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Abstract: The COVID-19 pandemic rapidly accelerated digitization in all fields of trading, especially in the B2C sector. The pandemic restrictions deepened the era of social distancing between young consumers and drew them further into the online environment, which allowed e-merchants to impress them even more, and with more ease, with the use of suitable online marketing communication. The overabundance of e-shops on the market may be very confusing for the consumer at this time, meaning that the corporate online reputation and its sustainability has never been as important as it is now. The investigation of online shopping consumer behavior and the factors that determine it is at the center of interest in both academic and practical spheres. In our study, we focused in more detail on investigating the relationship between the online shopping consumer behavior of young consumers and the perceived reputation of an e-shop in the era of digitization. The research sample consisted of 633 young consumer respondents. The method of exploratory factor analysis (EFA) was used in order to investigate the factors of online shopping consumer behavior, and the method of Ordinary Least Squared (OLS) model regression analysis was used to evaluate the relationships between individual factors and the perceived reputation of an e-shop. According to the results of EFA, four factors were identified: digital security, e-shop services, e-trust, and social responsibility and promotion. Subsequent testing confirmed the significant relationship between factors of online shopping consumer behavior and the perceived reputation of an e-shop in five cases.

Keywords: reputation; online shopping behavior; young consumers

# 1. Introduction

The significant development of technology, together with the growing number of people with internet connection, has enabled the development of new forms of business (in an online environment), i.e., e-commerce. Millions of people shop online every day, and the number of purchases and transactions carried out in online sales is staggering. The attractiveness of online shopping has increased significantly due to the events of recent years (in particular, the COVID-19 pandemic) and caused an enormous increase in the number of online retailers. On one hand, buyers have a wide range of e-shops to choose from, but on the other hand, there is a higher risk of becoming a victim of fraud e-shops. Higher risks have led to increasing requirements for security and trustworthiness of the e-shops. When shopping online, customers want to have a guarantee that their goods will actually arrive and/or that they will receive their money back in the case of a return. In connection with the above, the question of reputation is discussed extensively. The perception of a company's reputation is one of the main factors when choosing an e-shop. In the area of this issue, studies have already been carried out regarding the analysis of the reputation of e-shops based on secondary data [1,2], but we see the scientific potential and originality of this case study precisely in the analysis of the perceived reputation of customers, on the basis of primary data. Today's young consumers represents the first generation of complete digital natives, for whom the covid pandemic has further strengthened the appetite for the digitization of their normal activities, which includes



Citation: Škerháková, V.; Ali Taha, V.; Tirpák, D.; Kráľ, Š. Perception of Corporate Reputation in the Era of Digitization: Case Study of Online Shopping Behavior on Young Consumers. *Sustainability* **2022**, *14*, 14302. https://doi.org/10.3390/ su142114302

Academic Editor: Stefan Hoffmann

Received: 30 September 2022 Accepted: 31 October 2022 Published: 1 November 2022

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**Copyright:** © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). shopping and socializing. This type of consumer will therefore have the greatest online shopping potential in their productive age. The research gap of this paper was filled by the identification of the factors affecting their perception of an e-shop's reputation, based on the obtained primary data.

### 2. Literature Review

Oghazi et al. [3] highlights the purchase uncertainty that is caused by the distance between customer and product, as well as by the temporal gap between purchasing the product and receiving it. This uncertainty has increased the need for trust between consumer and retailer, as well as the need for online retailers to have a good reputation. The e-merchant's reputation significantly affects the consumers' level of trust [4]. Reputation is defined as the "extent to which buyers believe a selling organization is honest and concerned about its customers" [5], "a signal of the seller's quality, as perceived by the buyer" (Baker et al., 1998, in [6]). It is considered to be a key factor of consumers' confidence and trust [7], and helps to reduce uncertainty, strengthen trustworthiness, improve integrity, and promote reliability in ongoing transactions and post-purchase situations [3]. The reputation management of websites positively affects its profitability and success [8]. Website credibility is determined by its visibility, distinctiveness, authenticity, transparency, and consistency [7]. Website quality attributes, such as its quality, design and functionality, are important to individuals when assessing a company's credibility and reputation [9].

Reputation represents a valuable asset that requires a long-term investment of resources, effort, and attention to customer needs. Building an online reputation in the digital world requires constant monitoring. In the case of the slightest threat detection, the necessary procedures must be applied immediately in order to prevent the website's reputation being damaged [1]. The most significant opinion and reputation former in the e-commerce sector in Central Europe is Heureka [2]. Customers can rate their experiences of online purchases on a scale, which creates an overall rating of the e-shops from the recommendations made by customers for further online purchases. The impact of social media on e-businesses is growing. The need for personal interactions in communication with followers, and the demand for prompt responses or an immense amount of content on social media brings attention to the knowledge of succession in digital environment [10].

