Postal Services, the competent Ministry and members of the academic community in the field of postal traffic. The proposed methodology will be tested in three segments related to the sustainability of the universal postal service, namely: the scope of the universal postal service, the quality of service in terms of transit times, and the availability of postal network units. The general methodological concept will be adapted to each of these three segments, and three methodological approaches are proposed in this study depending on the analyzed segment of the universal postal service.

I

GENERAL METHODOLOGICAL CONCEPT FOR EVALUATING THE SUSTAINABILITY OF THE UNIVERSAL POSTAL SERVICE

The study on the sustainability of the universal postal service and the definition of its role in accordance with the changing needs of users will be realized through three phases that can be described as follows:

Phase I - Development of the Methodology for assessing the viability of the universal postal service and defining the necessary types and data sets based on which the model will be tested.
Phase II – Preparation and collection of the necessary data sets based on which the model will be tested.
Phase III – Testing, i.e. application of the Methodology and creation of the final Document for the evaluation of the sustainability of the universal postal service with recommendations.

Phase I - Development of the Methodology for assessing the viability of the universal postal service and defining the necessary types and data sets

Since the question of the sustainability of the universal postal service and defining its role following the changing needs of users is an extremely multidisciplinary problem, where recommendations can be sought in several segments of the universal postal service, and decisions are influenced by many criteria and stakeholders, the basic methodological concept will be based on the application of the theory of multi-criteria decision-making. The procedure is described through the following steps.

Step 1º

Defining and selecting I segments of the universal postal service for sustainability assessment (S_i, $i=1,...,S$)

In this study, three segments of the universal postal service are defined and investigated, and based on that, three methodological approaches are proposed, which follow the general methodological concept:

- Methodology for assessing the sustainability of the universal postal service in the segment of scope;
- Methodology for assessing the sustainability of the universal postal service in the segment of the quality of service in terms of transit times and
- Methodology for assessing the sustainability of the universal postal service in the segment of availability of postal network units.

Based on the mentioned three segments, special chapters are defined within this part of the Study, i.e. Phase I - Methodology for assessing the sustainability of the universal postal service and defining the necessary types and data sets, based on which the model will be tested.

Step 2º

Formulation of N alternative options in each of the I defined segments of the universal postal service (A_{sn}, $s=1,...,S$; $n=1,...,N$).

Step 3º

Definition and selection of P factors affecting the universal postal service – UPS (F_p, $p=1,...,P$). A factor in this context represents a specific area of interest that affects the definition of UPS. Within one factor there may be several criteria that describe that factor in more detail.

Step 4º

Within the selected factors, the definition and selection of M criteria that influence the UPS (K_m, $m=1,...,M$).

Step 5º

Defining the necessary variables that describe the relationship between the considered criteria and the alternatives. Specifying these variables is a guideline for collecting the necessary data (phase II), based on which the model will be tested (phase III).

Phase II – Preparation and collection of the necessary data sets based on which the model will be tested

Depending on the nature of the data that needs to be collected, they will be requested from the Regulatory Authority for Electronic Communications and Postal Services, the public postal operator, the competent Ministry or the user of postal services. During the testing of the model in Phase III, experts from the field of postal traffic will declare the relationship between the criteria and the alternatives using the fuzzy linguistic variables defined in Step 6º. However, in Step 7º, efforts will be made to collect exact data, wherever possible, to provide the surveyed experts with the best possible decision support.

Step 6º

Defining a set of fuzzy linguistic variables (descriptors) $L = \{l_b\}$, $b \in \{1,\ldots,B\}$, where B is the total number of fuzzy linguistic descriptors. With the use of fuzzy linguistic variables, experts will assess in a later stage to what extent a certain criterion affects or describes a certain alternative. In this study, fuzzy linguistic variables shown in Table 1 are used.

Table 1. *Fuzzy linguistic variables for alternative evaluation per each criterion*

Linguistic variables
Very Low (VL)
Low (L)
Medium-low (ML)
Medium (M)
Medium-High (MH)
High (H)
Very High (VH)

Step 7º

Collecting the necessary data based on which the model will be tested, according to the previously defined variables in step 5º.

Step 8º

For those criteria for which it is not possible to collect exact data, assessment methods or comparisons with similar variables will be applied, and forecasting methods will be used, both by analyzing time series and by applying the Bass diffusion model.

Phase III – Testing, i.e. application of the Methodology and creation of the final Document for the evaluation of the sustainability of the universal postal service with recommendations

Step 9º

Expert assessment of the importance of factors and criteria that affect each of the segments of the universal postal service.

Step 10º

Collecting expert opinion on the impact of each criterion on the sustainability of the universal postal service and calculating the matrix of mean values of expert opinion for the criteria. Calculation of the mean opinion of a group of *E* experts, for each criterion individually, using the fuzzy Delphi technique. The task of the experts involved in the problem of defining the concept of sustainability of the universal postal service is to evaluate and linguistically express the character of the selected criteria, which is transformed into triangular fuzzy numbers with an adequate fuzzy scale. Median opinion of a group of experts $Q_{sr} = (q_{sr}^{l} + q_{sr}^{m} + q_{sr}^{u})$ for each criterion separately, it is obtained by aggregating individual opinions, in the form of the mean value of the obtained set of fuzzy numbers (opinions) for that criterion, according to equation (1).

$$Q_{sr} = (q_{sr}^{l} + q_{sr}^{m} + q_{sr}^{u}) = \left(\frac{1}{E}\sum_{e=1}^{E} q_{e}^{l} + \frac{1}{E}\sum_{e=1}^{E} q_{e}^{m} + \frac{1}{E}\sum_{e=1}^{E} q_{e}^{u}\right) \quad (1)$$

In this procedure, it is possible to assign different importance to the opinions of experts, by assigning weight coefficients w_e (where $\sum_{e=1}^{E} w_e = 1$, E – number of experts). The final, agreed expert assessment of the character of the selected criteria is determined through the required number of iterations of surveying a group of experts. According to the basic idea of the Delphi technique, by repeating the survey, they try to get closer to the opinions of the experts. For the criterion of stability of group opinion, it is necessary to set the condition that the sum of the weight coefficients assigned to the experts who changed their opinion in the last test cycle (ΔW), in relation to the previous cycle, should be less than w_{gr} (%) in relation to the total sum of the weight coefficients.

$$\Delta W = \sum_{e=1}^{E} w_e^* < w_{gr}, \qquad \text{где је } w_e^* = \begin{cases} w_e, O_{ek} \neq O_{ek-1} \\ 0, O_{ek} = O_{ek-1} \end{cases}$$

where w_{gr} (%) is the stability threshold of experts' opinions (expressed as a percentage), and O_{ek} is the rating of the e-th expert in the k-th evaluation cycle.

Step 11º

Using the multi-criteria optimization method FUZZY AROMAN, the relative priorities (ranks) $R^0_{A_{sn}}$ of alternatives A_{sn} for each segment of the universal postal service are determined. As a result, the respective ranks of the alternatives are obtained.

The AROMAN method in a fuzzy environment is very suitable for solving multi-criteria decision-making problems when experts are involved in decision-making. The procedure will only be explained in general without specifying the specific formulas used in calculating the final ranks.

Based on the input data obtained by surveying experts, an initial decision-making matrix is formed. A fuzzy multicriteria problem can be represented in matrix format as:

$$\widetilde{D} = \begin{bmatrix} \tilde{x}_{11} & \cdots & \tilde{x}_{1j} & \cdots & \tilde{x}_{1n} \\ \tilde{x}_{21} & \cdots & \tilde{x}_{2j} & \cdots & \tilde{x}_{2n} \\ \vdots & \ddots & \vdots & \ddots & \vdots \\ \tilde{x}_{m1} & \cdots & \tilde{x}_{mj} & \cdots & \tilde{x}_{mn} \end{bmatrix}, i = 1,2,\dots,m, j = 1,2,\dots,\text{n.}$$

where $\tilde{x}_{ij}$ are fuzzy linguistic variables.

To quantify the qualitative response of the expert, the linguistic variables can be expressed as triangular fuzzy numbers. In this sense, the scale shown in Table 2 is used.

Table 2. *A quantification of linguistic variables*

Linguistic variables	Fuzzy number
Very Low (VL)	(0,0,1)
Low (L)	(0,1,3)
Medium-low (ML)	(1,3,5)
Medium (M)	(3,5,7)
Medium-High (MH)	(5,7,9)
High (H)	(7,9,10)
Very High (VH)	(9,10,10)

If there are K experts who evaluate the alternatives according to the defined criteria, the average rating of all experts is calculated. Then it is necessary to normalize the data. The AROMAN method implies two types of normalization. As is commonly known, in multi-criteria optimization problems certain criteria need to be minimized, they are also known as cost criteria, and others need to be maximized, often called benefit criteria. The normalization procedure should be applied for both types of criteria (min and max). Aggregate normalization is then calculated based on the appropriate formula. The procedure continues by including the weighting coefficients of the criteria, which results in the so-called Weighted aggregated normalized decision matrix. Then the weighted aggregated normalized matrix is summed up by type of criteria. Finally, the ranking of each of the alternatives is calculated by applying adequate formulas.

Step 12º

Sensitivity analysis of the results through the variation of the weighting coefficients of the criteria.

Step 13º

Comparative analysis of results using other methods of multi-criteria decision-making. The obtained results will be compared with the fuzzy TOPSIS method, one of the traditional methods of multi-criteria decision-making, as well as with the fuzzy ARAS method, another of the relatively newer methods of multi-criteria decision-making.

Step 14º

Final analysis of the results and creation of the final Document for the evaluation of the sustainability of the universal postal service with recommendations.

A schematic representation of the general methodological concept for assessing the sustainability of the universal postal service is given in Figure 1.

