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ANTECEDENTS OF ONLINE PURCHASE INTENTIONS IN THE CROATIAN CONTEXT

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ABSTRACT

The researchers of online shopping behaviour frequently examine various factors which influence consumer purchase intentions. These online shopping factors often involve price, delivery, discounts, payment methods, security certificates, website characteristics and many others. This study analyzed different factors, including trust as one of the essential antecedents in the process of online purchase intentions formation. The research was conducted among predominantly younger online buyers in Croatia and revealed a positive, medium impact of analyzed factors and consumers' trust on consumer online purchase intentions. Mediation analysis pointed out that trust emphasizes the direct effect of studied online shopping factors on purchase intentions.

KEYWORDS: online shopping factors, consumers' trust, purchase intentions

1. INTRODUCTION

In 2020 online retail shopping worldwide amounted to 4.28 trillion U.S. dollars with the E.U. e-retail market of 717 million US$ or 16.75% of global sales. The e-commerce revenues are projected to grow to 6.4 trillion U.S. dollars, almost 50%, by 2024 [https://www.statista.com]. Compared to 2014, it is close to five times more and one-fifth of total global retail expected. Croatian online sales worths 464 Mio. EUR in 2020 [https://ecommercenews.eu], close to 10% of total retail [https://www.dzs.hr], and increase expected by 2025, at 7.4% annually [https://www.statista.com]. These figures imply the further growth of online shopping share and the importance of understanding online consumers' behaviour.

This paper aimed to determine the relevance of specific factors (incentives and drivers) for online purchase intentions within the Croatian younger, prevalently student population. The research involved the influence of consumers' trust as the other antecedent on this relation. The following section gives a short overview of the perspectives applied in previous research and the proposed hypotheses. The research methodology and findings parts include the procedure and the results of the hypotheses testing, followed by discussion and concluding remarks.

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2. THEORETICAL AND CONCEPTUAL FRAMEWORK

Online shopping factors and the role of trust might be considered as well-researched topics. That goes for e-commerce [e.g. meta-analyses of 150 studies by Kim and Peterson, 2017, and 72 studies by Asraar Ahmed and Sathish, 2015], m-commerce [e.g. meta-analysis of Sarkar et al., 2020, which included 118 papers], and even s-commerce [e.g. meta-analysis of 68 articles by Dwivedi et al., 2021]. The issue of online shopping factors gained attention from Croatian researchers [e.g. Grudiček and Dobrinić, 2021, Ružić et al., 2017, Delić et al., 2017].

The research of online purchase behaviour customarily involves factors [incentives or drivers] influencing consumers' online purchase intentions. Commonly, the factors include price, discounts or special offerings, delivery, offline price comparison, payment methods, security certificates, social media presence, and others. Various authors investigated these factors [e.g. Bucko et al., 2018, ArunKumar et al., 2017, Rose et al., 2012, Kim et al., 2011, Lester et al., 2005], as did regular yearly reports [e.g. PostNord E-commerce in Europe since 2014; https://www.postnord.com]. Some researchers apply the theory of planned behaviour [Ajzen, 2011] or their derivatives, like reasoned action and technology acceptance model, to online purchase behaviour. Pal Singh [2015, 23-26] analyzed the results of these approaches between 1991 and 2013 in a comprehensive review. Scholars also researched the individual components of the theory of planned behaviour, like trust as an antecedent of attitudes or subjective norms formulation, and developed separate models. For instance, Grewal et al. [2009] study focused on the online experience as a determinant of online behaviour, while Pal Singh [2015] investigated the impact of TPB components extended by self-image, perceived usefulness and perceived ease of use on online consumers' purchase intentions.

This paper follows the perspective which explores the influence of different factors [incentives and drivers] on consumers' online purchase intentions and consumers' trust as a mediator [e. g. Bucko et al., 2018, 6, Lester et al., 2005, 131-133, Clemons et al., 2016., 1127, Hao Suan Samuel et al., 2015, 235]. Scholars and practitioners focused on testing the impact of online purchase factors in the last two decades. For instance, Asraar Ahmed and Sathish [2015, 495-499] meta-analyzed the previous research between 2001 and 2014. They explored 18 distinct groups of factors within 72 studies from more than 20 countries [(mainly in the U.S., China and India). The results pointed out to correlation of nine groups of factors with consumers' attitudes (r between 0.043 and 0.494) and all 18 groups with purchase intentions (from 0.073 for privacy to 0.552 for attitudes), with consumers' trust being the second most important factor (r = 0.406). This study involves 31 factors from different groups, e. g. perceived ease of use, product characteristics, previous online experience, e-service quality, price, consumers' trust, website features, privacy, image/reputation and others. Hence, the following hypotheses were proposed:
H1a: The online shopping factors have a positive and significant impact on consumers' online purchase intentions.
H1b: The online shopping factors have a positive and significant impact on consumers' trust.

