

Martinović, Maja; Barać, Roko; Maljak, Hrvoje

## Article

# Exploring Croatian consumer adoption of subscription-based e-commerce for business innovation

Administrative Sciences

## Provided in Cooperation with:

MDPI – Multidisciplinary Digital Publishing Institute, Basel

*Suggested Citation:* Martinović, Maja; Barać, Roko; Maljak, Hrvoje (2024) : Exploring Croatian consumer adoption of subscription-based e-commerce for business innovation, Administrative Sciences, ISSN 2076-3387, MDPI, Basel, Vol. 14, Iss. 7, pp. 1-21, <https://doi.org/10.3390/admsci14070149>

This Version is available at:

<https://hdl.handle.net/10419/320963>

## Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

## Terms of use:

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



<https://creativecommons.org/licenses/by/4.0/>

## Article

# Exploring Croatian Consumer Adoption of Subscription-Based E-Commerce for Business Innovation

Maja Martinović \* , Roko Barać  and Hrvoje Maljak

Zagreb School of Economics and Management, Filipa Vukasovića 1, 10 000 Zagreb, Croatia;  
rbarac@student.zsem.hr (R.B.); hmaljak@gmail.com (H.M.)

\* Correspondence: 01majamartinovic@gmail.com

**Abstract:** This paper investigates the impact of four demographic variables and four perceptual drivers identified through a review of the existing literature on adopting subscription-based e-commerce models. Seven hypotheses were tested on a convenience sample of 202 respondents from Croatia. Significant differences in subscription model acceptance were observed across age groups, while education level, employment status, and disposable income showed no significant relation to subscription model adoption in Croatia, although studies in other countries have indicated otherwise. This study also examined four factors (perceived trust, risk, usefulness, and ease of use) described with 21 critical success dimensions. The results showed positive relationships with perceived trust, usefulness, and ease of use and a negative relationship with perceived risk. Enhancing trust, usefulness, and ease of use while reducing perceived risks can boost subscription-based e-commerce adoption. Significant differences in perceived trust, risk, and usefulness were found between users of multiple products/services and non-users but not in perceived ease of use. These findings provide valuable insights for future scientific research on subscription-based models, given their growing popularity in e-commerce and the limited existing research. Additionally, this paper offers practical implications for businesses by enhancing their understanding of customers and the Croatian e-commerce market and by proposing innovative strategies and promotional approaches based on the research outcomes.

**Keywords:** subscription-based models; e-commerce; consumer behavior; demographic factors; perceptual drivers; innovative business strategies; Croatia



**Citation:** Martinović, Maja, Roko Barać, and Hrvoje Maljak. 2024. Exploring Croatian Consumer Adoption of Subscription-Based E-Commerce for Business Innovation. *Administrative Sciences* 14: 149. <https://doi.org/10.3390/admsci14070149>

Received: 11 June 2024  
Revised: 10 July 2024  
Accepted: 11 July 2024  
Published: 14 July 2024



**Copyright:** © 2024 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/>).

## 1. Introduction

Our review of the existing literature contains numerous insights from authors related to demographic and perceptual drivers that could potentially influence the adoption of subscription-based e-commerce models, which is the topic of this paper. However, little research has focused on emerging markets in Europe, particularly the relationship between various factors and subscription intentions among customers in Central and Eastern Europe (Sadowski et al. 2021), which also applies to Croatia. Although data indicate potential for e-commerce sales in the Croatian market, there is a lack of academic literature on customer survey insights regarding Croatian customers' engagement and attitudes toward online subscriptions.

Most Croatian media publishers began introducing digital subscriptions in 2021, and by 2023, they had attracted 30,500 subscribers, generating subscription revenue of 1.5 million euros and a quarterly growth rate of 9% (HUDI 2023). According to the results of a study by the Croatian Association of Digital Publishers (HUDI 2024) conducted in the first quarter of 2024, subscriptions to digital services in Croatia have experienced exceptional growth in the past six months, with the number of subscriptions to Croatian portals now reaching 43,000. This growth indicates significant changes in consumer habits and preferences. Currently, Croatia's leading subscription business model is freemium,

where part of the content is locked while the rest is “free.” To make digital subscriptions sustainable, further innovations and better adaptations are needed. Optimizing the business model, increasing revenue, and improving user experience are key strategies to achieve this (HUDI 2023). A recent Ampere Analytics report shows a 16% increase in streaming service subscriptions in Croatia over the past year, reaching 628,000 subscribers (HUDI 2024). The overall potential for subscriptions is also indicated by other data.

As of early 2022, Croatia had an 82% internet penetration rate, marking an increase of 1.9% from the previous year (Kemp 2022). Moreover, around 2.9 million Croatians used social media in January 2022, representing about 71.2% of the population. In 2022, Croatia experienced a notable real GDP growth of 6.2%, primarily driven by private consumption (EU Commission 2023), much of which likely occurred online. According to a Heureka Group (2022) survey, about 68% of Croatian consumers shopped online at least once a month, with an average purchase amount of 83 euros. The share of Croatian enterprises engaging in B2C e-commerce via websites increased from 11.1% in 2013 to 19.2% in 2022. B2B and B2G e-commerce sales peaked in 2020, and there has been consistent growth across all sectors over the past decade, suggesting further potential for progress and enhancement in these areas (Statista 2023). The statistics show that Croatia has recently become an increasingly attractive market for e-commerce and potential business innovations in any aspect, including subscription-based models. The increasing digital literacy among the Croatian population significantly enhances this segment’s potential for business innovation. According to the Digital Economy and Society Index published by the European Commission, Croatia rose from 16th to 9th place in the EU in 2022 for digital skills essential to accessing the opportunities of the digital society (Poslovni dnevnik 2023).

Regarding subscription-based models, it is significant to consider data on how many users potentially illegally download content because piracy can affect the number of subscribers or their retention. A recent EU-wide survey (Guttmann 2023b) on young people’s online habits related to intellectual property shows a decline in the accessing of illegal digital media content among youths. Conducted every three years, the survey found that the percentage of respondents abstaining from illegal content rose from 39% in 2016 to 60% in 2022. Awareness of intellectual property rights online increased, with uncertainty about accessing illegal content dropping from 22% in 2016 to just 7% in 2022. The proportion accessing content illegally by accident remained around 12%, while intentional access decreased from 26% in 2016 to 21% in 2022. The statistics for Croatia still show a relatively high proportion (28%) of young internet users who consciously use illegal means to access various online content. In comparison, in Germany, only 12% of young people resort to illegal sources, attributed to stricter laws (Guttmann 2023a).

### *Global Trends and Insights*

Over the past decade, the subscription economy has rapidly grown, with businesses and consumers preferring subscription services over one-time purchases across various industries. This trend highlights a shift towards access over ownership. Subscription-based models involve regular payments for continuous access to products or services, including subscription-based e-commerce, where customers subscribe to receive products regularly (Baek and Kim 2022). The e-commerce sector also has undergone considerable growth in recent years. According to Cox (2024), global e-commerce sales are projected to increase by 9.8% by the end of 2024, reaching a market value of USD 6.9 trillion. In 2023, China maintained its position as the world’s largest e-commerce market, with sales totaling USD 3.023 billion, representing nearly a quarter of global e-commerce (Oberlo 2024). The U.S. is the second-largest market, generating USD 1.163 billion in revenue in 2023. Amazon leads in global online marketplace visits with 6.1 billion in December 2023, but it ranks third in gross merchandise value (GMV) behind China’s Taobao and Tmall, operated by Alibaba Group (van Gelder 2024). Following the U.S. in market size are the United Kingdom (USD 196 billion), Japan (USD 193.4 billion), and South Korea (USD 147.4 billion) (Oberlo 2024).

The rise of e-commerce can be attributed to technological advancements, changing customer preferences, and the ease of online shopping. Nearly two-thirds of shopping starts online, with nearly half of consumers preferring mobile shopping (Mohsin 2023). Digital and mobile wallets are the favored payment method for 49% of online shoppers globally (Mohsin 2023). By late 2023, smartphones accounted for nearly 80% of global retail website visits and drove most online orders compared to desktops and tablets (van Gelder 2024).

Smaller e-commerce businesses face the challenge of meeting rising customer expectations. Brandl (2022) emphasizes the need for seamless, personalized buying experiences, including monitoring purchases, multi-platform purchasing, and real-time order updates. To compete, businesses must anticipate and exceed consumer demands, matching or surpassing the standards set by larger competitors. However, these needs have helped subscription-based e-commerce to have its own place among the growing trends in 2023. Rizva (2022) projects substantial growth in the global subscription e-commerce industry, from USD 72.91 billion in 2021 to an anticipated USD 320.04 billion by 2027, with an impressive year-on-year growth rate exceeding 62%, as per Mordor Intelligence (2023) data. Brandl (2022) highlights the surge of direct-to-consumer (D2C) brands during the pandemic due to supply chain disruptions and retail closures. Accessible subscription models have enabled D2C brands to offer quality products at competitive prices, leveraging influencer marketing, content strategies, and personalization to attract and retain customers while fostering online communities for collaborative product development, despite modest marketing budgets.

Over the past three decades, the e-commerce industry has experimented with subscription models for innovation. Service industries, particularly software and streaming services, have transitioned to online platforms, boosting revenue through subscription-based billing where customers make recurring payments for continuous access to products or services. The subscription box model has evolved and diversified, adapting to customer behavior and preferences, often highlighting four models: curated collection subscriptions offering surprise-themed boxes curated by experts or influencers; personalized subscriptions with customized contents based on individual preferences using quizzes and feedback; replenishment subscriptions providing regular deliveries of essential items, ensuring consistent supply; and access subscriptions, or memberships, offering exclusive perks and early access to products (Stripe 2024). The subscription box market, valued at around USD 22.7 billion according to Kumar (2022), is projected to reach USD 65.0 billion by 2027, showing a compound annual growth rate (CAGR) of approximately 18.3% between 2022 and 2027. Baral (2022) emphasizes that the potential benefits of the subscription model from the business side are numerous.

