Empirical Paper

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Consumer intentions to purchase on foreign multi-sided digital platforms: a context of the COVID-19 pandemic†

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Abstract:
Objectives: To explore the determinants of consumer purchase intentions on foreign multi-sided e-commerce platforms (MSPs) within the context of the COVID-19 pandemic.
Methods applied: The study relies on a survey of a representative sample of 810 Poles. Partial least squares structural equation modeling (PLS-SEM) was applied to analyze the data.
Findings: The study confirms the influence of the perceived usefulness and legal protection of online purchases, changes in retailers' activity during the pandemic, and perceived value of purchases on a MSP on purchase intentions.
Originality/value: The article provides insight into consumer online behavior, i.e., determinants of the intention to purchase via MSPs, including those not extensively studied yet. It also takes into account the context of the COVID-19 pandemic. This study's results may be valuable both from the prism of its contribution to the literature on consumer behavior and to business practitioners.

Keywords: COVID-19 pandemic, cross-border commerce, determinants of online shopping, multi-sided digital platforms
JEL Classification: M39

1 Introduction

In the last decade, a dynamic development and internationalization of digital multi-sided e-commerce platforms (MSPs) such as Amazon and Aliexpress [Rangaswamy et al., 2020] has been observed. In 2018, the global value of retail sales via MSPs was $ 2.84 trillion, and is expected to reach $ 4.88 billion in 2021 [Statista, 2019]. MSPs connect buyers and suppliers in a single market space [Hagiu and Wright, 2015], facilitating transactions between two or more actors on either side, and offering goods/services of multiple suppliers and enabling purchases by institutional customers (B2B platforms) or consumers (B2C/C2C platforms).

MSPs serve consumers from one (e.g., Polish Olx) or multiple countries (e.g., Amazon). The number of shoppers on MSPs shows a steady increasing trend [Statista, 2016]. Consumers from the European Union

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(EU) more and more often purchase on foreign MSPs and also on those whose operators are located outside the EU, especially in China (e.g., Aliexpress). Recently, numerous legal regulations have been introduced in the EU to protect consumers making purchases remotely. However, they do not apply to all cross-border online purchases. Among the barriers to consumer cross-border online purchases on MSPs [Witek-Hajduk and Targański, 2018] are collection of consumer data by online retailers/platforms, and perception of purchases on MSPs – where products of many, often little-known suppliers are offered – as being associated with a higher risk compared to purchases in the online store of any one particular brand/supplier. Moreover, suppliers of high-quality products are being displaced on MSPs by those offering lower-quality ones at lower prices [Katz, 2019].

So far, research into online consumers' behavior focusing on e-commerce has not, in the broader sense, taken into account the cross-border context and in particular an intention to purchase on MSPs [Qin et al., 2019]. Only a few researchers have taken into account the perceived legal protection of e-commerce as a factor influencing purchase intentions [Huang and Chang, 2017].

Over the past 2 years, the crisis caused by the COVID-19 pandemic has had an impact on consumer behavior, including online shopping [OECD, 2020]. Many countries have experienced restrictions regarding physical stores [PWC, 2020], and a significant percentage of retail sales there has been at least temporarily suspended [OECD, 2020]. In this period in the EU, retail mail order/online sales increased by 30% compared to April 2019. Online sales increased by 17.9% despite the decrease in total retail sales [OECD, 2020]. Empirical studies on the consumers' online purchase intentions have so far not taken the pandemic context into account.

Considering the research gaps, this study aims to investigate: (1) influence of consumer disposition to trust, perceived usefulness of online purchases, their perceived legal protection, and perceived conditions of shopping during the pandemic on purchase intentions on a foreign MSP and (2) impact of perceived value of purchases on a foreign MSP on purchase intentions.

For this purpose, a survey on a representative sample of 810 Poles aged 18–65 years declaring they had purchased products on foreign MSPs was carried out. Further, partial least squares structural equation modeling (PLS-SEM) was applied to analyze the data and verify research hypotheses.

2 Literature review

With the Internet diffusion, research has been devoted increasingly to the study of consumer online behavior, including trust in online purchases [Hallikainen and Laukkanen, 2018], perception of their safety, usefulness, and ease [Ardiansah et al., 2020], consumer experience [Bilgihan et al., 2016], and determinants of online purchase intentions [Oghazi et al., 2018]. Only single studies relate to purchases on MSPs [Qin et al., 2019]. Most studies on online purchase intentions were conducted over a decade ago [Kim et al., 2007] and refer mainly to Asian consumers [Moslehpour et al., 2018] or Americans [Beccera and Kongaonkar, 2011]. In studies on online consumer behavior, researchers usually include purchase intentions [Silva et al., 2019] as it is a good predictor of future purchases [Ajzen, 1991].

Among determinants of consumer online purchases scholars indicate e.g. perceived value, i.e. effort and time involved compared to the benefits [Fang et al., 2016]. It is subjective, owing to being dependent on the individual's assessment [Sullivan and Kim, 2018]. Researchers indicate such internal factors influencing perceived value of online purchases [Koklič and Vilda, 2009] as: consumer disposition to trust and perceived usefulness, information quality, website layout, customer service, payment security, and perception of products/brands sold and prices/costs.

Kim et al. [2008, pp. 545–546] state that trust in online shopping is "subjective belief that the selling party or entity will fulfill its transactional obligations as the consumer understands them," and the information is often "less than complete and far from perfect," which makes purchase decisions uncertain. Trust is derived from risk that is perceived in terms of both transaction costs and history (return policy) [Manchala, 2000]. A reduction in perceived risk causes an increase in confidence in online purchases [Cho and Sagynov, 2015], higher perceived value, and higher purchase intentions [Özen and Kaya, 2013]. Researchers agree that trust

is one of the key factors determining perceived value [Özen and Kaya, 2013] and online purchase intentions [Silva et al., 2019]. Trust toward the seller is a prerequisite and necessary for the e-commerce transaction as payment is often required before delivery [Kim et al., 2005]. A construct "disposition to trust" is defined as a general, not situation-specific tendency to trust others, which is particularly important when the parties have not yet known each other enough to assess the credibility [Hallikainen and Laukkanen, 2018]. Some studies [Kim et al., 2008] confirm a positive impact of disposition to trust on consumer online purchase intentions.

Given the above, the following hypotheses are proposed:

H1: The stronger the consumer disposition to trust, the stronger online purchase intentions and intentions to purchase on a foreign MSP.

H1a: The stronger the consumer disposition to trust, the stronger online purchase intentions.

H1b: The stronger the consumer disposition to trust, the stronger intentions to purchase on a foreign MSP.