Another important construct that should be taken into account in the context of ecommerce is trust, as it significantly influences consumers' intentions to buy products from an online seller. The question of trust primarily arises in connection with the lack of control customers have over other people's access to their personal information, but is also a result of the impossibility to touch or try on products before purchase [11]. Trust has been defined by McKnight & Chervany (1996) as "the extent to which one party is willing to depend on the other party in a given situation with a feeling of relative security, even though negative consequences are possible" [12]. Trust is crucial in providing assurance of an honest and transparent purchase transaction and assures privacy and security (Chen & Dibb, 2010; Mukherjee & Nath, 2007, in [3]). Trust is closely interrelated with risk: "the higher the perceived risk, the greater the trust needed to facilitate a transaction" (Mayer et al., 1995, [11]). According to Pavlou [13], the spatial and temporal separation between consumers and online retailers, as well as the unpredictability of the internet's infrastructure, generates an implicit uncertainty related to online transactions. This uncertainty is associated with the risk of monetary loss (since consumers have to rely on electronic information and thus become vulnerable to incomplete or distorted information provided by online retailers and third parties) and with the risk of a loss of privacy, associated with providing personal information. The high level of uncertainty and risk present in most online transactions only underlines the importance of trust in e-commerce [13]. The positive relationship between trust and purchasing intention was confirmed [14].

Consumer buying behavior is defined as "the process by which individuals search for, select, purchase, use, and dispose of goods and services, in satisfaction of their needs and wants" [15]. Online shopping behavior refers to the process of purchasing products or

services via the internet that consists of five steps similar to those associated with traditional shopping behavior (Liang and Lai, 2000, in [16]).

Online shopping behavior is affected by many factors. In addition to the reputation mentioned above, there are many other factors. Daroch et al. [17] tried to identify factors limiting online shopping behavior of consumers, while pointing to the most common reasons for customers avoiding online shopping. The most common reasons include: (1) quality, which is the main factor, and prevents consumers making online purchase (Alam and Elaasi, 2016); (2) authenticity of the products, that is, the risk of fake products (Jun and Jaafar, 2011); (3) fear of online theft and non-reliability (Karthikeyan, 2016); (4) risk of incorrect information on the website, which may lead to a false purchase (Liu and Guo, 2008); (5) unclear return and exchange policies on the website; (6) insecurity around purchasing from the sites, caused by insufficient or incomplete information about online retailers (Limbu et al., 2011); (7) consumers' feelings of anxiety concerning sharing their personal information with online vendors, due to scams (Miyazaki and Fernandez, 2001; Limbu et al., 2011); (8) the dangers of online shopping because of the various risks involved with it (Cheung and Lee, 2003; George et al., 2015; Banerjee et al., 2010); (9) the fear of the possible misuse of personal information, such as emails, phone and mailing address, debit card or credit card numbers by other vendors or any other person (Lim and Yazdanifard, 2014; Kumar, 2016; Alam and Yasin, 2010; Nazir et al., 2012); (10) the dangers of damaged products and fake deliveries, delivery problems or products not received (Karthikeyan, 2016; Kuriachan, 2014); (11) problems while returning or exchanging products that have been purchased from online vendors (Liang and Lai, 2002); (12) problems with unnecessary delays (Muthumani et al., 2017); (13) design of the e-store or website navigation (Liang and Lai, 2002) [17]. Factors that influence customer satisfaction with online shopping include product preferences, number of products with discount, shopping experience, customer services, efficient product distribution and logistics, perceived consumer risk, after sales services, financial security of the transactions, site design, factors of entertainment, convenience, reliability, and information quality, and website quality (Lakshmanan, 2016; Evanschitzky et al., 2004; Sirrka & Peter, 1996; Kim & Lim, 2001; Bai et al., 2008; Jasur & Haliyana, 2015); in [18]). In addition, at present, consumers are more interested in the global resources and community and that is what they expect from the brands and retailers they buy from [15]. The current study is concerned with the factors mentioned above. In short, this research study aims to examine the factors impacting young consumers' online purchasing behavior, after the Covid-19 pandemic, with an emphasis on corporate reputation.

## 3. Materials and Methods

The aim of this research was to investigate the relationships between online shopping consumer behavior and the perceived reputation of an e-shop on young consumers in the post-pandemic era. The primary data were obtained from self-administered questionnaires. The research sampling had been conducted on the accessible population of young consumers (respondents were between the ages of 17 to 29 years old). With the use of a nonprobability sampling method, the technique of convenience sampling was applied [19]. The primary data were obtained from April 2022 to June 2022. The first part of the questionnaire contained questions aimed at investigating the social and demographic characteristics of our respondents. Based on the literature and theoretical background, it was assumed that these characteristics can also play a significant role in our analysis; therefore, respondents' characteristics, such as gender, age, and income, were investigated. The body of the questionnaire consisted of factual statements focused on the prerequisites associated with online shopping behavior in order to construct the factors affecting e-shop reputation. The e-shop reputation, as an independent variable, represents the perceived e-shop reputation by our respondents, derived from their statement about its importance while shopping online. Our interest was not focused only on the overall perceived e-shop reputation, but also on the importance of social media (expressed through the size of

follower tribe on social media Facebook/Instagram) and online e-shop reputation (derived from the importance of the reviews on Heureka.sk) in the context of a reputation issue. All variables are summarized in Table 1. The items were close-ended and evaluated by respondents on a 5-point Likert scale (1-never; 2-rarely; 3-occasionally; 4-often; 5-always).

