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The Effects of Consumers' Buying Behavior on the E-commerce in Highly Developed Emerging Market and Developed Market: The Case of Singapore and Austria

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Abstract

The e-commerce is becoming increasingly essential and principally relevant in the modern world, especially in the current pandemic. Due to the increased use of the Internet, the growth of e-commerce has escalated. This research focuses on the e-commerce environments of Singaporean and Austrian markets. It contains an outline touching on the theoretical parts and the conduct of an empirical study where the survey results from 206 participants were studied, analysed, and compared. The statistical methods chosen for this research were the t-test analysis and the correlation analysis. The empirical study served as a quantitative discussion on both countries' e-commerce markets. The analysis of the completed questionnaires provided a better and clear understanding of the buying behaviours and their potential impact on the e-commerce markets in Singapore and Austria. Considering the results from the comparisons, the research has also highlighted some interesting findings and differences in the buying behaviours of Singaporean and Austrian shoppers.

Keywords: e-commerce, pricing, buying behaviours, consumers, Singapore, Austria

Introduction

Fundamentally, e-commerce is a form of business with transactions of buying and selling goods or services over the worldwide net. From mobile shopping to online payment encryption and beyond, surrounding e-commerce is a wide variety of data, systems, and tools for online users, buyers, and sellers alike. Most businesses with an e-commerce presence use an e-commerce store and/or an e-commerce

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platform to conduct their online marketing and sales activities and oversee their logistics and fulfilment (Moore, n.d.). Since then, the growth of many e-commerce companies has ascended across the board.

The introduction and role of e-commerce platforms have created an enormous impact and have taken the entire world by storm. In recent years, there has been a trend observed in the rise of retail e-commerce globally. The worldwide e-commerce trend has been seen as an ever-increasing climb upwards and is forecasted to grow continuously upwards from 2021 to 2023. E-commerce is proliferating, that it is already slowly eating away parts of the shares from traditional retail (Wonderflow, 2019). Based on the OECD, they believe that the growth of e-commerce can increase the competition within retail markets, enhance consumer choices significantly, and prompt and facilitate innovation in the product distribution section.

Problem statement

This research focuses on the Singaporean and Austrian e-commerce markets, consumers' buying behaviours, and their potential impact on the e-commerce environment. Therefore, it would be insightful to look into the statistics of both countries' e-commerce scenes.

Due to its enduring popularity and the increasing importance and relevance of e-commerce globally and especially in Singapore and Austria, it was compelling to delve deeper and take a closer look into this e-commerce topic. The research focused on the consumers' buying behaviours in a highly developed emerging market and a developed market, Singapore and Austria, respectively, and how the buying behaviours might potentially affect the e-commerce markets. A comparison between the buying behaviours was made to see if there are possibly any significant differences between a Singaporean consumer and an Austrian consumer. As time goes by, there are mutations and evolutions expected from the consumers' buying behaviours, no matter where one comes from initially.

Many factors have to be considered before getting into the final stage of purchasing something through an e-commerce platform. Therein lies a massive number of dynamic factors that may affect each consumer's buying behaviours. Based on Kotler and Armstrong, there are four categorical groups to classify the factors affecting the behaviours of consumers, and they are psychological, personal, social, and cultural (The Open University, n.d.).

The research was conducted from many of the existing researches and studies. The majority of the past research

revolved around the effects of e-commerce on consumers' buying behaviours. This research will hopefully contribute to the bigger picture with studies of the consumers' buying behaviours and how it might affect the e-commerce environment, focusing on the Singaporean and Austrian e-commerce markets.

As online consumers ourselves, there are many factors that we will put into consideration before deciding to purchase something through an online platform. Therein lies a considerable number of factors that may affect every consumer's buying behaviours. Based on Kotler and Armstrong, four categorical groups classify the factors affecting consumers' behaviors: psychological, personal, social, and cultural (The Open University, n.d.).