Numerous studies have explored factors driving subscription purchases and fostering long-term loyalty. Chen et al. (2018) investigated the reasons behind adopting what they term the “subscription lifestyle”, prevalent in the streaming, software services, and consumer goods industries. Freed et al. (2022) examined the implications of the rapid growth in subscription-based commerce on the global financial industry. Kim and Kim (2020) delved into the motivations for initial purchases and the factors influencing intentions to use ongoing subscription services. Customers are attracted to subscription programs for unlimited access to a specific service or exclusive access to premium features, influencing purchases and engagement. Subscription plans positively impact buying behavior, increasing transaction rates and the number of products bought (Iyengar et al. 2020). To sustain long-term customer relationships, subscription businesses must provide value while consistently ensuring profitability. The study by Chen (2023) offers valuable managerial insights for online content platforms in formulating subscription-free trial strategies. Economic challenges have positioned many D2C subscription services as luxury items. Baral (2022) notes that these services are increasingly considered non-essential or lavish. To manage churn rates, businesses can enhance customer service, personalize experiences, and update their offerings. Baral (2022) also recommends focusing on improving the customer experience and reducing subscriber fatigue to address short- and midterm trends.

Understanding consumer behavior in e-commerce is crucial for developing effective and more innovative strategies for subscription-based model businesses in the Croatian market. At the beginning of this research, variables and factors that could significantly impact the adoption of subscription-based e-commerce models were explored. Therefore, the literature review includes previous research on consumer demographic data, highlighting age, education, employment, and income. It also considers the impact of consumer trust, perceived risks, usefulness, and ease of use of subscription services. These variables and factors have been identified as key elements in previous research on the same or similar topics in different countries. Based on previous research, seven hypotheses were formulated and then tested on a sample of Croatian consumers, seeking answers to the following research questions: 1. What is the relationship between the intention to adopt the subscription model among consumers in Croatia and their demographic factors, such as age, employment status, level of education, and level of income?; and 2. What is the correlation between subscription intention and perceived factors, such as trust, risk, usefulness, and ease of use, and are there significant differences between specific groups of consumers in this regard?

After this introduction, the literature review discusses demographic influences on e-commerce adoption and the “common factors” influencing potential engagement with e-commerce subscription models. The research methodology is described first, followed by the research results, including hypothesis testing, and then the findings and conclusions. The discussion at the end of the paper presents theoretical implications, recommendations for its practical application, including the research limitations, and suggestions for further research on this topic.

## 2. Literature Review

The impact of demographic factors on customers’ online purchasing decisions has proven significant for companies seeking better market and consumer insights, and many studies have focused on this topic. [Sadowski et al. \(2021\)](#) performed a longitudinal study of e-commerce diversity in Europe, detailing various demographic factors shaping consumer demand. [Naseri and Elliott \(2011\)](#) have also explored how demographic factors, social connectedness, and prior internet experience influence online shopping adoption. Therefore, the first part of this chapter focuses on demographic segmentation.

### 2.1. Demographic Influences on E-Commerce Adoption

[Eurostat \(2023\)](#) provides a valuable example for tracking market demographics, showcasing Internet users who made online purchases or ordered services for private use based on age and employment status. Focusing on the European Union, the largest group of online customers was between 25 and 34 years of age, with approximately 87% of them purchasing goods or services online, followed by adults aged 35 to 44 years (around 84%), as well as teenagers and young adults between 16 and 24 years of age (about 81%) ([Eurostat 2023](#)).

When it comes to the correlation between level of education and e-commerce activity, statistics show that, in 2023, Internet users who bought or ordered goods or services for private use were 57% among those who had no or low formal education background, 75% among those with a medium education level, and 88% among those with a higher education background ([Eurostat 2023](#)). [Ünver and Alkan \(2021\)](#) concluded that the tendency toward online shopping increases with higher education levels, which are also associated with higher income and a greater perception of innovations, positively influencing online shopping behaviors. Additionally, [Sánchez-Torres et al. \(2017\)](#) found that education level moderates various aspects of online shopping, such as performance expectations and perceived risk. The researchers suggested that individuals with higher education levels have greater access to information for online shopping, influencing effort expectations and ease of use and reducing the perception of risk.

In Croatia, online shopping penetration varies significantly by educational level. In 2022, 63% of those with tertiary education made online purchases, compared to 34% with



secondary education and just 2% with a primary education (Medve 2024a). Online shopping is predominantly popular among younger Croatians. In 2022, nearly 70% of those aged 18 to 35 were online shoppers, compared to only 10% of those aged 51 to 65 and none above 65 years old (Medve 2024b).

Although there are no such studies for Croatia, in addition to age and education, authors from other countries have highlighted other important variables that can affect consumers' decisions to buy online subscriptions. It is emphasized that employment status and disposable income levels, which may also indicate individuals' lifestyles, have an impact (Nagaraj et al. 2021). Understanding these factors can provide valuable insights into the likelihood of certain groups adopting new or innovative products or services or even payment approaches. Research on the e-commerce market in Britain shows that age and income status remain significant determinants influencing the adoption of online commerce (Clarke et al. 2015). Gender was not identified as a significant factor in this context of e-commerce customers (Clarke et al. 2015; Wei et al. 2021), so this variable was not considered when formulating the hypotheses.

All of the abovementioned studies served as a foundation for formulating four hypotheses aimed at a more detailed exploration of the relationship between the demographic characteristics of Croatian consumers and their willingness to adopt a subscription-based e-commerce model:

**H1.** *The proportions of Croatian consumers who have adopted or are open to adopting the subscription-based e-commerce model vary by age, with younger populations being more open due to greater general technology acceptance.*

**H2.** *The proportions of Croatian consumers who have adopted or are open to adopting the subscription-based e-commerce model vary across different education levels and increase with higher education levels.*

**H3.** *The proportions of Croatian consumers who have adopted or are open to adopting the subscription-based e-commerce model vary across different employment statuses, with full-time employees being the most open to it.*

**H4.** *The proportions of Croatian consumers who have adopted or are open to adopting the subscription-based e-commerce model vary across different levels of disposable income groups and increase with higher incomes.*

## 2.2. The "Common Factors" Influencing Potential Engagement with E-Commerce Subscription Models

After examining the relationship between demographic metrics and the inclination to adopt the model, the next step is to assess the significance of "common factors" in Croatian customers' potential engagement with e-commerce subscription models. These factors are derived from van der Heijden et al. (2003)'s conceptual model, which they developed by investigating intentions to shop online at websites through two different perspectives, one focused on technology and the other on trust. According to van der Heijden et al. (2003), customers' attitudes toward online purchases are shaped by trust, perceived risk, usefulness, and ease of use of the product or service. These factors are influenced by the overall customer experience created by the e-commerce company. Therefore, the company should build trust, maximize perceived usefulness, and ease of use and minimize perceived risks associated with their product or service. In their study, Cheng et al. (2022) also incorporated three of these four factors to estimate their significance in shaping purchase intention among Malaysians.

### 2.2.1. Impact of Perceived Trust

Customer experience varies across subscription types, but perceptions of the product and provider shape universal factors. Heubel (2023) defines customer experience as perceptions before, during, and after visiting an e-commerce store, involving service, product,

and brand experience. [Yasar et al. \(2023\)](#) describes it as the sum of perceptions and feelings from interactions with a brand's products and services, covering all contact points from unboxing to customer care. Although e-commerce companies may improve customer experience differently, they agree on a typical customer journey with five stages: awareness, consideration, decision, service, and loyalty ([Yasar et al. 2023](#)). A journey is successful if it leads to customer loyalty and a positive overall experience. Trust is crucial in leading to loyalty, particularly regarding perceived trust toward the company and its offerings, as it significantly influences purchase intention across various markets ([Barney et al. 2023](#)). [Bucko et al. \(2018\)](#) suggested that trust in the website influences purchase intention, partially mediated by attitudes toward online shopping, which are shaped by perceptions of reliability, competence, and benevolence. When websites are perceived as reliable and trustworthy, customers develop positive attitudes toward online shopping, thus increasing their intention to engage in it ([Barney et al. 2023](#)). Furthermore, [Lăzăroiu et al. \(2020\)](#) emphasized the importance of customer trust in social commerce, defining it as trust in the online business's capabilities, product knowledge and performance, marketing skills, integrity, and payment-related procedures. [Barney et al. \(2023\)](#) concludes that a positive customer experience affects trust and loyalty, which can also be calculated in the form of Customer Lifetime Value. In this way, businesses can identify differences among customer groups and focus on retaining high-value customers.

#### 2.2.2. Impact of Perceived Risk

Perceived risk is often linked to perceived trust due to their strong correlation. [Qalati et al. \(2021\)](#) find this connection crucial, noting that perceived risk is associated with service and website quality, reputation, and purchase intention. They emphasize the relationship between trust and perceived risk during the purchase process and conclude that trust in online shopping reduces perceived risk, which can significantly influence purchase intention. Other authors also link trust and risk perception. For example, [Fenko et al. \(2017\)](#) highlight that scarcity impacts customer attitudes and that social proof and opinions of others are important to customers. [Bucko et al. \(2018\)](#) similarly note that social proof from other customers confirms product quality and that its shortage creates urgency, considering these key factors influencing online purchases. [Sari et al. \(2020\)](#) investigated the significance of security in influencing purchasing decisions, particularly concerning consumer privacy and the online transaction process. [Zhang and Yu \(2020\)](#) also studied the potential impact of perceived risk on consumers' purchasing behavior regarding software purchases across different platforms and devices and the consequences for service providers. Although habits and promotional activities encourage younger generations to adopt mobile payments, perceived risks prevent adoption, indicating a risk-averse attitude ([Wei et al. 2021](#)). [Tham et al. \(2019\)](#) investigated various risk factors, including financial, convenience, non-delivery, return policy, and product risks and their effects on customer attitudes and behaviors while evaluating and purchasing products/services.

