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Cross-border e-shopping on e-commerce B2C multi-sided digital platforms: Antecedents and moderating role of country of location

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ABSTRACT

Objective: The objective of the article is to investigate the impact of a foreign multi-sided digital platform's (MSP) e-shopping quality (quality of information, payment security, consumer service), image, perceived legal protection of cross-border online purchases on beliefs and attitudes towards cross-border e-purchases on foreign MSPs, along with their influence on e-consumer intentions to purchase, and foreign MSP's country of location as a moderator (EU and USA vs. China).

Research Design & Methods: We surveyed a representative sample of 810 Poles and analysed the gathered data with PLS-SEM.

Findings: Beliefs (with the critical role of trust) and foreign MSPs' ease of use significantly impact e-purchases on foreign MSPs, which is determined by online shopping quality, the image of a foreign MSP, and perceived legal protection of e-purchases. There are differences between consumers purchasing via Western vs. Chinese MSPs regarding the influence of payment security on ease of use and influence on trust in a foreign MSP of the following antecedents: consumer service on a given MSP, its reputation, and perception of prices/costs.

Implications & Recommendations: This article offers valuable insights into e-consumer behaviour useful to MSPs' managers.

Contribution & Value Added: This article develops literature on cross-border e-commerce, especially e-consumer behaviour on MSPs, by examining new factors relevant to online shopping on foreign MSPs and considering the moderating role of an MSP's country of location.

Article type: research article

Keywords: antecedents of cross-border e-shopping; multi-sided digital platforms (MSPs); cross-border e-commerce (CBEC); purchase intentions

JEL codes: M16, M31, F23

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INTRODUCTION

After the COVID-19 pandemic, the development of cross-border e-commerce (CBEC) has accelerated. Therefore, the global value of e-commerce sales will reach 7.4 billion USD in 2025, compared to 4.9 billion USD in 2021 (Statista, 2021). In 2022, CBEC represented 22% of global e-commerce, and China was the leader with a 41% share in 2021 (Accenture, 2019). The CBEC market is projected to attain the value of 2.25 trillion USD by 2026, while in 2019, it was 0.579 trillion USD (Statista, 2021).

Multi-sided digital platforms (MSPs), including Amazon and AliExpress, play an important role in B2C CBEC (Rangaswamy *et al*., 2020), but the majority of studies focus on general issues of CBEC, not specifically foreign MSPs (Chen *et al*., 2023). Moreover, MSPs connect shoppers and suppliers in a single market (Hagiu & Wright, 2015). They sell products from various suppliers and brands, enabling e-

shopping from various countries, and facilitating transactions. E-shoppers buying from abroad amounted to 83% among clients from Nordic countries, 75% – the UK, 65% – the Netherlands, 62% – Germany (Accenture, 2019), and Poland – 46% in 2021 (ARC, 2022). Many European e-consumers shop on MSPs located in the EU, USA, and China. For many of them, AliExpress is one of the top three MSPs (Postnord, 2020). Furthermore, B2C MSPs differ by image, reputation, variety of goods/brands offered and their quality, return policy, and consumer service (Jung *et al*., 2015).

Researchers indicate both foreign MSPs' benefits for e-consumers (*e.g.,* access to a greater variety of products/brands/suppliers from worldwide) (Valarezo *et al*., 2018), and barriers: differing legal protection of e-transactions, consumer data collection, products sourced from many, often little-known suppliers/brands, sale of low-quality products, undermining of high-quality product suppliers by those offering low-quality at lower prices (Hagiu, 2015), and higher perceived risk compared to purchases in mono-brand e-stores, especially domestic (Witek-Hajduk & Targański, 2018).

European Union supports CBEC via initiatives implemented as parts of the EU Digital Single Market strategy reducing barriers when entering into CBEC contracts in the EU, improving consumer protection, *i.e.* privacy and personal data protection, transparency, *etc*. (Valarezo *et al.,* 2018).

Despite increasing e-shopping on foreign MSPs, few studies consider CBEC on foreign MSPs (Ma *et al*., 2022) from consumers' perspective, its legal aspects (Huang & Chang, 2017), and studies considering simultaneously these factors are missing. As indicated by Mou *et al*. (2020), only single articles focus on MSPs and CBEC, therefore it requires further investigation. Studies on e-purchase intention explore mainly risk and motivation perspectives (Mou *et al*., 2017) or the impact of product cognition (Zhu *et al*., 2019). Although some studies on consumer behaviour integrate the theory of planned behaviour (TPB) and technology acceptance model (TAM), much fewer do so in the context of e-consumer behaviour, especially with regard to CBEC and MSPs. Little research explores e-consumer purchase intention and integrates TPB and TAM, which are often theoretical bases in research on e-consumer behaviour. Previous findings do not conclusively determine, which antecedents influence purchase intentions on foreign MSPs. Moreover, the conceptual model of this study is enriched with antecedents that were rarely included or not considered altogether in previous research, *i.e.* perceived legal protection of online purchases. Furthermore, it considers previously not included moderator, *i.e.* MSP's country of location.

Researchers suggest that consumer studies on CBEC should include foreign vendors' country of location as a moderator (Ramkumar & Jin, 2019) as only various consumers' nationalities, not MSPs' countries of location were examined (Mou *et al*., 2020b). Thus, we distinguished two subgroups of e-consumers purchasing on foreign MSPs: (1) who made the largest number of e-purchases in the last year on an MSP located in a foreign EU country or USA (C-WEST); and (2) Chinese MSPs (C-CHIN).

Many studies on e-shopping intentions referred to students – mainly Asians, and North Americans (Xiao *et al*., 2019) – thus nationwide representative samples are needed. Previous studies rarely included the perception of legal protection of CBEC and foreign online vendors' image – although they may determine e-consumer behaviour (Huang & Chang, 2017) also with reference to MSPs originating from developed and emerging countries.

In this study, we will verify the following issues based on a representative sample of Poles: (1) influence of antecedents: e-shopping quality, foreign MSP image, perceived legal protection of cross-border online purchases on beliefs and attitudes towards e-shopping on foreign MSPs; (2) influence of these beliefs/attitudes on consumer intention to purchase on foreign MSPs; and (3) moderating effect of country of location of foreign MSP.

This article adds knowledge useful to managers of MSPs by identifying: MSPs' attributes influencing consumer beliefs regarding CBEC, the impact of legal protection, the influence of e-consumer beliefs about purchases on foreign MSPs on their attitudes and purchase intentions, from the perspective of e-purchases on foreign MSPs, and elements enriching literature on CBEC and e-consumer behaviour by considering investigating new antecedents, suitable to e-shopping on foreign MSPs.

This article is structured as follows. First, the literature pertinent to the consumer behaviour, including the theory of planned behaviour and technology acceptance model, is summarized. Next, the

study method is discussed, and it is followed by the research finding. Finally, the paper provides discussion of the study`s outcomes, its limitations and suggestions for further research.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

The Theory of Planned Behaviour and the Technology Acceptance Model

In many studies on e-consumer behaviour, the most frequently employed theoretical frameworks are the theory of planned behaviour (TPB) and the technology acceptance model (TAM) (Filieri *et al*., 2021). The technology acceptance model fits perfectly various issues of e-consumers behaviour because of its focus on information technologies, proven validity/reliability, extensive application and accumulated research tradition (Sharp, 2007, p. 3). Meanwhile, TPB describes relations between attitudes and one's behaviour, including two sets of beliefs: one's attitudes towards a given behaviour and subjective norms (others' normative expectations), and behavioural control perceived by a consumer, *i.e.* perceptions of the ability to perform a behaviour (Ajzen, 2020). The favourable attitude towards behaviour and supportive subjective norms promote one's motivation to engage in a particular behaviour.

