

Factors determining the readiness and experience with e-commerce from the point of view of consumer behavior in the Republic of Serbia

(draft Research Methodology)

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Preface

E-commerce in Serbia is developing rapidly. However, Serbia needs systematic endeavours in order to continue with high e-commerce growth rates. Lack of data concerning consumers and businesses engaged in e-commerce in Serbia is one of the main issues and barriers to further development.

Consumer related data and information are scarce resource. Therefore, well designed research of consumers in Serbia should provide significant contribution to decision makers in Serbian e-commerce.

Objectives of the survey: Background and rationale

The survey is carried out in connection with the intention of the Ministry of Internal and Foreign Trade of the Republic of Serbia to obtain an updated picture of e-commerce in Serbia from a B2C point of view, i.e. from a consumer perspective. The purpose is to understand the potential and challenges of the sector and, based on the findings, to propose measures for better use of the existing potential and solutions to problems and challenges associated with e-commerce. The EU funded project EU support for internal market, supports MIFT in this endeavour proposing methodology to implement a survey in 2 approaches: the perspective of the consumer and the perspective of the trader. This document explains the methodology for the elaboration of the respective survey (attached) to consumers

The motivation for conducting this survey is to create a set of recommendations that will lead to the development and growth of e-commerce in Serbia. The purpose of the survey is to identify problems related to e-commerce in Serbia on the consumers side and from consumers perspective, so that recommendations can be formulated leading to the improvement of e-commerce business and functioning in Serbia. The premise is that, on the one hand, consumer behavior has an impact on the formation of demand, and on the other hand, it fundamentally influences business entities in the way they create an offer and with what procedures and processes they ensure the needs and expectations of their clients. For this reason, the survey aims to identify the most important factors for the successful future development of e-commerce in Serbia.

In the survey, it is assumed that consumer behavior is a critical point for the successful development of e-commerce. Culture and customs can have a significant impact on e-commerce adoption. In the survey, the consumer is understood as a social and economic actor. Such an actor operates on the market, is situated in society, and shopping is a social event between him and the seller. The consumer operates in an area that has social, cultural and economic coordinates. In addition, there are also specific factors that are borne by the consumer as an actor. Consumers are part of wider social groups. They are located in the stratified space of society, the state. Group or socio-economic and socio-cultural affiliation can significantly influence the adoption and use of e-commerce. In addition to these external factors, there are other factors such as customer readiness for e-commerce, which has three forms: technological, social and psychological. Technological readiness is related to the technological infrastructure (availability of the necessary technologies) and the technical knowledge and skills of consumers. Social readiness is related to trust in e-commerce (trust can be defined as an awareness of benefits and threats, or as satisfaction or importance attributed to components of e-commerce). Consumers' psychological or cognitive readiness refers to their perception of usefulness. Usefulness is related to e-commerce awareness and experience.

Consumer readiness for e-commerce can be identified with the potential of e-commerce in this survey.

Based on the above, the main goal of the research is formulated:

Identification of key factors determining consumer behavior for successful adoption of e-commerce

A more detailed explanation of the stated goal makes it possible to understand the chosen approach. Factors are understood in two ways: a) negative factors that represent barriers, obstacles, risks or limitations to the successful development of e-commerce and b) positive factors that support the development of e-commerce. At the same time, it is necessary to realize that the same factor can be negative for one group of consumers, while for another it is reinforcing, that is, positive. Negative factors are divided into:

- a) **barriers** – factors that prevent the adoption of e-commerce (for example: the absence of technical options does not allow the consumer to use e-commerce at all)
- b) **obstacles** - are factors that do not prevent the full use of e-commerce, but burden the consumer and thus negatively affect his ability to accept e-commerce (for example: low digital literacy does not prevent online shopping, but online shopping becomes more difficult for the consumer and thus even less comfortable)
- c) **risks** – there are possible threats to the use of e-commerce services (for example: if a consumer has experienced fraud on the Internet, this may affect his trust in e-commerce)
- d) **limitations** – there are insufficiently developed services, institutions or possibilities on the part of the consumer (for example: insufficient awareness of the legal protection of the consumer in internet purchases).