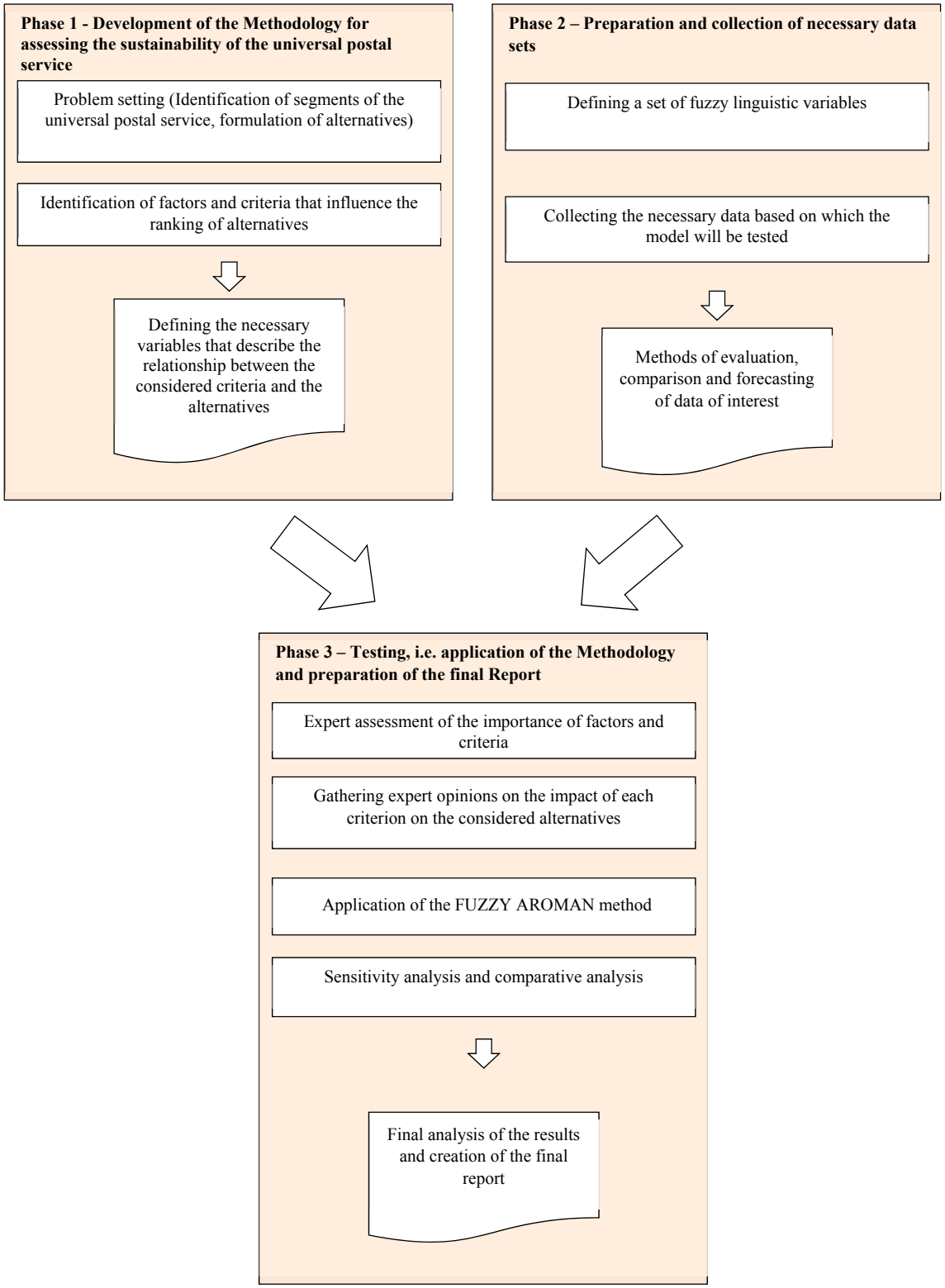

Figure 1. *A schematic representation of the general methodological concept for assessing the sustainability of the universal postal service*

II

METHODOLOGY FOR EVALUATING THE SUSTAINABILITY OF THE UNIVERSAL POSTAL SERVICE IN THE SEGMENT OF SCOPE

2.1 Introductory notes on the scope of the universal postal service in the European Union and Serbia

The European Union (EU) Directive on postal services in Article 3 stipulates the obligation of member states to protect the provision of certain basic postal services, i.e. universal postal service (UPS). The main goal is to ensure access to a certain set of postal services that are reliable and affordable for all users within the EU. As a minimum, member states must provide a universal postal service that ensures the clearance, sorting, transport and distribution of at least five working days a week:

1) letter items weighing up to 2 kg,
2) packages up to 10 kg,
3) as well as services for registered items and insured items in both categories.

Within these limits, member states have the flexibility to decide exactly what constitutes a universal service that suits their domestic circumstances and user needs. Universal service includes services in national and cross-border traffic (EU Directive Article 3, Paragraph 7).

The set of services included in UPS since the adoption of the EU Directive has generally remained unchanged in most EU member states. Letter and parcel items, registered items, insured items in national postal traffic, as well as letters and packages in international traffic are still part of the obligation to provide UPS in most countries. One of the most often discussed issues in the practice of countries is whether or not bulk letters should be included in the UPS. According to the responses, 18 out of 30 countries include bulk letters in the UPS[1].

[1] Source: *Main developments in the postal sector (2017-2021) Study for the European Commission*

However, looking at the individual specifications of the universal service, certain differences between countries can be observed. The main differences are in terms of:

- set standards related to the transit times,
- set standards in terms of transit times depending on the service category and
- size limitations of letters and packages.

The most common standard weight for letter carriers within the scope of UPS in almost all countries in Europe is 2 kg. In 28 countries, the upper limit for the weight of letters from the UPS is 2 kg. In Switzerland, the upper limit of mass for letter items in national traffic is 1 kg, and in Great Britain, it is 750 grams. When it comes to packages, in 18 out of 32 countries packages weighing up to 20 kg fall under UPS scope, while in 13 countries packages weighing up to 10 kg are covered.[2]

When it comes to countries that introduced certain changes concerning the traditionally defined UPS, several examples can be identified. Austria has included newspapers and magazines in the scope of UPS, in the Czech Republic there are initiatives to no longer classify packages from national postal traffic in the scope of UPS, while for letter items up to 1 kg, a reduction in dimensions to 35.3 cm x 25 cm x 2 cm has been adopted. France abolished the priority letter with a deadline of D+1 and adopted the postponement of the deadline from D+2 to D+3, as well as the extension of the UPS to an electronic online letter. Denmark is removing most letters and packages from the UPS, while Poland is introducing public electronic delivery services. Table 3 shows the European countries that introduced changes in the scope of UPU.

[2] Source: *Main developments in the postal sector (2017-2021) Study for the European Commission* (on page 88 in Table 19, an overview of the scope of universal postal service by European countries is given).

Table 3. *The changes in the scope of UPS*

	The changes in the scope of UPS	
	Scope expansion	**Scope reduction**
Austria	Newspapers and magazines in UPS	
Denmark		Proposes the cancellation of most letters and packages from the USO range, from 1.1.2024. years
Czech Republic	Electronic mailbox - allows electronic documents to be sent to state authorities free of charge. Also, state bodies and agencies send documents to electronic mailboxes. This means that users use their mailbox to communicate with the public administration system anywhere and anytime	Letter items up to 1 kg - letter size limit to 35.3x25x2 cm Packages in national traffic up to 10 kg
France	Electronic online letter - electronic collection and physical delivery	From 1.1.2025 non-priority letters and parcels in outgoing international traffic will not be part of the UPS
Italy		Direct mail is excluded from the scope of the UPS
Portugal		Direct mail is excluded from the scope of the UPS Packages in national traffic up to 10 kg
Poland	Electronic delivery of public services, mandatory provided for the state administration, as well as for companies and entities engaged in a profession of public importance	
United Kingdom		Bulk items excluded from the scope of the UPS
Spain	The public postal operator has the exclusive right to provide election services	

In addition to the above, it should be noted that some European countries have introduced public service obligations in addition to universal service, namely[3]:

- services of general economic interest - which can be entrusted to an authorized postal operator, whereby the state prescribes and defines the conditions under which they must be performed. The provision of these services can be uneconomic for the provider and also requires public compensation, that is, assistance to the postal sector through the financing of services of general economic interest (Belgium);

[3] Source: *Definition of the USO: scope,* 2023, Cullen International
Modernisation of the USO, 2023, Cullen International
Denmark proposes to remove USO for most letters and parcels, 2023, Cullen International
Poland introduces mandatory public e-delivery services, 2023, Cullen International
Public Service Obligations in addition to the Universal Service: related to the network, 2023, Cullen International
Public Service Obligations in addition to the Universal Service: overview, 2023, Cullen International
Public Service Obligations: related to financial and other services, 2023, Cullen International

- public service obligations - which can be entrusted to an authorized postal operator, whereby the above requires specific contracts between the state and the service provider. These contracts provide the rules and conditions for performing these activities of public interest, as well as specify the state's financial intervention. Additional obligations of public services may be within:
    - postal services – usually related to the distribution of newspapers and periodicals (Belgium, Norway), then communication from and to the government (Belgium, Portugal, Spain), including electoral material (Spain), the introduction of electronic mailboxes (Portugal, France, Poland, Czech Republic and Norway) and e-wallets, services for the elderly (where everyone in the household is over 80) and for people with disabilities in rural areas (Sweden);
    - postal networks – the role of the network in terms of social and territorial connectivity is recognized through: minimum number of access points; requirements related to territorial coverage; requirements related to population coverage; coverage requirements related to the distance from the nearest post office and post office closure rules, as shown in Table 4.