While TPB is a rather vague concept, commonly applied to explain various behaviours (Ajzen, 2020), TAM incorporates constructs from the TPB to formulate a technology acceptance model, assuming that beliefs regarding the ease (effortless) of the usage of a technology influence attitudes toward it (perceived by consumer usefulness, its acceptance and subsequent use) (Davis *et al*., 1989). The variables of TAM include 'better suited to decisions involving few technology usage choices than to situations involving user's voluntary choices,' including online shopping, and sometimes do not capture all the beliefs that determine consumer attitudes toward online shopping and antecedents (Ha & Stoel, 2009, p. 566). This study integrates TPB and TAM: out of TAM, beliefs and attitudes are examined, and as indicated by Ajzen (2020, p. 318) and other antecedents in TPB are also considered: foreign MSP image, image of products and brands sold, their prices and costs (Oghazi *et al*., 2018) – and the quality of e-purchases (quality of information on MSP, security of payment, consumer service (Ha & Stoel, 2009). We scrutinized perceived legal protection, as it may especially impact CBEC (Mou *et al*., 2020a) and e-consumer trust (Kooli *et al*., 2015). The study includes also perceived value which results from the quality of e-shopping or an image of the online seller's influencing e-purchase intentions (Sullivan & Kim, 2018). Studies on e-consumer behaviour on MSPs draw from TPB and TAM and extend them (Oliviera *et al*., 2020).

Quality of E-shopping, Foreign MSP Image, and Perceived Legal Protection as Antecedents

The literature on e-commerce considers various dimensions of e-shopping quality (Ha & Stoel, 2009; Oghazi *et al*., 2018; Widyanto *et al*., 2020; Yang *et al*., 2023), including website's quality of information (whether a given information can be found quickly, is sufficient/reliable); payment security, and consumer service (whether a vendor responds to one's needs, guarantees fast delivery, *etc*.). Sullivan and Kim (2018) and Fang *et al*. (2016) indicate the influence of perceived quality on the perceived value of e-shopping and, consequently, on online purchase intentions, and McKnight *et al*. (2002) – the influence of the website's quality of information on trust towards its gestor. These authors add that it is crucial especially when establishing initial trust, *i.e.* when one starts using a given page, etc. The discussed quality of information is shaped inter alia by its reliability, sufficiency, etc. (Kim *et al*., 2008). In turn, among determinants of payment security, authors indicate such factors as tools protecting buyers (*e.g.* user identification), available payment systems on a given website and confidential data encryption (Adriansahi *et al*., 2020; Kim *et al*., 2008; Oney *et al*., 2017). However, perceived security depends on how well a consumer understands the level of security standards (Friedman, 2000). Considering consumer service, Ha and Stoel (2009) conclude that meeting one's needs, fast deliveries and prompt responses to consumers' inquiries have a direct influence on the ease of use of e-purchases, their perceived usefulness and e-purchase intentions. In turn, Oghazi *et al*. (2018) note that a convenient return policy serves to build trust in an online seller and increases e-purchase intentions. Therefore, both quality of information, payment security and consumer service are important antecedents of e-purchases, besides beliefs about them, *i.e.* the perceived ease of use and trust. Moreover, Kim *et*

al. (2008) confirmed that these factors positively influence consumer trust and the perceived ease of use of e-shopping, resulting in higher purchase intentions. Thus, we hypothesised:

H1: E-shopping quality (ESQ): the quality of information on a foreign MSP (PLQ) (H1a), payment security (PPS) (H1b), consumer service (PCS) (H1c) positively influences perceived ease of use of a foreign MSP (PEU).

H2: E-shopping quality (ESQ): quality of information on a foreign MSP (PLQ) (H2a), payment security (PPS) (H2b), consumer service (PCS) (H2c) positively influences trust in a foreign MSP (TIMP).

Another factor that impacts e-consumer behaviour is the online vendor's reputation, *i.e.* its image, products/brands sold, and prices/costs. It reflects affect-based antecedents and is among the most significant factors to online shopping (Kim *et al*., 2008), including reputation, renown, and honesty. Literature characterizes reputation through past interactions between the parties involved in the transaction and their ratings (Fan *et al*., 2016; Teubner *et al*., 2019). As indicated by Zacharia and Maes (2000), all the above aspects are especially important for first-time transactions. Moreover, consumers increasingly post online information about their purchases. As a result, many ratings of various online sellers are easily available (Reyes-Menendez *et al.,* 2019). Products and brands sold boil down to their reliability, originality, quality and value for money (Özen & Kaya, 2013) with quality being especially important when shopping on foreign MSPs (Mou *et al*., 2020a), *e.g.* consumers purchasing on a Chinese MSP may be concerned about products' quality. It may transfer into the perceived value of e-purchases and consequently into purchase intentions (Özen & Kaya, 2013). Agkeyan-Simonian *et al*. (2012) underline that *e.g.* perceived risk of buying a particular product online with regard to its quality is crucial as consumers cannot examine it physically prior to the purchase. Prices and costs reflect whether all the expenses associated with e-shopping justify the purchase (Oghazi *et al*., 2018). The next aspects that may further raise significance are attractive discounts and sales promotions (Carlson *et al*., 2018). In particular, this regards deal-prone consumers. Kim *et al*. (2008) state that (low) prices/costs positively influence one's trust towards an online vendor. In turn, Sullivan and Kim (2018) highlight that perceived prices transfer into the perceived value of e-purchases, and next – into purchase intentions. Muralidharan *et al.* (2014) underline that monetary cost is one of the key determinants of e-purchases. Considering it, we hypothesised:

H3: Foreign MSP image (FPI), i.e. its reputation (PPR) (H3a), the perception of products/brands (PPB) (H3b), and the perception of prices/costs (PPC) (H3c) positively influences trust in a foreign MSP (TIMP).

Researchers emphasize that the legal protection, *e.g.* sufficient protection of e-consumer privacy and stringent international laws protecting CBEC, may impact one's evaluation of e-transactions and shape confidence to make a purchase (Lwin *et al*., 2007), especially because the institutional-based trust regarding legal protection determines one's trust and e-purchase intentions (Kooli *et al*., 2015). Legal regulations on e-commerce transactions differ between countries/regions. However, in recent years, the protection of consumer rights referring to e-commerce has been largely harmonised within the EU. Moreover, operators of MSPs directing services to consumers residing in the EU should apply the legal protection standards in force in the EU or better, and EU law prohibits a choice of law for CBEC transactions that would deprive EU consumers of protection according to EU standards (Targański & Mokrysz-Olszyńska, 2017).

Other authors support this view (*e.g.* Eastlick & Lotz, 2011; Kooli *et al*., 2014). Legal protection perceived by consumers may be predominantly important for shaping initial trust in an e-retailer (Eastlick & Lotz, 2011) especially as one's personal data he shares with the MSP's provider remains at his disposal after a transaction is made, which may constitute a 'moral hazard problem' (Mou *et al*., 2020b, p. 412). Some even perceive consumer privacy protection as one of the key issues in the growth of e-commerce (Bandara *et al*., 2020). Legal protection can play a distinctive role in purchases outside the EU, namely from China, as European consumers shopping in the EU enjoy special legal protection (Gomez-Herrera *et al*., 2014). Thus, we hypothesised:

H4: Perceived legal protection of online purchases (IFOP) positively influences trust in a foreign MSP (TIMP).

H5: Perceived legal protection of online purchases (IFOP) positively influences the perceived usefulness of purchases in a foreign MSP (PUOP).

H6: Perceived legal protection of online purchases (IFOP) positively influences the perceived value of purchases on a foreign MSP (PVP).