Cho and Sagynov [2015, p. 24] define perceived usefulness of online purchases as "the degree to which consumers believe using the Internet as a medium will improve their performance or productivity, thus enhancing the outcome of the shopping experience." Perceived usefulness is an important determinant of the technology adoption [Moslehpour et al., 2018] and facilitates purchases [Ashraf et al., 2014], helps time savings [Moslehpour et al., 2018], increases efficiency [Sullivan and Kim, 2018], and promotes ease of purchasing [Ashraf et al., 2014]. The significance of the ease of purchasing online for its usefulness, and for purchase intentions, varies by the level of consumer's stage of Internet adoption [Ashraf et al., 2014]. The more familiar consumers are with Internet technologies, the higher the online purchase intentions.

Online purchases, compared to those in physical stores, are associated with time savings, which translates into an increase in their perceived usefulness and purchase intentions [Shang et al., 2005]. Kim et al. [2007] indicate that online purchases via mobile apps are more efficient, require less effort, and that these advantages translate into the increased perceived value and purchase intentions. Moslehpour et al. [2018] conclude that both the perceived usefulness of online purchases and perceived ease of purchasing translate into an increase of purchase intentions.

In line with the literature, the authors of the present study hypothesize:

H2: The higher perceived usefulness of online purchases, the stronger online purchase intentions and intentions to purchase on a foreign MSP.

H2a: The higher perceived usefulness of online purchases, the stronger consumer online purchase intentions.

H2b: The higher perceived usefulness of online purchases, the stronger consumer intentions to purchase on a foreign MSP.

Although some papers address institutional barriers to cross-border e-commerce [Witek-Hajduk and Targański, 2018], few publications focus on their influence on online purchase intentions. Researchers indicate such legal aspects as existence of legislation sufficiently protecting consumer online privacy, existence of strict international regulations on protection of personal data of consumers, and sufficient efforts by the authorities to protect consumers from privacy violated online, may influence users' evaluations (negative responses) of transactions, as they shape consumers' confidence [Lwin et al., 2007]. The information privacy concerns influence the formation of trust in an online retailer [Kelly and Erickson, 2004]. Institutional-based trust in the legal protection of online purchases is transferred to trust and purchase intentions [Kohli et al., 2014]. Eastlick and Lotz [2011] state that consumers' institutional beliefs (including perceived legal protection) shape initial trust in an unfamiliar online retailer.

Therefore, it is suggested that:

H3: The higher legal protection of online purchases, the stronger online purchase intentions and intentions to purchase on a foreign MSP.

H3a: The higher legal protection of online purchases, the stronger consumer online purchase intentions.

H3b: The higher legal protection of online purchases, the stronger consumer intentions to purchase on a foreign MSP.

Some studies [Kohli et al., 2020] support changes in consumer behavior during the COVID-19 pandemic, e.g., their adoption/use of Internet apps that are new to them, preferences for home delivery, products at lower prices, and brands they trust. Online purchases increased by 6 p.p.–10 p.p. in most consumer product categories [UNCTAD, 2020]. More than half of the respondents started purchasing online more frequently [UNCTAD, 2020]. It is predicted that after the pandemic, some new consumer shopping behaviors may become entrenched, e.g., shopping online instead of offline [PWC, 2020]. However, there is a lack of studies on the factors influencing consumer intentions to purchase online generally, and especially on foreign MSPs, in which special conditions of purchases during the pandemic are included.

Considering the above, it is supposed that:

H4: The higher perceived constraints on making purchases during the COVID-19 pandemic, the stronger online purchase intentions.

H4a: The greater perceived possibility of infection during the COVID-19 pandemic, the stronger consumer online purchase intentions.

H4b: The greater changes in retailers' activity during the COVID-19 pandemic, the stronger consumer online purchase intentions.

H4c: The greater legal pandemic regulations related to shopping in brick-and-mortar shops, the stronger consumer online purchase intentions.

H5: The higher perceived constraints on making purchases during the COVID-19 pandemic, the stronger intentions to purchase on a foreign MSP.

H5a: The greater perceived possibility of infection during the COVID-19 pandemic, the stronger consumer intentions to purchase on a foreign MSP.

H5b: The greater changes in retailers' activity during the COVID-19 pandemic, the stronger intentions to purchase on a foreign MSP.

H5c: The greater legal pandemic regulations related to shopping in brick-and-mortar shops, the stronger intentions to purchase on a foreign MSP.

Kühn and Petzer [2018] state that prior positive experiences, including perceived usefulness of online purchases, result in an increase of purchase intentions. Although no studies have been identified that assess the impact of online purchase intentions on the intentions to purchase on a foreign MSP, we suppose that previous (positive) experiences with online shopping may be transferred into purchase intentions on MSPs.

Therefore the authors of the present study suppose that:

H6: The stronger consumer online purchase intentions, the stronger consumer intentions to purchase on a foreign MSP.

The perception of customer service within online transactions affects perception of such purchases and purchase intentions [Ha and Stoel, 2009]. Shopping experience, delivery time, and willingness of staff to assist and respond promptly to queries have a direct impact on the ease of use of online purchases, perceived usefulness, and purchase intentions [Ha and Stoel, 2009]. An easy return policy is also important for online purchase intentions, since it serves to build trust in retailers [Oghazi et al., 2018]. It can translate into higher profits for the sellers as it increases the likelihood that the consumer will purchase at all [Bower and Maxham, 2012].

Given the above, it is hypothesized that:

H7a: The better perceived customer service on a foreign MSP, the higher perceived value of purchases on a foreign MSP.

Online purchase intentions are also determined by the perceived quality of information on a website and its layout [Ha and Stoel, 2009]. It is important, for consumers evaluating the quality of information, to get exactly what they want quickly [Hagiu, 2015]. Easy-to-find contact information may transfer into higher

purchase intentions [McKnight et al., 2002]. Kim et al. [2008] associate the perception of (high) information quality on a website with reliability, sufficiency, and satisfaction with the information provided. These favorable characteristics, among which reliability may be supposed predominant, can be equated with attenuation of the perceived risk of online purchases and a high degree of trust in websites [Silva et al., 2019]. In turn, consumers' evaluations of the layout are particularly important when a consumer is just commencing purchasing [McKnight et al., 2002]. Visual (aesthetic) aspects, e.g., website's colors and images presented, affect evaluations of websites [Ivory and Hearst, 2001]. Wolfinbarger and Gilly [2003] note that the website's visual aspects and the perception of quality of information affect the perceived overall website quality and determine purchase intentions.

Therefore, one may suggest that:

H7b: The better perception of quality of information and layout on a foreign MSP, the higher perceived value of purchases on a foreign MSP.

E-consumers pay attention to whether the products are trustworthy and of high quality, and whether they are original [Özen and Kaya, 2013]. The perceived risk in terms of reliability and expected product quality are particularly relevant to online purchase intentions, as consumers cannot "physically verify" products before purchase [Agkeyan-Simonian et al., 2012]. The guarantee to buy only original products of well-known brands is more relevant to the purchase intentions of consumers who have less knowledge about these products and are unable to distinguish them from imitations [Bian and Moutinho, 2011].