The issue of trust gained considerable attention in an online environment. Online trust is considered the willingness of consumers to depend on other parties and are vulnerable to the actions of others during the online shopping process [Takaya, 2016, 3]. Notably, it includes risk perception from excessive spam messages (e-mails), expensive credit card frauds, and even identity thefts. Therefore, online trust plays a crucial role in creating the gratified online consumer [Aiken et al., 2007, 5]. Several studies [such as Bauer et al., 2006, Dash and Saji, 2007, Gefen et al., 2003, Kim and Kim, 2005, Salam et al., 2005, cited in Ganguly et al., 2009, 27] have empirically proved that increase in consumers' trust increases online purchase

intention. Based on Pavlou [2003, cited in Takaya, 2016, 5], online purchase intention is when a customer is willing and intends to engage in online transactions. Consequently, the following hypotheses were proposed:

H2a: Consumers' trust has a positive and significant impact on consumers' purchase intentions.

H2b: Consumers' trust represents a mediator between the online shopping factors and consumers' purchase intentions.

Figure 1 encompasses the research model, proposed hypotheses and empirical results.

Figure 1. Research model
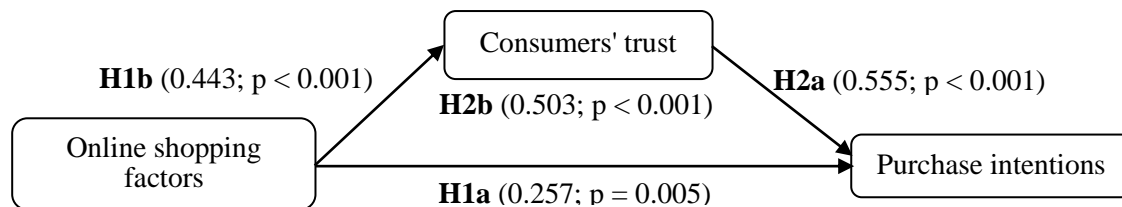
Note: Estimate (path) values (ß) in parenthesis
Source: Author

3. METHODOLOGY AND SAMPLE

The hypotheses testing involved empirical research within mainly the younger (student) population. The online questionnaire with 39 items (plus eight demographic variables) was prepared. The items used for online shopping factors were slightly modified from the benchmarks [Bucko et al., 2018, 6 and Lester et al., 2005, 131]. The consumers' trust and purchase intention concepts mostly followed the scale developed by Hao Suan Samuel et al. [2015, 242] with additional items regarding the Covid-19 situation. All variables were measured with a 5-point Likert-type scale with one = strongly disagree and five = strongly agree (except demographic). The examinees were contacted during April and May 2020 by e-mail sent to over 1.600 addresses, with an approx. 17% response rate, which ensured 276 valid responses. Table 1. displays the demographic characteristic of the sample.

Table 1. Sample characteristics

Characteristics	N	%	Characteristics	N	%
Sex	*276*		*Age*	*276*	
Female	199	72.1	< 18	2	0.7
Male	77	27.9	19 - 23	110	39.9
Education level:	*276*		24 - 29	70	25.4
Lower	1	0.4	30 - 39	45	16.3
Middle (highschool)	136	49.3	40 - 49	35	12.7
Middle-high (bachelor degree)	95	34.4	50 - 59	13	4.7
High (master degree and higher)	43	15.6	> 60	1	0.4
Occupation:	*276*		*Personal income*	*276*	
Economy/business/tourism	122	44.2	Earned	203	73.6
Engineering (mechanical/electrical/traffic)	38	13.8	Allowance	63	22.8
Informatics/computting	44	15.9	No income	10	3.6
Other	74	26.8			
Household income last three years:	*276*		*Status:*	*276*	
Below average (hardly make our ends meet)	3	1.1	Employed	140	50.7
Average (enough for daily purposes and savings)	50	18.1	Unemployed	8	2.9
Above-average (we can save, go on trips, etc.)	148	53.6	Student	128	46.4

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Considerably above average (we live a luxurious life)	75	27.2			

Source: Author

The collected data were analyzed with JASP Statistical Analysis Software, with descriptive and inferential statistical methods employed. Table 2. includes the descriptive statistics, normality distribution and reliability analysis and Pearson correlation coefficients.