Trust in a Foreign MSP and its Ease of Use

Trust is one's subjective belief assuming that others will fulfil obligations towards him and will act according to the consumer's interest (Yu *et al*., 2015). We may compare trust with an online vendor's trustworthiness, and consumer's general faith in e-shopping (Kim *et al*., 2008). Trust is usually based on previous experiences, *i.e.* crucial factors positively determine the perceived usefulness of online shopping (Ha & Stoel, 2009), their perceived value (Özen & Kaya 2013), and e-purchase intention (Jiang, 2019), also because e-shopping payment often precedes product delivery (Kim *et al*., 2005). Trust may be pivotal to the e-consumer decision-making process (Gou *et al*., 2019), and is more important for online, associated with greater uncertainty, than offline settings (Chen & Barnes, 2007). Trust is a multidimensional construct including inter alia trust towards the retailer itself, towards his country of origin and his website (Safari, 2012). In the international context, Fisher and Zoe Chu (2009) conclude that the vendor's geographical location of the website determines their perceived trustworthiness. As stated by Huang and Chang (2019), the national integrity of the vendor's country, their reputation and policy transfers into his trustworthiness. Besides trust, it may also transfer into consumer privacy and their purchase intentions (Bhattacharya *et al*., 2023). Consumers from the European Union (EECR, 2023) are more confident in their national e-seller which may suggest that they trust them more than foreign ones. Thus, we hypothesised:

H7: Trust in a foreign MSP (TIMP) positively influences the perceived value of purchases on a foreign MSP (PVP).

H8: Trust in a foreign MSP (TIMP) positively influences the perceived usefulness of purchases on a foreign MSP (PUOP).

H9: Trust in a foreign MSP (TIMP) positively influences consumer intentions to purchase on a foreign MSP (IPFP).

Conversely, scholars perceive ease of use as the extent to which technology is effortless and whether one may easily find information regarding an online store's website (Ashraf *et al*., 2014). It directly impacts perceived usefulness (Davis *et al*., 1989) and purchase intention (Abdullah *et al*., 2016). The positive impact of the ease of use on e-shopping is confirmed in some other studies as well (Ying *et al*., 2021), including one on MSPs (Chen & Yang, 2021). Filieri *et al*. (2021) indicate that ease of use positively and directly determines one's satisfaction, as well as behavioural intentions. Thus, we hypothesised:

H10: The ease of use of an MSP (PEU) positively influences the perceived usefulness of purchases on a foreign MSP (PUOP).

Attitudes Towards MSPs and Purchase Intentions

Among attitudes towards MSPs and purchase intentions, the perceived value of e-purchases and perceived usefulness are foregrounded. Sheth (1991) mentions such perceived value dimensions as functional, social, emotional, and epistemic ones, which act independently of each other and additively.

Perceived value usually describes the subjective trade-off between perceived quality and utility (*i.e.* benefits), along with the costs of acquiring a product, is identified with one's attitudes (Özen & Kaya, 2013), being considered a multidimensional construct (Chen *et al*., 2018). Some equate perceived value to the ratio of value for money (Kim *et al*., 2007) Costs are understood broadly, *e.g.* financial ones or perceived risk (Mou *et al*., 2020a). Perceived value has a strong positive influence on e-shopping intentions. Therefore, it may be the key factor affecting purchase intentions (Sullivan & Kim, 2018). Therefore, we hypothesised:

H11: Perceived value of purchases on a foreign MSP (PVP) positively influences consumer intentions to purchase on a foreign MSP (IPFP).

According to TAM, another attitude is the perceived usefulness of online shopping – consumer's belief regarding using a given technology that improves performance, and productivity, and facilitates purchases by saving time or making shopping easier (Moslehpour *et al*., 2018). Moslehpour *et al*. (2018) add that we should understand the perceived usefulness of e-shopping as all the perceived benefits may also constitute an advantage of purchasing in an e-store compared to stationery. Nevertheless, the degree of facitilating e-purchases and its influence on the usefulness of e-shopping in comparision to purchases in stationery stores depends on the stage of e-consumer adoption of purchases via the Internet (Ashraf *et al.*, 2014). The more consumers are familiar with Internet tools, the more they appreciate that e-shopping facilitates the shopping process and higher rate its usefulness, thus increasing their propensity to purchase online. Therefore, we hypothesise:

H12: Perceived usefulness of purchases on a foreign MSP (PUOP) positively influences consumer intentions to purchase on a foreign MSP (IPFP).

Regarding overall e-consumer behaviour, researchers usually consider one's purchase intentions that are justified by TPB, according to which intentions are reliable predictors of one's future actual behaviour (Ajzen, 1991).

Moderating Role of Foreign MSPs' Country of Location

For CBEC, subjective perceptions (lack of trust, cultural barriers, preferences toward domestic suppliers) and objective barriers on the supply side (geographical sales restrictions for products between manufacturers and retailers) can be significant for consumers (Cardona & Martens, 2014). This may explain why consumers tend to choose well-known vendors, and why (positive) experiences motivate them to (re)purchase (Chen & Yang, 2021). Consumers' objections against foreign e-purchases are visible even among European e-consumers shopping in other EU countries (Cardona & Martens, 2014). Therefore, trust plays a crucial role in shaping e-consumer behaviour (Zhu *et al*., 2019). Mou *et al*. (2020a, p. 405) refer to Chinese MSPs to indicate that international buyers may be also 'concerned about the quality of Chinese product, yet they may perceive benefits from purchasing.' This may reflect nationality bias as a (negative) stereotype about a given country-of-origin (location) that impacts consumer behaviour, including attitudes toward products/brands and purchase intentions, which results *e.g.* from assigning lower quality to products/services that originate from a specific country (Hien *et al*., 2020). Thus, we hypothesise:

H13: The relations presented in hypotheses 1-12 have different strengths for consumers who made the largest number of e-purchases in the last year on 'Western' (C-WEST) vs. on Chinese MSP (C-CHIN).

Figure 1 shows the conceptual model reflecting the hypotheses given above.

The conceptual model refers to the TPB and TAM and explains relationships between e-shopping quality, foreign MSP's image and its legal protection of CBEC with beliefs/attitudes towards e-purchases on foreign MSPs, altogether relationships of those beliefs/attitudes with consumer's intentions to purchase on foreign MSPs. Moreover, it considers the foreign MSP's country of location.

RESEARCH METHODOLOGY

To validate the hypotheses, we applied a computer-assisted web interview (CAWI) survey on a representative sample of 810 Polish consumers aged 18-65 years. They were the participants of 'e-panel.pl' by Polish research agency ARC Rynek i Opinia, with approximately 70 000 registered active respondents in the survey year, *i.e.* 2020. We surveyed only consumers who declared purchases on foreign e-commerce MSPs. In total, 48.8% of respondents indicated Chinese MSPs as platforms on which they made the largest number of transactions in the year preceding the survey, while 51.2% indicated EU or US ('Western') platforms. We collected data in June-July 2020.