The research was conducted from many studies. The majority of them revolved around the impact and/or effects of e-commerce on consumers' buying behaviour. This research and its area of work will contribute to the big picture with studies of the consumers' buying behaviours and how they might impact the e-commerce market, focusing on the Singaporean e-commerce markets.

Research question and hypotheses

The main research question formulated out of this study will be "How will the consumers' buying behaviours affect the e-commerce environment?". Based on the main research question, a sub-research question was then constructed: "Which type of factors may cause an impact on the consumers' buying behaviours?" Hypothesis was created with the research questions being kept in mind: Consumers' buying behaviours may affect the e-commerce environment.

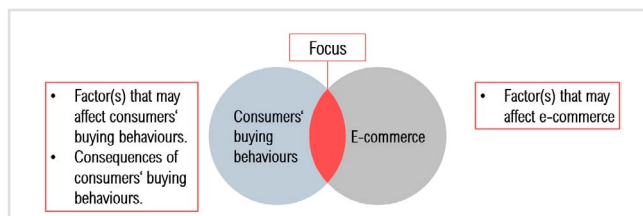
Literature Overview

As shown in Figure 1, the research focus will be the intersection between the consumers' buying behaviours and e-commerce, which inter-joins both circles together. Factors regarding what may affect the consumers' buying behaviours and, subsequently, their consequences on the consumer side will be investigated in detail, and the factors that may affect the e-commerce business environment will also be studied.

Based on the figure mentioned above, an overview of essential literature regarding the identified focus, which explains the previous work and relevant theories related to this context, will be found in the following paragraphs. The journal papers and articles chosen for this review can

be classified into two categories; factors driving consumers' buying behaviours and the rise of e-commerce.

Figure 1. The research focus



Source: own research.

Factors driving consumers' buying behaviours

Millions of consumers create and reinforce new online buying behaviours and habits (Columbus, 2020). Voinea and Filip (2011) have indicated that in recent years, there has been an emergence and rapid growth of new economic importance, of the new types of consumer – also known as the new consumer - whose attitudes, aspirations, and purchasing patterns are different as compared to those existing behaviours in the past. Among the various reasons behind consumers' buying behaviours, a few significant motivators will be discussed below. Said motivators are concerning competitive prices, customer service, customer reviews, and trust.

Competitive prices

Previous research depicts that prices come into consumers' minds before deciding factors (Guo et al., 2019). For many consumers, competitive pricing stays as the number one reason that attracts their attention and, as a result, positively affects their buying behaviours. The majority of the consumers are usually searching for product offers at very affordable or even discounted prices (Kerick, 2019). As per Urne (2020), competitive pricing remains one of the critical factors for success in e-commerce.

Tanir (2018) states that the most crucial store features driving up to 80% of consumers' purchasing decisions is competitive pricing. He also mentioned that around 90% of the e-commerce shoppers are considered the 'masters' of deal hunting. Thanks to the advanced technology and comparison-shopping engines, consumers can now get alerts for multiple items from multiple e-commerce stores that further facilitate their comparison ability between the products offered. This comparison will allow the shoppers to get real-time information concerning the lowest best prices for their desired product or service.

Customer service

Customer service remains one of the critical touchpoints that affect the buying behaviour of consumers. According to Wertz (2017), attracting new customers costs approximately seven times more than retaining the existing customer base. So, the provision of excellent customer service can increase sales and profits and aid the companies, in the long run, to stand out in the virtual competitive marketplace.

Customer reviews

Based on eMarketer (n.d.), a complete 61% of respondents said they had checked online reviews, blogs, and other online customer feedback before moving to the next step, purchasing the new product or service. More than 80% said that such evaluations had held at least some influence on their purchases.

This is further supported by research (Kaushik et al., 2018), which states that the reviews projected on the e-commerce platforms may help certain users during their decision-making process regarding the product itself. A large number of helpful reviews also conveys more information about the product to a customer. Source credibility, review popularity, and usefulness play a vital role in the sales of the product. Their study also confirms the positive effect of the balance of reviews on product sales. Customer reviews can help eliminate any doubts that potential customers may have about their product or may even help when it comes to product selection (Charlton, 2012).