#### 2.2.3. Impact of Perceived Usefulness

Consumers also evaluate the potential quality of their post-purchase experience with a product or service at the moment of purchase. This quality includes their opinion on whether the perceived value of the purchase meets or exceeds their expectations, as well as considering the costs involved. If the benefits, such as the assistance it provides in daily life, work, and business, outweigh the costs, they will likely purchase the product. Perceived usefulness in the study by [Tahar et al. \(2020\)](#) refers to users' perception of how much a product or service can enhance their performance. [Ellitan and Prayogo \(2022\)](#) further suggest that perceived usefulness significantly influences online shopping behavior and equally affects consumer attitudes toward technology and their intention to use it. In practice, the perceived usefulness of an online shopping platform correlates with the number of customers who will complete their purchase. In 1986, Davis introduced the Technology Acceptance Model (TAM) aimed at explaining computer usage behavior, stating

that attitude toward using is a function of two major beliefs: perceived usefulness and perceived ease of use (Davis et al. 1989). It was also shown that perceived ease of use has a causal effect on perceived usefulness and that design features directly influence perceived usefulness and perceived ease of use (Davis et al. 1989). Therefore, the explanation of this next important factor follows.

#### 2.2.4. Impact of Perceived Ease of Use

Ease of use can be viewed as one of the design elements, along with appearance, style, functionality, and quality of information, all of which can positively affect customer satisfaction and purchase intention (Alalwan et al. 2017). Yazeed et al. (2021) define ease of use as the minimal effort the system requires during its use. In e-commerce, clear and understandable navigation leads consumers to positive experiences, increasing online purchasing intention. Fachrulamry and Hendrayati (2020) also explored this correlation, focusing on mobile commerce applications, and found a positive link between perceived ease of use and purchase intention. Essentially, this suggests that the easier customers perceive a product or service to be to use, the more likely they are to intend to purchase and continue using it. The quality of available information and its ease of use influence consumers by increasing their trust and security, thereby affecting their purchasing decisions (Rachmawati et al. 2020). The study by Tahar et al. (2020) examines the connection between concepts and factors that can influence how people generally accept technology. It emphasizes the significance of ease of use and security, noting that usefulness has minimal impact on adoption. The study suggests improvements in these areas to facilitate better technology acceptance.

Considering the findings of previous research related to the four main factors influencing potential engagement with e-commerce subscription models, three additional hypotheses were formulated and tested within this study:

**H5.** *There is a statistically significant correlation between subscription intention and perceived trust, perceived risk, perceived usefulness, and perceived ease of use.*

**H6.** *There is a significant difference in subscription intention among different groups regarding perceived trust, perceived risk, perceived usefulness, and perceived ease of use.*

**H7.** *There is a significant difference between the group that uses multiple products/services and the group that neither uses any products/services nor intends to.*

### 3. Results

This section presents comprehensive survey findings, providing a detailed analysis of collected data and incorporating quantitative and qualitative information to form a cohesive narrative. Before delving into the correlation between demographic factors and subscription model adoption, a thorough examination of the participant sample offers detailed insights into their backgrounds, primarily through breakdowns based on various demographic metrics (Table 1).

Out of 202 participants, the majority are women, constituting 67.3% of the sample. Most respondents fall within the 25 to 34 age bracket, representing 66.8% of participants. Additionally, a significant portion reported a monthly disposable income between EUR 1101 and EUR 1400, making up 27.2% of the sample, and in that range is the average monthly net salary per employee in legal entities in the Republic of Croatia for January 2024, which amounted to 1239 euros (Maslovara et al. 2024). Regarding education, most participants hold either a graduate or master's degree, comprising 53.5% of the sample, along with a small percentage holding a doctoral degree (3.5%), indicating a predominantly highly educated sample. Most survey participants are full-time employees, accounting for 65.8% of the sample. The distribution groups for this metric were designed to accurately reflect the typical sizes of Croatian rural and urban populations. Specifically, participants



from cities with a population exceeding 100,000 inhabitants constitute 40.1% of the sample, which includes the two largest cities, Zagreb and Split.

**Table 1.** Demographic characteristics of the respondents (N = 202).

Variables	Frequency	Percentage
<b>Gender</b>		
Male	66	32.7%
Female	136	67.3%
<b>Age</b>		
18–24	22	10.9%
25–34	135	66.8%
35–44	12	5.9%
45–54	21	10.4%
55–74	12	5.9%
<b>Net Monthly Income (EUR)</b>		
≤500	12	5.9%
501–800	19	9.4%
801–1100	47	23.3%
1101–1400	55	27.2%
1401–1700	22	10.9%
1701–2000	20	9.9%
>2000	27	13.4%
<b>Education</b>		
High school	35	17.3%
Undergraduate or bachelor’s degree	52	25.7%
Graduate or master’s degree	108	53.5%
Doctoral degree	7	3.5%
<b>Employment</b>		
Students	24	11.9%
Unemployed	1	0.5%
Unemployed and actively seeking job	5	2.5%
Part-time employees	19	9.4%
Self-employed	20	9.9%
Full-time employees	133	65.8%
<b>Croatian rural and urban populations</b>		
<5000	44	21.8%
5000–20,000	15	7.4%
20,000–100,000	62	30.7%
>100,000	81	40.1%

Source: Author’s calculation.

### 3.1. Testing Hypotheses H1, H2, H3, and H4: Experiences with and Attitudes toward Subscription Services

After collecting demographic data, participants were questioned about their current experiences with and attitudes toward subscription services. Regarding this, 82 respondents reported being currently subscribed to an online product or service (40.6%), and 61 reported being subscribed to multiple online products or services (30.2%). Conversely, 32 participants are not currently subscribed to any online product or service but are open to considering such subscriptions in the future (15.8%). A further 27 participants are not currently

subscribed to any online product or service and have no intention to subscribe in the future (13.4%).

The responses pertaining to participants' current experiences and attitudes toward subscription services are utilized as the dependent variable when examining the correlation between demographic factors and the adoption of the subscription model. The following text will explore this investigation more fully.

The *chi-squared homogeneity tests* are used to assess hypotheses H1, H2, H3, and H4, which investigate the relationship of demographics to adoption. They allow us to compare the proportion of successes (in this case, "Adopted/Open to Adopt") between multiple groups, which might suggest whether a particular demographic group is more inclined to adopt the subscription-based e-commerce model compared to other respective groups.

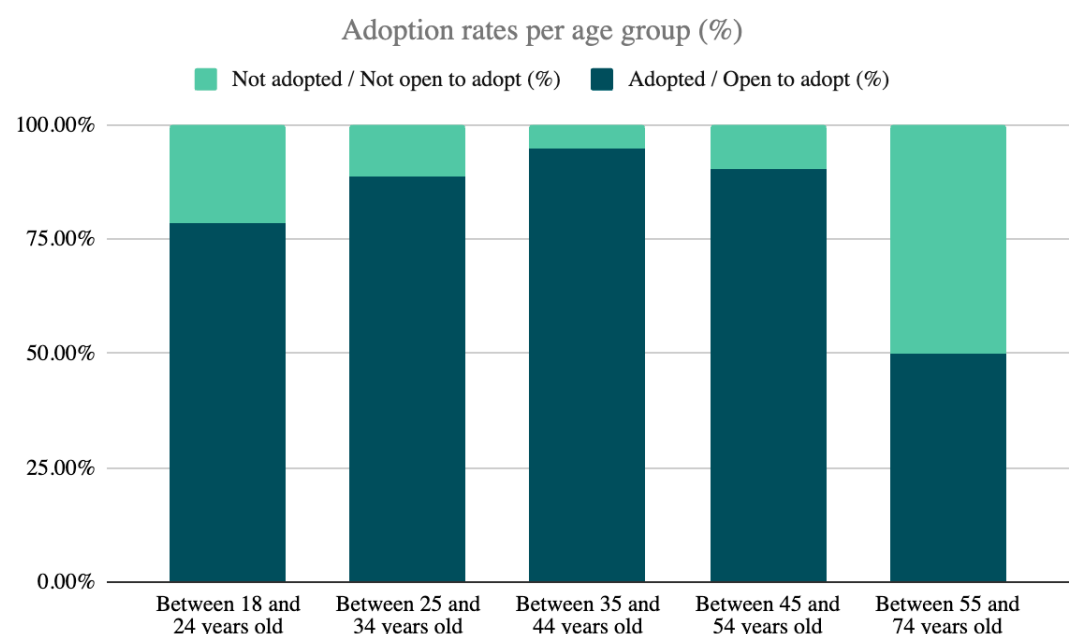
Following four chi-squared homogeneity tests, only one proved significant differences in proportions. That is the one testing proportions in the context of different age groups ( $\chi^2 = 16.7628$ ,  $p < 0.05$ ), proving our *hypothesis H1 to be accepted* (Table 2). This suggests that the proportion of Croatian consumers who have adopted or are open to adopting the subscription-based e-commerce model is inconsistent across all age groups. Therefore, statistical evidence supports the claim that the proportion of adoption/openness to adoption varies among at least one age group in the sample. *Hypotheses H2–H4 cannot be accepted* because significant differences among the different groups were not found, meaning that the proportion of Croatian consumers who have adopted or are open to adopting the subscription-based e-commerce model is consistent between different education levels, employment statuses, and levels of disposable income groups of Croatian consumers.