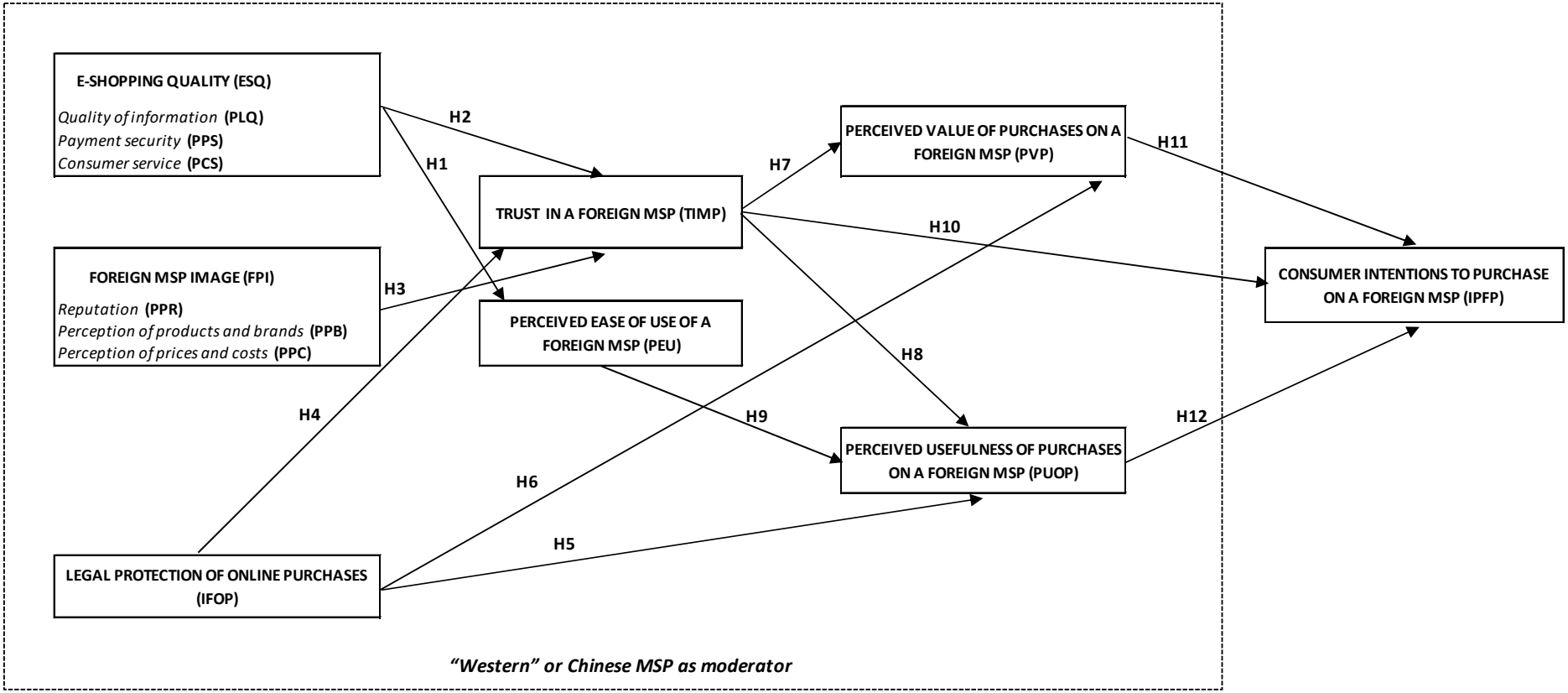

Figure 1. Research model

Source: own elaboration.

The sample's structure (N=810) differs by gender (50.1% M, 49.9% F), age (37.2% -18-34, 43.7% – 35-54, 19.1% – 55-65), residence (18.1% lived in villages, 36.8% – in cities up to 100 000, 45.1% – in cites over 101 000), education primary/basic – 30.8%, secondary – 39.1%, higher – 30.1%), disposable income (in PLN: 1999 or less – 34.1%, 2000-3999 – 43.6%, 4000 and more – 22.3%).

The survey consisted of filtering questions regarding e-purchases on foreign MSPs, metric questions regarding socio-demographic features of participants and their income, and closed ones using a seven-point Likert scale. We sourced the majority of items included within the last group of questions from the literature, *i.e*. previous studies. We did so to apply scales that have been already empirically verified (for details – please see Table 1). In total, we developed and concerned nine items: (1) legal issues, *i.e.* national and international legislation on the protection of e-purchases, legal protection of EU e-consumers and right of withdrawal from a distance contract; (2) perception of prices and costs with regard to lower prices in comparison to stationery stores and overall relatively low prices of products sold on MSPs; and (3) trust in a foreign MSP regarding keeping its commitments, having consumer's best interest in mind and being honest in dealing with customers. The rationale for their development stemmed from the fact that these selected aspects had not been indicated in the questionnaires in earlier studies, while observations of consumer behaviour suggested that they might be relevant. To analyse the data, we applied PLS-SEM (SmartPLS 3 software), for respondents' characteristics – IBM SPSS Statistics 24.0. Noteworthy, PLS-SEM enables testing high complexity of relations between variables and the model's empirical confirmation taking the aspect of causality, which is recommended if variables (*e.g.* measured with Likert scale) do not have normal distributions (Hair *et al*., 2014, p. 46). We applied bootstrapping to estimate estimation errors' distribution and determine the statistical significance of regression paths. After estimating error distribution and determining the statistical significance of regression paths, we conducted the model's quality assessment by applying composite reliability, *i.e.* CR coefficient (acceptable level 0.7-0.95); the accuracy of measurement by applying average variance extracted coefficient (AVE; the level equal to or higher than 0.5) and discriminant validity applying the Fornell-Larcker criterion.

The measurement model can be accepted assuming that measurable variables are not lower than factor loadings describing their correlations regarding hidden variable (minimum value of 0.3); hidden variables explain at least 50% of the variance of their measurable variables (AVE cannot be below 0.5); CR for all constructs is at minimum 0.7.

Adherence to the above recommendations was important as common method bias (CMB) may occur in the PLS-SEM even if a model satisfies the standard assessment criteria based on the confirmation factor analysis (Kock, 2015). Schwartz *et al*. (2017) state that CMB is an insignificant problem, and the problem of correlations between variables measured applying the same method – which predominantly are self-reported surveys – is overstated. Nevertheless, we performed Harman's single-factor test for CMB to establish whether the variance was caused by the reasons rather than by the use of the same types of Likert scales from a single respondent (Fuller e*t al.*, 2016). Considering that the metrics are loaded on a single factor, the number of extracted variance was equal to 48.015% (below the maximum of 50%), which indicated the lack of CMB.

Next, we examined path coefficients and the significance of the difference in path coefficients towards zero using bootstrapping. To verify the H13 hypothesis, we tested the significance of differences in path coefficients regarding the C-WEST and C-CHIN subgroups by using bootstrapping and Welch-Satterthwaite formula.

RESULTS AND DISCUSSION

We evaluated the measurement model's quality with regard to the AVE assessment, total reliability, as well as divergent validity. Table 1 presents factor loadings and synthetic measures for individual constructs.

Table 1. Likert scale measuring reflective constructs, their sources and reliabilities of factor loadings