Given the above, the authors of the present study propose:

H7C: The better perception of products and brands sold on a foreign MSP, the higher perceived value of purchases on a foreign MSP.

Sullivan and Kim [2018] indicate that the perceived prices determine the perceived value and online purchase intentions. The financial cost has long been considered one of the key determinants of purchase decisions [Muralidharan et al., 2014]. Lower prices in online stores are among key drivers of online purchase intentions [Delafrooz et al., 2009]. Given that there are many price comparers, price is of crucial importance for e-commerce [Garbarino and Maxwell, 2010]. The perception of prices/costs of online purchases is determined by the return policy and its costs [Bower and Maxham, 2012], and delivery costs [Shao, 2017]. The return policies affect consumer trust in online purchases, which influences purchase intentions [Oghazi et al., 2018].

Considering the above, it is hypothesized that:

H7d: The better perception of prices and costs on a foreign MSP, the higher perceived value of purchases on a foreign MSP.

Perceived reputation of an online platform is usually defined in terms of prior interactions between the transaction parties and ratings given by previous partners [Fan et al., 2016]. The reputation of the other party is very important for the first-time online purchase [Zacharia and Maes, 2000]. Consumers are increasingly posting information about transactions. Examining the website's reputation and indicating its positive effect on purchase intentions, Kim et al. [2008] considered: its level of consumer familiarity and the reputation of website, brands sold and suppliers. According to Sullivan and Kim [2018], the perceived reputation affects both perceived value of online purchases and purchase intentions.

Given the above, one may suggest that:

H7e: The better reputation of a foreign MSP, the higher perceived value of purchases on a foreign MSP.

The perceived payment security on a website is shaped by the implementation of tools protecting shoppers (e.g., user identification), a feeling of security associated with the use of payment systems, and use of a credit card on the website [Kim et al., 2008]. High perceived payment security translates into an increase of purchase intentions. For perceived payment security the following are particularly important: authentication procedure, their reliability, and coding of confidential data [Ardiansah et al., 2020]. When consumers see information on security policies, secure purchasing guarantees, etc., they believe that the

seller's intention is to guarantee them security [Chellappa and Pavlou, 2002]. The perception of security depends also on the extent to which consumers understand the level of security standards implemented [Friedman, 2000].

Therefore, the following assumption is suggested:

H7f: The better perception of payment security on a foreign MSP, the higher perceived value of purchases on a foreign MSP.

Another factor influencing online purchases is their perceived value. Kim et al. [2007] note that defining value only through the prism of price (financial expenditure) is insufficient, and sacrifices involved in purchases should also be included (time spent, effort, dissatisfaction), as well as perceived product quality. With regard to purchasing via mobile apps, perceived value is influenced by both the perceived benefits, i.e., usefulness, enjoyment, fee, technicality, and ease of use [Kim et al., 2007]. The multidimensional understanding of the perceived value of online purchases is presented by Fang et al. [2016] – including quality and sacrifice as financial and non-financial costs; and by Özen and Kaya [2013] – including perceived risk, price, and quality. The perceived value of online purchases is positively influenced by perceived (low) risk [Silva et al., 2019], usefulness (high; understood as efficiency and low consumer effort) [Kim et al., 2007], perceived (high) quality [Sullivan and Kim, 2018], and reputation [Fang et al., 2016].

In line with the literature, the authors of the present study hypothesize:

H8: The more positive consumer's perception of a foreign MSP, the stronger intentions to purchase on a foreign MSP.

3 Research concept and method

The conceptual model of the study (Figure 1) is based on the concept of perceived value [Zeithaml, 1988] and signaling theory, according to which, in the absence of other information about the organization (e.g., foreign MSP), consumers can draw conclusions and make decisions based on the guidance available in the form of information about the entity [Koh et al., 2012].

To verify the research hypotheses, a CAWI survey on a representative, random sample of 810 Poles aged 18–65 years, who admitted to purchasing on foreign MSPs, was conducted. The sampling frame included 70,000 Poles registered in the online consumer panel with a structure similar to the structure of the Polish population by age and gender. The survey was carried out in June–July 2020 preceded by a pilot study on 26 consumers. Overall, 810 fully completed questionnaires (response rate: 69.3%) were obtained. The questionnaire consisted of metric questions, closed questions with a 7-point Likert scale (where: 7 – I strongly agree; 1 – I strongly disagree), closed questions, and a filtering question, i.e., whether the respondent purchases on foreign MSPs.

For the data analysis, PLS-SEM was used together with the application of SmartPLS 3 software. The general characteristics of respondents was made using the IBM SPSS Statistics 24.0 software. PLS-SEM enables the exploration and development of the theory or its testing [Hair et al., 2014, p. 46]. This method enables the isolation of hidden variables and then allows us to estimate the regression coefficients describing relationships between variables, and further, allows testing research hypotheses in the case of high complexity of the relationships, and empirical confirmation of research models including the issue of causality. The use of PLS-SEM is justified especially when measurable variables do not have normal distributions [Hair et al., 2014], which is usually the case with variables measured with the Likert scale. The sample size in this survey meets the requirements for the PLS-SEM method, i.e., minimum size: 30–100 [Hair et al., 2011]. For PLS-SEM, to estimate the distribution of estimation errors and to determine the statistical significance of the regression paths, the bootstrapping method is used, consisting of multiple sampling with returning a large number of samples based on the original data (recommended 5,000 as in our research), and for each random sample the values of the regression coefficients are calculated for