**Table 2.** Chi-square results in the context of different age groups.

	$\chi^2$	df	$p$
H <sub>0</sub> (age groups)	16.7628	4	<0.05

Source: Author's calculation.

Looking at the sample results more closely, even without calculating statistical significance, the difference in proportions regarding adoption may be observed across age groups, which might provide useful insight for businesses and market researchers. Figure 1 displays the survey results of adoption rates per age group.



**Figure 1.** Adoption rates per age group (%). Source: Author's calculation.

Analyzing Figure 1, it may be concluded that there is a significant difference in adoption rate for some age groups. Survey participants aged between 35 and 44 exhibited the highest rate of openness towards the subscription model, with a remarkable 95% either adopting or expressing openness to adopt it. Following closely, participants aged between 45 and 54 demonstrated a 90.48% adoption or openness rate, with a minor 9.52% opposing the model. In third place, the group between 25 and 34 registered an 88.89% adoption rate, whereas 11.11% remained hesitant or uninterested. The youngest demographic surveyed, those between 18 and 24, indicated a 78.57% adoption or willingness to adopt, while 21.43% refrained. Lastly, the second significant drop in the adoption rates among the age groups was recorded among participants between 55 and 74, with an evenly divided stance: 50% were inclined towards the model, mirroring the 50% who were not.

### 3.2. Testing Hypothesis H5: Correlations

To test our fifth hypothesis (H5: There is a statistically significant correlation between subscription intention and perceived trust, perceived risk, perceived usefulness, and perceived ease of use) regarding correlation with usage/willingness to use subscriptions and factors of perception, we conducted point-biserial correlation ( $r_{pb}$ ) tests for each factor with the usage/willingness to use. The dependent variables were measured using scales derived from the questions mentioned earlier. Each perceived attitude scale consisted of five questions, except for the perceived usefulness scale, which included six questions. Before conducting this method, we calculated Cronbach's alpha coefficient ( $\alpha$ ) for each of the perceived factors to determine the reliability and internal consistency of the sample results. The results are presented in Table 3. The results indicate that all scales show high internal consistency ( $\alpha > 0.7$ ).

**Table 3.** Calculation results; Cronbach's alpha coefficient ( $\alpha$ ) per factor.

Results per Factor	Cronbach's Alpha ( $\alpha$ )
Perceived trust	0.7018
Perceived risk	0.7749
Perceived usefulness	0.8994
Perceived ease of use	0.8191

Source: Author's calculation.

*Perceived trust has a positive relationship* with subscription intention among consumers in Croatia ( $r_{pb} = 0.1732$ ); *perceived risk has a negative relationship* with subscription intention among consumers in Croatia ( $r_{pb} = -0.1655$ ); *perceived usefulness has a positive relationship* with subscription intention among customers in Croatia ( $r_{pb} = 0.2156$ ), and *perceived ease of use has a positive relationship* with subscription intention among consumers in Croatia ( $r_{pb} = 0.2639$ ). In these terms, we can *fully accept hypothesis H5*, as every factor has a significant correlation with usage/willingness to use ( $p < 0.05$  for all correlations).

### 3.3. Testing Hypothesis H6 and H7: ANOVA and Post-Hoc Tests

To test the sixth hypothesis (H6: There is a significant difference in subscription intention among different groups regarding perceived trust, perceived risk, perceived usefulness, and perceived ease of use) about the differences between different groups in terms of using/willingness to use subscriptions, and perceived trust, risk, usefulness, and ease of use, we conducted four one-way ANOVAs.

For all conducted ANOVAs, the fixed factor was usage/willingness to use, with four levels: (a) Yes, I am currently subscribed to a product/service; (b) Yes, I am currently subscribed to multiple products/services; (c) No, but I would consider subscribing in the future; and (d) No, and I do not intend to subscribe in the future. The dependent variables for each ANOVA were as follows: (a) perceived trust, (b) perceived risk, (c) perceived usefulness, and (d) perceived ease of use.

As a measure of the independent variable (usage/willingness to use), a question was posed in which participants indicated one of the previously mentioned responses about their current usage and intention to use in the future. The measures of the dependent variables were scales created from the previously mentioned questions for each of the perceived attitudes, with all scales having five questions, except for the perceived usefulness scale, which had six questions. All scales had a satisfactory measure of internal consistency ( $\alpha > 0.7$ ) (Table 2). For each scale, the average score from the questions was used.

The assumption of homogeneity of variances was tested using *Levene's test*, and no significant violations were detected ( $p > 0.05$  for all four ANOVAs). Tables containing descriptives for all four ANOVAs can be found in Appendix A.

The ANOVA tests revealed a significant effect of the independent variable on the dependent variable in all four conducted ANOVAs (Appendix B). For the first ANOVA, there is a significant effect of usage/willingness to use on perceived trust ( $F(3,198) = 3.01, p < 0.05$ ), meaning there are significant differences between different groups of using/willingness to use in perceived trust. Furthermore, the second ANOVA showed a significant effect of usage/willingness to use on perceived risk ( $F(3,198) = 4.24, p < 0.05$ ), meaning there are significant differences between different groups of using/willingness to use in perceived risk. The third ANOVA showed a significant effect of usage/willingness to use on perceived usefulness ( $F(3,198) = 3.83, p < 0.05$ ), meaning there are significant differences between different groups of using/willingness to use in perceived usefulness. Lastly, the fourth ANOVA showed a significant effect of usage/willingness to use on ease of use ( $F(3,198) = 2.92, p < 0.05$ ), meaning there are significant differences between different groups of using/willingness to use in perceived ease of use. These results approve hypothesis H6 regarding observed differences between different groups of usage/willingness to use on all four measured factors. To conclude, we found significant differences between different groups of usage/willingness to use in the elements of perceived trust, risk, usefulness, and ease of use.

To investigate our seventh hypothesis (H7: There is a significant difference between the group that uses multiple products/services and the group that neither uses any products/services nor intends to), we conducted a *Dunnett T3 post hoc test in all four ANOVAs* to find pairwise differences between groups. In these terms, our hypothesis H7 is partly accepted as we found significant differences in three ANOVAs between groups that responded "Yes, I am currently subscribed to multiple products/services" and "No, and I do not intend to subscribe in the future." The only ANOVA that did not show this difference was the ANOVA where the dependent variable was perceived ease of use. In the ANOVA with the dependent variable of perceived trust, there are significant differences between the group that uses multiple products/services ( $M = 3.64, SD = 0.62$ ) and the group that is not using and does not intend to use any product/service ( $M = 3.26, SD = 0.54$ ), meaning that the first mentioned group has a significantly higher perceived level of trust ( $p < 0.05$ ). Furthermore, in the ANOVA with the dependent variable of perceived risk, there are significant differences between the group that uses multiple products/services ( $M = 3.01, SD = 0.75$ ) and the group that is not using and does not intend to use any product/service ( $M = 3.61, SD = 0.81$ ), meaning that the first mentioned group has significantly lower perceived level of risk ( $p < 0.05$ ). In the ANOVA with the dependent variable of perceived usefulness, there are significant differences between the group that uses multiple products/services ( $M = 3.21, SD = 0.92$ ) and the group that is not using and does not intend to use any product/service ( $M = 2.48, SD = 0.82$ ), meaning that the first mentioned group has a significantly higher perceived level of usefulness ( $p < 0.05$ ).

To conclude, significant differences could be found between the group that uses multiple products/services and the group that is not using any product/service and does not intend to on perceived trust, risk, and usefulness. Our hypothesis H7 is accepted in all terms except the significant differences between the two groups regarding perceived ease of use.

#### 4. Research Methodology

An empirical study was conducted with Croatian consumers aged 18 and above to address the research questions and test the hypotheses. During the research, anonymity was guaranteed for participants. The survey was administered via Google Forms between 26 July 2023 and 2 August 2023, with a total of 202 participants dedicating their time and effort to the research. Participants were contacted via email and asked to forward the questionnaire to friends. Since the study was voluntary and its success relied on participants' willingness to forward the questionnaire to their friends and contacts, it initially targeted the category of more intensive online consumers. Therefore, the sample predominantly comprises participants aged 25–34. The sample comprises a convenience selection of respondents, with the largest demographic group falling within the age bracket representing the largest segment of online consumers in the EU, according to Eurostat research (2023). Additionally, given that the sample closely mirrors the distribution of education levels, reflecting the characteristics of the broader population of e-shoppers as indicated by Eurostat (2023) data, it can be treated similarly to a stratified sample of participants. These things considered, the convenience sample was chosen because it is more suitable for exploratory research of basic understanding of our constructs and because of its practicality. However, it should be noted that this kind of sample presents a risk of a biased sample and limits the external validity of findings.

The data collection instrument consisted of two parts: one gathering demographic data and current subscription experiences, while the other contained 21 questions exploring four perceived factors outlined in the hypotheses (trust, perceived risk, usefulness, and ease of use). Questions were presented in Likert-scale format, ranging from 1 to 5 (1 representing Strongly Disagree and 5 representing Strongly Agree). Each of the four factors had five to six critical success dimensions described in previous research. Therefore, for each factor, a list of authors who studied specific dimensions is provided, and based on each dimension, a related question was included in the questionnaire. The survey questions for each perceived factor are summarized in the tables below. Table 4 contains five questions related to perceived trust. Each question aims to assess the perceived trustworthiness of available information, the reputation and size of the company offering a subscription, the influence of word of mouth, and the impact of security and privacy concerns.