Statements	Factor loadings	Sources	Statements	Factor loadings	Sources
PCS-Perceived customer service on a foreign MSP (AVE=0.746; TR=0.946)			**PLQ-Perception of quality of information on a foreign MSP and its layout (AVE=0.753; TR=0.948)**		
PCS_1	0.851	Ha & Stoel, 2009	PLQ_1	0.863	Mc Knight *et al.*, 2002
PCS_2	0.769		PLQ_2	0.864	
PCS_3	0.893		PLQ_3	0.872	Ha & Stoel, 2009
PCS_4	0.887		PLQ_4	0.872	Kim *et al.*, 2008
PCS_5	0.89	Oghazi *et al.*, 2018	PLQ_5	0.866	
PCS_6	0.884		PLQ_6	0.869	
PUOP-Perceived usefulness of purchases on a foreign MSP (AVE=0.749; TR=0.937)			**PPC-Perception of prices and costs on a foreign MSP (AVE=0.753; TR=0.938)**		
PUOP_1	0.871	Asharaf *et al.*, 2014	PPC_1	0.75	Oghazi *et al.*, 2018
PUOP_2	0.872	Shang *et al.*, 2005	PPC_2	0.873	Shang *et al.*, 2005
PUOP_3	0.833	Kim *et al.*, 2007	PPC_3	0.895	Delafrooz *et al.*, 2009
PUOP_4	0.893		PPC_4	0.891	Own elaboration
PUOP_5	0.858		PPC_5	0.919	
PVP-Perceived value of purchases on a foreign MSP (AVE=0.777; TR=0.946)			**TIMP-Trust in a foreign MSP (AVE=0.852; TR=0.966)**		
PVP_1	0.921	Kim *et al.*, 2007	TIMP_1	0.929	Kim *et al.*, 2008
PVP_2	0.897		TIMP_2	0.934	
PVP_3	0.794		TIMP_3	0.922	Own elaboration
PVP_4	0.886		TIMP_4	0.896	
PVP_5	0.903		TIMP_5	0.933	
PPB-Perception of products and brands sold on a foreign MSP (AVE=0.722; TR=0.911)			**PEU-Perceived ease of use of a foreign MSP (AVE=0.872; TR=0.965)**		
PPB_1	0.918	Özen & Kaya, 2013	PEU_1	0.939	Asharaf *et al.*, 2014
PPB_2	0.845		PEU_2	0.929	
PPB_3	0.913		PEU_3	0.942	
PPB_4	0.704	Kim & Niehm, 2009	PEU_4	0.927	
IFOP-Perceived legal protection of online purchases (AVE=0.726; TR*=0.949)			**IPFP-Consumer intentions to purchase on a foreign MSP (AVE=0.771; TR=0.944)**		
IFOP_1	0.883	Lwin *et al.*, 2007	IPFP_1	0.887	Kim *et al.,* 2007
IFOP_2	0.842		IPFP_2	0.873	
IFOP_3	0.869		IPFP_3	0.887	
IFOP_4	0.852	Own elaboration	IPFP_4	0.873	
IFOP_5	0.814		IPFP_5	0.881	
IFOP_6	0.876		**PPR-Perceived reputation of a foreign MSP (AVE=0.779; TR=0.933)**		
IFOP_7	0.827		PPR_1	0.793	Kim *et al.*, 2008
PPS-Perceived payment security on a foreign MSP (AVE=0.853; TR=0.946)			PPR_2	0.925	
PPS_1	0.93	Kim *et al.*, 2008	PPR_3	0.907	
PPS_2	0.895		PPR_4	0.899	
PPS_3	0.945		–		

Source: own study (SmartPLS3).

According to Table 1, the interpretation of extracted constructs based on the content of their measures were allowed. Thus, the measurement model was acceptable. Its reliability and convergent validity were correct, *i.e.* values of all factor loadings were higher than the minimum of 0.3; CR for all constructs were higher than 0.7 therefore indicating that there are high levels of correlation between

measurable variables required for measures of reflective constructs and lower than 0.95. Thus, the model was internally consistent; AVE for all the hidden variables were over 0.5.

Model satisfied the criterion of discriminant validity, *i.e.* square roots of the AVE of all latent variables were higher than the correlations of these constructs with others (Table 2).

Table 2. Fornell-Larcker discriminant validity

Variables	IFOP	IPFP	PCS	PEU	PLQ	PPB	PPC	PPR	PPS	PUOP	PVP	TIMP
IFOP	0.852	–	–	–	–	–	–	–	–	–	–	–
IPFP	0.475	0.878	–	–	–	–	–	–	–	–	–	–
PCS	0.445	0.716	0.864	–	–	–	–	–	–	–	–	–
PEU	0.448	0.454	0.384	0.934	–	–	–	–	–	–	–	–
PLQ	0.473	0.774	0.705	0.549	0.868	–	–	–	–	–	–	–
PPB	0.442	0.681	0.708	0.241	0.615	0.850	–	–	–	–	–	–
PPC	0.384	0.669	0.579	0.506	0.613	0.451	0.868	–	–	–	–	–
PPR	0.421	0.772	0.714	0.460	0.845	0.649	0.548	0.882	–	–	–	–
PPS	0.491	0.683	0.710	0.423	0.655	0.616	0.581	0.625	0.923	–	–	–
PUOP	0.472	0.438	0.350	0.756	0.502	0.285	0.448	0.448	0.399	0.866	–	–
PVP	0.447	0.744	0.675	0.473	0.723	0.587	0.752	0.660	0.642	0.440	0.881	–
TIMP	0.512	0.859	0.787	0.434	0.773	0.714	0.606	0.791	0.739	0.421	0.739	0.923

Source: own study (SmartPLS3).

Figure 2 represents the structural model considering standardized regression weights (with acceptable values of -1 to 1) representing the strength of relations between constructs, with values of variance explained by remaining variables considering the inside circles for endogenous variables. It meets the '10 times rule' for estimations applying PLS-SEM (Hair *et al*., 2014, p. 23).

Considering the endogenous variables related to the 'Consumer intentions to purchase on a foreign MSP – IPFP,' 76.7% of the variance was explained (R^2=0.767). Moreover, IFOP, TIMPm and PEU explained 59.6% of the variance of endogenous construct – PUOP (R^2=0.596), while IFOP and TIMP explained 55.2% of the variance of construct PVP (R^2: 0.525). In turn, IFOP, FPI, and ESQ explained 78.3% of the variance of the construct TIMP (R^2=0.783), and ESQ explained only 31.1% of the variance of the construct PEU (R^2=0.311).

Path coefficients evaluated when applying bootstrapping and representing hypothetical relations between hidden variables and relations between constructs' statistical significance were verified (Table 3). Considering that the direct effects may not fully reflect relations between constructs, the hypotheses' verification should be based on the significance of total effects (Hair *et al*., 2014).

Considering the above table, hypotheses tests supported all the postulated paths but two: H1c and H2a. Regarding significance tests of total effects' regression weights, we concluded that:

- PLQ (H1a) and PPS (H1b) positively influenced PEU; there was no significant impact of PCS (H1c) on PEU – H1 partially supported;
- ESQ's dimensions – PPS (H2b) and PCS (H2c) had significant positive influence on TIMP; PLQ (H2a) had no significant impact on TIMP – H2 partially supported;
- FPI's dimensions – PPR (H3a), PPB (H3b); and costs PPC (H3c) had a significant positive influence on TIMP – H3 supported;
- IFOP positively influenced TIMP; PUOP; and PVP – H4, H5, H6 supported;
- TIMP positively influenced PVP and PUOP – H7 and H8 supported;
- PEU positively influenced PUOP – H10 supported;
- TIMP, PVP; and PUOP positively influence IPFP – H9, H11, H12 supported.

To verify H13 hypothesis, we examined differences between consumers' subgroups using the country of location of a foreign MSP (Western markets or C-WEST vs. Chinese MSPs or C-CHIN) as categorical moderators and estimating the moderating impact of these variables on relations between the model's hidden variables (Hair *et al*., 2017, p. 243).