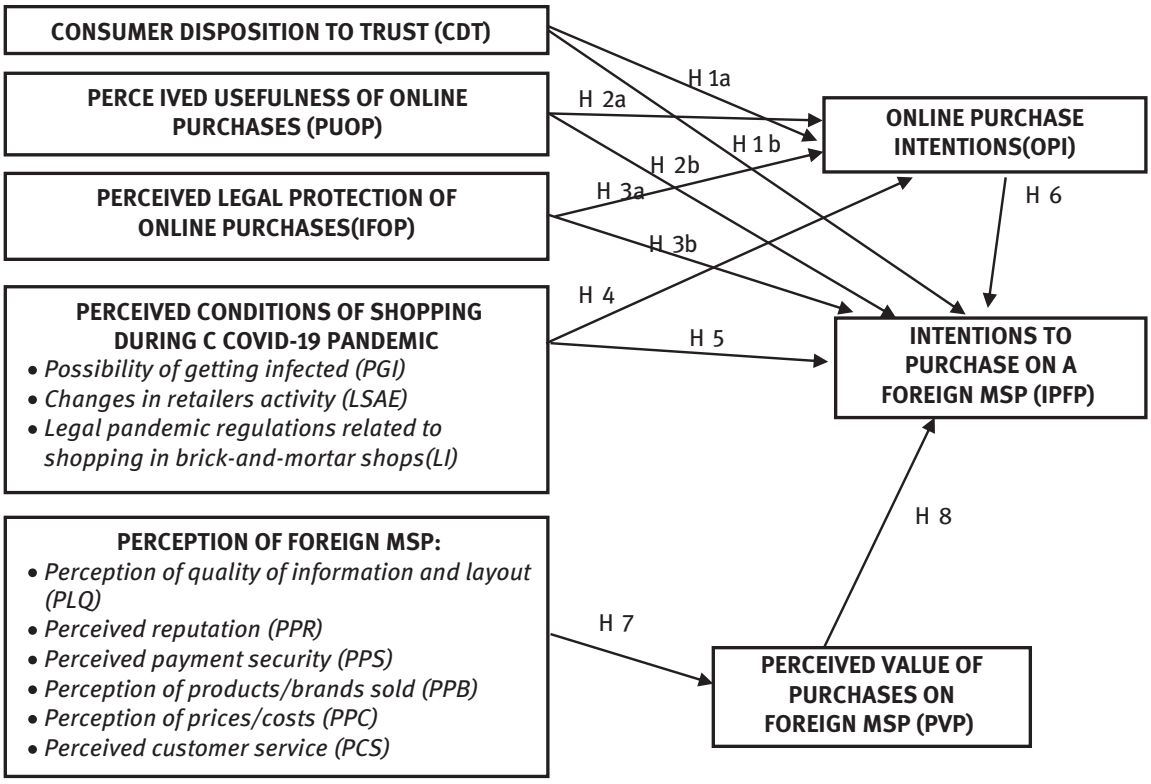


Figure 1. Conceptual model.
Source: Own elaboration.

establishing confidence intervals and significance levels. Due to the limitations of the bootstrapping, we previously assessed the model quality by analyzing: (1) composite reliability (CR) coefficient, taking values between 0 and 1, where a higher value means a higher level of reliability, an acceptable value is required to be at least 0.70 [Netemeyer et al., 2003, p, 153], and values above 0.95 indicate that measurable variables are the same indicators [Hair et al., 2014, p. 102]; and (2) accuracy of measurement – applying (a) convergent validity assessed, i.e., average variance extracted (AVE) coefficient, which should reach a level higher than or equal to 0.50 [Hair et al., 2014, p. 104], and (b) discriminant validity – using the Fornell–Larcker [1981] criterion, according to which the square root of the mean explained variance (AVE) of each construct should be greater than its highest correlation with any other hidden variable. In the case of the PLS-SEM method, the measurement model is considered acceptable when: (a) measurable variables do not have values of factor loadings, which describe their correlations with the hidden variable, that are too low, with the minimum acceptable value being 0.3; (b) variables hidden explain at least 50% of the variance of their measurable variables, which means that the AVE cannot be less than 0.5; and (c) CR for all constructs reaches the minimum value of 0.7 [Rakowska and Mącik, 2016]. As part of the analysis of the structural model, we estimated the path coefficients, and examined the significance of the difference in path coefficients against zero.

The structure of the surveyed Poles is presented in Table 1.

As much as 50.4% of respondents indicated Chinese AliExpress and 23.3% indicated German Zalando as the foreign MSPs on which they had made most of their online purchases during the previous year. Fewer respondents indicated: Amazon (9.1%), Ebay (5.6%), (1.0%), Alibaba (0.9%), Joom (0.6%), Vova (0.5%), and others (8.5%).

The survey was made in Poland during the COVID-19 pandemic. Therefore, in Table 2, we present the structure of the respondents in terms of the frequency of their purchases on foreign MSPs before and during the COVID-19 pandemic.

Table 1. Respondents' structure

		No. of indications (N = 810)	Percentage
Gender	Female	404	49.9
	Male	406	50.1
Age (years)	18–34	301	37.2
	35–54	354	43.7
	55–65	155	19.1
Residence (inhabitants in thousands)	Village	147	18.1
	Up to 100	298	36.8
	101–500	214	26.4
	Over 500	151	18.6
Education	Primary or basic	249	30.7
	Secondary	317	39.1
	Incomplete higher/in progress/higher	244	30.1
Disposable income per household member in PLN/month	1,999 or less	276	34.1
	2,000—3,999	353	43.6
	4,000 and more	181	22.3

Source: Own elaboration.

Table 2. Respondents' structure by the frequency of purchases on foreign MSPs

	Before COVID-19 pandemic		During COVID-19 pandemic	
	Indications (No.)	Percentage	Indications (No.)	Percentage
YES, at least once a week	213	26.3	256	31.6
YES, less than once a week but at least once a month	434	53.6	414	51.1
YES, less than once a month but at least once every six months	141	17.4	106	13.1
YES, but less than once every six months	18	2.2	16	2.0
NO	4	0.5	18	2.2
Total	810	100.0	810	100.0

Source: Own elaboration.

4 Research results

Before using the structural model to verify research hypotheses, we had ensured that the obtained regression coefficients are interpretable. We assessed the quality of the measurement model based on the correlations between hidden variables and their indicators and among hidden variables (assessment of reliability and convergent and divergent validity). Table 3 shows the correlations between all reflexive constructs and their measurable variables (factor loadings) and synthetic measures for individual constructs (AVE and total reliability).

As presented in Table 3, values of individual factor loadings are higher than the minimum allowable value of 0.3, and thus none of the measurable variables should be excluded. The model is internally consistent, as CR for all constructs reach values above the required minimum level of 0.7 [Netemeyer et al., 2003, p. 153]. Measurable variables are also not the same indicator, as they are lower than 0.95 [Hair et al., 2014, p. 102]. The AVE values for all hidden variables are above the required minimum level (0.5), which indicates that most of the variance within measurable variables is explained by hidden variables. This allows for the interpretation of the extracted constructs based on the content of their measures. The total reliability coefficients higher than the threshold value of 0.7 indicate a high level of correlation of

Table 3. Likert scales used in the study to measure reflective constructs, their sources, and factor loadings reliabilities