Identification in this survey means finding out which factors are involved in the adoption of e-commerce and measuring this impact. A distinction is made between internal and external identification. External identification is the measurement of external manifestations of consumer behavior and actions, as well as the evaluation of services, components and possibilities of e-commerce by consumers. The frequency, volume and extent of e-commerce use are measured

Internal identification is the measurement of attitudes and the determination of consumer attributes that may have a significant impact on e-commerce adoption. Such factors include position in the stratification system of Serbian society, structural factors, consumer readiness for e-commerce (education, IT skills) and psychological factors. The central research question (CRQ) is:

What are the key factors and how do they determine consumer behavior in relation to the adoption of e-commerce in the Republic of Serbia?

The stated main objective is divided into several partial goals:

1. **Measure the level of e-commerce intensity** - it finds out what the overall level of e-commerce is in terms of volume, frequency of use and scope. At the same time, the measurement of partial measures of intensity makes it possible to compare individual population groups on the basis of selected demographic and economic indicators. The comparison makes it possible to determine the importance of these structural factors on e-commerce.
2. The importance of stratification (position in the stratification system of society) on readiness, attitude and use of e-commerce - the assumption is made that participation in a social group (status group or social class) is a structural factor for the perception and use of electronic commerce. Higher social classes differ in their consumer behavior and have different purchasing preferences.
3. **Find out the distribution of attitudes towards e-commerce in the population** - it is observed how attitudes towards e-commerce differ. The attitude towards electronic commerce refers to the psychological and social readiness of consumers.
4. **To identify the perceived advantages and disadvantages of e-commerce on the part of consumers** - the aim is to find out the benefits and limitations perceived by consumers. As for the second survey, carried out among entrepreneurs and sellers, the aim in this area is to compare the findings from both surveys.
5. Measure the level of consumer readiness for e-commerce
6. Measure the rate of evaluation of e-commerce by the consumer population and identify problem areas in e-commerce components.

A quantitative approach was chosen to achieve the research objective, as the aim is to measure the factors influencing the adoption of e-commerce among a wider population of consumers. We consider the time-consuming and necessary scope of qualitative research to be unusable due to the requirements for this research. The research takes into account previous surveys conducted in the Republic of Serbia.

The research is carried out in the form of a standardized questionnaire. The advantage is relatively simple distribution and standardized statistical processing, which can be processed in an automated form. Qualitative methods usually do not allow for representative research and the findings are very difficult to generalize to the entire population. At the same time, they are time- and personnel-intensive, which also leads to higher financial costs.

For time and economic reasons, the research does not include pretesting the survey, which would allow testing and validating the individual indicators and stimuli used in the research. At the same time, second research focused on the business sphere in Serbia in the field of e-commerce is underway. Both surveys will be processed simultaneously, meaning that the findings from the second survey will be compared with the findings from this survey.

Framework theoretical dimensions of e-commerce

The theoretical model is based on the OECD model published in "Defining and measuring E-commerce: A status report". The original theoretical framework was developed for the purpose of international comparison based on national indicators monitored by state statistical surveys and generally provided by national statistical institutions. For the needs of this research, the original basic model was modified and expanded with social, economic and cultural indicators of readiness for e-commerce, or in other words, the potential of e-commerce. The modifications also concern the evaluation measurement, which replaces the impact measurement in the original model. For this reason, the evaluation dimension is understood as result-oriented. The theoretical consideration is that the existing use of e-commerce infrastructure is perceived by consumers who reflect and judge it. As social actors, they can change their behavior based on experience, which is the result of the existing state. This state can be captured and measured as satisfaction with individual components of e-commerce or attitude towards e-commerce. Modifications and selection of factor categories is loosely derived from the academic study "Factors influencing e-commerce development in Serbia" (Kalinić, Z.; Ranković, V.; Kalinić, L.; 2016).

For the purposes of the survey, 3 framework theoretical dimensions of e-commerce in general and B2C e-commerce in particular, which are related to consumer behavior, were identified.

1. **The dimension of e-commerce potential** - includes technical and technological, commercial and social-cultural infrastructure, which represents the potential for the development of e-commerce in the country.
2. **Dimension of intensity of e-commerce** – represents the application of B2C e-commerce in practice
3. **Dimension of perception or evaluation of e-commerce by consumers** (resultative dimension, impact dimension) – represents attitudes and evaluation of e-commerce services by consumers.