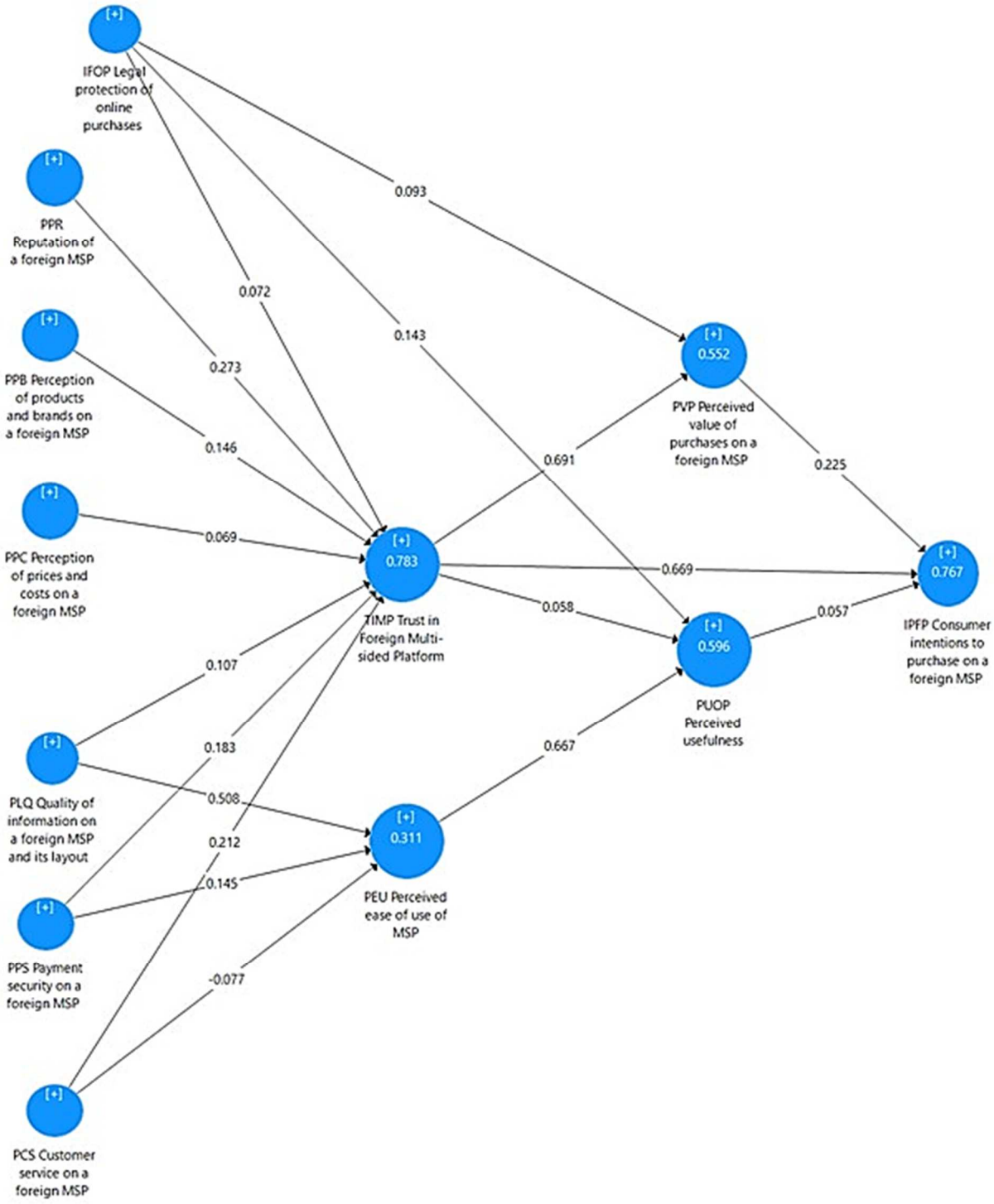

Figure 2. Study's structural model
Source: own elaboration (SmartPLS3).

Table 3. Path coefficients and significance of relations between constructs (considering total effects)

Regression paths	Path coefficients	p
PLQ->PEU	0.508	0.000***
PPS->PEU	0.145	0.012**
PCS->PEU	-0.077	0.194
PLQ->TIMP	0.107	0.126
PPS->TIMP	0.183	0.000***
PCS->TIMP	0.212	0.000***
PPR->TIMP	0.273	0.000***
PPB->TIMP	0.146	0.000***
PPC->TIMP	0.069	0.040**
IFOP->TIMP	0.072	0.004**
IFOP->PUOP	0.143	0.000***
IFOP->PVP	0.093	0.000***
TIMP->PVP	0.691	0.000***
TIMP->PUOP	0.058	0.076*
TIMP->IPFP	0.669	0.000***
PEU->PUOP	0.667	0.000***
PVP->IPFP	0.225	0.000***
PUOP->IPFP	0.057	0.014*

Note: *p<0.10, **p<0.05, ***p<0.01; α=0.10.
Source: own study (SmartPLS3).

Figures 3-4 present structural models estimated by applying PLS-SEM on the samples of C-WEST and C-CHIN.

Table 4 presents path coefficients (total effects) and p-values for models concerning subgroups of consumers C-WEST and C-CHIN.

Table 4. Path coefficients (total effects) and significance of relations between constructs for C-WEST and C-CHIN consumers

Regression paths	C-WEST		C-CHIN	
	Path coeff.	p	Path coeff.	p
PLQ->PEU	0.588	0.000	0.406	0.000
PPS->PEU	-0.028	0.671	0.287	0.001
PCS->PEU	0.039	0.627	-0.100	0.240
PLQ->TIMP	0.123	0.298	0.063	0.311
PPS->TIMP	0.157	0.001	0.191	0.000
PCS->TIMP	0.362	0.000	0.131	0.023
PPR->TIMP	0.177	0.115	0.383	0.000
PPB->TIMP	0.202	0.000	0.133	0.003
PPC->TIMP	-0.077	0.215	0.120	0.007
IFOP->TIMP	0.077	0.041	0.061	0.052
IFOP->PUOP	0.119	0.004	0.169	0.000
IFOP->PVP	0.146	0.000	0.121	0.005
TIMP->PVP	0.711	0.000	0.687	0.000
TIMP->PUOP	0.073	0.155	0.066	0.148
TIMP->IPFP	0.826	0.000	0.824	0.000
PEU->PUOP	0.676	0.000	0.651	0.000
PVP->IPFP	0.227	0.000	0.231	0.000
PUOP->IPFP	0.075	0.030	0.042	0.202

Note: *p<0.10, **p<0.05, ***p<0.01; α=0.10; coeff. – cofficients.
Source: own study (SmartPLS3).