Likert scale statements (1 – strongly disagree; 7 – strongly agree)	Factor loadings	Source
CDT, Consumer disposition to trust (AVE = 0.771; item reliabilities = 0.944)		
I generally trust other people.	0.891	Kim et al. (2008)
I generally have faith in humanity.	0.872	Kim et al. (2008)
I feel that people are generally reliable.	0.889	Kim et al. (2008)
I generally trust other people, unless they give me reasons not to.	0.846	Kim et al. (2008)
I feel that people are generally well meaning.	0.892	Own elaboration
PUOP, Perceived usefulness of online purchases (AVE = 0.749; total reliability = 0.937)		
Online purchases make it easier to buy products.	0.872	Ashraf et al. (2014)
Compared to physical channels, online shopping takes less time.	0.871	Shang et al. (2005)
Compared to purchases in stationary stores, using online purchases enhances my shopping task effectiveness.	0.839	Kim et al. (2007)
Compared to purchases in stationary stores, using online shopping makes it easier to purchase.	0.892	Kim et al. (2007)
Compared to purchases in stationary stores, using online purchases saves me effort in performing tasks.	0.853	Kim et al. (2007)
IFOP, Perceived legal protection of online purchases (AVE = 0.726; total reliability = 0.949)		
The existing laws in my country are sufficient to protect consumers' online privacy.	0.882	Lwin et al. (2007)
There are stringent international laws to protect personal information of individuals on the Internet.	0.843	Lwin et al. (2007)
The government is doing enough to ensure that consumers are protected against online privacy violations.	0.867	Lwin et al. (2007)
The existing laws in my country are sufficient to protect online purchases.	0.852	Own elaboration
There are stringent international laws to protect cross-border online purchases.	0.814	Own elaboration
Protection of consumers against violations in the cross-border online purchases is adequate in the EU.	0.877	Own elaboration
The right to withdraw from the distance contract strongly protects consumers' online purchases.	0.827	Own elaboration
PGI, Possibility of infection (AVE = 0.826; total reliability = 0.934)		
The possibility of being infected with Coronavirus through contact with others, such as in or on the way to a stationary store.	0.929	Own elaboration
The possibility of being infected with Coronavirus through contact with a courier delivering a package from an online store.	0.926	Own elaboration
The possibility of getting infected with Coronavirus through contact with package from online store.	0.870	Own elaboration
LSAE, Changes in retailers' activity during COVID-19 pandemic (AVE = 0.644; total reliability = 0.915)		
No open stationary stores near where I live.	0.726	Own elaboration
Shortages or limited availability of goods in stationary stores during the pandemic.	0.861	Own elaboration
Long queues at stationary stores during the pandemic.	0.821	Own elaboration
Extended return time limits introduced by online stores during the pandemic.	0.765	Own elaboration
Extended delivery times for packages from online stores.	0.807	Own elaboration
Restrictions on the deliveries of goods from other countries.	0.828	Own elaboration
LI, Legal pandemic regulations related to shopping in brick-and-mortar shops (AVE = 0.754; total reliability = 0.924)		
Restrictions related to purchasing at stationary stores during the pandemic, e.g., limit on people in the store, hours for seniors.	0.901	Own elaboration
Social isolation requirements.	0.897	Own elaboration
Closing of stores where I purchase certain products.	0.818	Own elaboration
Requirements to cover nose and mouth and use gloves in stationary stores.	0.854	Own elaboration
PLQ, Perception of quality of information on a foreign MSP and its layout (AVE = 0.753; total reliability = 0.948)		
Visually, I highly value this platform.	0.860	McKnight et al. (2002)
On the website of this MSP I can easily find the contact details.	0.862	McKnight et al. (2002)
On this platform I can go to exactly what I want quickly.	0.872	Ha and Stoel (2009)
This platform provides reliable information.	0.872	Kim et al. (2008)
This platform provides sufficient information when I try to make a transaction.	0.868	Kim et al. (2008)
I am satisfied with the information that this platform provides.	0.872	Kim et al. (2008)

(*Continued*)

Table 3. Continued

Likert scale statements (1 – strongly disagree; 7 – strongly agree)	Factor loadings	Source
PPR, Perceived reputation of a foreign MSP (AVE = 0.778; total reliability = 0.933)		
This platform is very well known.	0.819	Kim et al. (2008)
This platform has a very good reputation.	0.924	Kim et al. (2008)
This platform's vendors have a reputation for being honest.	0.897	Kim et al. (2008)
Overall, brands sold on this platform are very well perceived.	0.886	Kim et al. (2008)
PPS, Perceived payment security on a foreign MSP (AVE = 0.853; total reliability = 0.946)		
This platform vendor implements security tools (e.g., identification) to protect Internet shoppers.	0.929	Kim et al. (2008)
I feel safe about the electronic payment system of this platform.	0.895	Kim et al. (2008)
I feel secure to use my credit card on this platform to make a purchase.	0.946	Kim et al. (2008)
PCS, Perceived customer service on a foreign MSP (AVE = 0.745; total reliability = 0.946)		
This platform online shopping system fully responds to customer needs.	0.857	Ha and Stoel (2009)
This platform guarantees fast delivery.	0.762	Ha and Stoel (2009)
This platform's customer service personnel are always willing to help.	0.893	Ha and Stoel (2009)
Inquiries on this platform are answered promptly.	0.886	Ha and Stoel (2009)
This platform promises an easy return mode.	0.889	Oghazi et al. (2018)
I believe that the return time limits offered by this platform are very beneficial to consumers.	0.885	Own elaboration
PPB, Perception of products and brands sold on a foreign MSP (AVE = 0.704; total reliability = 0.904)		
This platform offers only reliable products.	0.896	Ozen and Kaya (2013)
This platform offers only original branded products.	0.798	Ozen and Kaya (2013)
This platform offers only high-quality products.	0.881	Ozen and Kaya (2013)
This platform offers many value-for-money products.	0.774	Kim and Niehm, (2009)
PPC, Perception of prices and costs on a foreign MSP (AVE = 0.677; total reliability = 0.926)		
This platform charges low delivery fee.	0.772	Oghazi et al. (2018)
This platform charges low return fee.	0.629	Oghazi et al. (2018)
This platform has attractive discounts and sales promotions.	0.856	Shang et al. (2005)
The prices on this platform are significantly lower compared to other online stores.	0.877	Delafrooz et al. (2009)
The prices on this platform are significantly lower compared to other stationery shops.	0.870	Own elaboration
This platform offers relatively low prices for products.	0.902	Own elaboration
PVP, Perceived value of purchases on a foreign MSP (AVE = 0.777; total reliability = 0.946)		
Compared to the price I need to pay, this platform's offers are characterized by significant value for money.	0.921	Kim et al. (2007)
Compared to the price I need to pay, this platform offers reasonable prices.	0.897	Kim et al. (2007)
Compared to the effort I need to put in, this platform's offer is beneficial to me.	0.796	Kim et al. (2007)
Compared to the time I need to spend, this platform's offer is worthwhile to me.	0.886	Kim et al. (2007)
When I compare what I get for what I give, shopping from this platform offers a good value.	0.902	Kim et al. (2007)
OPI, Consumer online purchase intentions (AVE = 0.785; total reliability y = 0.948)		
I am likely to purchase products in online stores.	0.904	Kim et al. (2008)
I am likely to make another purchase from this online store if I need the products I have purchased.	0.901	Kim et al. (2008)
In the future, I will continuously purchase products from online stores.	0.846	Asharf et al. (2014)
If I have to do this over again, I would choose online purchases.	0.903	Kim and Niehm (2009)
I would recommend online purchases to others.	0.875	Kim and Niehm (2009)
IPFP, Consumer intentions to purchase on a foreign MSP (AVE = 0.771; total reliability = 0.944)		
I am likely to make another purchase from this platform if I need the products I have purchased.	0.883	Kim et al. (2007)
I intend to purchase product on this platform continuously in the future.	0.874	Kim et al. (2007)
I am likely to recommend this platform to other people.	0.889	Kim et al. (2007)
I would say positive things about this platform to other people.	0.868	Kim et al. (2007)
I consider myself to be very loyal to this platform.	0.877	Kim et al. (2007)

Source: Own elaboration.