Table 4. *Examples of six countries where special UPS requirements apply*

	Access points	**Territorial coverage**	**Population coverage**	**Distance from the nearest post office**	**Rules for closing post offices**
Belgium	YES	YES	YES	YES	YES
Denmark	NO	NO	NO	NO	YES
France	YES	YES	YES	YES	YES
Italy	NO	NO	NO	NO	YES
Portugal	NO	YES	NO	NO	NO
United Kingdom	YES	YES	YES	YES	NO

In addition to the above, it should be noted that some European countries have introduced public service obligations in addition to universal service, namely:

- financial and other services; payment of pensions and compensation to pensioners and persons with disabilities (Belgium, Denmark, Poland).

In the Republic of Serbia, the set of services that make up the universal postal service is defined by the Law on Postal Services. According to Article 18 of this Law, the universal postal service includes reception, processing, transportation and delivery:

1. Letter items weighing up to two kilograms;
2. Court letters, regardless of limits;
3. Clearance of packages weighing up to ten kilograms in national and international postal traffic;
4. Delivery of packages weighing up to 20 kilograms in international postal traffic;
5. Secograms weighing up to seven kilograms without charging postage in national postal traffic.

Also, the universal postal service, in national and international postal traffic, includes the clearance, transfer and payment of postal orders.

2.2 Considered alternatives related to the scope of the universal postal service

Considering the EU practice regarding the redefined scope of UPU, the following alternatives are considered for this study:

Alternative A.1.1 – Retention of the existing situation related to the scope of the universal postal service without any changes. The scope of the universal postal service includes a set of postal services defined by the current Law on Postal Services.

Alternative A.1.2 – Changes within the existing scope of the universal postal service, in the sense of considering the following changes: defining the limit for package dimensions (maximum 60x50x50cm), canceling priority mail items, as well as direct mail from the universal service, etc.

Alternative A.1.3 – Scope changes within the universal postal service, which refer to the addition of new services to the set of services that constitute the universal postal service, by introducing a hybrid letter and service for the "vulnerable" category of users (services for the elderly – where everyone in the household has over 80 years and for people with disabilities in rural areas).

Alternative A.1.4 – Introduction of public services that would be an addition to the universal service, such as the introduction of certain postal and financial services (payment of pensions, social assistance and other benefits), introduction of e-services as support for state projects on the development of e-services of the state administration - submission of requests for obtaining and downloading certain documents, certificates, certificates issued by individual state authorities, applications for school/kindergarten enrollment, scheduling appointments in state institutions, etc.

2.3 Considered criteria related to the scope of the universal postal service

Within the multi-criteria decision-making process between alternatives related to the scope of the universal postal service, the following factors (criteria) are observed.

ECONOMIC FACTORS
K1.1. Expected volumes of services (max)
K1.2. Expected income (max)
K1.3. Expected investments (min)
K1.4. Expected operating cost (min)
K1.5. Estimated financial usefulness of the concept - the ratio of expected income and invested resources (max)

ENVIRONMENTAL FACTORS
K1.6. Impact on air pollution, CO2 emissions (min)
K1.7. Impact on traffic congestion in the city (min)
K1.8. Impact on noise level (min)

SOCIAL FACTORS
K1.9. Fulfillment of user needs (max)
K1.10. Impact on the category of "vulnerable" users (min)
K1.11. Expected quality level (max)
K1.12. Employee satisfaction (max)

TECHNICAL FACTORS

K1.13. Complexity of regulation (min)

K1.14. The complexity of the organization of the technical-technological process (min)

K1.15. Security and reliability of shipment transmission (max)

K1.16. Employee safety (max)

Each interviewed expert declares the level of fulfillment of the criteria for each of the alternatives based on Table 1 by writing their answers in the survey form. The survey form that needs to be filled out by an expert in the field of postal traffic when analyzing the sustainability of the universal postal service in the segment of scope is shown in Annex I.A.

In addition, the experts declare the importance of each type of criteria (economic, environmental, social and technical), as well as the importance of each individual criterion for making a decision on the choice of the appropriate universal postal service concept in the segment of the scope of the universal postal service. These forms are given in Appendix I.B and I.C.

2.4 Necessary data based on which the model testing related to the scope of the universal postal service will be carried out

For experts in the field of postal traffic to express their opinions as objectively as possible, it is necessary to collect certain data. In some cases, sufficient information can only be obtained from collected data, while in certain circumstances the application of forecasting methods is expected to obtain information, for example, about the expected volume of shipments, income, investments, etc.

2.3.1 ECONOMIC FACTORS

Data related to economic factors should provide the information needed to assess the impact of changes within the scope of the universal postal service. Such as:

- Would the introduction of new services in the scope of UPS affect the increase in income?
- Would the exclusion of certain services from the scope of UPS affect cost reduction?

K1.1 Expected volumes of services

To estimate the expected volume of services, it is necessary, first of all, to collect data on the number of postal services in the previous period, ie. the following data will be analyzed:

1. Number of non-priority unregistered letter items in national postal traffic in the last 5 years – distribution by mass rate,
2. Number of priority unregistered letter items in national postal traffic since the introduction of this service – distribution by mass rates,
3. Number of registered letter items – registered letters in national postal traffic in the last 5 years – distribution by mass rates,
4. Number of registered letter items – insured letters in national postal traffic in the last 5 years – distribution by mass rates,
5. Number of packages in national postal traffic in the last 5 years – distribution by mass rates
6. Assessment of the volumes of new services that would be introduced by expanding the scope of the universal postal service or by introducing mandatory public services.

After the initial assessment of the expected volumes of services, for each alternative, a correction of the assessment can be made based on the data that would be collected by surveying users of postal services, which is explained below, in the description of criteria *K1.9. Meeting the needs of users*.

K1.2. Expected income

To estimate the expected income from postal services according to each of the alternatives, it is necessary to collect data on the realized income from postal services in the previous period, i.e. the following data will be analyzed:

1. Income from non-priority unregistered letter items in national postal traffic in the last 5 years – distribution by mass rates,
2. Income from priority unregistered letter items in national postal traffic since the introduction of this service – distribution according to mass rates,
3. Income from registered letter items – registered letters in national postal traffic in the last 5 years - distribution by mass rates,

4. Income from registered letter items – insured letters in national postal traffic in the last 5 years – distribution by mass rates,
5. Income from parcels in national postal traffic in the last 5 years – distribution by mass rates,
6. Assessment of income from new services that would be introduced by expanding the scope of the universal postal service or by introducing mandatory public services.

K1.3. Expected investments

For alternatives that imply certain changes, there is an assumption that it is necessary to introduce additional investments in order to realize them. The working team for the preparation of this study would conduct consultations with the Public Postal Operator regarding investment assessments.

K1.4. Expected operating cost

Similar to criterion *K1.3*, the data on the forecasted number of shipments per each alternative would be the input parameters for evaluating the operating costs of the implementation of postal services. Labor costs would be observed as the main parameters for observing operational costs, i.e. number of employees, as well as transportation costs, i.e. expected distance traveled and expected number of necessary means of transport, etc.

K1.5. Estimated financial usefulness of the concept - the ratio of expected income and invested resources

Within economic factors, this criterion could be considered the most important. Based on the information collected during the analysis of the previous criteria, it is necessary to evaluate the usefulness of each of the analyzed alternatives, ie. the ratio of expected income and invested resources.

2.3.2 ENVIRONMENTAL FACTORS

Data related to environmental factors should provide the information needed to assess the impact of changes within the scope of the universal postal service on the environment, i.e.

whether changes in the scope of UPU affect, in a positive or negative sense, air pollution, congestion in cities, etc.

K1.6. Impact on air pollution, CO_2 emission

Air pollution can be observed, first of all, through the process of transporting shipments. This parameter will be related to the forecast number of shipments under each alternative. Also, the specific delivery concept in each alternative has an impact on the path traveled in the last phase of shipment transfer.

K1.7. Impact on traffic congestion in the city

Each of the analyzed alternatives contributes, to an appropriate extent, to traffic jams in the city. Data on the expected number of shipments, as well as engaged vehicles in each alternative, will be an important parameter for evaluation according to this criterion.

K1.8. Impact on the noise level

The contribution to noise, in addition to the frequency of use of means of transport, can also be seen through the possibilities of applying the type of means of transport for each alternative. It is necessary to collect data on the existing fleet of the public postal operator and examine the possibilities for improvement in terms of sustainability.

2.3.3 SOCIAL FACTORS

Data related to social factors should provide the information needed to assess the impact of changes within the scope of the universal postal service on user expectations, as well as employee satisfaction. For example, how would the inclusion of new services in the scope of UPS affect the increase in the level of user satisfaction, etc?

K1.9. Meeting the needs of users

It includes an analysis of the needs and expectations of all users of postal services, legal entities and state institutions, including local self-government bodies, as well as natural persons. Since

it is to be expected that users will, as a rule, ask for the largest possible range of services, when surveying users, it is necessary to ask questions related to the willingness of users that some of the services are not part of the universal postal service or whether some services need to be included in the UPS.

K1.10. Impact on the category of "vulnerable" users

Assessment of potential negative effects by excluding certain services used by "vulnerable" categories of users from the scope of the universal postal service (mail for the blind, people with disabilities, elderly users of services in rural areas, etc).[4]

K1.11. Expected level of quality

The assumption is that different levels of the UPS scope imply different quality of user service. These differences need to be explored.

K1.12. Employee satisfaction

Each of the mentioned alternatives has its own consequences in the technical-technological and economic sense. It is necessary to look at and possibly examine the employees of the public postal operator whether different alternatives have different expectations in terms of working conditions, as well as whether different alternatives would have consequences on the expected personal income of employees, etc.