Table 1. Variables.

Variable	Item
SD1	Gender [20]
SD2	Age [20]
SD3	Income amount [21,22]
V1	I was concerned about misuse of my personal data while shopping online [22-24]
V2	I was concerned about misuse of my payment data while shopping online [22-24]
V3	I started to trust online shopping and e-shops more [2,20]
V4	I agreed with the use of cookies customization when searching for products [25]
V5	For online purchases, I used e-shops that provided the fastest possible method and delivery date [26]
V6	For online purchases, I used e-shops that was offered to me through the advertisement on social media [20]
V7	For online purchases, I used e-shops that had lower prices compared to other e-shops [27]
V8	For online purchases, I used e-shops that had a better overall functionality of the e-shop [25,28,29]
V9	I bought online goods that I didn't plan or didn't need [30]
V10	For online purchases, I used e-shops that offered special offers (discounts) [27]
V11	For online purchases, I used e-shops that offered free shipping [22]
V12	I shopped online through the e-shop which promoted an eco/bio products [31]
V13	For online purchases, I used e-shops that were advertised on media [20]
V14	I shopped online through the e-shops recommended by my relatives and friends [21,32]
V15	I started shopping more often through Slovak e-shops [21]
V15	For online purchases, I used e-shops that provided wide range of payment methods [21,22]
V16	I used a private browser while shopping online [23,25]
V17	For shopping, I used e-shops that offered the option of cash on delivery [21]
V18	For online purchases, I used e-shops that promoted a wide range of domestic products [31]
V19	For online purchases, I used e-shops that were involved in CSR activities [31,33,34]
V20	For online purchases, I used e-shops that had online support/online chat on the site [29]
V21	For online purchases, I used e-shops that were members of Slovak Association of Electronic Commerce (SAEC) [33]
V22	For online purchases, I used e-shops that had high overall reputation [9,30,33]
V23	For online purchases, I used e-shops that had many followers on social media [35]
V24	For online purchases, I used e-shops that had high rating on Heureka.sk [2]

Source: elaborated by the authors.

In order to fulfil the aim of our research, it was necessary to decompose it into partial research tasks:

- Creation and verification of the significance of the factors of online shopping consumer behavior.
- Examine the relationship between investigated factors of online shopping consumer behavior and selected social and demographic characteristics.
- Examine the relationship between the investigated factors of online shopping consumer behavior and e-shop reputation on social media.
- Examine the relationship between the investigated factors of online shopping consumer behavior and online e-shop reputation.

• Examine the relationship between the investigated factors of online shopping consumer behavior and the overall perceived reputation of the e-shop.

At this stage of research, the research question could be formulated:

"Are the factors affecting the overall perceived reputation of the e-shop, online e-shop reputation, e-shop reputation on social media the same?"

In this research, 633 respondents participated, where the research sample consisted of 208 males (32.9%) and 425 females (67.1%), with an average age of 22.23 years (med = 21 years). The average monthly income of the respondents was at the level of 299.46 eur (approx. 300 eur), while the median income represents 150 eur. Mostly young respondents from the post-Millennial generation participated in this research, as it is observed from the demographic characteristics of respondents.

The analytical processing of data in this research was divided into two parts in order to fulfil the research aim. The first part was aimed at verifying the significance of the factor structure of the assumed model. The aim of the second part of our analysis was to assess the relationships between individual factors and selected characteristics. Exploratory factor analysis (EFA) was applied in order to identify the individual factors, which were derived by using maximum likelihood. The rotation of the factors was realized by using oblique nonorthogonal rotation through the Oblimin method. The results of the factor analysis were assessed through the Bartlett's test, the Kaiser-Meyer-Olkin test (KMO), the root mean square error of approximation, and the Tucker Lewis index (TLI). The reliability of individual factors was approximated using Cronbach's  $\alpha$ . The Ordinary Least Squared (OLS) model regression analysis was used to assess the relationships between individual factors and selected characteristics. This model was chosen on the basis that the relationships between the latent factors and the manifest variables were estimated based on the interval dependent variable. Subsequently, while modelling, the assumptions of the model were evaluated based on the Gauss-Markov theorem, such as the variability of the constancy of residues (Breusch-Pagan test) and multicollinearity (Variance inflation factor-VIF). In the case where the significant degree of heteroscedasticity was identified, the sandwich method of approximating the significance of the coefficients was applied using the HC3 estimator. Statistical software JASP (v. 0.16) and programming language R (v. 4.2.1—Funny-Looking Kid) were used for processing the data.

# 4. Results

In the first part of our analysis, the EFA was applied with the aim of confirming the assumed factor structure. The maximum likelihood method was used to derive the factors, and the factor rotation was carried out by oblique rotation using the Oblimin method. Parallel analysis, with the selected composition of manifest variables, recommended the number of five factors, and analysis based on Eigenvalue lower than 0.7 recommended three factors. In this case of estimating the number of factors, four factors were chosen that correspond most appropriately with the theoretical background of this issue, as well as with the positive output of the mathematical-statistical indicators listed below.