Trust and loyalty

Trust is expected to be even more critical in e-commerce than in traditional commerce because of the paucity of rules and customs in the regulation of e-commerce and that because online services and products typically are not immediately verifiable by the consumers (Gefen and Straub, 2004). The research conducted by Teo and Liu (2005) concludes that consumers' trust in e-commerce vendors and their risk perception can also be regarded as behavioural beliefs that may affect consumers' behavioural attitude – to purchase or not to purchase.

Frequently, the lack of trust is a fundamental reason many users will not purchase goods or services from e-commerce websites. Trust is considered the critical factor for maintaining sustained relationships between the transacting consumer and the e-commerce seller (UK Essays, 2018). Coming hand-in-hand with trust comes the loyalty of the consumers. Without the glue of loyalty, even the best-designed e-business model will collapse. Besides purchasing more from the business, loyal customers would frequently refer new friends

and family members to the e-business, providing yet another rich source of profits. Referrals are considered lucrative in traditional commerce, but the Internet further amplifies this effect since the word 'mouse and keyboard' spreads even faster with just some clicks than word of mouth (Reichheld and Schefer, 2000).

Rise of e-commerce

Technology

The new generation can no longer remember a world without computers, emails, and cell phones (Taken Smith, 2009). Raja and Nagasubramani (2018) have reiterated the importance of technology, stating that today's era of the 21st century is often regarded by many as an era of technology. Technology today plays a significant role in our life. It is frequently associated with growth, as it is seen as a basis of the growth of an economy. Information technology and the Internet have dramatically affected business operations and continue to affect business conduct dramatically. Markets, industries, and businesses are transformed by the ongoing technological wave (Dinu and Dinu, 2014). Business as a whole is changing, thanks to technology and its advancements (Pierson, 2018).

A need for tech savviness

As more technological advances enter the picture and an entirely digital world is foreseen to emerge shortly, many people are "pushed" or even "forced" to educate themselves on the new technology to not be left behind and remain up to date with society. The more technologically literate one is, the better-prepared one will be able to adapt to any form of change (Pierson, 2018). Nowadays, upskilling in technology is becoming a necessity rather than a choice (Rao, 2020).

With our ever-changing environment and the shift from traditional to virtual settings, people need to be equipped with technical skills. Technology will empower the human race and will open up opportunities that were otherwise impossible to reach before. Gupta (2006) illustrates the need to be computer literate. Employers nowadays prefer their workers who are computer literate to those who are not. Computer literacy contributes further to employee and productivity efficiency, therefore making them more valuable to the company.

Explosive growth of e-commerce

In our current digital age, e-commerce plays a vital role in our lives. With the unfortunate ongoing global COVID-19 pandemic that restricts people from heading out, many families will eventually replace their store and mall visits

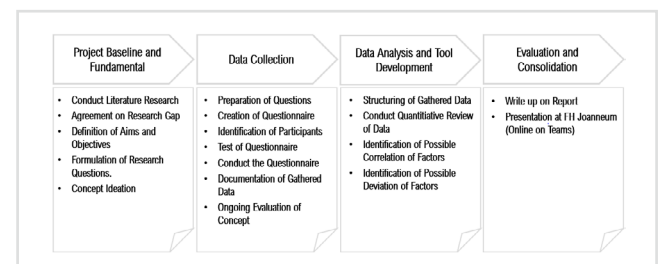
permanently with online grocery, apparel, and entertainment shopping (Columbus, 2020). This further contributes to the extensive growth of the e-commerce environment.

Based on Kerick, the expected growth of e-commerce is to come from Asia and the US to Europe and throughout Africa to the Middle East. The e-commerce sector is expected to break the net, accounting for double-digit growth in all locations worldwide (Kerick, 2019). Taken Smith (2009) states that the annual growth rate of e-commerce is estimated to be up to 28% at the global level, while individual countries may even have much higher growth rates.