2.3.4 TECHNICAL FACTORS

Data related to technical factors should provide information needed to assess the impact of changes within the scope of the universal postal service on regulation, organization of technical-technological processes, etc.

[4] For example, the Norwegian Ministry of Transport and Communications has singled out specific users and critical needs that would not be sufficiently met by reducing the scope of the universal postal service. (*Main developments in the postal sector (2017-2021) Study for the European Commission*)

K1.13. The complexity of regulation

Since the scope of the universal postal service is defined by the Law on Postal Services, it is necessary to consider the level of complexity of changes in positive legal regulations in the case of changes within the current scope or when the scope is changed. Some of the alternatives imply appropriate changes, and experts should assess the level of complexity in the stated circumstances.

K1.14. The complexity of the organization of technical and technological processes

The alternative, which implies maintaining the existing situation, certainly represents the simplest organization, i.e. the business process that still exists now continues. It is necessary to investigate to what extent new alternatives contribute to the complexity of the organization of the technical-technological process.

K1.15. Safety and reliability of shipment transmission

Alternatives related to the scope of the universal postal service are not expected to contribute to a greater or lesser extent to change the current situation related to the security and reliability of mail. However, if new services were to be included in the universal postal service, the impact of those „new“ services on the security and reliability of transmission should be assessed.

K1.16. Employee safety

When it comes to employee safety, the situation is similar to that of criterion *K1.15*.

III

METHODOLOGY FOR ASSESSING THE SUSTAINABILITY OF THE UNIVERSAL POSTAL SERVICE IN THE SEGMENT OF THE QUALITY OF SERVICE IN TERMS OF TRANSIT TIMES

3.1 Introductory notes on the quality of service in terms of transit times in the European Union and Serbia

Following the EU Directive on postal services, it is prescribed that member countries should ensure that the quality standards of the universal postal service are established and published, to guarantee a good quality postal service. Also, member states will establish quality standards for items in national postal traffic and will ensure that they comply with the standards established for services between EU countries.

Member countries are obliged to carry out independent continuous measurement of the quality of service in terms of transit times, in accordance with the standard EN13850 (priority consignments) and EN14508 (non-priority consignments), and they are also obliged to publish their results.

In this regard, in Table 5 the goals for D +1 for priority shipments of EU countries are shown, as well as the achieved results, whereby it can be seen that 8 countries did not achieve the defined goal, while 6 countries do not have D +1 at all.[5]

Table 5. *Achieved service quality of priority letters in EU countries, Norway and the United Kingdom*

Country	D+1	Accomplished	Comment
Austria	95%	95.77%	
Belgium	95%	94%	
Czech Republic	92%	93.03%	
Denmark	-	-	No D+1 as a target
Finland	-	-	No D+1 as a target

[5] *Definition of the USO: quality transit times* , 2023, Cullen International

France	<85%	81.9%	
Germany	80%	80.4%	There is no monitoring obligation
Ireland	94%	84%	
Italy	90%	79.9%	
Luxembourg	-	-	No D+1 as a target
Netherlands	95%	93.9%	No intervention by ACM
Norway	-	-	No D+1 as a target
Poland	82%	48.1%	
Portugal	94.5%	89.8%	
Spain	-	-	No D+1 as a target
Sweden	-	-	No D+1 as a target
United Kingdom	93%	73.7%	

On the other hand, based on *the ERGP* report on the future needs of the UPS, the trend of reducing the service quality in EU countries, in the period from 2009 to 2021, is noticed (Figure 2).

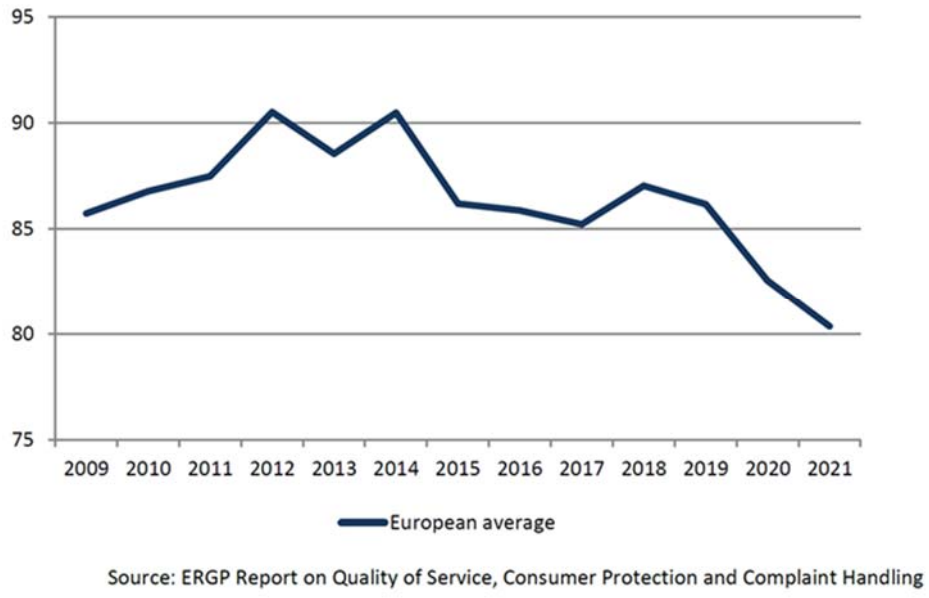

Figure 2. *The trend of decreasing quality for D+1 items*

Bearing in mind the above, some EU countries relaxed their transfer deadlines for D+1 and moved them to D+2, D+3, D+4 to D+5 (Table 6).[6]

[6] *Main developments in the postal sector (2017-2021)*, 2022, Copenhagen Economics

Table 6. *EU countries and Norway that have relaxed delivery deadlines*

Country	Letter items of the highest level of quality required within the UPS
Austria	D+4
Denmark	D+1 (daily press), D+5 (letters)
Finland	D+4
Luxembourg	D+3
Norway	D+3
Spain	D+3
Sweden	D+2
Romania	D+2

For example, Finland has defined the following transfer deadlines:
- for priority letters: D+1: 80%,
- for non-priority letters D+2: 95% and D+3: 98%, which are relaxed to: D+4: 50%; D+5: 97%.

Sweden has relaxed the quality of transmission of shipments from D+1: 85% to D+2: 95%.

Portugal introduced the standard for non-priority shipments: D+3: 94.5% and D+5: 99.7%.

Regarding the Republic of Serbia, it is necessary to point out the results of the study Examination of the degree of satisfaction of the needs of users of postal services from the year 2021, where, based on the analysis of the surveyed users, it was concluded that they would be satisfied with the service, if the quality of delivery was as follows:

D +1: 9.63%,
D+2: 45.84%,
D+3: 95.01%,
D +4: 99%,
D+5: 100%.

It is also important to observe the frequency of delivery in terms of the day of the week when the delivery is made. Table 7 shows the frequency of delivery in EU countries, Norway and the United Kingdom.

Table 7. *Frequency of delivery in EU countries, Norway and the United Kingdom*

Country	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Austria	YES	YES	YES	YES	YES	NOT
Belgium	YES	YES	YES	YES	YES	NOT
Czech Republic	YES	YES	YES	YES	YES	NOT
Denmark	YES	YES	YES	YES	YES	NOT
Finland	YES	YES	YES	YES	YES	NOT
France	YES	YES	YES	YES	YES	YES
Germany	YES	YES	YES	YES	YES	YES
Ireland	YES	YES	YES	YES	YES	NOT
Italy	YES	YES	YES	YES	YES	NOT
Luxembourg	YES	YES	YES	YES	YES	NOT
Netherlands	NOT	YES	YES	YES	YES	YES
Norway	YES	YES	YES	YES	YES	NOT
Poland	YES	YES	YES	YES	YES	NOT
Portugal	YES	YES	YES	YES	YES	NOT
Spain	YES	YES	YES	YES	YES	NOT
Sweden	YES	YES	YES	YES	NOT	NOT
United Kingdom	YES	YES	YES	YES	YES	YES

Based on the presented data, it is evident that the largest number of countries have five-day delivery. However, the biggest change was introduced by Norway, which alternates the delivery of non-priority letters: Monday, Wednesday, and Friday of one week, and then Tuesday, and Thursday of the second week. From 2023, further changes are being introduced, where there are only two peak days per week when deliveries are made to 50% of delivery routes and two more days when deliveries are made to the remaining 50% of delivery routes. Only priority letters are delivered on Saturdays (Figure 3).

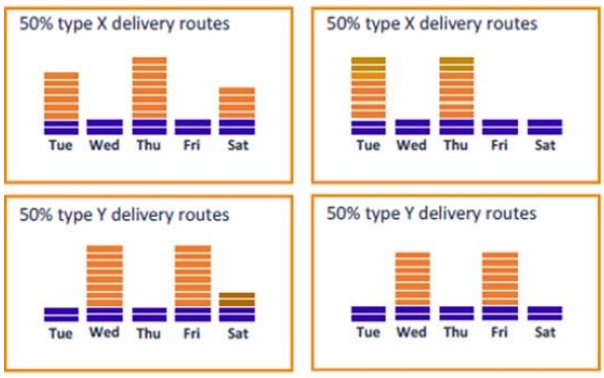

Figure 3. *Norwegian delivery model*

Belgium also introduced changes in the frequency of delivery of non-priority letters, from 5 days a week to two alternate days. In Finland, since October 1, 2023, the frequency of delivery was reduced from 5 days a week to 3 days, while in Italy, delivery is provided every second day if there are special geographical and infrastructural conditions.

3.2 Considered alternatives in the segment of the service quality

Taking into account the EU practice regarding service quality, the following alternatives are considered for this study.