Several proving techniques were applied in testing the credibility of the factors structure, and it was proven that it can be perceived as sufficiently reliable, while Bartlett's test presented a  $\chi^2$  value at 241,000 degrees of freedom at the level of 9949.355 (*p* value < 0.001), and similar results were showed by the  $\chi^2$  test ( $\chi^2 = 658,428$ , df = 149, *p* value < 0.001). The Root Mean Square Error of Approximation (RMSEA) showed the level of 0.073 (CI 90% = 0.068–0.079) and the TLI acquired a level of 0.903. The KMO output was at the level of 0.925. The measures of variability of the model factors are presented in Table 2. The four constructed factors explained 56.9% of the variability of the model, which is considered as an acceptable level. Based on the aforementioned measures, this model can be perceived as valid and reliable. More specific outputs of the presented model can be found in Appendix A (Table A1).

	Ur	nrotated Soluti	ion	F	Rotated Solution	n
	SumSq. Loadings	Proportion Variable	Cumulative	SumSq. Loadings	Proportion Variable	Cumulative
Factor 1	10.122	0.405	0.405	5.316	0.213	0.213
Factor 2	1.987	0.079	0.484	4.492	0.18	0.392
Factor 3	1.28	0.051	0.536	2.283	0.091	0.484
Factor 4	0.824	0.033	0.569	2.123	0.085	0.569

Table 2. Factor Characteristics.

Source: elaborated by the authors.

The descriptive analysis of manifest variables is presented in Table 3. Individual variables were evaluated by the respondents, using a Likert scale on a level from 1–5, in which 1 meant never, 2: rarely, 3: occasionally, 4: often, 5: very often. Subsequently, the focus was oriented on the measures of reliability presented by Cronbach's  $\alpha$ , which acquired sufficient values in all cases, so the further work with the factors was allowed. Individual variables were averaged within individual factors, creating four average values representing the mentioned factors. The basic characteristics of the descriptive analysis for these variables are also showed in Table 4. The young consumers take into account an eshop reputation on social media while choosing an e-shop (almost 56 percent of them stated that it is frequently). A very interesting finding was observed in the case of online e-shop reputation importance for our respondents, expressed through the high rating of an e-shop on Heureka.sk, which represents the most significant reputation former in the e-commerce in Central Europe. The results of the descriptive statistics indicates that 42.5 percent of our respondents never form their opinion on the basis of the online reputation rating of an e-shop and 20.5 percent of them only rarely. In the case of overall perceived e-shop reputation (which contains also word-of- mouth and recommendations from relatives and friends), the distribution of the answers for individual options was very balanced, in opposition to the previous two analysed determinants of reputation, but it can be stated that approximately 73 percent of young consumers care about overall perceived e-shop reputation while shopping online. According to the results of the frequency analysis, it can be concluded that young consumers primarily take into account the e-shop reputation on social media while online shopping in general. Further testing could bring insight on the confirmation of the significancy between these determinants of reputation and analysed factors of online shopping behavior of young consumers. Based on the theoretical background and character of the manifest variables encompassed in the individual factors of this model, these factors were named: 1. Digital security; 2. E-shop services; 3. E-trust; 4. Social responsibility and promotion.

The second part of the analysis was devoted to the assessment of the relationships between individual factors through linear regression analysis. Four regression models were constructed, where the factors entered the analysis as a dependent variable. The independent variables in these models were represented by gender (as a factor with the reference category—male), age, income amount, e-shop reputation on social media, online e-shop reputation, and the last variable was the overall perceived e-shop reputation. The condition of variability of residuals—homoscedasticity and collinearity of independent variables—was verified. Identical independent variables were tested in all four models, so the output of collinearity was placed at the beginning of this analysis: the variance inflation factor (VIF) did not show a value higher than five for any independent variable (VIF: gender = 1.279; age = 1.31; income amount = 1.295; e-shop reputation on social media = 1.114; online e-shop reputation = 1.23; overall perceived e-shop reputation = 1.013), therefore, it was concluded that the level of multicollinearity is acceptable.

ID LV	ID MV	Mean of Variable	Median of Variable	Std. Deviation of Variable	CR α [CI 95 %]	Mean Score of Factor	Median Score of Factor	Std. Deviation of Factor
	DS_V1	2.600	3	1.370				
DS	DS_V2	2.602	3	1.341	0.836	2 502		1 100
	DS_V16	2.231	2	1.325	[0.813-0.856]	2.592	2.750	1.108
	DS_V14	2.935	3	1.379				
	EshS_V5	3.445	4	1.349			2.05	
	EshS_V6	3.494	4	1.325				
	EshS_V7	3.482	4	1.289	0.904 [0.892–0.915]	3.385		
	EshS_V8	3.254	3	1.366				1 001
EshS	EshS_V15	3.246	3	1.357			3.625	1.031
	EshS_V10	3.559	4	1.296				
	EshS_V11	3.472	4	1.326				
	EshS_V17	3.130	3	1.356				
	Etr_V4	3.600	4	1.279		2.939	3.000	
Π.	Etr_V3	2.850	3	1.304	0.753			1 000
Etr	Etr_V15	2.853	3	1.346	[0.720-0.783]			1.003
	Etr_V9	2.453	2	1.360				
	SRaP_V19	2.520	3	1.272				
	SRaP_V21	2.570	3	1.270				
SRaP	SRaP_V18	2.801	3	1.327	0.902	2.712		1.079
SKar	SRaP_V13	2.660	3	1.354	[0.889–0.913]	2./12	2.833	1.079
	SRaP_V20	2.804	3	1.356				
	SRaP_V12	2.915	3	1.325				

Table 3. Descriptive analysis of the model.