Methodology

A primary research process that is suitable for this thesis is presented by Karlsson (Karlsson, 2016). Based on this process, the actual methodology to achieve an efficient study has been derived and is illustrated in Figure 2. The first step starts with literature research. This is followed by the data collection stage, including preparing the questions suitable for the questionnaire and identifying potential participants. The third step deals with the data analysis based on a quantitative review to identify possible correlations and derivations of factors. The evaluation and consolidation of the gathered results will represent the final step of this report.

Figure 2. The research focus



Source: own research.

Research gap

After conducting the first round of initial literature research, the studies have revealed that the majority of the literature reviews and focus were concentrated on the topic of e-commerce and was covered mainly on the contents such as e-commerce in general, consumer's buying behaviours, risk assessments in e-commerce, factors determining consumers's e-satisfaction and consumer trust in e-commerce (Loo and Sze 2002; Lee et al. 2012; Singh and Sinha 2013; Nisa and Prabhakar 2017; Wagner et al. 2018; Dai et al. 2018).

A void in the research on comparing buying behaviors in e-commerce between a highly developed and a developed

market has been identified. Furthermore, a lack of research was observed on the linkage between the consumers' buying behaviors and its potential impact on the e-commerce environment. The possibility of a linkage has received limited research attention. Certain factors, for example, the availability of a product, have also received relatively limited attention in the research fields towards the e-commerce settings. Hence, this research study further enriches and contributes to the already available data and information with a study on the factors that may affect the consumers' buying behaviors in a highly developed market, Singapore and a developed market, Austria, and if these buying behaviors would potentially affect the e-commerce environment.

Research design

For the empirical part of this research, a questionnaire was structured and designed on QuestionPro, distributed to willing participants. A convenience sample of 80 participants for each country was selected and expected, totaling 160 participants. Eighty participants are expected from Singapore, and the other 80 participants are expected from Austria. The statement with a total of 160 responses was assumed as the results would then be sufficient to arrive and contribute to a significant statistical statement. However, this research project aims to gather as many participants as possible within the research timeframe of two weeks. This was planned as there are drop-outs or invalid datasets to be anticipated during the questionnaire collection phase. In questionnaires, it is always better to have a more significant number of participants than the intended target, as this may also reduce the accidental risk of having an extreme or biased group (Hydrocephalus Association, n.d.).

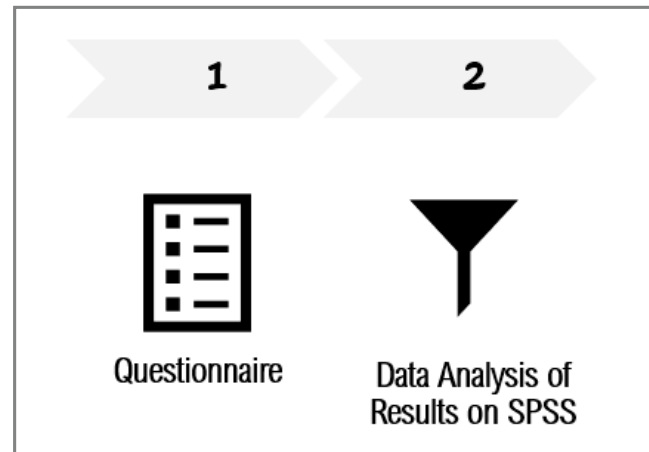
When the questionnaire was completed, the participants were sent an online link through various communication platforms – mainly through personal contacts and social media to reach a bigger audience. The collation of results would come before the data analysis, as shown in Figure 3. The data will be analyzed in due course with the SPSS statistical software, version 26.

Pre-testing the questionnaire

Based on the works of Converse and Presser (1986), pre-testing of a survey is a crucial way to pinpoint problem areas, reduce respondent burden, determine whether or not the respondents are interpreting the questions correctly, and ensure that the order of questions does not influence the way the respondent might answer. They have also stated that pre-testing, in other words, is a critical examination of the survey instrument that will help determine if the survey will function adequately as a valid and reliable social science research tool.