Table 2. Descriptive statistics, normality distribution, correlation and reliability analyses

Concepts	Mean	St. dev.	Skewness	Kurtosis	Pearson and Cronbach α coeff.		
					1	2	3
1 **Online shopping factors**	3.737	0.487	-0.430	0.603	**0.892**		
2 **Consumers' trust**	3.438	0.622	-0.226	1.437	0.347	**0.754**	
3 **Purchase intentions**	3.966	0.801	-0.652	0.542	0.306	0.485	**0.774**

Notes: All correlation coefficients are significant at $p < 0.001$; Cronbach α coefficients bolded
Source: Author's research

Normality distribution analysis pointed out that all skewness coefficients are within acceptable recommended limits for normal distribution. All Cronbach alpha values are within referential limits [Sekaran, 2003, p. 311]. Correlation analysis indicates positive, week to medium relations [Bryman and Cramer 2005, 219][1] between online shopping factors, consumers' trust, and purchase intention concepts (r values between 0.306 and 0.485 at $p < 0.001$). These correlation coefficients remained within the cut-off value of 0.80; thus, there is no multicollinearity problem.

4. RESEARCH FINDINGS

For comparison of concepts regarding demographic variables, t-test and ANOVA were employed. The statistically significant differences are given in Table 3.

Table 3. Variable differences regarding control variables

Sex	Feminine (N = 199)		Masculine (N = 77)		t	Sig.
Variable (concept)	Mean	St. dev.	Mean	St. dev.		
Online shopping factors	3,82	0,47	3,52	0,47	4,82	0,000**
Education level	Low/Middle (N = 137)		Middle-high/High (N = 139)		t	Sig.
Purchase intentions	4,10	0,78	3,83	0,80	2,84	0,005**

Respondent status	Employed (N = 140)		Unemployed (N = 8)		Student (N = 128)		F	Sig.
Variable (concept)	Mean	St. dev.	Mean	St. dev.	Mean	St. dev.		
Online shopping factors	3,64	0,51	3,74	0,36	3,84	0,44	5,91	0,003**

Notes: St. dev. = standard deviation; Significance levels: ***$p < .001$; ** $p < .01$; * $p < .05$
Source: Author's research

Comparison of researched variables implies that females and students pay more attention to the factors that may enhance their trust in online shopping. Respondents with low/middle levels of

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[1] Very week correlation < 0.19; week correlation 0.20 till 0.39; medium correlation 0.40 till 0.69; high correlation 0.70 till 0.89, and very high correlation > 0.90.

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education indicate more online purchase intentions. Cronbach alpha coefficients were calculated to verify the reliability of applied scales (Table 4.).

Table 4. Cronbach alpha coefficient values

Variable [concept]	**No of Items**	**Cronbach alpha coefficient**
Online shopping factors	31	0,89
Consumers' trust	5	0,75
Purchase intentions	3	0,77

Source: Author's research

Reliability test results indicate that all scales concur with an acceptable level. The correlation analysis was employed to verify the differences within the sample regarding demographic variables. The outcomes are displayed in Table 5.

Table 5. Correlation analysis results (abbreviated form)

Hypotheses [abbreviated form]	**Pearson correlation coefficients**
H1a: Online shopping factors ↔ Purchase intentions (no significant correlation for males and unemployed)	Female = 0.353***; Employed = 0.312***; Students = 0.374*** Low/Middle = 0.407***; Middle-high/High = 0.188*
H1b: Online shopping factors ↔ Consumers' trust (no significant correlation for males and unemployed)	Female = 0.401***; Employed = 0.310***; Students = 0.419*** Low/Middle = 0.396***; Middle-high/High = 0.304***
H2a: Consumers' trust ↔ Purchase intentions (no significant correlation for unemployed)	Female = 0.474***; Male = 0.513***; Employed = 0.550***; Students = 0.405*** Low/Middle = 0.523***; Middle-high/High = 0.465***

Note: significance levels: ***p < .001; ** p < .01; * p < .05
Source: Author's research

Hypothesis H2a presumed that consumers' trust represents a mediator between the online shopping factors and consumers' purchase intentions. The mediation analysis was performed to verify this assumption and the direct effects hypothesized by H1a, H1b and H2a. The Jamovi statistical package [https://www.jamovi.org] was applied (the results in Table 6. and Fig. 1.).