Alternative A.2.1 - This alternative implies postal services with reduced quality in terms of transit times compared to the existing prescribed quality. Therefore, delivery is not expected every working day, which gives the public postal operator the possibility of a more economic organization of delivery, e.g. delivery for one group of users (one part of the territory) is carried out on one day, and delivery for another group of users (another part of the territory) is carried out on another day, whereby the following week there would be a change in terms of rotating delivery days. The expected volume of shipments to be delivered by days could be presented as in Figure 4.

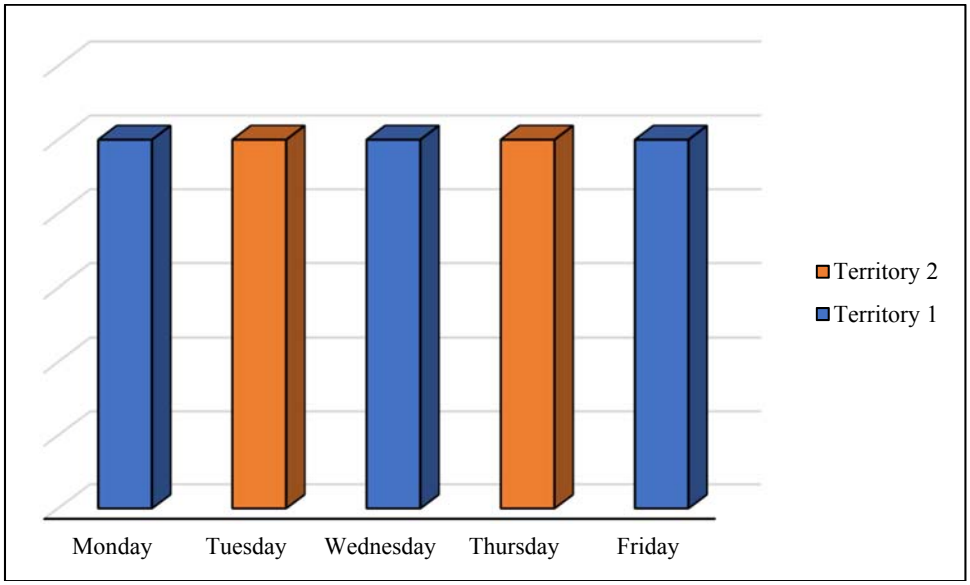

Figure 4. *The volume of shipments on delivery by days in the case of alternative A.2.1*

In this case, it would be necessary to define new transfer quality standards that would be milder than the existing ones and would refer to the percentage of items that are transferred within a certain period, and would not refer to an individual item. A lower quality is expected compared

to the prescribed one when it comes to the speed of transmission. Since in the currently valid concept, delivery is expected every working day in larger settlements (over 1,000 households), and within this alternative every other, the quality standards for this type of transmission could be, for example, as shown in Table 8, without priority letter service.

Table 8. *Potential quality standards for the transmission of letter and parcel items under alternative A.2.1*

	The prescribed minimum
D + 2	50%
D + 3	70 %
D + 5	99 %

The prescribed minimum is presented without an "extended period" for rural areas. As for shipments in international postal traffic, they would be transported according to standards that are in accordance with international norms and obligations contracted by the public postal operator.

Alternative A.2.2 - The second alternative refers to the existing situation, without any changes. Postal services are provided based on the quality of transmission, which is tentatively expressed as shown in Tables 9 and 10, and based on the results of independent measurement in the organization of the Regulatory Authority for Electronic Communications and Postal Services for the year 2022.

Table 9. *Deadlines for the transfer of non-priority unregistered letter items in the internal postal traffic in 2022.*

	Achieved result	**Achieved result (extended deadline)**	**The prescribed minimum**
D + 2	46.97%	54.01%	80%
D + 3	68.38%	73.78%	85%
D + 5	89.54%	91.19%	90%

Source **:**
https://www.ratel.rs/uploads/documents/empire_plugin/blob/645a0be425566_IzveÅ¡taj%20neprioritetne.pdf

Table 10. *Deadlines for the transfer of priority unregistered letter items in the internal postal traffic in 2022*

	Achieved result	**Achieved result (extended deadline)**	**The prescribed minimum**
D + 1	31.88%	38.17%	80%
D + 2	57.91%	64.83%	85%
D + 3	75.78%	80.20%	90%

Source **:**
https://www.ratel.rs/uploads/documents/empire_plugin/blob/645a0c0a1313e_IzveÅ¡taj%20prioritetne.pdf

Alternative A.2.3 - In the Rulebook on quality parameters for the performance of postal services ("Official Gazette of RS" No. 114, dated September 4, 2020), quality parameters are defined for priority unregistered letter items, non-priority unregistered letter items, packages and money orders. Bearing in mind that the prescribed quality of transmission for priority and non-priority letter items is unattainable for the Post of Serbia, the data shown in Table 9 and Table 10, it is suggested to optimize the delivery time of letter items that have a five-day delivery as shown in Table 11, without service priority letter.

Table 11. *Quality parameters in terms of the speed of transmission of shipments in the national postal traffic*

	Unregistered mail items	**Packets**	**Postal orders**
D + 1	/	/	90%
D + 2	60%	80%	/
D + 3	75%	90%	/
D + 5	99%	95%	/

The prescribed minimum is presented without an "extended period" for rural areas. As for shipments in international postal traffic, they would be transported according to standards that are in accordance with international norms and obligations contracted by the public postal operator.

3.3 Considered criteria in the segment of service quality

Within the framework of multi-criteria decision-making, the following factors (criteria) are identified, on which the experts will express their opinion according to the alternatives:

ECONOMIC FACTORS

K2.1. Expected volumes of services (max)

K2.2. Expected income (max)

K2.3. Expected investments (min)

K2.4. Expected operating cost (min)

K2.5. Estimated financial usefulness of the concept – the ratio of expected income and invested resources (max)

ENVIRONMENTAL FACTORS

K2.6. Impact on air pollution, CO_2 emission (min)

K2.7. Impact on traffic congestion in the city (min)
K2.8. Impact on noise level (min)

SOCIAL FACTORS
K2.9 . Fulfillment of user needs (max)
K2.10. Impact on the "vulnerable " category of users (min)
K2.11. Expected quality level (max)
K2.12. Employee satisfaction (max)

TECHNICAL FACTORS
K2.13. The complexity of the organization of the technical-technological process (min)
K2.14. Complexity of regulation (min)
K2.15. Security and reliability of shipment transmission (max)
K2.16. Employee safety (max)

Each interviewed expert declares the level of fulfillment of the criteria for each of the alternatives (postal service concept) based on Table 1 by writing the answers in the survey form. The survey form that needs to be filled out by an expert in the field of postal traffic when analyzing the sustainability of the universal postal service in the segment of the quality of shipment transmission is shown in Annex II.A.

In addition, the expert declares the importance of each type of criteria (economic, environmental, social and technical), as well as the importance of each individual criterion for deciding on the choice of the appropriate concept of universal postal service in the segment of the speed of transmission of shipments. These forms are given in Annexes II.B and II.C.

3.4 Necessary data based on which the model will be tested in the segment of service quality

For experts in the field of postal traffic to express their opinions as objectively as possible, it is necessary to collect certain data. In some cases, sufficient information can only be obtained from gathered data, while in certain circumstances the application of forecasting methods is expected to obtain information, for example, about the expected volume of items, income, investments, etc.

3.3.1 ECONOMIC FACTORS

K2.1. Expected volumes of services

To estimate the expected volumes of services, it is necessary, first of all, to collect data on the number of postal services in the previous period, ie. the following data will be analyzed:

1. The number of non-priority unregistered letter items in national postal traffic in the last 5 years,
2. The number of priority unregistered letter items in national postal traffic since the introduction of this service,
3. The number of registered letter items – registered letters in national postal traffic in the last 5 years,
4. The number of registered letter items – insured letters in national postal traffic in the last 5 years,
5. The number of packages in national postal traffic in the last 5 years,
6. Number of Post Express items in the last 5 years,
7. The total number of shipments on the market of the Republic of Serbia in the last 5 years, as well as the distribution by the largest market participants.

After the initial assessment of the expected volume of services, for each alternative, a correction of the assessment can be made based on the data that would be collected by surveying users of postal services, which is explained below, in the description of criteria *K2.9. Meeting the needs of users*.

K2.2. Expected income

To estimate the expected income from postal services according to each of the alternatives, it is necessary to collect data on the realized income from postal services in the previous period, i.e. the following data will be analyzed:

1. Income from non-priority unregistered letter items in national postal traffic in the last 5 years,
2. Income from priority unregistered letter items in national postal traffic since the introduction of this service,

3. Income from registered letter items – registered letters in national postal traffic in the last 5 years,
4. Income from registered letter items – insured letters in national postal traffic in the last 5 years,
5. Income from parcels in national postal traffic in the last 5 years,
6. Income from Post Express items in the last 5 years,
7. Total revenue from shipments on the market of the Republic of Serbia in the last 5 years, as well as distribution by the largest market participants.

As with the previous criterion, the forecasted values of income by alternatives will be related to the survey of users of postal services.

K2.3. Expected investments

For the first two alternatives, no additional investments are expected, apart from regular ones within the current business, as has been the case so far. As the third and fourth alternatives imply an increased quality of service compared to the existing situation, an assessment by the public postal operator is expected of the level of investment that would be required for the realization of these alternatives. The working team for the preparation of this study would carry out forecasting of the volume of shipments expected during the implementation of the 3rd alternative, based on which the investment assessment would be carried out.

K2.4. Expected operating cost

Similar to criterion K2.3, the data on the forecasted number of shipments per each alternative would be the input parameters for evaluating the operational costs of implementing postal services. Labor costs would be observed as the main parameters for observing operating costs, i.e. number of employees, as well as transportation costs, i.e. the expected distance traveled, the expected number of necessary means of transport and the cost of storing the shipments, considering the introduction of a longer deadline for delivery to the appropriate alternative.