**Table 4.** Survey questions—perceived trust.

#	Perceived Trust	Critical Success Dimension	Source Citing Critical Success Dimension
PT1	I consider the information companies publish on their official websites and profiles reliable and true.	Available information	(van der Heijden et al. 2003; Alalwan et al. 2017; Kouser et al. 2018; Heubel 2023; Yasar et al. 2023; Barney et al. 2023)
PT2	I trust big and well-known companies that I know about before.	Reputation and size	(van der Heijden et al. 2003; Lăzăroiu et al. 2020; Yasar et al. 2023; Barney et al. 2023)
PT3	Before making any online purchase, I always research other users' previous experiences with a particular product or service.	Word of mouth	(Bucko et al. 2018; Kouser et al. 2018; Brandl 2022)
PT4	When making any online purchase, I do not worry about the security of my personal and user data.	Privacy and security	(Kouser et al. 2018; Lăzăroiu et al. 2020; Tahar et al. 2020)
PT5	I find online subscription services to be reliable and deliver on their promises.	Trustworthiness	(van der Heijden et al. 2003; Iyengar et al. 2020; Lăzăroiu et al. 2020)

Source: Author's representation.

Regarding perceived risks, a total of five questions were also provided, each pertaining to a specific type of risk: product risk, time risk, financial risk, and payment risk (Table 5).

Six questions were presented for perceived usefulness (Table 6), each relating to a distinct aspect of usefulness: whether the subscription enables the user to work faster,



enhances their efficiency, effectiveness, or productivity, and how they generally perceive the subscription in terms of usefulness.

**Table 5.** Survey questions—perceived risk.

#	Perceived Risk	Critical Success Dimension	Source Citing Critical Success Dimension
PR1	Before making any online subscription, I am concerned that the product or service I subscribe to may not contain all the previously promised features.	Product risk—I	(van der Heijden et al. 2003; Sánchez-Torres et al. 2017; Tham et al. 2019; Qalati et al. 2021; Brandl 2022)
PR2	When making an online subscription, I am concerned that the product or service I subscribe to may not be of the previously promised quality.	Product risk—II	
PR3	Searching for a good subscription service offer that I need often takes too much time.	Time risk	(Tham et al. 2019; Zhang and Yu 2020)
PR4	When paying online, I worry about the possibility of identity theft or credit card fraud.	Payment risk	(Tham et al. 2019; Sari et al. 2020)
PR5	Before deciding to subscribe, I am concerned that the subscription might include costs that were not initially shown in the initial offer.	Financial risk	(Clarke et al. 2015; Sánchez-Torres et al. 2017; Tham et al. 2019; Sari et al. 2020)

Source: Author's representation.

**Table 6.** Survey questions—perceived usefulness.

#	Perceived Usefulness	Critical Success Dimension	Source Citing Critical Success Dimension
PU1	Using various subscription services significantly reduces the time needed to complete my tasks.	Working faster	(van der Heijden et al. 2003; Iyengar et al. 2020; Tahar et al. 2020; Ünver and Alkan 2021; Baral 2022)
PU2	Using various subscription services improves my overall performance at work.	Efficiency	(Iyengar et al. 2020; Tahar et al. 2020; Ünver and Alkan 2021; Baral 2022)
PU3	Using subscription services increases my productivity in my daily work.	Increasing productivity	(Iyengar et al. 2020; Tahar et al. 2020; Ünver and Alkan 2021; Baral 2022)
PU4	Various subscription services effectively help me achieve my work goals.	Effectiveness	(Iyengar et al. 2020; Tahar et al. 2020; Ünver and Alkan 2021; Baral 2022; Ellitan and Prayogo 2022)
PU5	Various subscription services make my job easier.	Making work easier	(Iyengar et al. 2020; Tahar et al. 2020; Ünver and Alkan 2021; Baral 2022)
PU6	In general, I find subscription services useful in my daily work.	Usefulness	(van der Heijden et al. 2003; Iyengar et al. 2020; Tahar et al. 2020; Ünver and Alkan 2021; Baral 2022; Ellitan and Prayogo 2022)

Source: Author's representation.

Lastly, Table 7 includes five questions on perceived ease of use. Each question evaluates a different subfactor associated with the perception of simplicity: whether the usage of the subscription service or product is easy to learn, controllable from the users' perspective, clear and understandable, and easy to become skilled in using the offered service.

**Table 7.** Survey questions—perceived ease of use.

#	Perceived Ease of Use	Critical Success Dimension	Source Citing Critical Success Dimension
PEU1	It is not difficult for me to learn to use a new application after subscribing.	Easy to learn	(van der Heijden et al. 2003; Alalwan et al. 2017; Fachrulamry and Hendrayati 2020; Rachmawati et al. 2020; Ünver and Alkan 2021)

Table 7. Cont.

#	Perceived Ease of Use	Critical Success Dimension	Source Citing Critical Success Dimension
PEU2	I feel comfortable using new technology.	Controllable	(Tahar et al. 2020; Ünver and Alkan 2021; Ellitan and Prayogo 2022)
PEU3	I subscribe to products or services if they are simple and easy to understand.	Clear and understandable	(van der Heijden et al. 2003; Alalwan et al. 2017; Fachrulamry and Hendrayati 2020; Rachmawati et al. 2020; Sari et al. 2020; Yazeed et al. 2021; Ellitan and Prayogo 2022)
PEU4	I subscribe to products or services if it is easy to become proficient in using them.	Easy to become skillful	(Alalwan et al. 2017; Fachrulamry and Hendrayati 2020; Rachmawati et al. 2020; Sari et al. 2020; Yazeed et al. 2021; Ellitan and Prayogo 2022)
PEU5	Overall, I find online subscription services easy to use.	Easy to use	(van der Heijden et al. 2003; Alalwan et al. 2017; Fachrulamry and Hendrayati 2020; Rachmawati et al. 2020; Ünver and Alkan 2021)

Source: Author's representation.

## 5. Findings and Discussion

In this study, most respondents (66.8%) are aged 25 to 34, which corresponds to the fact that this age group represents the largest group of online customers in the European Union (Eurostat 2023). Additionally, our results show that 88.89% of respondents in the group aged 25 to 34 years have adopted or are open to adopting the subscription-based e-commerce model, while Eurostat's research (2023) in the same age group indicates that approximately 87% make online purchases. Based solely on these data, a correlation could be drawn between the inclination towards subscription-based models and online shopping in general, as a similar trend is observed among younger groups aged 18–24. Furthermore, our results reveal a significant difference in subscription model acceptance between age groups. The group aged 55–74 shows the lowest willingness to adopt it (only 50%), while participants aged 35–44 have the highest acceptance rate (95%). Once again, all percentages obtained for various age groups regarding their acceptance of the subscription-based e-commerce model are also completely consistent with statistics on age groups of online shoppers in Croatia (Medve 2024b).

Although our sample, in terms of the education levels of respondents, aligns with Eurostat (2023) data on online shoppers' education levels and previous research indicating a correlation between education and e-commerce activity (Sánchez-Torres et al. 2017; Ünver and Alkan 2021; Medve 2024a), no significant link between model adoption and education level was found. Notably, most respondents were in the highest educated group (57%), while Croatian statistics (Medve 2024a) show that 63% of those with tertiary education made online purchases. However, acceptance of the subscription-based e-commerce model showed no statistically significant link with education level.

Even though previous research has linked the use of new or innovative products/services and various payment methods with employment status and levels of disposable income (Nagaraj et al. 2021) and has emphasized the importance of these demographic characteristics for online commerce (Clarke et al. 2015; Ünver and Alkan 2021), these two characteristics were also not found to be significantly related to the adoption of the subscription-based e-commerce model.

Of the four conducted chi-squared tests of homogeneity, only one showed significant differences in proportions, and that was in the context of different age groups ( $\chi^2 = 16.7628$ ,  $p < 0.05$ ). These findings are consistent with the research conducted by Eurostat (2023). Therefore, *hypothesis H1 can be fully accepted, while hypotheses H2, H3, and H4 cannot be accepted.*

To test hypothesis H5, a point-biserial correlation analysis was conducted for each factor (perceived trust, perceived risk, perceived usefulness, and perceived ease of use), and internal consistency was verified using Cronbach's alpha. The results showed a significant correlation between the intention to use the subscription-based e-commerce model and fac-

tors such as perceived trust, perceived risk, perceived usefulness, and perceived ease of use, allowing us to *fully accept hypothesis H5* as a significant correlation found between every factor and usage/willingness to use ( $p < 0.05$  for all correlations). These findings fully support the research conducted by [van der Heijden et al. \(2003\)](#) and later by [Cheng et al. \(2022\)](#).

The results also indicate that perceived trust, usefulness, and ease of use positively correlate with subscription intention, while perceived risk negatively correlates with it, which is also consistent with the research by [van der Heijden et al. \(2003\)](#). These findings suggest that enhancing trust, perceived usefulness, and ease of use while reducing perceived risks can increase consumers' willingness to adopt subscription services in Croatia. Other studies conducted in different countries have shown similar results regarding perceived trust ([Kouser et al. 2018](#); [Lăzăroiu et al. 2020](#); [Barney et al. 2023](#)), perceived risk ([Bucko et al. 2018](#); [Tham et al. 2019](#); [Sari et al. 2020](#); [Zhang and Yu 2020](#); [Qalati et al. 2021](#)), perceived usefulness ([Tahar et al. 2020](#); [Ellitan and Prayogo 2022](#)), and perceived ease of use ([Alalwan et al. 2017](#); [Fachrulamry and Hendrayati 2020](#); [Rachmawati et al. 2020](#); [Yazeed et al. 2021](#)).