Once the setup of the draft questionnaire was completed, a round of pre-testing was conducted. The draft questionnaire was sent out to two participants from Singapore and two participants from Austria. Pre-testing displayed the possible pitfalls of the questionnaire and, at the same time, tested if the questions made sense to the participants and if they would be able to understand what this research wishes to convey to them fully.

Figure 3. The research design



Source: own research.

Questionnaire

Two sets of the same questionnaire were designed and constructed on Question Pro. The first questionnaire set was designed for the Singaporean participants and the second one for the Austrian participants. There was a complete set of 15 questions for the entire questionnaire. Some of the questions in the questionnaire have employed the usage of a 5-point Likert scale. The Likert (1932) scale remains one of the most commonly used instruments for measuring the participants' opinions, preferences, and/or attitudes (Leung, 2011, p. 412). Leung (2011, p. 412) has indicated that a typical Likert scale question consists of several items with around 4 to 7 points of categories each. Furthermore, Sachdev and Verma (2004, p. 104) have stated that question(s) with a 5-point Likert scale was most recommended by researchers, as it would reduce the frustration level of the respondents and increase the response rate its quality. In the following paragraphs, the questions from the questionnaire are examined and discussed.

The beginning of the questionnaire started with the generic questions of gender and age. The age group depicts a variety of different options ranging from 23 and under to 56 and above. The age groups were specifically structured this way with references made to the generation chart as seen below in figure 14, which would enable the ability to construct a comparison and observe if there are any differences between

the participants' buying behaviours based on their age groupings – take, for example, the buying behaviours between the Generation Xs (1965 – 1980) as compared to the Generation Zs (1997 to 2012).

Once the general questions are out of the way, the construction and structure of the remaining questions were created to be the perfect match and the right fit for this fundamental research's objectives and aims. First of all, the question asked is how often the participants will purchase from brick-and-mortar stores: How often do you purchase from a retail store?

Once the participants have completed this question, the following question will be similar. However, the participants were questioned on how often they purchased from an e-commerce store for this time around. The reasoning behind this question was to check if e-commerce has increased the frequency of the participants' making purchases from the online store. After that, the participants will rate and choose from the Likert scale, ranging from strongly disagree to strongly agree to the previous statement that e-commerce has indeed increased the frequency of the participant making purchases: *How often do you purchase from an e-commerce store? Has e-commerce increased the frequency of you making purchases?*

Upon completion, the participants were prompted to the next question, which continued the first two frequency questions. This time around, the question was adjusted to fit the subject of COVID-19. As the pandemic made its entry known in 2019, it has increased the importance and relevance of e-commerce to the entire world. As a result, the participant was also asked with a Likert scale agree/disagree question, whether COVID has increased the frequency of them making purchases from e-commerce. Following this question, the participants will be prompted further and questioned on how often they have made purchases due to COVID-19 from an e-commerce store: *Has COVID increased the frequency of you making purchases from e-commerce? How frequent have you purchased due to COVID-19 from an e-commerce store?*

The participants were presented with three options: purchasing from retail stores, e-commerce stores, or both. For this questionnaire, the participants were not redirected or linked to another question to prevent the loss of useable datasets. No matter which option they choose, all participants will be prompted to the same question next: *Do you prefer to purchase from: retail stores or e-commerce stores or both?*

The next question was designed to understand the reason(s) behind why participants prefer to purchase from retail stores. For this question, participants were able to choose the multiple answers where they deemed fit. Do they have the option to input other reasons under the 'Others' option if the

answers provided do not fit into their consideration: *Which of the factors below positively affect your buying behaviours from a retail store?*

Next, a similar question was set for the participants. However, this question was designed to find out and understand the factors and motivations behind the participants' buying behaviors from an e-commerce store. Likewise, participants could choose one or more factors, should the listed factors positively affect and support their buying behaviours from any e-commerce stores. When participants cannot locate a factor that supports their buying behaviours, they have the 'Others' option to pen down their factor(s): *Which of the factors below positively affect your buying behaviours from an e-commerce store?*