K2.5. Estimated financial usefulness of the concept - the ratio of expected income and invested resources

Within Economic factors, this criterion could be considered the most important. Based on the information collected during the analysis of the previous criteria, it is necessary to evaluate the usefulness of each of the analyzed alternatives, ie. the ratio of expected income and invested resources.

3.3.2 ENVIRONMENTAL FACTORS

K2.6. Impact on air pollution, CO_2 emission

Air pollution can be observed, first of all, through the process of transporting shipments. This parameter will be related to the forecast number of shipments under each alternative. Also, the specific delivery concept in each alternative has an impact on the path traveled in the last phase of shipment transfer.

K2.7. Impact on traffic congestion in the city

Each of the analyzed alternatives contributes, to an appropriate extent, to traffic jams in the city. Data on the expected number of shipments, as well as engaged vehicles in each alternative, will be an important parameter for evaluation according to this criterion.

K2.8. Impact on the noise level

The contribution to noise, in addition to the frequency of use of means of transport, can also be seen through the possibilities of applying the type of means of transport for each alternative. It is necessary to collect data on the existing fleet of the public postal operator and examine the possibilities for improvement in terms of sustainability.

3.3.3 SOCIAL FACTORS

K2.9. Meeting the needs of users

The needs and expectations of users can be viewed through two segments: the expectation of legal entities as users of postal services, natural persons and state institutions, including local

self-government bodies. Since it is to be expected that the users will, as a rule, look for the highest quality of service, when surveying the users, it is necessary to cross-check questions related to the willingness of the users, for example, to pay a certain amount of money for the specified quality.

K2.10. Impact on the category of "vulnerable" users

Assessment of potential negative effects as a function of the speed of shipment transmission on certain "vulnerable" categories of users (persons with disabilities, elderly users of services in rural areas, etc.).

K2.11. Expected level of quality

Each of the alternatives offers a certain quality of postal service. Since these are services of general social interest, it is expected that the higher quality of the postal service contributes to a better economic and social potential of the entire society and the state. According to this criterion, experts should consider which level of postal service quality best contributes to society.

K2.12. Employee satisfaction

Each of the mentioned alternatives has its own consequences in the technical-technological and economic sense. It is necessary to look at and possibly examine the employees of the public postal operator, whether different alternatives have different expectations in terms of working conditions, as well as whether different alternatives would have consequences on the expected personal income of employees.

3.3.4 TECHNICAL FACTORS

K2.13. The complexity of the organization of the technical-technological process

The alternative, which implies maintaining the existing situation, implies the current organization of technical-technological processes, i.e. the business process that still exists now

continues. It is necessary to investigate to what extent new alternatives contribute to the complexity of the organization of the technical-technological process.

K2.14. The complexity of the regulation

Since the current situation in terms of delivery deadlines within the universal postal service is such that the current quality standards are not met, appropriate intervention in the regulatory segment is needed, even to maintain the current state of service provision. Each of the alternatives implies appropriate changes, and experts should assess the level of complexity in the stated circumstances.

K2.15. Safety and reliability of shipment transmission

Alternatives related to different shipment quality are not expected to contribute more or less to shipment security. However, transmission reliability can be considered in order to achieve the best possible results.

K2.16. Employee safety

When it comes to the safety of employees, the situation is similar to criterion K2.15. A better organization of the transfer of shipments can also affect the greater safety of employees.

IV

METHODOLOGY FOR EVALUATING THE SUSTAINABILITY OF THE UNIVERSAL POSTAL SERVICE IN THE SEGMENT AVAILABILITY OF POSTAL NETWORK UNITS

4.1 Availability of postal networks in Europe from the aspect of universal service

Article 2.3 of the Postal Services Directive defines access points as "physical facilities, including letter boxes provided for the public either on the public highway or at the premises of the universal service provider, where postal items may be deposited with the public postal network by customers". The Directive stipulates that Member States must also ensure that the density of access points takes into account the needs of users. The precise definition of the required network of access points is a matter for individual Member States. The network can be defined in terms of administrative area (e.g. minimum number of post offices per municipality), distance (e.g. maximum distance that users must travel to reach the nearest post office), maximum time that users must travel on foot to reach the nearest one. mail.

Article 3, paragraph 2 of the Postal Services Directive requires that the universal postal service be provided ubiquitously: "Member States shall take steps to ensure that the density of the points of contact and of the access points takes account of the needs of users".

European legislation defines that each member state is obliged to ensure that the density of access points meets the needs of users and to ensure the availability of universal postal service as a service of general interest. In practice, postal operators organize access points as basic forms of units for providing services to users or as special organizational parts of these units. The importance of the existence of a universal postal service was especially confirmed in the period of crisis (Covid-19 pandemic). Postal services have enabled citizens to become socially involved and meet their basic needs, which indicates that postal services are still necessary for all citizens, especially in remote areas and despite new technologies.

The requirements to provide an adequate number of postal access points and the standards for opening them are very different in each country. In most countries, a combination of criteria is used, which depend on geographic and demographic specificities. For this reason, these requirements are grouped into the most common criteria to obtain an overview at the European level:

- number of post offices by locality/municipality (EL, FI, MT, NO, PT, RO)
- one post office per population, which may depend on the size of the area and whether there are differences between rural and urban areas (BG, LV, PT, RS, TR)
- maximum distance to travel to the nearest post office (LT, IT, PT)
- minimum number of post offices that provide universal postal service or a complete range of postal services (NL, PT)
- the density of mail and access points corresponds to the needs of users (CI, LU)
- combination of criteria by population and maximum distance, especially in rural areas (CZ, DE, HR, PL, RS, SI, SK)
- percentage of the population at a certain distance from the post office (AT, BE, FR, HU NL, PT, SI).

As examples of good practice at the level of the European Union, concerning the established criteria for the availability of the postal network, primarily the unit of the postal network for providing services to users (post office), the following can be highlighted [7]:

- in terms of administrative availability:
  - at least one post office in each municipal place (urban and rural) (Belgium, Finland, Germany, Italy, Norway, Poland)
  - every municipal place with more than 10,000 inhabitants should have at least one post office for every 20,000 inhabitants (France)
  - closing post offices is prohibited in municipal areas with only one post office (Italy)
  - post offices must be open at least 3 days and 18 hours a week (Italy)
  - one post office per population in the range of 2,500-6,000 (Spain, Portugal, Poland)
- in terms of distance to the nearest post office:
  - in municipal towns and capitals, more than 90% of the population must have a post office at a distance of up to 2 km (Germany)
  - 90% of the population must have a post office within 5 km (Netherlands)

[7] Source: *Cullen International, Definition of Universal Service Obligation: access points*

- 90% of the population must have a post office at a distance of up to 5 km and less than a 20-minute drive from the nearest point of contact (France)
- 95% of the population must have a post office within 5 km and 98% of the population must have a post office within 10 km (Austria)
- 75% of the population must have a post office at a distance of up to 3 km (Italy), 92.5% at a distance of up to 5 km (Italy), 97.5% at a distance of up to 6 km (Italy, Portugal)
- in urban areas one post office at a minimum distance of up to 4 km for 95% of the population, in rural areas at least 11 km for 95% of the population (Portugal)
- Great Britain is concerned, the situation is as follows:
    - at the national level, 90% of the population should have a post office at a distance of up to 1.6 km (one mile), that is, 99% of the population should have a post office at a distance of 4.8 km (three miles);
    - in an urban area, 95% of the population should have a post office within 1.6 km (one mile);
    - in rural areas: 95% of the population should have a post office within 4.8 km (three miles);
    - in each zip code district: 95% of the population should have a post office within 9.7 km (six miles).

A certain number of postal access points throughout the territory is also an additional criterion in several countries (AT, BE, CZ, DE, FR, HR, RS). In Italy, there is a ban on closing post offices located in rural and mountainous areas.

Packet machines are a relatively new solution presented on the market. However, it should be noted that the number of parcel machines in Europe, owned by the universal postal service provider, has a growing trend from 2017-2021. increased by 71%, based on data published in Copenhagen Economics (2022).

4.2 Overview of the state of the postal network in the Republic of Serbia

The planning and design of the postal network of the Public Postal Operator JP "Pošta Srbije" is carried out following the "General Plan of the Postal Network" and the Law on Postal Services. The goal is the high-quality positioning of postal network units throughout the

territory of the Republic of Serbia, increasing accessibility to users, providing universal service and improving the quality level of postal services.

JP "Pošta Srbije" bases its core activity on a wide network of postal units, which covers the entire territory of Serbia, and whose structure is shown in the following Table 12:

Table 12. *Structure of the postal network of JP "Pošta Srbije"*[8]

Postal network		Status 18.10.2022.	Balance on 12/31/2023.
POST OFFICE - total		1,535	1,700
	automated	1,535	1,700
CONTRACT POSTS		199	300
	automated	199	300
COUNTERS		3,925	4,172
	automated	3,226	3,473
SEPARATE COUNTERS		133	170
	automated	133	170
CONTRACT COUNTERS		125	120
	automated	125	120

Post, as a provider of universal postal service, is obliged to organize and maintain the postal network following the Law and conditions defined by the Regulator in a special act. According to the General conditions for the performance of the universal postal service, article 47, the Post Office is obliged to ensure the reception and delivery of postal items from the domain of the universal postal service, during the day, every working day, and not less than 5 (five) days a week, except in cases of national and religious holidays, force majeure and threats to the health and safety of employees, exceptions in terms of working hours, as well as exceptions in terms of delivery, defined in Article 10 of the General Conditions for the provision of the universal postal service.