Table 6. Mediation analysis results

Hypotheses (mediation and path estimates)	Direct effect (H1a)		Indirect effect		Total effect	
	Estimate	z-value	Estimate	z-value	Estimate	z-value
H2b: Factors → Consumers' trust → Purchase intentions	0.257	2.83*	0.246	4.82**	0.503	5.34**
H1b: Factors → Consumers' trust	0.443	6.15**				
H2a: Consumers' trust → Purchase intentions	0.555	7.78**				

Note: significance levels: ** p < 0.001; * p < 0.01.
Source: Author's research

The mediation analysis highlighted the positive, significant impact of consumers' trust on online shopping factors – purchase intentions relation. The analysis verified that online shopping factors have a positive statistically significant direct (at $p < 0.01$) and indirect effect (at $p < 0.001$) on purchase intentions. These outcomes **corroborated the mediation effect** of consumers' trust as hypothesized by **H2b, direct effects** of online shopping factors on purchase

intentions **(H1a)** and on consumers' trust **(H1b)** and consumers' trust on purchase intentions as assumed by hypothesis **H2a**. Thus, all hypotheses were confirmed.

5. DISCUSSION

The purpose of this study was the examination of the essential factors which impact online purchase intentions. The factors analyzed were chosen following previous studies [e.g. Bucko et al., 2018, ArunKumar et al., 2017, Lester et al., 2005]. These factors were tested as separate incentives and drivers, apart from consumers' trust, which followed the previously developed construct [e.g. Clemons et al., 2016, Hao Suan Samuel et al., 2015].

On average, all factors received 3.74, representing a statistically significant predictor of consumers' trust and purchase intentions. However, the comparison of the factors' importance between this and earlier studies provided some interesting conclusions. Among the 31 factors analyzed, money-back guarantee and product return policy came up at the top (mean = 4.52 and 4.42, respectively), while price factors received 4.06 [discounts] and 3.75 (low price). The outcomes of a similar investigation in Slovakia in 2015 [Bucko et al., 2018, 6] and Croatia in 2016 [Ružić et al., 2017, 29] positioned price-related factors at the top. This distinction might be explained by increased concern about online shopping, i.e. the decrease of consumers' online trust in the meantime. On the bottom side of the comparison, fewer surprises emanated. The number of social media followers and social media activity was evaluated comparably to Slovakia [Bucko et al., 2018].

The consumers' trust received the lowest average grade (3.44) among the three investigated concepts, suggesting the state of mind of the Croatian examinees (online buyers) regarding the issue of online shopping trust. Moreover, the Covid-19 crisis seems not to affect trust increase (mean = 2.99). For comparison, this result (3.44 or 68.76% of the maximum grade) indicates a somewhat higher level of trust than between Malaysian respondents [63.8% of the maximum grade in Hao Suan Samuel et al., 2015, 243] and in a meta-analysis (64.28%) by Dwivedi et al. [2021, 7]. The total positive effect of consumers' trust on online purchase intentions in this study (path estimate = 0.503 at p< 0.0019 is comparable with 0.56 (at p < 0.01) in a meta-analysis by Dwivedi et al. [2021, 8] and somewhat greater than in Qalati et al., 2021, 11 (0.40 at p < 0.001) and Hao Suan Samuel et al., 2015, 244 (0.35, at p < 0.01). Thus, this outcome confirms the critical pertinence of consumers' trust in the online shopping process. Moreover, trust mediates the online shopping factors – purchase intentions relation and emphasize the direct effect size. Eventually, the respondents consider that the Covid-19 situation will have a mild positive effect on online purchase intentions (mean = 3.54).

6. CONCLUDING REMARKS

The volume of studies dealing with online shopping topics (including the antecedents) continuously rises, indicating the increased interest of scholars and practitioners. However, different approaches (measurement scales) and samples sometimes provide inconsistent results, which requires additional testing. This research might be partly considered as a replication study, ensuring more comparable data to potential users. That implies that more measurement consistency and more meta-analyses would give more valuable inputs to practitioners (webshop owners in the first place).

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Since trust helps customers overcome the perception of risk and insecurity associated with online shopping [Ganguly et al., 2009], further concept investigation is welcomed. Moreover, the examination of akin constructs, like online experience (as an antecedent) or word of mouth (as a consequent), might be considered for future research paths.

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