The following question was designed to understand which factors have increased the frequency of the participants making purchases from the e-commerce store: *Which of the factors below has increased your purchases from an e-commerce store?*

The participants were asked for the reasons and/or motivation behind why they have stopped purchasing from an e-commerce store. For this question, participants were also able to choose multiple answers for the reasons behind why they have stopped purchasing from an e-commerce store. An additional option of 'Have not stopped purchasing online' was provided for the participants who have not stopped purchasing from e-commerce. In a similar fashion as the previous questions, participants were able to input other factors. Should they not be able to find a factor that has stopped them from purchasing online: *Have you stopped purchasing from an e-commerce store because of...?*

The final two questions were added to the questionnaire and updated to the 5-point Likert scale measurement, which will enable a deeper analysis of the gathered datasets obtained from the participants. For the second last question, participants were asked to rate the importance they placed on the six factors listed below, from a scale of 1 being not important at all to a 5, which is Essential. Participants were able to rate each factor with the range provided, from Not important to Essential. *On a scale from 1 to 5, please rate the importance of the factors below before you would purchase from an e-commerce store: availability of product, competitive pricing, convenience, customer service, customer reviews, loyalty/trust.*

The last question was aimed to tackle and understand the impact of the five factors on how each of the said factors will stop the participants from purchasing from an e-commerce store. Participants were able to choose from a scale of 1, being no impact at all, to a 5, a powerful impact. Participants

were able to rate each factor with the range provided, from No impact to Powerful impact. *On a scale from 1 to 5, please rate the impact of the factors below why you would stop purchasing from an e-commerce store: bad experience from previous buys, mistrust, negative customer reviews, not having the ability to choose and touch the product.*

Results

A total response rate of 242 was collected from both groups of the target audiences. As predicted from the beginning, there would be a drop-out of the participants expected. From the Singaporean participants, 20 participants have dropped out before completing the entire questionnaire, and the drop-out rate sums up to 19.4%. For the Austrian participants, 16 of the participants have dropped out before completing the entire questionnaire, and the drop-out rate sums up to 15.5%. Once the drop-out datasets had been removed, there were 206 useable datasets. An equal number of participants have been obtained from both groups, 103 Singaporeans and 103 Austrians, ranging between 23 and over 56 years of age.

Out of the 103 Singaporean participants, 75 of them were females, and 38 were males. The majority of the participants, 83 of them, were between 24 to 39 years old, followed by 24 under the age group of 23 and 6 in 40 to 55. The average time that each participant took to complete the questionnaire was approximately around 3 to 4 minutes. There were also 103 participants obtained, of which 35 of them were females, and 82 were males. The majority of the participants, 98 of them falls under the age group between 24 to 39 years old, followed by 8 participants under the age group of 23 and under, followed by 10 participants who belong to the age group of 40 to 55 years and lastly 1 participant in the age group of 56 and above. The average time taken by the

Austrian participants to complete the questionnaire took a little longer than the Singaporean participants, and the participants needed approximately 5 minutes to complete the questionnaire.

Exciting findings

Frequency of purchases for Singaporeans and Austrians

Based on the questionnaires' findings as observed in Table 1, 37 of the participants from Singapore purchased at least once a month from a retail store. This option contributed to the majority of choices chosen by the participants, followed by 29 participants who purchased at least twice a month, 22 participants who purchased more than five times a month, and 15 of them who purchased only once in a year or less. According to the responses from the Austrians, as seen in table 1, 36 of the participants purchased at least once a month from a retail store, and another 36 of them purchased at least twice a month. These two options contributed to the majority of the responses chosen by the participants, followed by 22 of them who purchased more than five times a month and 9 of them who purchased only once in a year or less.