Table 4. Fornell–Larcker discriminant validity

	CDT	IFOP	IPFP	LI	LSAE	OPI	PCS	PGI	PLQ	PPB	PPC	PPR	PPS	PUOP	PVP
CDT	0.**878**														
IFOP	0.412	0.**852**													
IPFP	0.286	0.473	0.**878**												
LI	0.247	0.328	0.377	0.**868**											
LSAE	0.317	0.378	0.443	0.632	0.**803**										
OPI	0.318	0.527	0.525	0.376	0.415	0.**886**									
PCS	0.290	0.446	0.716	0.332	0.427	0.387	0.**863**								
PGI	0.228	0.335	0.260	0.532	0.509	0.263	0.253	0.**909**							
PLQ	0.325	0.473	0.774	0.409	0.453	0.548	0.707	0.312	0.**868**						
PPB	0.291	0.451	0.704	0.312	0.393	0.334	0.713	0.280	0.637	0.**839**					
PPC	0.236	0.403	0.700	0.373	0.413	0.496	0.653	0.239	0.646	0.547	0.**823**				
PPR	0.293	0.420	0.772	0.386	0.474	0.498	0.710	0.285	0.845	0.655	0.589	0.**882**			
PPS	0.340	0.491	0.683	0.339	0.415	0.468	0.711	0.234	0.655	0.632	0.622	0.624	0.**923**		
PUOP	0.305	0.473	0.439	0.333	0.363	0.725	0.352	0.243	0.503	0.313	0.456	0.457	0.399	0.**866**	
PVP	0.282	0.447	0.746	.380	0.421	0.522	0.678	0.259	0.723	0.626	0.772	0.665	0.642	0.440	0.**881**

Source: Own elaboration with the use of SmartPLS software.

measurable variables, which is required for the measures of reflexive constructs. Thus, the measurement model is acceptable due to its reliability and convergent validity. In order to assess the discriminant validity of the model, we used the Fornell–Larcker criterion [1981] (Table 4).

As shown in Table 4, the square roots of the AVE of all latent variables are higher than the correlations of these constructs with others, and thus the model satisfies the discriminant validity criterion. Before we estimated the structural model, we had checked the collinearity of the predictive constructs (Hair et al., 2014, p. 168) using the Variance Inflation Factor (VIF) index – the VIF indicators for all predictive constructs of the structural model are lower than 5.00 (Hair et al., 2014, p. 170), which indicates the lack of collinearity between these constructs.

Figure 2 presents a diagram of a structural model with standardized regression weights (acceptable values: –1 to 1) representing the strength of relationships between constructs. Inside the circles for endogenous (dependent) variables, there are estimates of the value of the variance explained by the remaining variables.

The model meets the "10 times rule" [Hair et al., 2014, p. 23] required for structural models estimated using the PLS-SEM method. The focal point of the diagram is "consumer intentions to purchase on a foreign MSP" (IPFP) – the most important endogenous variable to which all regression paths lead (directly or indirectly). To estimate the predictive value of the structural model, we calculated coefficient of determination (R2) for each endogenous hidden variable [Hair et al., 2011]. The structural model allows for accurate prediction of the purchase intentions on a foreign MSP (IPFP) – 60.2% of the variable's variance is explained (R2: 0.602). The best direct predictor is "Perceived value of purchases on a foreign MSP" (PVP) (beta regression weight = 0.592).

Table 5 shows the path coefficients estimated using the bootstrapping procedure, which represent hypothetical relationships between hidden variables and the statistical significance of relations between constructs (direct and total effects). As the direct effects may not fully reflect the relationships between the constructs, we assessed both the direct and total effects being a sum of direct and indirect effects, taking into account the indirect influence of a given construct via one/more indirect constructs [García-Machado, 2017]. As Hair et al. [2014] state, the significance of the total effect should determine the hypotheses' verification.