Regarding the territorial availability of the universal postal service, the Post Office provides a sufficient number of post offices (or organizational parts of the post office) according to the following criteria (source: General conditions for the performance of the universal postal service, Article 47):

1) in populated areas with more than 1,300 households, if the distance from the (administrative border) of the settlement to the nearest post office is greater than 2 km,

[8] Source: *Business program of JP "Pošta Srbije", Belgrade for the year 2023*

the operation of one post office must be organized. If a group of settlements has more than 1,300 households and the distance from the (administrative) border of the observed group of settlements to the nearest post office is greater than 5 km, as a rule, the post office is organized in the populated place that is the center of gravity of the observed group of settlements;

2) in populated areas between 3,000 and 12,000 households, a post office is organized for every 3,500 households, provided that the distance from the planned location of the new post office to the nearest post office is greater than 2 km;
3) in populated areas between 12,000 and 36,000 households, a post office is organized for every 4,000 households, provided that the distance from the planned location of the new post office to the nearest unit of the postal network is greater than 1.5 km;
4) in populated areas between 36,000 and 100,000 households, a post office is organized for every 6,000 households, provided that the distance from the planned location of the new post office to the nearest post office is greater than 1.25 km;
5) in populated areas with over 100,000 households, a post office is organized for every 7,500 households, provided that the distance from the planned location of the new post office is greater than 1 km.

4.3 Considered alternatives in the segment of availability of postal network units

Alternatives that could be considered in the segment of availability of postal network units are:

Alternative A.3.1 - Retention of the existing state of the number of postal network units, territorial availability criteria, as well as the minimum working hours of the postal network unit (minimum 4 hours, counting the time of providing service at the counter and during delivery). The alternative refers to the existing situation, without any changes, shown in Table 12. In this alternative, an analysis of the quality of availability of post offices in terms of working hours will be done, showing how many days a week the post office works (7, 6, 5, 4, 3, 2, 1), work in multiple shifts (how many post offices work in one shift i.e. two shifts), working hours of the post office (how long does the post office work until 5 p.m.). Also, an analysis of territorial availability will be done, where it will be shown what percentage of the population is currently covered with a maximum distance of 2.5 km (30 min), 5 km (1 h) and 10 km (2 h).

Alternative A.3.2 - Reduction in the number of postal network units (from 10%-20%) and reducing the minimum defined working hours of the post office. This alternative would be defined based on a GIS analysis of population coverage for 2.5 km, 5 km and 10 km in a way that would simulate how much the number of post offices would decrease if a certain percentage of coverage was reduced compared to the current one, whereby took into account the examination of the satisfaction of the user's needs. Analyzes would be done at the level of municipalities. In this alternative, the reduction of working hours should be analyzed to introduce a minimum working time in the urban area, for example, 4 hours, with that, if it does not work on Saturdays, and the mail is delivered, ensure at least one day a week that it works in the afternoon until 5 pm. In rural areas, the post office is open for a minimum of 2 hours, if it is open at least 2 days a week, and if it is open 1 day - a minimum of 3 hours. The specified minimum working hours refer to the work of the post office with users at the counter.

Alternative A.3.3 - Increasing the number of post offices (5%) and increasing the minimum defined working hours of the post office. This alternative would be defined based on a GIS analysis of population coverage for 2.5 km, 5 km and 10 km in a way that would simulate how much the number of post offices should be increased in order to increase a certain percentage of population coverage compared to the current one, whereby would take into account the examination of the satisfaction of the user's needs. Analyzes would be done at the level of municipalities. In this alternative, longer working hours should be analyzed so that minimum working hours are introduced in the urban area, for example, 6 hours, and if it does not work on Saturdays, and the mail is delivered, ensure that at least one day a week it works in the afternoon until 5 pm. Also introduce minimum working hours from 8 am to 5 pm for the main post office in the seat of the municipality (which has more than 5,000 inhabitants in the city part), to work on Saturdays. In rural areas, the post office should work at least 2 or 3 days a week, with a minimum of 3 hours.

4.4 Considered criteria in the segment of availability of postal network units

Within the framework of multi-criteria decision-making, the following factors (criteria) are observed, on which the experts will express their opinion according to the proposed alternatives:

ECONOMIC FACTORS

K3.1. Expected volumes of services (max)

K3.2. Expected income (max)

K3.3. Expected investments (min)

K3.4. Expected operating cost (min)

K3.5. Estimated financial usefulness of the concept - the ratio of expected income and invested resources (max)

ENVIRONMENTAL FACTORS

K3.6. Impact on air pollution, CO_2 emission (min)

K3.7. Impact on traffic congestion in the city (min)

K3.8. Impact on noise level (min)

SOCIAL FACTORS

K3.9. Fulfillment of user needs (max)

K3.10. Expected quality level (max)

K3.11. Employee satisfaction (max)

K3.12. Impact on the category of "vulnerable" users (min)

TECHNICAL FACTORS

K3.13. Distance traveled by the user to the nearest post office (min)

K3.14. Number of inhabitants by post in urban and rural areas (min)

K3.15. Availability of post offices in terms of opening hours in urban and rural areas (max)

K3.16. Complexity of regulations (min)

K3.17. Employee safety (max).

Each surveyed expert declares the level of fulfillment of the criteria for each of the alternatives based on Table 1 by writing your answers in the survey form. A survey form that needs to be filled out by an expert in the field of postal traffic in the analysis of the sustainability of the universal postal service in the segment of the availability of postal network units is shown in Annex III.A.

In addition, the expert declares the importance of each type of criteria (economic, environmental, social and technical), as well as the importance of each individual criterion for

deciding on the appropriate concept of universal postal service in the segment of the availability of postal network units. These forms are given in Annex III.B and III.C.

4.5 Necessary data based on which the model will be tested in the segment of availability of postal network units

For experts in the field of postal traffic to express their opinions as objectively as possible, it is necessary to collect certain data. In some cases, sufficient information can only be obtained from collected data, while in certain circumstances the application of forecasting methods is expected to obtain information, for example, about the expected volume of shipments, income, investments, etc.

4.5.1 ECONOMIC FACTORS

Data related to economic factors should provide the information needed to assess the impact of changes in the availability of postal network units, such as:

- Will the change in the availability of postal network units in the UPS domain affect the increase in income?
- Will the change in the availability of postal network units in the UPS domain affect cost reduction?

K3.1. Expected volumes of services

To estimate the expected volumes of services, it is necessary, first of all, to collect data on the number of postal services in the previous period, ie. the following data will be analyzed:

1. The number of non-priority unregistered letter items in national postal traffic in the last 5 years – distribution by mass rate,
2. The number of priority unregistered letter items in national postal traffic since the introduction of this service – distribution by mass rates,
3. The number of registered letter items – registered letters in national postal traffic in the last 5 years – distribution by mass rate,
4. The number of registered letter items – insured letters in national postal traffic in the last 5 years – distribution by mass rate,

5. Number of parcels in national postal traffic in the last 5 years – distribution by mass rates.

After the initial assessment of the expected volume of services, for each alternative, a correction of the assessment can be made based on the data that would be collected by surveying users of postal services, which is explained below, in the description of criteria K3.11 Meeting the needs of users.

K3.2. Expected income

To estimate the expected income from postal services according to each of the alternatives, it is necessary to collect data on the realized income from postal services in the previous period, i.e. the following data will be analyzed:

1. Income from non-priority unregistered letter items in national postal traffic in the last 5 years – distribution by mass rates,
2. Income from priority unregistered letter items in national postal traffic since the introduction of this service – distribution by weight rates,
3. Income from registered letter items – registered letters in national postal traffic in the last 5 years – distribution by weight rates,
4. Income from registered letter items – insured letters in national postal traffic in the last 5 years – distribution by weight rates,
5. Income from parcels in national postal traffic in the last 5 years – distribution by mass rates.

K3.3. Expected investments

For the proposed first two alternatives, no additional investments are expected, apart from the regular ones within the current business, as has been the case so far. The working team for the preparation of this study would conduct consultations with the Public Postal Operator, RATEL and the competent Ministry in order to carry out an investment assessment for the potential implementation of the 3rd alternative.

K3.4. Expected operating cost

Labor costs would be observed as the main parameters for observing operating costs, i.e. number of employees, depreciation costs, electricity costs, utility costs, as well as transport costs, i.e. expected distance traveled and expected number of necessary means of transport, etc.

K3.5. Estimated financial usefulness of the concept - the ratio of expected income and invested resources

Within economic factors, this criterion could be considered the most important. Based on the information collected during the analysis of the previous criteria, it is necessary to evaluate the usefulness of each of the analyzed alternatives, ie. the ratio of expected income and invested resources.

4.5.2 ENVIRONMENTAL FACTORS

Data related to environmental factors should provide the information needed to assess the impact of changes in the availability of postal network units in the domain of the universal postal service on the environment, i.e. whether changes in the availability of postal network units affect, in a positive or negative sense, air pollution, crowds in cities, etc.

K3.6. Impact on air pollution, CO_2 *emission*

Air pollution can be observed, first of all, through the process of transporting shipments. This parameter will be related to the forecast number of shipments under each alternative. Also, the specific delivery concept in each alternative has an impact on the path traveled in the last phase of shipment transfer.

K3.7. Impact on traffic jams in the city

Each of the analyzed alternatives contributes, to an appropriate extent, to traffic jams in the city. Data on the expected number of shipments, as well as engaged vehicles in each alternative, will be an important parameter for evaluation according to this criterion.

K3.8. Impact on the noise level

The contribution to noise, in addition to the frequency of use of means of transport, can also be seen through the possibilities of applying the type of means of transport for each alternative. It is necessary to collect data on the existing fleet of the public postal operator and examine the possibilities for improvement in terms of sustainability.