Hypothesis H6, about a significant difference in subscription intention among different groups regarding perceived trust, perceived risk, perceived usefulness, and perceived ease of use, was tested using four one-way ANOVAs with groups categorized by their current subscription status and willingness to subscribe in the future. The results indicated a significant effect of usage/willingness to use across all ANOVAs, suggesting differences among groups in perceived trust, risk, usefulness, and ease of use, *supporting H6*. A number of authors have already emphasized differences among groups in perceived trust ([Barney et al. 2023](#)), risk ([Wei et al. 2021](#)), usefulness ([Ellitan and Prayogo 2022](#)), and ease of use ([Fachrulamry and Hendrayati 2020](#)).

Post hoc tests further showed that the group currently subscribed to multiple products/services exhibits significantly higher levels of trust and usefulness and significantly lower perceived risk compared to the group that neither uses nor intends to use any products/services. This is consistent with studies conducted by [Bucko et al. \(2018\)](#), [Tham et al. \(2019\)](#), [Fachrulamry and Hendrayati \(2020\)](#), [Tahar et al. \(2020\)](#), [Zhang and Yu \(2020\)](#), [Ellitan and Prayogo \(2022\)](#), and [Barney et al. \(2023\)](#). However, these two groups did not exhibit significant differences in perceived ease of use, so hypothesis H7 can only be partially accepted. Although previous studies have confirmed the significance of ease of use and the positive correlation between perceived ease of use and purchase intention, they have focused on technology adoption in general ([Tahar et al. 2020](#)), online shopping at websites ([van der Heijden et al. 2003](#)), and mobile commerce applications ([Fachrulamry and Hendrayati 2020](#)), which may indicate specificities related to subscription-based e-commerce models.

### *Practical Implications*

This study's results provide useful inputs for practical application. Understanding specific customer groups in the Croatian context and the importance of their demographic and perceptual drivers related to subscription models in e-commerce provides a robust foundation for different stakeholders' practical applications.

First, this research can benefit businesses and e-commerce companies offering subscription-based services to current and potential customers in the Croatian market. Considering that the data show an increase in the number of Internet and social media users ([Kemp 2022](#)), a rise in the percentage of online shoppers ([Heureka Group 2022](#); [EU Commission 2023](#)), an increase in the number of e-commerce businesses across all sectors ([Statista 2023](#)), and a rise in digital literacy and digital skills among the Croatian population ([Poslovni dnevnik 2023](#); [Statista 2023](#)), this market has attractiveness and good prospects for business innovations in subscription-based models.

Innovations by companies looking to expand their customer base for subscription models should be targeted by age group since the proportion of adoption/openness to adoption varies across different age groups. Therefore, strategies should primarily focus on those aged 35–44, who show the highest rate of openness, followed by other age groups with very high openness percentages. The most challenging group to engage is those aged

55–74, so they should be studied further if strategies are to be directed at them. It is not surprising that those aged 35–44 are highly inclined towards subscription models, as this is a very active segment of the working population. For them, the usefulness factor proved very significant, with all its dimensions related to working faster and easier, efficiency, effectiveness, and increasing productivity in everyday activities and achieving business goals (Table 6). Promotional appeals on this topic could be a good incentive for this group of customers. Furthermore, it is well known from previous research that younger generations represent the leading segment for embracing innovations in new technologies and that social influence has a positive effect on their intention to adopt new products and services, allowing for the creation of promotional activities that include more active word-of-mouth strategies targeted specifically at them (Wei et al. 2021). Additionally, activities directed towards reducing perceived risks and communicating trust and usefulness are necessary, as these can further motivate them. In this research, the perceived risk factor proved to be very significant, with all its dimensions related to risks associated with the product being purchased, the time invested, and payment methods and finances. Therefore, innovations and promotional activities should aim to reduce these risks.

Since perceived trust and ease of use, along with perceived usefulness and risk, have proven to be significant for the usage/willingness to use the model, these are generally the areas around which strategies, promotional activities, and innovations should be created to motivate customers to use the model more frequently and to increase their loyalty. Innovations targeting customers' unique needs and preferences, thereby increasing their satisfaction with the subscription model, can significantly help various retailers and trading platforms grow their revenue. It is also important to consider what and how to communicate to customers, as this research has revealed insights into their perceptions, which can often differ from those of management or company employees.

Although only the age difference proved significant among all the tested demographic variables in the Croatian sample, other variables, highlighted as equally significant in other studies, should not be overlooked. This primarily refers to the level of education, income, and employment. A better perception of innovations, associated with higher education levels and income, positively influences online shopping behaviors (Ünver and Alkan 2021). Given the acceptance of innovations by those with higher incomes, special attention should be given to collaborating with them as a group of innovators and/or early adopters who can be good advocates for products/services and share their positive experiences with other groups.

In addition to the findings of our research, which focused on demographic and perceptual drivers and whose results indicate certain targeted actions, these actions could be directed towards activities and communications that address potential barriers to using the subscription model. This primarily refers to the unauthorized use of content, which certainly represents a significant barrier to the expansion of this market. Therefore, it is worth mentioning Zhang and Zhang (2024)'s research, which recommends that businesses in the digital products industry should carefully consider their subscription pricing strategy, aiming to improve profitability and address piracy concerns.

## 6. Conclusions

The acceptance of subscription models is under-researched, particularly in Croatia and neighboring countries, where cultural, socioeconomic, and behavioral factors significantly influence adoption decisions. Our study provides a solid foundation for further research and benefits other researchers by offering insights into the relationship between model acceptance and four key demographic variables and four perceptual drivers. Based on previous research, this study's structured approach also contributes to advancing the understanding of this topic.

This study's theoretical contribution involves creating a measurement instrument consisting of 21 questions related to four perceived factors: trust, perceived risk, usefulness, and ease of use. Each factor can be explored further based on critical success dimensions

extracted from previous studies. The questionnaire developed can be used for future research on this topic in Croatia and other countries.

The results of this study showed significant differences in subscription model acceptance across age groups. At the same time, education level, employment status, and disposable income showed no significant relation to subscription model adoption in Croatia. This could be due to specific aspects of the Croatian market, but further research is necessary to deepen our understanding. Other behavioral and psychosocial variables may be significant for understanding Croatian consumers' attitudes toward adopting subscription models and analyzing their behavior. This is crucial because many subscription models face challenges in Croatia due to prevalent piracy practices. Despite legal adjustments upon joining the E.U., ineffective implementation and control of piracy laws persist, as highlighted by [Guttmann \(2023a\)](#). Additionally, [Ištuk \(2021\)](#) found that Croatian students engage in piracy due to the high costs of legal content and lax penalties for piracy, despite recognizing its negative impacts. Piracy is perceived as widely accepted due to the lack of penalties, and students prefer to try products before purchasing.

When considering the adoption of subscription-based models in Croatia, data on illegal content downloads are essential, as piracy can impact subscriber numbers and retention. This aspect demands further exploration within Croatia and other similar environments, such as transitional and Southeast European countries. For example, in the Czech Republic, [Svobodová and Rajchlová \(2020\)](#) studied the strategic behavior of e-commerce businesses and concluded that consumer behavior heavily depends on available payment methods, with high cash usage remaining a significant barrier to modernizing payment environments in the country.

Our study has also shown positive relationships with perceived trust, usefulness, and ease of use and a negative relationship with perceived risk. This means that enhancing trust, usefulness, and ease of use while reducing perceived risks can boost subscription-based e-commerce adoption. Significant differences in perceived trust, risk, and usefulness were found between users of multiple products/services and non-users but not in perceived ease of use.

A limitation of this study is that other potentially significant factors and subfactors influencing perception and behavior were not investigated. Therefore, the next step could involve exploring new factors or subfactors and conducting a more thorough analysis that considers their interrelationships, impacts, and consequences on subscription intention.

Another limitation of this study is the sampling method, which did not ensure a representative sample of the entire Croatian population. Therefore, future research can use a random sample of respondents based on probability. Nonetheless, the theoretical results obtained here can serve as a solid foundation for subsequent empirical studies.

**Author Contributions:** Conceptualization, M.M., R.B. and H.M.; Methodology, M.M.; Software, R.B. and H.M.; Validation, M.M.; Formal Analysis, R.B. and H.M.; Investigation, R.B.; Resources, M.M., R.B. and H.M.; Data Curation, R.B.; Writing—Original Draft Preparation, M.M., R.B. and H.M.; Writing—Review & Editing, M.M.; Visualization, R.B. and H.M.; Supervision, M.M.; Project Administration, M.M.; Funding Acquisition, H.M. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no external funding.

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** Dataset available on request from the authors.

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

## Appendix A

Tables containing ANOVA descriptives for all four conducted ANOVAs.