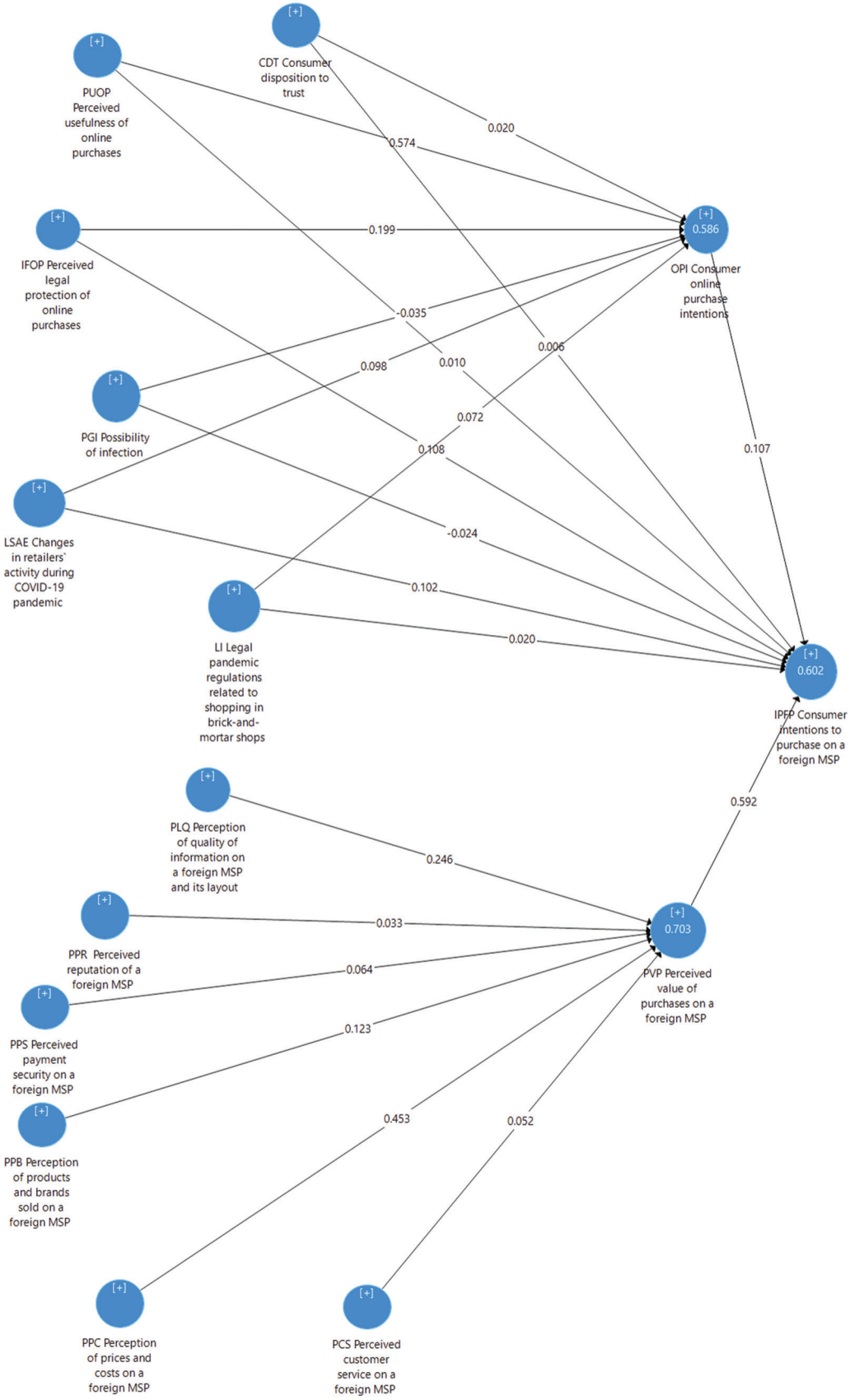


Figure 2. Structural model.
Source: Own elaboration with the use of SmartPLS software.

Table 5. Path coefficients and significance of relations between constructs (direct effects)

		Direct effects			Total effects		
H	**Regression paths**	**Path coefficients**	**T-statistics**	***p* values**	**Path coefficients**	**T-statistics**	***p* values**
H1a	CDT ⇒ OPI	0.020	0.680	0.496	0.020	0.680	0.496
H1b	CDT ⇒ IPFP	0.006	0.212	0.832	0.008	0.290	0.772
H2a	PUOP ⇒ OPI	0.574	16.602	0.000***	0.574	16.602	0***
H2b	PUOP ⇒ IPFP	0.010	0.303	0.762	0.071	1.867	0.062*
H3a	IFOP ⇒ OPI	0.199	6.170	0.000***	0.199	6.170	0***
H3b	IFOP ⇒ IPFP	0.108	3.091	0.002***	0.130	3.735	0***
H4a	PGI ⇒ OPI	−0.035	1.177	0.239	−0.035	1.177	0.239
H4b	LI ⇒ OPI	0.098	2.673	0.008***	0.098	2.673	0.008***
H4c	LSAE ⇒ OPI	0.072	2.029	0.043*	0.072	2.029	0.043*
H5a	PGI ⇒ IPFP	−0.024	0.755	0.451	−0.028	0.862	0.389
H5b	LI ⇒ IPFP	0.102	2.518	0.012**	0.112	2.742	0.006***
H5c	LSAE ⇒ IPFP	0.020	0.541	0.588	0.028	0.729	0.466
H6	OPI ⇒ IPFP	0.107	2.519	0.012**	0.107	2.519	0.012**
H7a	PCS ⇒ PVP	0.246	4.138	0.000***	0.052	0.581	0.561
H7b	PLQ ⇒ PVP	0.033	0.551	0.582	0.246	4.138	0***
H7c	PPB ⇒ PVP	0.064	1.273	0.203	0.123	2.367	0.018**
H7d	PPC ⇒ PVP	0.123	2.367	0.018**	0.453	12.554	0***
H7e	PPR ⇒ VP	0.453	12.554	0.000***	0.033	0.551	0.582
H7f	PPS ⇒ PVP	0.052	0.581	0.561	0.064	1.273	0.203
H8	PVP ⇒ IPFP	0.592	13.164	0.000***	0.592	13.164	0***

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$; $\alpha = 0.10$.

Source: Own elaboration with the use of SmartPLS software.

Based on the tests of significance of regression weights for total effects, we conclude that:

- There is no statistically significant relationship between consumer disposition to trust (CDT) and online purchase intentions (OPI). CDT is also not statistically significant for the intentions to purchase on a foreign MSP (IPFP). Hence, the H1 hypothesis is not supported.
- Consumer perceived usefulness of online purchases (PUOP) is strongly positively related with online purchase intentions (OPI), and there is a positive weak relationship between the PUOP and intentions to purchase on a foreign MSP (IPFP). The H2 hypothesis is thus supported.
- There are strong positive relationships between legal protection of online purchases (IFOP) and consumer online purchase intentions (OPI), and between IFOP and intentions to purchase on a foreign MSP (IPFP). Hence, the H3 hypothesis is supported.
- Changes in retailers activity during the COVID-19 pandemic (LSAE) are strongly positively related to consumer online purchase intentions (OPI), while there is a weak positive relation between legal pandemic regulations on shopping in brick-and-mortar shops (LI) and OPI. However, we found no statistically significant relationship between consumer perception of possibility of getting infected (PGI) and OPI, and thus the H4 hypothesis is only partially supported.
- There are no significant relations with consumer intentions to purchase on a foreign MSP (IPFP) of such conditions of shopping during COVID-19 pandemic as possibility of getting infected (PGI) and legal pandemic regulations on shopping in brick-and-mortar shops (LI), but there is a significant, strong relationship between changes in retailers activity during pandemic (LSAE) and intentions to purchase on a foreign MSP (IPFP). Thus, the H5 hypothesis is partially supported.

- The H6 hypothesis is supported as there is a positive relationship between consumer online purchase intentions (OPI) and intentions to purchase on a foreign MSP (IPFP).
- The hypothesis H7 is partially supported as we found a significant positive relationship between perceived quality of information on a foreign MSP and its layout (PLQ) and perceived value of purchases on a foreign MSP (PVP), as well as a significant positive relationship between perception of products/brands sold on a foreign MSP (PPB) and PVP, and a strong positive relationship between perception of prices/costs on a foreign MSP (PPC) and PVP. However, there are no statistically significant relationships between: perceived customer service on a foreign MSP (PCS) and PVP, perceived reputation of a foreign MSP (PPR) and PVP, and between perceived payment security on a foreign MSP (PPS) and PVP.
- Perceived value of purchases on a foreign MSP (PVP) is strongly positively related to consumer intentions to purchase on a foreign MSP (IPFP), and thus the hypothesis H8 is supported.