As seen in Table 2, most of the participants in Singapore, 33, answered with purchasing once a month. Followed by 28 of the participants who purchased at least twice a month, then 25 who purchased more than five times a month, and lastly, 17 purchased once in a year or less from the e-commerce stores. In Austria 51 participants have chosen that they purchased once in a month from e-commerce stores. This group constitutes the majority. They were followed by 31 who purchase at least twice a month, 13 who purchase once in a year or less, and lastly, eight who purchase more than five times in a month.

Table 1. Frequency of purchases from retail stores

Frequency of Purchases (Retail)	Country	23 and under	24 to 39	40 to 55	TOTAL
Once in a year or less	Singapore	4	10	1	15
	Austria	-	7	2	9
Once in a month	Singapore	5	31	1	37
	Austria	4	30	2	36
At least two times a month	Singapore	5	22	2	29
	Austria	2	30	4	36
More than five times a month	Singapore	4	16	2	22
	Austria	-	20	2	22

Source: own research.

Next, the participants were questioned if e-commerce has increased the frequency of them making purchases. Table 3 displays the overview of the participants' responses in Singapore and Austria. In Singapore 74% of the participants have either chosen the strongly agree or agree, with 43 of them choosing strongly agree and 34 of the participants choosing to agree. The remaining participants have either taken the neutral stand, disagreed, or strongly disagreed with this statement. Sixteen of the participants felt neutral to this statement, whereas eight disagreed, and lastly, 2 of them strongly disagreed with the statement. As in Austria, 52% of participants agreed with the statement of e-commerce increasing the frequency of them making purchases. Out of this, 47 of the participants have indicated that they agreed to this statement, and seven have chosen the strongly agree option. The remaining participants have chosen that they felt neutral to the question, with 28 of them, followed by ten who disagreed and 11 who strongly disagreed with this statement.

Taking the worldwide pandemic and the stringent restrictions into account, the participants were also questioned if the COVID-19 has increased the frequency of purchasing from an e-commerce store. Table 4 depicts the participants' responses. It can be observed that the responses obtained were similar to the previous statement. In Singapore 75% of the participants have agreed that COVID-19 has increased the frequency of them making purchases from an e-commerce store, with 47 strongly agreeing and 31 of the participants who have agreed to this statement. Of the remaining participants, 13 felt neutral, 10 of them disagreed, and 2 of the participants strongly disagreed. In Austria 64% of the participants have agreed to this statement, with 34 strongly agreeing and 32 agreeing. The remaining participants indicated that they were neutral or disagreed with this statement, with 17 feeling neutral, 15 of them disagreeing, and 5 of the participants strongly disagreeing.

Table 2. Frequency of purchases from e-commerce stores

Frequency of Purchases (E-commerce)	Country	23 and under	24 to 39	40 to 55	TOTAL
Once in a year or less	Singapore	5	12	-	17
	Austria	2	8	3	13
Once in a month	Singapore	9	21	3	33
	Austria	3	43	5	51
At least two times a month	Singapore	3	22	3	28
	Austria	1	28	2	31
More than five times a month	Singapore	1	24	-	25
	Austria	-	8	-	8

Source: own research.

Table 3. Frequency of purchases increased from online stores due to e-commerce

Question: E-commerce has increased the frequency of you making purchases from e-commerce.						
	Country	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
How much do you agree/disagree to this statement?	Singapore	2	8	16	34	43
	Austria	11	10	28	47	7

Source: Own research.

Table 4. Frequency of purchases increased from online stores due to COVID-19

Question: E-commerce has increased the frequency of you making purchases from e-commerce.						
	Country	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
How much do you agree/disagree to this statement?	Singapore	2	10	13	31	47
	Austria	5	15	17	32	34

Source: own research.

This brings us to the next question, where the participants were questioned on how frequently have they purchased due to the pandemic from an e-commerce store. As observed in Table 5, most of the participants in Singapore, 41, have purchased at least two times a month. Twenty-five have indicated that they purchased more than five times a month, followed by 23 purchasing once a month and the last 14 participants purchasing once in a year or less. While most of the Austrian participants, 40 of them, have answered that they purchased once in a month, whereas 29 have purchased at least two times a month. Twenty-one of the participants has answered that they purchased once in a year or less, followed by 13 of them who have purchased more than five times a month from an e-commerce store.