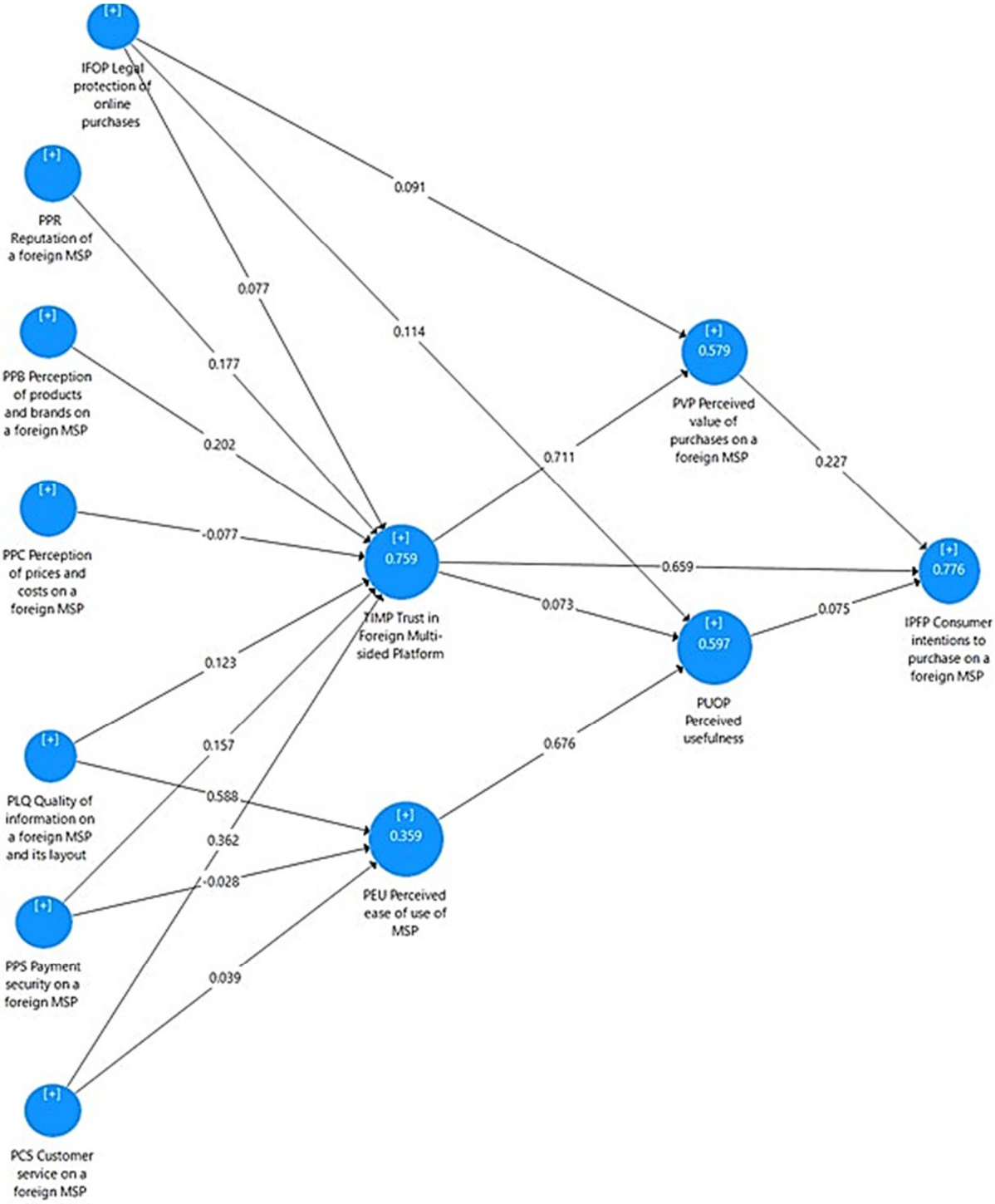

Figure 3. Structural model for C-WEST sample
Source: own elaboration (SmartPLS3).

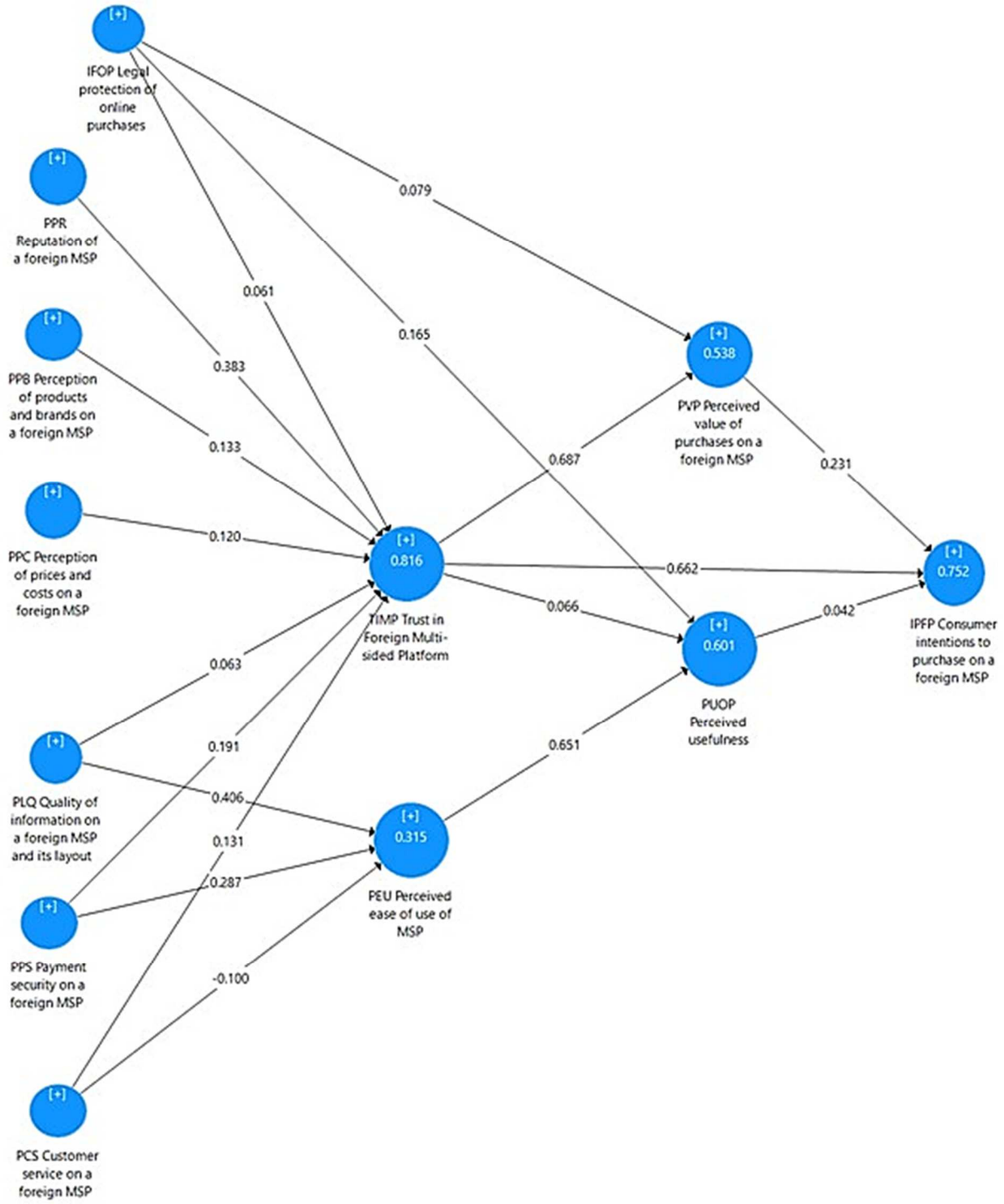

Figure 4. Structural model for C-CHIN sample
Source: own elaboration (SmartPLS3).

As shown in Table 4, significance tests of regression weights (considering total effects) for subgroups of consumers C-WEST and C-CHIN indicated that:

1. For C-WEST and C-CHIN, there are strong statistically significant relations between PLQ and PEU; PPS and TIMP; PPB and TIMP; IFOP and PUOP; IFOP and PVP; TIMP and PVP; PEU and PUOP; TIMP and IPFP; PVP and IPFP;
2. For C-CHIN, there are strong statistically significant relations between PPS and PEU; PPR and TIMP; PPC and TIMP, while for C-WEST no such relations were found;
3. For C-WEST, there is a strong statistically significant relation between PUOP and IPFP, while for C-CHIN no such relation was found;
4. There are statistically significant relations between PCS and TIMP for C-WEST (strong) and C-CHIN (weaker);
5. There are weak statistically significant relations between IFOP and TIMP for C-WEST and C-CHIN;
6. For C-WEST and C-CHIN, there are no statistically significant relations between PCS and PEU; PLQ and TIMP; TIMP and PUOP.

To verify H13, we first tested the significance of differences in path coefficients in subgroups C-WEST and C-CHIN using the bootstrapping and Welch-Satterthwaite equation (Table 5).

Table 5. Welth-Sutterthaith test: C-CHIN vs C-WEST

Regression paths	Path coefficients-differences	p
PLQ->PEU	-0.181	0.128
PPS->PEU	0.314	0.004
PCS->PEU	-0.139	0.236
PLQ->TIMP	-0.061	0.646
PPS->TIMP	0.034	0.628
PCS->TIMP	-0.231	0.009
PPR->TIMP	0.206	0.093
PPB->TIMP	-0.069	0.292
PPC->TIMP	0.196	0.010
IFOP->TIMP	-0.017	0.734
IFOP->PUOP	0.052	0.395
IFOP->PVP	-0.011	0.847
TIMP->PVP	-0.023	0.716
TIMP->PUOP	-0.007	0.914
TIMP->IPFP	0.003	0.971
PEU->PUOP	-0.025	0.703
PVP->IPFP	0.004	0.958
PUOP->IPFP	-0.033	0.490

Source: own study (SmartPLS3).