5 Conclusions

The results of the study on consumers shopping on foreign MSPs does not confirm the influence of consumer disposition to trust on both online purchase intentions and intentions to purchase on a foreign MSP. It is not in line with studies, according to which disposition to trust influences online purchase intentions [Özen and Kaya, 2013]. However, disposition to trust is of particular importance when neither party to the transaction has gotten to adequately know the other so as to assess their credibility [Hallikanen and Laukkanen, 2018], while the respondents in the present study have already made purchases via MSPs and have experience in this area. According to this study, perceived by consumers usefulness of online purchases is strongly positively related to purchase intentions, whilst for foreign MSP is positive, but weak. These conclusions are consistent with previous studies, according to which perceived usefulness of online purchases has a positive impact on online shopping [Ashraf et al., 2014], and also on purchases via MSPs [Qin et al., 2018].

The conducted survey confirms also the influence of legal protection of online purchases at the national/international level (legal protection of consumer privacy and personal data, protection of purchases' security, protection against violations, ensuring the right to withdraw from a distance-signed contract) on both online purchase intentions and foreign MSP. This study supports the results of Lwin et al. [2007], according to which institutional conditions shape the consumer confidence in online shopping and purchase intentions. Legal protection of online purchases may limit the perceived risk of online purchases on MSPs, and yet according to Qin et al. [2018], the perceived low risk associated with the purchases via MSPs translate into increased purchase intentions, and in turn, low risk and increased confidence can be shaped, e.g., as a result of the existence of appropriate institutional solutions [Kelly and Erickson, 2004].

It can be concluded that such conditions of shopping during the COVID-19 pandemic as lack of open physical stores situated in the proximity of consumers' homes, shortages/limited availability of products, long queues to stores, extended delivery time from online stores, and restrictions on foreign deliveries, are strongly, positively related to online purchase intentions, but these conditions do not impact intentions to purchase on a foreign MSP. In turn, legal regulations on shopping in physical stores during the pandemic (limitation as to the number of people allowed in a physical store at the same time, special hours for seniors, social distance requirements, requirement to close some stores, requirements to cover the nose and mouth and use gloves in physical stores) are positively, but weakly, related with online purchase intentions and intentions to purchase on a foreign MSP. However, this research does not confirm the relationships between the perception of a possibility of getting infected during the COVID-19 pandemic (e.g., by contact with other people in a physical store, or contacting a courier delivering a parcel) with both online purchase intentions and intentions to purchase on a foreign MSP. Thus, the conclusions of the study are partly in line with those of other studies, according to which the pandemic has contributed to changes in consumers' purchasing behavior, as evidenced by, for e.g., avoiding leaving home [PWC, 2020] or more frequent online shopping [UNCTAD, 2020].

According to the authors' best knowledge, so far, no studies on the impact of "general" consumer online purchase intentions on intentions to purchase on a foreign MSP have been conducted. Therefore, the results identifying this relationship expand knowledge pertaining to online buying behavior. This relationship is justified in the light of the conclusions drawn by Kühn and Petzer [2018], according to which online purchase intentions are shaped inter alia by consumers' previous purchase experience.

Consumer intentions to purchase on a foreign MSP are also positively influenced by perceived value of such purchases, and this inference is in line with the results of previous research on online purchase intentions [Silva et al., 2019]. Perceived value of purchases on a foreign MSP is influenced by perceived quality of information on platform's website, its layout, perception of products/brands sold, and prices/costs. In turn, perceived customer service and payment security on a foreign MSP and platform reputation do not affect perceived value of purchases. These results are only partly in line with conclusions of studies confirming the impact of the quality of information on MSP [Hagiu, 2015] and its reputation [Sullivan and Kim, 2018] on consumer online behavior, as well as the impact of perception of products/brands [Özen and Kaya, 2013], perception of prices/costs on perceived value of online purchases, and online purchase intentions. As for a perceived customer service on a foreign MSP impact on perceived value of online purchases, some researchers come to different conclusions [Oghazi et al., 2018]. It can be assumed that Poles pay more attention to low prices/costs on a foreign MSP, and the level of customer service is not so important to them. Discrepancies in results may arise from cultural differences between the studied countries, which may translate into consumer behavior [de Mooij and Hofstede, 2002]. In opposition to the results of this survey, according to Lu et al. [2013], the perception of payment security on MSP translates into consumer purchasing behavior. Similarly to the lack of significant effect of disposition to trust on online purchase intentions as a possible result of that consumers may be more driven by institutional solutions guaranteeing online safety, it is also possible that payment security can be equated with one of these types of guarantees.

These study results allow the formulation of recommendations for business practice as regards the factors determining consumers' online purchase intentions on foreign MSPs. Particular attention should be paid by MSPs' operators to building positive perception of quality of information on MSP, its layout, prices/costs, and products/brands sold, as they have a significant impact on the perceived value of purchases on MSPs. It is therefore necessary to take care of both the appropriate content and visual layer, ensure availability of products/brands desired and positively evaluated by consumers together with their appropriate presentation, and properly shape the pricing policy. This suggests the necessity for conducting marketing research on consumers to better understand their expectations and properly adjust the marketing-mix. Given the significant impact of the perceived usefulness of purchases via foreign MSPs on purchase intentions, it is crucial to ensure that consumers are able to shop quickly, easily, and efficiently. As an important argument to purchase on foreign MSPs is also their legal protection, it is worth considering communicating the protection spectrum. Taking into account the conclusions arrived at with regard to the impact of the conditions of purchasing during the COVID-19 pandemic on purchase intentions on MSPs, one can postulate ensuring convenient (extended) return periods and short delivery times, while communicating that online shopping, unlike shopping in physical shops, does not involve the necessity to go to an (often distant) shop and wait in queues, and carries lower risk of lack of goods. It is also worth remembering that online purchase intentions translate positively into purchase intentions via MSPs. This should be followed by intensive efforts to encourage consumers purchasing online to use these MSPs.

6 Study limitations and directions for the further research

The study has some limitations. First, the sample was restricted to Poles. It would be valuable to conduct studies on consumers from various countries to compare the results, as national culture differentiates consumer behavior [Kim et al., 2008].

The theorems used in the study appear to correctly capture the constructs included in the conceptual model. These claims were evaluated by Poles purchasing on foreign MSPs. However, the possible subjectivity of the respondents' opinions can be pointed out as one of the study's limitations.

In future surveys, other determinants of consumer purchase intentions on foreign MSPs could be taken into account, as well as moderators such as ethnocentrism. We also recommend carrying out qualitative research – that is to say, in-depth interviews with consumers purchasing on foreign MSPs – to deepen the findings of this study and enable a better understanding of the differences in the influence of selected determinants of online purchasing behavior.

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