Descriptives								
Perceived Trust								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Subscribed to multiple products/services	61	3.6393	0.61841	0.07918	3.4810	3.7977	1.00	4.80
Subscribed to a product/service	82	3.5195	0.61573	0.06800	3.3842	3.6548	2.00	5.00
No, but considering	32	3.3688	0.62032	0.10966	3.1451	3.5924	1.80	4.20
No and not considering	27	3.2593	0.53727	0.10340	3.0467	3.4718	2.60	4.60
Total	202	3.4970	0.61660	0.04338	3.4115	3.5826	1.00	5.00

Descriptives								
Perceived Risk								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Subscribed to multiple products/services	61	3.0131	0.75443	0.09659	2.8199	3.2063	1.00	4.40
Subscribed to a product/service	82	3.2585	0.84239	0.09303	3.0734	3.4436	1.00	5.00
No, but considering	32	3.4625	0.85223	0.15065	3.1552	3.7698	1.60	5.00
No and not considering	27	3.6148	0.81132	0.15614	3.2939	3.9358	1.40	5.00
Total	202	3.2644	0.83363	0.05865	3.1487	3.3800	1.00	5.00

Descriptives								
Perceived Usefulness								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Subscribed to multiple products/services	61	3.2104	0.91788	0.11752	2.9753	3.4455	1.17	5.00
Subscribed to a product/service	82	3.0711	1.03141	0.11390	2.8445	3.2978	1.00	5.00
No, but considering	32	2.9427	0.90954	0.16078	2.6148	3.2706	1.00	5.00
No and not considering	27	2.4815	0.81693	0.15722	2.1583	2.8046	1.33	5.00
Total	202	3.0140	0.97265	0.06844	2.8791	3.1490	1.00	5.00

Descriptives								
Perceived Ease of Use								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Subscribed to multiple products/services	61	3.9525	0.53809	0.06889	3.8146	4.0903	2.50	5.00
Subscribed to a product/service	82	3.9427	0.58119	0.06418	3.8150	4.0704	2.10	5.00
No, but considering	32	3.8250	0.48659	0.08602	3.6496	4.0004	2.80	4.80
No and not considering	27	3.6074	0.62013	0.11934	3.3621	3.8527	1.90	4.70
Total	202	3.8822	0.56786	0.03995	3.8034	3.9610	1.90	5.00

Source: Author's calculation.

## Appendix B

Tables containing ANOVA results for all four conducted ANOVAs.

ANOVA					
Perceived Trust					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.330	3	1.110	3.007	0.031
Within Groups	73.088	198	0.369		
Total	76.418	201			

ANOVA					
Perceived Risk					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.426	3	2.809	4.237	0.006
Within Groups	131.258	198	0.663		
Total	139.683	201			

ANOVA					
Perceived Usefulness	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10.439	3	3.480	3.834	0.011
Within Groups	179.715	198	0.908		
Total	190.155	201			

ANOVA					
Perceived Ease of Use	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.745	3	0.915	2.918	0.035
Within Groups	62.071	198	0.313		
Total	64,816	201			

Source: Author's calculation.

## References

- Alalwan, Ali Abdallah, Nripendra P. Rana, Yogesh K. Dwivedi, and Raed Algharabat. 2017. Social Media in Marketing: A Review and Analysis of the Existing Literature. *Telematics and Informatics* 34: 1177–90. [CrossRef]
- Baek, Hyehyeon, and Kilsun Kim. 2022. An Exploratory Study of Consumers' Perceptions of Product Types and Factors Affecting Purchase Intentions in the Subscription Economy: 99 Subscription Business Cases. *Behavioral Sciences* 12: 179. [CrossRef] [PubMed]
- Baral, Annu. 2022. The Evolution of the Subscription Model and What's on the Horizon. Forbes Magazine/Forbes Business Development Council. Available online: <https://www.forbes.com/sites/forbesbusinessdevelopmentcouncil/2022/09/12/the-evolution-of-the-subscription-model-and-whats-on-the-horizon/?sh=b1856da47370> (accessed on 16 January 2023).
- Barney, Nick, Erica Mixon, and Christina Torode. 2023. Customer Experience (CX). *TechTarget*. Available online: <https://www.techtarget.com/searchcustomerexperience/definition/customer-experience-CX> (accessed on 14 May 2023).
- Brandl, Robert. 2022. Top e-Commerce Challenges for 2023 and How to Overcome Them. *TechTarget*. Available online: <https://www.techtarget.com/searchcustomerexperience/post/Top-e-commerce-challenges-for-2023-and-how-to-overcome-them> (accessed on 17 January 2023).
- Bucko, Jozef, Lukáš Kakalejčík, Martina Ferencová, and Len Tiu Wright. 2018. Online shopping: Factors that affect consumer purchasing behaviour. *Cogent Business and Management* 5: 1535751. [CrossRef]
- Chen, Li. 2023. Analysis of Online Platforms' Free Trial Strategies for Digital Content Subscription. *Journal of Theoretical and Applied Electronic Commerce Research* 18: 2107–24. [CrossRef]
- Chen, Tony, Ken Fenyo, Sylvia Yang, and Jessica Zhang. 2018. Thinking Inside the Subscription Box: New Research on e-Commerce Consumers. *High-Tech: McKinsey and Company*. Available online: <https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/thinking-inside-the-subscription-box-new-research-on-ecommerce-consumers> (accessed on 11 March 2023).
- Cheng, Soh Yoke, Ibiwani Alisa Hussain, Kantharow Apparavu, and Nennie Trianna Rosli. 2022. Factors Influencing Online Shopping Intention Among Malaysians: A Quantitative-Based Study. *Electronic Journal of Business and Management* 7: 66–81.
- Clarke, Graham, Christopher Thompson, and Mark Birkin. 2015. The emerging geography of e-commerce in British retailing. *Regional Studies, Regional Science* 2: 371–91. [CrossRef]
- Cox, Barney. 2024. Ecommerce Statistics to Get You Ahead in 2024. *Dash*. Available online: <https://www.dash.app/blog/ecommerce-statistics#:~:text=2024%20will%20see%20ecommerce%20sales,down%20from%20last%20year&#x2019;s%2010.4%25> (accessed on 20 May 2024).
- Davis, Fred D., Richard P. Bagozzi, and Paul R. Warshaw. 1989. User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science* 35: 982–1003. [CrossRef]
- Ellitan, Lena, and Cornelia Prayogo. 2022. Increasing online Purchase through Perceived Usefulness, Perceived Risk and Perceived Ease of Use. *EKOMA: Jurnal Ekonomi, Manajemen, Akuntansi* 1: 261–70. [CrossRef]
- EU Commission. 2023. *Economic Forecast for Croatia*. Available online: [https://economy-finance.ec.europa.eu/economic-surveillance-eu-economies/croatia/economic-forecast-croatia\\_en](https://economy-finance.ec.europa.eu/economic-surveillance-eu-economies/croatia/economic-forecast-croatia_en) (accessed on 21 March 2024).
- Eurostat. 2023. *E-Commerce Statistics for Individuals*. Available online: [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=E-commerce\\_statistics\\_for\\_individuals](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=E-commerce_statistics_for_individuals) (accessed on 21 March 2024).
- Fachrulamry, Dienur Muhammad Rahadian, and Heny Hendrayati. 2020. Perceived Ease of Use on Purchase Intention of Mobile Commerce Application. *Advances in Economics, Business and Management Research* 187: 512–16. [CrossRef]
- Fenko, Anna, Teun Keizer, and Adriaan T. H. Pruyn. 2017. Do social proof and scarcity work in the online context? Paper presented at 16th International Conference on Research in Advertising, ICORIA 2017, Ghent, Belgium, June 29–July 1. Available online: [https://ris.utwente.nl/ws/portalfiles/portal/13753628/ICORIA\\_2017\\_paper\\_40.pdf](https://ris.utwente.nl/ws/portalfiles/portal/13753628/ICORIA_2017_paper_40.pdf) (accessed on 22 February 2023).
- Freed, Luke, Landon Bishop, David Gregory, Manavaditya, Varun Kolachina, Emily Shteynberg, Faiza Sultana, Derrick Zhang, and Darsh Bhalala. 2022. Implications of the Subscription Economy. Available online: <https://ssrn.com/abstract=3998519> (accessed on 20 May 2023).