Each of the mentioned dimensions is determined by several factors that need to be measured and operationalized, which are described below

Methodology and analytical description

In accordance with the main objective for which the survey will be carried out surveys in the field of e-commerce, namely, to identify the potential and barriers for the development of e-commerce in the Republic of Serbia. In the case of this consumer-oriented survey, the objective is to find out the factors that determine the potential and experience with e-commerce from point of view of consumer behaviour in the Republic of Serbia.

Measuring intensity and experience with e-commerce (performative dimension)

As mentioned above, the experience and intensity of e-commerce represents the dependent variable:

1. the extent of e-commerce use,
2. the volume of e-commerce use,
3. the frequency of e-commerce.

It makes it possible to find out what and to what extent consumers are buying through e-commerce and how often. Individual measures have the character of synthetic indices. In the questionnaire, they are measured using the questions in Module D and partially in Module E.

In connection with the measurement of e-commerce intensity, the following research questions can be formulated:

RQ1: What is the overall rate of e-commerce use by consumers?

RQ2: Which services or products are most purchased in the online space?

RQ3: What is the frequency of shopping in e-shops?

RQ4. Are there significant differences in intensity levels between consumer social groups?

RQ5. What is the extent of e-commerce experience among consumers?

Indicators of the intensity and experience with e-commerce

The indicators intended to measure the level of intensity were chosen based on the defined components of intensity. For the scope of e-commerce, 3 indicators listed in the table below were chosen, which represent the total share of goods and services that consumers buy, and in which markets they buy. The range is a synthetic indicator that is measured by nominal variable quantities that will create an overall index of the range of purchased goods and services. Index values have a proportional expression (for clarity they will be expressed in percentages). They make it possible to track differences according to social groups of respondents (consumers in the survey).

Main indicators of e-commerce intensity and consumer experience
The extent of e-commerce
a. Type of the online purchased goods
b. Type of the online purchased services
c. Type of the market geography
The volume of e-commerce
a. Volume of e-sales
b. Volume of spending on online purchases
c. Volume of the internet activity
The frequency of e-commerce
a. Frequency of online purchasing
b. Frequency of the internet activity
Experiences with e-commerce
a. Type of payment system used
b. Type of the delivery method
c. Type of problems with e-sales

To express the volume of e-commerce, 3 indicators listed in the table above were selected. They measure the overall share of e-commerce in the purchasing behavior of consumers and the volume of spending on online purchases, with the help of which it is possible to estimate the economic value of e-commerce. As a specific category of e-commerce, the volume of internet activity is measured, which represents the use of online technologies with which e-commerce is implemented.

Frequency is measured through the 2 indicators listed in the table that track how often consumers use e-commerce options. Experience is measured through 3 synthetic indicators listed in the table. In the survey, consumer experiences with problems with online purchases are monitored, and special attention is focused on experiences with the type of payment and delivery.

Socio-demographic profile of the consumers

The socio-demographic profile of the e-commerce consumer includes several structural factors that are considered significant from the point of view of the survey, such as: sex, age, size of town (refers us to urbanization), regional origin of consumers. The socio-demographic profile of the e-commerce consumer is based on several assumptions that were introduced in connection with the measurement of e-commerce. The assumptions are based on long-term findings in different countries and societies.

RQ6: How do the structural factors socio-demographic profile of the consumer affect the intensity of e-commerce in the Republic of Serbia?

Variables were selected to determine the sociodemographic profile of consumers: 1. age, 2. gender, 3. size of residence, 4. location of the consumer (indicators: region and district), 5. education (indicators: achieved level), 6. Income level etc.. All the mentioned variables are understood from the point of view of the survey as independent variables. In the questionnaire, the sociodemographic profile of the e-commerce consumer corresponds to module A.

Attitude towards e-commerce

Attitude represents a relatively stable tendency of an individual to behave in a certain situation in a certain way, or to react positively or negatively to stimuli related to such a situation. The attitude reflects their experiences, value orientations and needs. It is a suitable indicator of consumer behavior because it includes three standard dimensions: emotional, behavioral and cognitive.