Table 5 shows that the distinguished subgroups of consumers C-WEST and C-CHIN were characterized by similar values of path coefficients for the majority of the pairs of variables in the model. We found significant differences between C-WEST and C-CHIN only for the following pairs of variables:

- PPS -> PEU;
- PCS -> TIMP;
- PPR -> TIMP (weak);
- PPC -> TIMP.

CONCLUSIONS

Extending TAM with additional belief variables, *i.e.* foreign MSP image and legal protection, this study confirmed that e-shopping quality on foreign MSPs (i.*e.* the quality of information and payment security) positively influences the ease of use, while consumer service is not significant. Maybe because

MSPs do not differ significantly by consumer service, *e.g.* return mode. For trust in a foreign MSP, consumer service and payment security play an important role – similar to previous studies (Puntatoya, 2019) – with no significant impact of the quality of information on MSP, unlike in other research (Ha & Stoel, 2009). Concerning the high importance of payment security, almost half of respondents in the year preceding the survey had mainly made purchases on Chinese MSPs, so their legal protection was lower. Meantime, the issue of security is one of the key concerns regarding e-purchases and is linked also to the legal protection of consumers, *e.g.* rights regulating online payments (Amin & Nor, 2013) or the right to get secure repayment if the product does not meet arrangements makes consumers more confident in e-purchases (Oktavilia & Tohari, 2023). Respondents indicated a significant role of consumer service in building trust in foreign MSPs – *e.g.* whether they receive information quickly – so the quality of information available on the site is less meaningful. As in Hagiu's (2015) study, all e-shopping quality dimensions, and payment security influence trust and ease of use of purchases on foreign MSPs. Moreover, this research confirms the significant influence of foreign MSP image on consumers' trust, thus supporting its addition to TAM (Özen & Kaya, 2013). Similarly, legal protection (Kooli *et al*., 2015) directly and positively affects trust, perceived usefulness and value of purchases on foreign MSPs. Although we did not identify studies relating to MSPs and legal protection, our results are consistent with the findings of Qin *et al*. (2018) who noted that perceived low risk of CBEC transfers into an increase in purchase intentions – as perceived low risk increases trust, and moreover these factors are shaped by appropriate institutional arrangements, including legal protection.

This study supports other TAM research (Ha & Stoel, 2009), as beliefs positively affect attitudes toward CBEC, with trust directly influencing the perceived value and usefulness of purchases on foreign MSPs, while ease of use influences usefulness. Similarly. to other studies, we noted the direct positive influence of trust on purchase intentions on foreign MSPs, and the perceived value and usefulness of purchases on foreign MSPs, with trust being the strongest determinant. Again, a high percentage of respondents who purchase mainly on Chinese MSPs may explain the phenomenon of the highest impact of trust on purchase intentions on foreign MSPs.

This study confirmed significant differences between subgroups of consumers C-WEST and C-CHIN regarding the influence of payment security on ease of use of a foreign MSP, along with the influence on trust in a foreign MSP of such antecedents as consumer service on a given MSP, reputation of a foreign MSP, and the perception of prices/costs. However, payment security on a foreign MSP influences the perceived ease of use and reputation of a foreign MSP only for C-CHIN, along with the perception of prices/costs impacting trust in a foreign MSP. As in other studies (Gomez-Herrera *et al*., 2014), the significance of payment security for perceived ease of use of an MSP for consumers purchasing mainly on Chinese MSPs, may stem from the higher perceived risks (*e.g.* financial) and their non-positive reputation. The impact of the perceived reputation of an MSP on trust for this MSP for C-CHIN consumers may result from doubts of EU consumers regarding Chinese products and sellers (Mou *et al*., 2020a). Following Huurne *et al*. (2017), the reputation of an MSP may guarantee customers that they will not be disappointed, increasing trust in an MSP.

Considering the relationship between perception of prices/costs and trust in a foreign MSP for C-CHIN consumers only, they focus on relatively low prices (Mou *et al*., 2020a) offered by Chinese platforms, while following the relatively low (monetary) risks associated with these purchases, because perceived risk increases as the prices increase, which may transfer into trust increase. The perceived usefulness of e-purchases strongly influences the intention to purchase on foreign MSPs only for C-WEST consumers. We found no such impact is found for C-CHIN.

As we mentioned above, when purchasing Chinese MSPs, both C-CHIN and C-WEST consumers may focus on relatively low prices, not attaching high importance to the perceived usefulness of e-purchases. According to the report by Gemius (2020), Poles shopping online are predominantly driven by (low) prices and low delivery costs. Moreover, the impact of consumer service on a foreign MSP on trust in a foreign MSP is stronger for C-WEST consumers. As previous studies show, various stereotypes about the country of origin matter, including the location of a foreign MSP (Mou *et al*., 2020a), hence consumers may better perceive Western MSPs than Chinese.

The study extends international marketing literature, especially on CBEC and e-consumer behaviour with reference to MSPs, by investigating new antecedents of consumer behaviour that are relevant to CBEC on foreign MSPs, *e.g.* the legal protection of e-purchases as an important determinant of e-consumer behaviour in the international context (Huang & Chang, 2017). This research also examines the moderating role of an MSP's country of location, which, according to our best knowledge, has not yet been considered along with consumers' purchase intentions on foreign MSPs. It integrates TPB and TAM, providing new TAM antecedents and empirically verifies their validity, and focuses on CBEC on foreign MSPs, which have not yet been the subject of comprehensive research. Considering changes in consumer behaviour over time (Matt *et al*., 2019), it updates knowledge on CBEC and e-consumer behaviour. Moreover, it is based on a study on a representative national sample of consumers from a European emerging market, unlike the majority previous studies on non-representative samples, often students from Asia and the USA.

The research was limited to Poles. Therefore, it would be valuable to conduct studies investigating other nations and considering cultural differences. Other factors determining e-consumer purchase intention on foreign MSPs are worth considering, *e.g.* socio-demographic, psychographic factors, and other product categories. To provide a more comprehensive picture of consumer behaviour, scholars could consider qualitative studies. The moderating role of the. stage of e-shopping adoption of a consumer on, *e.g.* perceived usefulness of purchases on foreign MSPs should also be considered, because of its importance for e-consumer behaviour (Ashraf *et al*., 2014).

When shaping MSP's international marketing strategy, managers can benefit from this study's identification of antecedents of CBEC and e-consumer purchase intentions. When creating an international marketing strategy, MSPs' decision-makers should focus both on e-consumers' beliefs about CBEC on foreign MSPs (with the dominant role of trust), and e-shopping quality, MSP image, and the perception of the legal protection of CBEC, which may all significantly impact e-consumers' beliefs, attitudes and purchase intentions. As perceived legal protection of CBEC is a significant factor affecting *e.g.* trust in a foreign MSP (and transferred into e-purchase intentions), authors recommend highlighting this aspect on a website to deliver consumers higher confidence in e-purchases. We postulate analogous recommendations for other issues considered in this study, e.g., different aspects of e-shopping quality and foreign MSP image. Noteworthy, although some factors occurred not to be significant for e-consumer behaviour (*e.g.* consumer service), such conclusions require careful consideration. This aspect should not be ignored when shaping strategies and become a subject of in-depth studies, as high standards for consumer service are normal nowadays.

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