Source: elaborated by the authors.

Table 4. Descriptive statistics of independent variables.

	Never	Rarely	Occasionally	Often	Very
	(n)	(n)	(n)	(n)	Often (n)
E-shop reputation on social media	26	71	120	188	228
	(4.1%)	(11.2%)	(19%)	(29.7%)	(36%)
Online e-shop reputation	269	132	98	74	60
	(42.5%)	(20.9%)	(15.5%)	(11.7%)	(9.5%)
Overall perceived e-shop reputation	112	52	146	187	136
	(17.7%)	(8.2%)	(23.1%)	(29.5%)	(21.5%)

Source: elaborated by the authors.

Table 5 presents the output of the regression model that examined the relationship between "digital security" and selected variables; this model can be perceived as significant (F stat = 8.679, *p* value < 0.001) and the output itself was estimated using the HC3 estimator. The assumption of homoskedasticity has not been met, so the mentioned estimator was applied, since the output of the studentized Breusch-Pagan test acquired a *p* value lower than 0.05 (BP = 12.63, *p* value = 0.0493). The coefficient of determination acquired the value of multiple R-squared equal to 0.0768 and adjusted R-squared equal to 0.06795. Although R2 is low based on the results of our testing, the most important benefit of these results is the revelation of which factors are significantly related to the independent variables. As can be seen in the Table 5 results, three of the six analysed variables are significantly related to "digital security": age, e-shop reputation on social media, and overall perceived e-shop reputation. Another three determinants—gender, income amount and online e-shop reputation—did not confirm their significance in relation to digital security. It can be seen that neither gender nor income play any role in the respondents' perception of digital security. Age represents the only significant demographic characteristic which matters in this case. Based on our results, the beta coefficient for the analysed variable "age" was negative, which can be interpreted as meaning that younger respondents can be associated with a higher awareness of "digital security", while older respondents showed a lower level of concern about their digital security. This may also be due to the fact that younger respondents spend more time in the online space and therefore have more experience with the threats they may encounter while shopping online.

Table 5. OLS regression model output with dependent variable—factor Digital Security (DS).

Variable	Estimate	Std. Error	t Value	Pr (> t )
(Intercept)	3.016	0.317	9.517	< 0.001
Gender	0.145	0.106	1.370	0.171
Age	-0.025	0.009	-2.838	0.005
Income amount	0.000	0.000	-0.341	0.733
E-shop reputation on social media	-0.114	0.042	-2.706	0.007
Online e-shop reputation	-0.030	0.036	-0.811	0.417
Overall perceived e-shop reputation	0.169	0.034	5.052	0.000

Source: elaborated by the authors (Note: Estimator HC3).

A significant negative beta coefficient also appeared for the variable "e-shop reputation on social media", which expresses the fact that the more respondents care about e-shop reputation on social media, the lower their concerns about digital security. The results showed that when a respondent trusted online shopping, they were not afraid to provide their data to e-shops, as is evidenced also by the output of the descriptive analysis of the individual variables included in the digital security factor (mean of the factor = 2.592). A positive significant relationship ( $\beta = 0.169$ , *p* value < 0.001) appeared within this model between the "overall perceived e-shop reputation "and the analysed factor, which proved that consumers who more often made their online purchases through e-shops with a good reputation cared more about their own digital security. In addition, from the analysed determinants related to the perception of an e-shop's reputation, the online e-shop reputation as the only one determinant did not confirm its significant relationship to digital security. It can be stated that the importance of digital security factor perception does not depend only on one determinant of an online e-shop's reputation, but it is based on a combination of overall perceived e-shop reputation and its reputation on social media. In this case, the word-of-mouth recommendation could be very important for the decision-making process.

Table 6 presents the output of the regression model that examined the relationship between "e-shop services" and selected variables, and this model can be perceived as significant (F stat = 180.3, *p* value < 0.001), and the output was estimated using the HC3 estimator. The assumption of homoscedasticity has not been met, therefore, the HC3 estimator was applied, while the output of the studentized Breusch-Pagan test acquired a *p* value lower than 0.05 (BP = 30.796, *p* value = <0.001). The coefficient of determination acquired the value of multiple R-squared equal to 0.633 and adjusted R-squared equal to 0.63. At this point, it is necessary to point out that the rate of the coefficient of determination is relatively high. As can be observed from Table 6, a positive significant relationship at the  $\alpha$  level lower than 0.05 was manifested in only one case of "overall perceived e-shop reputation" ( $\beta$  = 0.6, *p* value < 0.001). As the result indicates, this relationship can be understood to suggest that with an increased level of e-shop services, the level of the e-shop's overall perceived reputation also increases.