Surveys use a standard method known as the semantic differential to measure respondents' attitudes toward e-commerce. The method makes it possible to capture an attitudinal continuum that corresponds to a multidimensional semantic space and makes it possible to investigate the given phenomenon, which in this case is electronic commerce. The semantic space is defined by sets of polarized attributes that form a certain subcontinuum. Within this method, three basic dimensions are defined by default:

1. Assessment dimension
2. Dimension of potency
3. Activity dimension

For the purposes of this survey, at the same time, higher level subcontinuum were selected. Attitudinal subcontinuum: e-commerce quality, information

continuum, security, trustworthiness, and availability. At the same time, two more are added, which are complexity and efficiency.

Attributes (stimuli) of the semantic differential:

Assessment dimension												
Shopping through e-shops is always very comfortable	5	4	3	2	1	0	1	2	3	4	5	Shopping through e-shops is always very uncomfortable
Shopping online is anonymous	5	4	3	2	1	0	1	2	3	4	5	Online trading does not provide sufficient privacy protection
Shopping online is user-friendly	5	4	3	2	1	0	1	2	3	4	5	Shopping online is user-unfriendly
E-shops offer customized services and products	5	4	3	2	1	0	1	2	3	4	5	E-shops primarily offer standardized products and services regardless of customer needs
Shopping online is reliable	5	4	3	2	1	0	1	2	3	4	5	Buying online is never reliable enough
Shopping online is cheap	5	4	3	2	1	0	1	2	3	4	5	Online shopping is usually more expensive than traditional brick-and-mortar stores
Online shopping offers a higher quality of shopping	5	4	3	2	1	0	1	2	3	4	5	The goods in the e-shop are always of poor quality
Online shopping is very difficult for common people	5	4	3	2	1	0	1	2	3	4	5	Online shopping is very easy for customers
Dimension of potency												
Everything can be bought very quickly in the e-shop	5	4	3	2	1	0	1	2	3	4	5	Online shopping always takes a long time
The e-shop is very efficient	5	4	3	2	1	0	1	2	3	4	5	Online shopping is very inefficient
You can buy in the e-shop at any time and with immediate payment	5	4	3	2	1	0	1	2	3	4	5	I think the time from online order to delivery takes a long time to pick up right away in a brick and mortar store

In the e-shop, it is possible to shop anywhere without having to come to a specific store	5	4	3	2	1	0	1	2	3	4	5	E-shops operate only in selected parts of the country
Online shopping leads to more competition in the market	5	4	3	2	1	0	1	2	3	4	5	E-shops support cooperation between customers and companies on the market
Shopping online is financially more affordable	5	4	3	2	1	0	1	2	3	4	5	For many people, e-commerce is financially unavailable
Shopping online brings many new risks	5	4	3	2	1	0	1	2	3	4	5	E-shops have solved many risks and threats that were waiting for customers in brick-and-mortar stores
Buying on the Internet is more secure for people than a brick-and-mortar store	5	4	3	2	1	0	1	2	3	4	5	Brick and mortar stores provide more security
E-shops can be completely trusted	5	4	3	2	1	0	1	2	3	4	5	Online sales cannot be trusted
The e-shop is more environmentally friendly	5	4	3	2	1	0	1	2	3	4	5	Shopping on the Internet is bad for the environment
Dimension of activity												
Online shopping gives more freedom to its clients	5	4	3	2	1	0	1	2	3	4	5	The brick-and-mortar store offers more options for decision-making
E-shops are interested in their customers	5	4	3	2	1	0	1	2	3	4	5	E-shops are only interested in their profit
E-shops provide detailed information on their website about their products	5	4	3	2	1	0	1	2	3	4	5	I can't find out important things about the product on the internet
I need more knowledge and skills to buy online	5	4	3	2	1	0	1	2	3	4	5	Anyone can buy online

All transactions on the Internet are monitored by the company, bank or state	5	4	3	2	1	0	1	2	3	4	5	Online shopping tracking is limited to selected purposes only
The customer has a complete overview of his purchases	5	4	3	2	1	0	1	2	3	4	5	The customer does not have control over his purchase on the Internet
Merchants in the online space have more opportunities to annoy customers	5	4	3	2	1	0	1	2	3	4	5	Anyone who doesn't want to be bothered by salespeople knows how to avoid them
Shopping in the e-shop is more transparent	5	4	3	2	1	0	1	2	3	4	5	E-shops are not very transparent

Due to the length of questionnaire, some of the dimensions have been combined and some have been excluded from the questionnaire.