- Guttmann, Agnieszka. 2023a. Trends in Intentional Use of Illegal Sources to Access Media Content in the EU 2022. *Statista*, January 9. Available online: <https://www.statista.com/statistics/1340973/intended-illegal-content-use-eu-youth/> (accessed on 12 January 2024).
- Guttmann, Agnieszka. 2023b. Media Piracy Use Among Young Internet Users in Europe 2016–2022. *Statista*, January 9. Available online: <https://www.statista.com/statistics/1340903/youth-illegal-digital-access-media-europe/> (accessed on 12 January 2024).
- Heubel, Martin. 2023. The Complete Guide to Ecommerce Customer Experience (CX). *Consulterce*, December 18. Available online: <https://consulterce.com/ecommerce-customer-experience/> (accessed on 11 May 2024).
- Heureka Group. 2022. *E-Commerce Report 2022: Growing Trend of Online Shopping in Croatia*, December 19. Available online: <https://heureka.group/cz-en/about-us/group-news/press-releases/e-commerce-report-2022-growing-trend-of-online-shopping-in-croatia/> (accessed on 6 May 2023).
- HUDI. 2023. *Digital Subscription—Market and Strategies*. Available online: [https://hudi.hr/wp-content/uploads/sites/94/2023/11/HUDI\\_Digitalna\\_pretplata.pdf](https://hudi.hr/wp-content/uploads/sites/94/2023/11/HUDI_Digitalna_pretplata.pdf) (accessed on 12 May 2024).
- HUDI. 2024. *Digitalne Pretplate u Hrvatskoj Doživljavaju Značajan Porast*. May 21. Available online: <https://hudi.hr/digitalne-pretplate-u-hrvatskoj-dozivljavaju-znacajan-porast/> (accessed on 12 May 2024).
- Ištuk, Tena. 2021. *Internetsko Piratstvo: Stavovi i Ponašanje Studenata [Graduate Thesis, Odsjek za Informacijske Znanosti Filozofski Fakultet, Sveučilište J. J. Strossmayera u Osijeku]*. Available online: <https://repozitorij.ffos.hr/islandora/object/ffos:5639> (accessed on 12 May 2024).
- Iyengar, Raghu, Young-Hoon Park, and Qi Yu. 2020. The Impact of Subscription Programs on Customer Purchases. *Journal of Marketing Research* 59: 1101–19. [CrossRef]
- Kemp, Simon. 2022. Digital 2022: Croatia. *DataReportal*. Available online: [https://datareportal.com/reports/digital-2022-croatia#:~:text=There%20were%203.34%20million%20internet,percent\)%20between%202021%20and%202022](https://datareportal.com/reports/digital-2022-croatia#:~:text=There%20were%203.34%20million%20internet,percent)%20between%202021%20and%202022) (accessed on 12 February 2023).
- Kim, Yoo-Jin, and Bo-Young Kim. 2020. The purchase motivations and continuous use intention of online subscription services. *International Journal of Management (IJM)* 11: 196–207.
- Kouser, Rukhsana, Ghulam S. K. Niazi, and Haroon Bakari. 2018. How does website quality and trust towards website influence online purchase intention? *Pakistan Journal of Commerce and Social Sciences (PJCSS)* 12: 909–34.
- Kumar, Haris. 2022. Subscription Box Industry Trends and Opportunities for Businesses. *Chargebee Blog*. Available online: <https://www.chargebee.com/blog/subscription-box-market-size-industry-trends-and-growth-opportunities/> (accessed on 14 February 2023).
- Lăzăroiu, Geogre, Octav Neguriță, Iulia Grecu, Gheorghe Grecu, and Paula Cornelia Mitran. 2020. Consumers' Decision-Making Process on Social Commerce Platforms: Online Trust, Perceived Risk, and Purchase Intentions. *Frontiers in Psychology* 11: 890. [CrossRef] [PubMed]
- Maslovara, Dean, Marinka Radman Ćosić, and Borislav Maoduš. 2024. *Prosječne Mjesečne Neto i Bruto Plaće Zaposlenih za Siječanj 2024*. Državni Zavod za Statistiku. March 20. Available online: <https://podaci.dzs.hr/2024/hr/76877> (accessed on 12 May 2024).
- Medve, Flora. 2024a. Online Shopping Rate in Croatia in 2022, by Level of Education. *Statista*. February 13. Available online: <https://www.statista.com/statistics/1448103/croatia-online-shopping-rate-by-education-level/> (accessed on 12 May 2024).
- Medve, Flora. 2024b. Online Shopping Rate in Croatia 2022, by Age. *Statista*. February 13. Available online: <https://www.statista.com/statistics/1448099/croatia-online-shopping-rate-by-age/> (accessed on 12 May 2024).
- Mohsin, Maryam. 2023. *10 Online Shopping Statistics You Need to Know in 2023*. Oberlo. February 3. Available online: <https://www.oberlo.com/blog/online-shopping-statistics> (accessed on 5 February 2024).
- Mordor Intelligence. 2023. *Global Subscription E-Commerce Platform Market Size and Share Analysis—Growth Trends and Forecasts (2023–2028)*. Available online: <https://www.mordorintelligence.com/industry-reports/global-subscription-e-commerce-platform-market> (accessed on 12 January 2024).
- Nagaraj, Samala, Soumya Singh, and Venkat Reddy Yasa. 2021. Factors affecting consumers' willingness to subscribe to over-the-top (OTT) video streaming services in India. *Technology in Society* 65: 101534. [CrossRef]
- Naseri, Mohammad Bakher, and Greg Elliott. 2011. Role of demographics, social connectedness and prior internet experience in adoption of online shopping: Applications for direct marketing. *Journal of Targeting, Measurement, and Analysis for Marketing* 19: 69–84. [CrossRef]
- Oberlo. 2024. *Ecommerce Sales by Country in 2023*. Available online: <https://www.oberlo.com/statistics/ecommerce-sales-by-country> (accessed on 15 May 2024).
- Poslovni dnevnik. 2023. *Razina Digitalnih Vještina Hrvatskog Stanovništva Iznad je Prosjeka EU*. September 11. Available online: <https://www.poslovni.hr/domace/razina-digitalnih-vjestina-hrvatskog-stanovnistva-iznad-je-prosjeka-eu-4407935> (accessed on 15 January 2024).
- Qalati, Sikandar Ali, Esthela Galvan Vela, Wenyan Li, Sarfraz Ahmed Dakhan, Truong Thi Hong Thuy, and Sajid Hussain Merani. 2021. Effects of perceived service quality, website quality, and reputation on purchase intention: The mediating and moderating roles of trust and perceived risk in online shopping. *Cogent Business and Management* 8: 1869363. [CrossRef]
- Rachmawati, Ike Kusdyah, Syarif Hidayatullah, Fenia Nuryanti, and Maulidia Wulan. 2020. The Effect of Consumer Confidence on the Relationship between Ease of Use and Quality of Information on Online Purchasing Decisions. *International Journal of Scientific and Technology Research* 9: 774–78.
- Rizva, Jia. 2022. The Growth of Subscription Commerce. *Forbes Magazine*. Available online: <https://www.forbes.com/sites/jiaRizva/2022/07/15/the-growth-of-subscription-commerce/?sh=57a2bf8db572> (accessed on 14 January 2023).

- Sadowski, Adam, Karolina Lewandowska-Gwarda, Renata Pisarek-Bartoszewska, and Per Engelseth. 2021. A longitudinal study of e-commerce diversity in Europe. *Electronic Commerce Research* 21: 169–94. [CrossRef]
- Sánchez-Torres, Javier A., Francisco-Javier Arroyo-Cañada, Alexander Varon Sandoval, and Xavier Arroyo. 2017. Differences between e-commerce buyers and non-buyers in Colombia: The moderating effect of educational level and socioeconomic status on electronic purchase intention. *Dyna* 84: 175–89. [CrossRef]
- Sari, Septi Diana, Ratri Nurina Widyanti, and Inon Listyorini. 2020. Trust and Perceived Risk toward Actual Online Purchasing: Online Purchasing Intention as Mediating Variable. *Integrated Journal of Business and Economics (IJBE)* 4: 61. [CrossRef]
- Statista. 2023. *Share of Enterprises that Make B2C E-Commerce Sales via a Website in Croatia from 2013 to 2022*. Available online: <https://www.statista.com/statistics/669894/share-of-enterprises-that-make-b2c-e-commerce-sales-via-a-website-croatia/> (accessed on 14 January 2024).
- Stripe. 2024. *Subscription Box Business Models—The Basics: Different Types and How to Pick One*. Available online: <https://stripe.com/en-hr/resources/more/subscription-box-business-models-101-different-types-and-how-to-pick-one> (accessed on 28 May 2024).
- Svobodová, Zuzana, and Jaroslava Rajchlová. 2020. Strategic Behavior of E-Commerce Businesses in Online Industry of Electronics from a Customer Perspective. *Administrative Sciences* 10: 78. [CrossRef]
- Tahar, Afrizai, Hosam Alden Riyadh, Hafiez Sofyani, and Wahyu Eko Purnomo. 2020. Perceived Ease of Use, Perceived Usefulness, Perceived Security and Intention to Use E-Filing: The Role of Technology Readiness. *The Journal of Asian Finance, Economics and Business* 7: 537–47. [CrossRef]
- Tham, Kok Wai, Omkar Dastane, Zainudin Johari, and Nurlida Ismail. 2019. Perceived Risk Factors Affecting Consumers' Online Shopping Behaviour. *Journal of Asian Finance Economics and Business* 6: 246–60. [CrossRef]
- Ünver, Şeyda, and Ömer Alkan. 2021. Determinants of e-Commerce Use at Different Educational Levels: Empirical Evidence from Turkey. *International Journal of Advanced Computer Science and Applications* 12: 40–49. [CrossRef]
- van der Heijden, Hans, Tibert Verhagen, and Marcel Creemers. 2003. Understanding online purchase intentions: Contributions from technology and trust perspectives. *European Journal of Information Systems* 12: 41–48. [CrossRef]
- van Gelder, Koen. 2024. E-Commerce Worldwide—Statistics and Facts. *Statista*. Available online: <https://www.statista.com/topics/871/online-shopping/#topicOverview> (accessed on 11 May 2024).
- Wei, Min-Fang, Yir-Hueih Luh, Yu-Hsin Huang, and Yun-Cih Chang. 2021. Young Generation's Mobile Payment Adoption Behavior: Analysis Based on an Extended UTAUT Model. *Journal of Theoretical and Applied Electronic Commerce Research* 16: 618–37. [CrossRef]
- Yasar, Kinza, Erica Mixon, and Lauren Horwitz. 2023. Customer Journey Map. *TechTarget*. Available online: <https://www.techtarget.com/searchcustomerexperience/definition/customer-journey-map> (accessed on 25 April 2023).
- Yazeed, Muhammed, Mohammed Aliyu Dantsoho, and Adamu Ado Abubakar. 2021. Perceived usefulness, ease of use, online trust and online purchase intention: Mediating role of attitude towards online purchase. In *Advances in Global Services and Retail Management*. Edited by C. Cobanoglu and V. Della Corte. Tampa: USF M3 Publishing, pp. 1–11.
- Zhang, Linlan, and Yu Zhang. 2024. Whether to Add a Digital Product into Subscription Service? *Journal of Theoretical and Applied Electronic Commerce Research* 19: 921–41. [CrossRef]
- Zhang, Xiaoxue, and Xiaofeng Yu. 2020. The Impact of Perceived Risk on Consumers' Cross-Platform Buying Behavior. *Frontiers of Psychology* 11: 592246. [CrossRef]

**Disclaimer/Publisher's Note:** The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.