Estimate	Std. Error	t Value	Pr (> t )
1.566	0.187	8.396	0.000
0.081	0.057	1.414	0.158
-0.010	0.005	-1.755	0.080
0.000	0.000	0.262	0.794
0.020	0.023	0.837	0.403
-0.033	0.020	-1.632	0.103
0.600	0.022	26.955	< 0.001
	$ \begin{array}{r} 1.566\\ 0.081\\ -0.010\\ 0.000\\ 0.020\\ -0.033 \end{array} $	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$

Table 6. OLS regression model output with dependent variable—factor e-shop services (EshS).

Subsequently, we examined the relationship between the factor "e-trust" and the selected variables (Table 7). Based on these results (F stat = 24.98, p value < 0.001), we can conclude that this model is significant. In this case, the significant heteroscedasticity tested by the Breusch-Pagan test was not confirmed (BP = 6.4444, p value = 0.375). The multiple R-squared level acquired a value of 0.193 and the adjusted R-squared reached a value of 0.185. Within this model, significant values of the coefficients were manifested within the variable "age" ( $\beta = -0.019$ , p value = 0.005) and "overall perceived e-shop reputation" ( $\beta = 0.306$ , p value < 0.001). A negative significant relationship showed for the variable "age", so it can be concluded that younger generations are associated with higher e-trust, while older generations with lower. In other words, younger generations trust online shopping more than older generations. On the other hand, a positive significant beta coefficient appeared in testing the relationship of the investigated factor with the variable "overall perceived e-shop reputation". In conclusion, the higher level of perceived reputation of the e-shop, the higher level of trust in online shopping the respondent has.

Table 7. OLS regression mode	l output with dep	endent variable—fac	ctor e-trust (Etr).
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Variable	Estimate	Std. Error	t Value	Pr (> t )
(Intercept)	2.207	0.245	9.028	< 0.001
Gender = F	0.063	0.087	0.731	0.465
Age	-0.019	0.007	-2.828	0.005
Income amount	0.000	0.000	0.438	0.662
E-shop reputation on social media	0.034	0.033	1.035	0.301
Online e-shop reputation	-0.012	0.029	-0.391	0.696
Overall perceived e-shop reputation	0.306	0.027	11.515	< 0.001

Source: elaborated by the authors (Note: Estimator HC3).

The regression model output is presented in Table 8 and examines the relationship between the factor "social responsibility and promotion" and selected variables, and this model can be perceived as significant (F stat = 44.44, *p* value < 0.001). The output of the model was estimated using the HC3 estimator and was applied because the assumption of homoskedasticity has not been met. The output of the studentized Breusch-Pagan test acquired a *p* value lower than 0.05 (BP = 26.413, *p* value  $\leq$  0.001). The coefficient of determination acquired the value of multiple R-squared equal to 0.30 and adjusted R-squared equal to 0.292. In this case, the significant coefficients appeared for two analyzed variables: "age" ( $\beta = -0.020$ , p value = 0.041) and "overall perceived e-shop reputation"  $(\beta = 0.415, p \text{ value} < 0.001)$ . The beta coefficient had a negative impact. It can be deduced that younger generations show a higher level of social responsibility, while the older ones show a lower level. A statistically significant relationship showed a positive dimension of the investigated factor with the "overall perceived e-shop reputation" variable. It can be deduced that, according to the respondents, the more e-shops were involved in social responsibility and promotion activities, the higher degree of reputation the e-shop achieved.

Variable	Estimate	Std. Error	t Value	Pr (> t )
(Intercept)	2.090	0.283	7.396	< 0.001
Gender = F	-0.124	0.084	-1.476	0.140
Age	-0.020	0.010	-2.051	0.041
Income amount	0.000	0.000	0.521	0.603
E-shop reputation on social media	-0.045	0.034	-1.300	0.194
Online e-shop reputation	-0.022	0.029	-0.758	0.449
Overall perceived e-shop reputation	0.415	0.027	15.427	< 0.001

 Table 8. OLS regression model output with dependent variable—factor social responsibility and promotion (SRaP).

Source: elaborated by the authors (Note: Estimator HC3).

#### 5. Discussion

The aim of this research was fulfilled by five partial research tasks. The factors of online shopping consumer behavior were constructed and their significance was verified. The application of EFA revealed four factors of online shopping consumer behavior, namely: 1. Digital security; 2. E-shop services; 3. E-trust; 4. Social responsibility and promotion, so we conclude, the first research task was filled up. The second part of this analysis was focused on the examination of the relationships between constructed factors and selected characteristics of respondents (which represents gender, age and their income amount), through the use of OLS model regression analysis, in which four models were calculated. The results showed significance in two cases of social and demographic variables, both within variable "age", with the factors "digital security" and "social responsibility and promotion".