4.5.3 SOCIAL FACTORS

Data related to social factors should provide the information needed to assess the impact of changes in the availability of postal network units in the domain of the universal postal service on user expectations, as well as employee satisfaction. For example, there is a question of whether shorter working hours of the post office or a smaller (or larger) number of post offices or other access points would affect the decrease/increase in the level of user satisfaction, etc.

K3.9. Meeting the needs of users

It includes an analysis of the needs and expectations of all users of postal services, legal entities and state institutions, including local self-government bodies, as well as natural persons. Since it is to be expected that users will as a rule seek the highest possible availability of the network and services, when surveying users, it is necessary to ask questions about the willingness of users to travel a greater or lesser distance to the nearest post office, questions about the adaptation of the post office's working hours to the needs of users, etc.

K3.10. Expected level of quality

The assumption is that different levels of availability of the postal network imply different quality of user service. These differences need to be explored.

K3.11. Employee satisfaction

Each of the mentioned alternatives has its consequences in the technical-technological and economic sense. It is necessary to look at and possibly examine the employees of the public postal operator, whether different alternatives have different expectations in terms of working

conditions, as well as whether different alternatives would have consequences on the expected personal income of employees, etc.

K3.12. Impact on "vulnerable" categories of users

Assessment of the potential negative effects of reducing the availability of postal network units and their working hours on certain categories of users (persons with disabilities, elderly users of services in rural areas, etc.) is very important for the justification of the applied alternative.

4.5.4 TECHNICAL FACTORS

Data related to technical factors should provide the information needed to assess the impact of changes in the availability of postal network units on regulation, organization of technical-technological processes, etc.

K3.13. The distance the user travels to the nearest post office

It is necessary to collect data on the current distance that users travel to the nearest access point where they perform the desired services. These data would further be compared with the data that would be obtained by applying the proposed alternatives in order to assess the availability of the postal network, i.e. respect its necessity. In each of the proposed alternatives, this criterion needs to be minimized.

K3.14. Number of inhabitants by post in urban and rural areas

Data related to the number of inhabitants per unit of the postal network in urban and rural areas is a necessary parameter based on which the impact of the alternative on the availability of the postal network is evaluated. Based on the collected data, the availability in the case of application of each of the alternatives would be assessed, i.e. an assessment of the fulfillment of the criteria related to the territorial accessibility of the postal network, the number of inhabitants who gravitate to the post office, that is, the counter, and which must be complied with by applying any of the proposed alternatives, would be carried out.

K3.15. Availability of post offices in terms of opening hours in urban and rural areas

It is necessary to collect data on the existing working hours of the post office in terms of working hours on weekdays (Monday - Friday), on Saturdays, one shift, two shifts, how many days the post office works in a week (7, 6, 5, 4, 3, 2, 1), what are the working hours of delivery post offices, analysis of urban/rural areas, etc. This data would further be compared with the data that would be obtained by applying the proposed alternatives in order to assess the availability of post offices in terms of working hours.

K3.16. The complexity of the regulation regulation m

Since the availability of the postal network is defined by the Law on Postal Services and by-laws, it is necessary to consider the level of complexity of changes in positive legal regulations in the case of changes within the current availability of the network or when there is a change in availability. Some of the alternatives imply appropriate changes, and experts should assess the level of complexity in the stated circumstances.

K3.17. Employee safety

When it comes to the safety of employees, the situation is similar to criterion K3.17.

APPENDICES

Appendix I.A Questionnaire for experts on the evaluation of alternatives according to criteria regarding the scope of the universal postal service

		Expert assessment						
K1	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K2	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K3	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K4	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K5	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K6	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K7	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K8	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K9	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K10	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH

	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K11	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K12	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K13	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K14	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K15	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K16	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH

Legend: Very Low (VL), Low (L), Medium-low (ML), Medium (M), Medium-High (MH), High (H), Very High (VH)

Appendix I.B. Questionnaire for experts on the assessment of the importance of each of the factors for deciding on the appropriate scope of the universal postal service

Factor	Expert assessment
ECONOMIC FACTORS	
ENVIRONMENTAL FACTORS	
SOCIAL FACTORS	
TECHNICAL FACTORS	

Note: The grade should be in the range from 0 to 1 (with two decimal places), where the sum of all grades should be equal to one (1).

Appendix I.C. Questionnaire for experts on the assessment of the importance of each criterion for deciding on the appropriate scope of the universal postal service

Criteria	Expert assessment
ECONOMIC FACTORS	/
K1. Expected volumes of services (max)	
K2. Expected income (max)	
K3. Expected investments (min)	
K4. Expected operating cost (min)	
K5. Estimated financial usefulness of the concept - the ratio of expected income and invested resources (max)	
ENVIRONMENTAL FACTORS	/
K6. Impact on air pollution, emission CO_2 (min)	
K7. Impact on traffic congestion in the city (min)	
K8. Impact on noise level (min)	
SOCIAL FACTORS	/
K9. Fulfillment of user needs (max)	
K10. Impact on the category of " vulnerable " users (min)	
K11. Expected quality level (max)	
K12 . Employee satisfaction (max)	
TECHNICAL FACTORS	/
K13. Complexity of regulation (min)	
K14. The complexity of the organization of the technical-technological process (min)	
K15. Security and reliability of shipment transmission (max)	
K16. Employee safety (max)	

Note: The rating should be in the range from 0 to 1 (with two decimal places), where the sum of all ratings in each type of criteria (economic, environmental, social and technical) should be equal to one (1).

Appendix II.A Questionnaire for experts on the evaluation of alternatives according to criteria regarding the quality of service in terms of transit times

		Expert assessment						
К1	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К2	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К3	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К4	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К5	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К6	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К7	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К8	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К9	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К10	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К11	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К12	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К13	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К14	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH

	A3	VL	L	ML	M	MH	H	VH
K15	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K16	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH

Legend: Very Low (VL), Low (L), Medium-low (ML), Medium (M), Medium-High (MH), High (H), Very High (VH)

Appendix II.B. Questionnaire for experts on the assessment of the importance of each of the factors for deciding on the appropriate concept of universal postal service in the segment of the quality of service in terms of transit times

Factor	Expert assessment
ECONOMIC FACTORS	
ENVIRONMENTAL FACTORS	
SOCIAL FACTORS	
TECHNICAL FACTORS	

Note: The grade should be in the range from 0 to 1 (with two decimal places), where the sum of all grades should be equal to one (1).

Appendix II.C. Questionnaire for experts on the assessment of the importance of each criterion for making a decision on the appropriate universal postal service concept in the segment of the quality of service in terms of transit times

Criteria	Expert assessment
ECONOMIC FACTORS	/
K1. Expected volumes of services (max)	
K2. Expected income (max)	
K3. Expected investments (min)	
K4. Expected operating cost (min)	
K5. Estimated financial usefulness of the concept - the ratio of expected income and invested resources (max)	
ENVIRONMENTAL FACTORS	/
K6. Impact on air pollution, CO_2 emission (min)	
K7. Impact on traffic congestion in the city (min)	
K8. Impact on noise level (min)	
SOCIAL FACTORS	/
K9 . Fulfillment of user needs (max)	
K10. Impact on the category of " vulnerable " users (min)	
K11. Expected quality level (max)	
K12. Employee satisfaction (max)	
TECHNICAL FACTORS	/
K13. The complexity of the organization of the technical-technological process (min)	
K14 . Complexity of regulation (min)	
K15 . Security and reliability of shipment transmission (max)	
K16. Employee safety (max)	

Note: The rating should be in the range from 0 to 1 (with two decimal places), where the sum of all ratings in each type of criteria (economic, environmental, social and technical) should be equal to one (1).

Appendix III.A Questionnaire for experts on the evaluation of alternatives according to criteria regarding the concept of universal postal service in the segment of availability of postal network units

		Expert assessment						
К1	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К2	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К3	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К4	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К5	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К6	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К7	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К8	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К9	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К10	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К11	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К12	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К13	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
К14	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH

K15	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K16	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K17	**A1**	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH

Legend: Very Low (VL), Low (L), Medium-low (ML), Medium (M), Medium-High (MH), High (H), Very High (VH)

Appendix III.B. Questionnaire for experts on the assessment of the importance of each of the factors for deciding on the appropriate concept of universal postal service in the segment of availability of postal network units

Factor	Expert assessment
ECONOMIC FACTORS	
ENVIRONMENTAL FACTORS	
SOCIAL FACTORS	
TECHNICAL FACTORS	

Note : The grade should be in the range from 0 to 1 (with two decimal places), where the sum of all grades should be equal to one (1).

Appendix III.C. Questionnaire for experts on the assessment of the importance of each criterion for deciding on the appropriate concept of universal postal service in the segment of availability of postal network units

Criteria	Expert assessment
ECONOMIC FACTORS	/
K1. Expected scope of services (max)	
K2. Expected income (max)	
K3. Expected investments (min)	
K4. Expected operating cost (min)	
K5. Estimated financial usefulness of the concept - the ratio of expected income and invested resources (max)	
ENVIRONMENTAL FACTORS	/
K6. Impact on air pollution, CO_2 emission (min)	
K7. Impact on traffic congestion in the city (min)	
K8. Impact on noise level (min)	
SOCIAL FACTORS	/
K9. Fulfillment of user needs (max)	
K10. Expected quality level (max)	
K11. Employee satisfaction (max)	
K12. Impact on the category of " vulnerable " users (min)	
TECHNICAL FACTORS	/
K13. Distance traveled by the user to the nearest post office (min)	
K14. Number of inhabitants by post in urban and rural areas (min)	
K15. Availability of post offices in terms of opening hours in urban and rural areas (max)	
K16. Complexity of regulation (min)	
K17. Employee safety (max)	

Note: The rating should be in the range from 0 to 1 (with two decimal places), where the sum of all ratings in each type of criteria (economic, environmental, social and technical) should be equal to one (1).