In this context, the research questions are formulated:

RQ8: What is the attitude of consumers towards e-commerce?

RQ9: Which structural factors influence consumers' attitude towards e-commerce?

RQ10: Is there a difference in attitude toward e-commerce based on e-commerce experience?

Measuring the potential of e-commerce

Cognitive dimension (Module E) determines motivation and their familiarity with setting up e-commerce processes.

RQ14: Are the support processes (delivery, payment system, etc.) at a sufficient level?

RQ15: Does the level of e-commerce intensity depend on the information sources and cognitive environment of consumers?

RQ16: Is the cross-border trade becoming significant in Serbia?

Indicators of consumer readiness for e-commerce

Measuring the potential of e-commerce is, in the sense of the discussion of factors, conditioned by the technological infrastructure, primarily the penetration of the Internet and the availability of technical tools for working in the online space. The second component of readiness is consumer skills and technological literacy.

Measuring consumer motivation and preferences

In order to understand the psychological and cognitive aspects of consumer behavior, the survey focuses on measuring the preferences and motivations of e-commerce-oriented consumers. Using a Likert scale, it is possible to measure the importance of individual consumer preferences and their reasons for choosing to shop online. At the same time, preferences for staying in brick-and-mortar stores are measured. Sub-scales allow you to focus on the individual reasons mentioned in the introductory part, which function as negative factors (Likert scale of the importance of brick-and-mortar store preferences) and positive motivation, i.e. reasons for preferring online shopping. At the same time, self-reported awareness of the use of online shopping as a cognitive component of decision-making is measured. In addition, it is important to understand the thought process behind online shopping that is behind consumer decisions. The deliberation process is measured through a scale of trust in information sources and ways of choosing a purchasing strategy and choosing a delivery method.

Synthetic indicators of the e-commerce potential
Indicators of the readiness
a. Internet penetration
b. IT literacy
c. Language competence (English language)
c. Level of education
Motivation and preferences
a. Awareness of the e-commerce
b. Importance of the e-commerce
c. Deliberation processes

Measure the rate of evaluation of e-commerce by the consumer population

Satisfaction is an evaluation and result dimension in consumer behavior research. At the same time, it is the only dependent variable that is conditioned by the level of e-commerce intensity. The synthetic indicator is constructed as an intensity index.

Which groups of respondents show the highest level of satisfaction with e-commerce, but in terms of potential estimation, on the contrary, those who are most dissatisfied.

The measurement of evaluation of e-commerce and therefore the identification of the perception of e-commerce is carried out using a Likert scale of satisfaction with the monitored variables listed in the table below. The satisfaction rate expresses the evaluation of e-commerce consumers. At the same time, it makes it possible to identify pain points in e-commerce.

Partial variables of the perception and assessment of the e-commerce:

Assessment of e-commerce
Quality of ordered goods or services
Reliability
Availability
Security and data protection
Presentation of the sellers
Operational functionality (e-seller processes)
a. delivery processes
b. ordering processes
c. customer services
Affordability

RQ17: What is the overall level of satisfaction with e-commerce?

RQ18: Which dimensions of the second level most influence the level of satisfaction with e-commerce?

RQ19: How do individual groups of respondents differ according to socio-demographic and socio-economic characteristics in terms of satisfaction?

Organization of a survey of consumer behavior in the e-commerce space in Serbia

- The survey will be carried out by a procured research agency or the Statistical Office of the Republic of Serbia.
- The analytical unit is a resident of the Republic of Serbia 18 years old and older.
- This is a representative survey with a minimum sample size of 1536 respondents and a recommended sample size of 1800-2000 respondents. The size of the sample makes it possible to generalize the basic results of the survey.
- Stratification criteria are sex and region of the Republic of Serbia.
- The survey will be conducted in November 2024 for a minimum of 2 weeks.
- Confidence interval for the entire sample: max. $\pm 2\%$ at the 95% level of significance for the frequency of the phenomenon 20%.
- The data collection method is a questionnaire (appendix)
- Combined data collection through an online questionnaire and a call center is recommended.