On the basis of the negative beta coefficient, it was concluded that, amongst older generations, the importance of the digital security in online shopping consumer behavior is decreased. There are many reasons for this phenomenon, for example, the awareness of younger respondents of potential risks associated with misuse of personal and payment data through warning on social media by real cases of data misuse. Younger consumers often spend more time online than older consumers; therefore, they are more conscious of this issue, and their skills with digital security are at higher level. Check Point Research (CPR) reports that the second quarter of 2022 saw an all-time peak, where global cyberattacks increased by 32%, compared to the second quarter of 2021. Retailers and the wholesale sector saw the largest spike in ransomware attacks, with an alarming increase of 182%, compared to the same period last year, so the need for raising awareness of digital security is apparent [36].

The same phenomenon of the negative beta coefficient was observed in the factor "social responsibility and promotion", in which the importance of this factor in online shopping consumer behavior is decreased amongst older consumers. From the results of this research, it is evident that the same phenomenon is present while shopping online. The second research task was fulfilled and the relationships between analysed factors and selected social and demographic characteristics were revealed.

The relationships between constructed factors and selected aspects of an e-shop's reputation were also assessed by these OLS model regressions. The results of these models underlined the significance of relationships in five cases: (I) between digital security and e-shop reputation on social media; (II) between digital security and overall perceived e-shop reputation; (III) between e-shop services and overall perceived e-shop reputation; (IV) between e-trust and overall perceived e-shop reputation; (V) between social responsibility and promotion and overall perceived e-shop reputation. Sustainable development of reputation management includes offline and online techniques; however, those online are by nature is more fragile [35].

As has been previously mentioned, cyber incidents are growing, and the risk of reputational damage is rising. Digital security also plays a significant role in the perception of reputation on social media and overall e-shop reputation. Digital security is directly linked to cyber security and represents a significant part of sustainable corporate reputation, which is very important in the era of digitization. Rapid development of payment digitization did not bring only advantages and convenience for customers, but also risks in the form of misusing their personal and payment data, which, according to the results of our analysis, the younger generation are particularly aware of. Customers expect e-merchants to keep their data safe and operations running, and are very sensitive in the case of their failure. There are four categories related to the specific financial losses linked to reputation that occur in the event of a cyber incident: 1. Lost business; 2. Credit rating damage and insurance premium hikes; 3. PR costs for damage limitation and reputation repair; 4. Compensation costs. E-merchants who had experienced any kind of digital security incident, a significant 77%, said that the PR-related financial losses were either significant or very significant, while for those who experienced a data breach, 80% said the losses were either significant or very significant [37]. Years of e-merchants' work can be destroyed in a moment; therefore, awareness and prevention are crucial in the issue of digital security. As the popularity of the social media online community is always increasing, the need for e-merchants to take increasing cautionary measures in protecting reputations and brands becomes essential [38]. The issue of managing online reputation is gradually gaining importance and it represents one of the essential prerequisites for responsible and sustainable reputation management [35,39]. The overall perceived e-shop reputation showed its significance in all regression models.

### 6. Conclusions

The aim of this research was to identify the relationships between online shopping consumer behavior and the perceived reputation of e-shops on young consumers. The study's attention was focused on determining the relationships between the factors of online shopping consumer behavior that affect the perceived reputation of an e-shop, through the eyes of young consumers. Variables of the aspects of sustainability were also included among the analysed variables affecting the reputation of an e-shops through: domestic origin of products, e-merchant involving in CSR activities or the offer of eco and bio products (mostly represented by the variables included in the "social responsibility and promotion" factor). In addition, we also analysed the reputators representing the opposite aspects of sustainability, through free shipping, the fastest method of delivery or special offers of an e-shop (mostly represented by the variables included in the "e-shop services" factor).

As authors, we consider the theoretical contribution of this study to be the revelation of which factor has higher significance for young consumers, in terms of perception of reputation when making a purchase decision. According to the results of this study, we conclude that e-shop services are still more important to young consumers while purchase decision making than the involvement of an e-merchant in sustainability activities, however, the latter is gaining increased interest amongst young consumers. In conclusion, the research question can be answered: the factors of online young consumer shopping behavior relating to the overall perceived reputation of an e-shop, online e-shop reputation and e-shop reputation on social media are different. Only in the case of overall perceived reputation it was revealed that all the factors (digital security, e-shop services, e-trust and social responsibility and promotion) are equally significant.

#### 6.1. Theoretical Contributions and Managerial Implications

From the theoretical point of view, this study and its results contribute to enlarging the spectre of knowledge in the field of the analysed issue of perception of corporate reputation, from the young consumers point of view. The results of this study revealed which factors affects the perception of the online corporate reputation by young consumers, and the subsequent testing confirmed the relationships between these factors and overall perceived reputation of an e-shop. The study also revealed which indicators do not play a role in the perception of analysed factors, namely gender, income amount, and online e-shop

reputation. It was confirmed that age plays an important role in the perception of e-shop reputation factors, even within a sample of a single generation. This finding opens several possibilities for the growth of research in the field of corporate reputation.

Based on the results of this research, it can be concluded that a corporate reputation built solely in the online environment is not enough. The perception of the overall reputation of e-merchants by young consumers extends beyond the online world, so it is important that managers pay attention to the positive image of the company, even outside the online environment. The importance of taking age into account when creating marketing strategies and choosing communication tools for the purpose of building a corporate reputation certainly has its justification. If managers would like to strengthen the corporate reputation among young consumers, they should emphasize the importance of digital security and e-trust factors, as well as building their social responsibility image through the development of their CSR activities whilst developing their marketing communication. In conclusion, we can state that the building of sustainable corporate reputation goes hand in hand with building and developing sustainable business, what is the most important finding of this research.

## 6.2. Limitations of the Study and Future Research Orientation

This study has some limitations. The survey was conducted in the geographical territory of the Slovak republic. In addition, a larger research sample could be beneficial for establishing conclusions of this research. In future research, it would be interesting to conduct this survey in the Visegrad countries due to the equal representation of the big players in the field of e-commerce. Cross-cultural research could help the e-merchants understand which factors are specifically important for consumers' online shopping decision-making in investigated country. In three of our four models, a significant relationship between the "age" factor and the analyzed factor was confirmed. Enlarging the research sample of respondents representing older generations, such as generation Y or X, could bring interesting insights in the field of this issue. It is assumed that older respondents also have a higher disposable income amount, so the results could differ from younger consumers.

Future research should be focused on the analysis of the differences in factors affecting the perception of reputation between generations. Based on this, managers would be able to appropriately set the direction of their communication and choose suitable communication channels and tools for specific age groups. Research into the expanding positive awareness of the importance of the merchant's involvement in CSR activities and the impact of sustainable online business on consumers could also bring interesting results. Based on the results of our research, we see space for emphasizing the importance of CSR in business among older consumers.

**Author Contributions:** Conceptualization, V.Š. and D.T.; methodology, V.Š.; software, D.T.; validation, D.T., V.Š. and V.A.T.; formal analysis, V.Š.; investigation, V.Š.; resources, V.A.T. and D.T.; data curation, V.Š.; writing—original draft preparation, V.Š., V.A.T. and D.T.; writing—review and editing, V.A.T. and Š.K.; visualization, D.T.; supervision, V.Š.; project administration, V.Š.; funding acquisition, V.Š., V.A.T., D.T. and Š.K. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research was supported by the Grant agency of the University of Prešov, project no. GaPU 15/2021, and by research grants VEGA 1/0488/22—Research on digital marketing in the area of tourism with an emphasis on sustainability principles in a post-pandemic market environment; and VEGA 1/0694/20—Relational marketing research—perception of e-commerce aspects and its impact on purchasing behavior and consumer preferences.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** Data available on request due to restrictions, e.g., privacy or ethical. The data are not publicly available due to GDPR.

**Acknowledgments:** This research is one of the partial outputs under the scientific research grant GaPU 15/2021; VEGA 1/0488/22; VEGA 1/0694/20.

**Conflicts of Interest:** The authors declare no conflict of interest.

#### Appendix A

Table A1. Outputs of the model.

Var	Factor 1	Factor 2	Factor 3	Factor 4	Uniqueness	Kaiser-Meyer-Olkin Test (MSA)
DS_V1	-0.022	0.017	0.945	-0.025	0.121	0.801
DS_V2	0.049	-0.032	0.893	0.008	0.198	0.819
DS_V16	-0.123	0.194	0.536	0.16	0.536	0.916
DS_V14	0.098	0.064	0.326	0.326	0.6	0.961
EshS_V5	0.845	0.015	0.019	-0.058	0.309	0.943
EshS_V6	0.771	0.012	-0.043	0.05	0.369	0.957
EshS_V7	0.805	-0.056	-0.012	0.021	0.391	0.942
EshS_V8	0.687	0.144	-0.064	0.07	0.355	0.957
EshS_V15	0.677	0.158	-0.015	0.039	0.362	0.954
EshS_V10	0.608	-0.055	0.113	0.061	0.582	0.918
EshS_V11	0.611	-0.045	0.121	-0.008	0.615	0.921
EshS_V17	0.479	0.261	0.056	-0.011	0.533	0.958
Etr_V4	0.287	-0.255	0.029	0.382	0.763	0.885
Etr_V3	-0.038	0.008	-0.016	0.92	0.192	0.88
Etr_V15	0.098	0.073	0.011	0.672	0.409	0.913
Etr_V9	0.012	0.018	0.13	0.522	0.64	0.908
SRaP_V19	-0.06	0.93	-0.015	0.033	0.185	0.913
SRaP_V21	0.027	0.827	0.073	-0.039	0.264	0.926
SRaP_V18	0.217	0.557	0.082	-0.001	0.446	0.938
SRaP_V13	0.141	0.48	0.052	0.087	0.581	0.95
SRaP_V20	0.078	0.721	-0.014	0.077	0.356	0.951
SRaP_V12	0.259	0.513	0.022	0.061	0.45	0.939

Source: elaborated by the authors.

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