Preferences of Singaporean and Austrian shoppers

Table 6 depicts an overview of the Singaporean participants buying preferences. As observed in the table, most of the participants, 79, have chosen to purchase from both retail and e-commerce stores. Out of these 79 participants, 58 belong in the age group of 24 to 39 years, 15 belong to

the age group 23 and under, and six from 40 to 55 years of age. For the participants who have not chosen both options, 17 of them have chosen that they preferred to purchase from e-commerce stores. Out of these 17 participants, 15 belonged to the age group 24 to 39, and 2 belonged to 23 and under. The remaining 7 participants chose their preference as purchasing from retail stores. Six of them belonged to the age group 24 to 39, and 1 of them belonged to 23 and under.

The primary purchasing preference of the Austrians also lies in both options, with a total of 57 participants. Out of these 57 participants, 51 belonged to the age group of 24 to 39 years, followed by three from age group 23 and under and three from age group 40 to 55. The second more popular option was to purchase from the retail stores, with 32 participants who have chosen this option. Of these 32 participants, 23 were in the age group of 24 to 39 years, followed by 6 of them who were 40 to 55 years of age, and lastly, three who belonged to the age group 23 and under. The 'least' popular option was to purchase from e-commerce stores, with 14 participants who have chosen it. Out of the 14 participants, 13 belonged to 24 to 39 and only 40 to 55.

Table 5. Frequency of purchases due to COVID-19 from e-commerce stores

Frequency of Purchases (due to COVID-19)	Country	23 and under	24 to 39	40 to 55	TOTAL
Once in a year or less	Singapore	3	11	-	14
	Austria	2	15	4	21
Once in a month	Singapore	8	14	1	23
	Austria	3	36	1	40
At least two times a month	Singapore	6	30	5	41
	Austria	1	26	2	29
More than five times a month	Singapore	1	24	-	25
	Austria	-	10	3	13

Source: own research.

Table 6. Participants' buying preferences

Preference(s)	Country	23 and under	24 to 39	40 to 55	TOTAL
To purchase from retail stores	Singapore	1	6	-	7
	Austria	3	23	6	32
To purchase from e-commerce stores	Singapore	2	15	-	17
	Austria	-	13	1	14
Both	Singapore	15	58	6	79
	Austria	3	51	3	56

Source: own research.

Reasons for preferences on purchases

Next, the participants were asked the reason(s) that positively motivated their preferences to purchase from the retail stores. Participants were allowed to choose for more than one of the reasons where they deemed fit. Table 7 depicts an overview of the breakdown of the participants' motivation(s) that drives their preferences to shop in the retail stores. A total of 87 participants have chosen that they like to shop at the retail stores because of the ability to choose and touch the product they wish to purchase what comes next after their first preference was the availability of the product(s) in stores, where 62 of the participants have picked this option. Followed by 45 participants who think that competitive pricing drives their preferences, 36 of them have loyalty/trust with the retail stores. Two of the participants have provided other reasons, and the factors given were; the service factor and that the participant enjoys the human interaction with the service staff as well as the ambiance of the store, whereas the next participant has indicated that for the fashion buys, he/she would be able to try on the physical item as well as

being able to know the quality of the item that they wished to purchase as well as being able to examine the craft.

Similarly in Austria, the bulk of the participants, 88 of them, have answered that they enjoyed choosing and touching their product before purchase. The following popular options were the product's availability, with 57 participants who opted for this choice, and the loyalty/trust the 56 participants had and felt towards the retail stores. This was followed by 25 of the participants who felt motivated by the competitive pricing offered by the stores and lastly, one who had provided another factor, the ability to get the specific product that he/she was looking for instantly.

Next, the participants were questioned about the positive motivation(s) driving their shopping preferences through e-commerce stores. Participants were also able to opt for more than one factor, should the factor(s) fit their preferences. Table 8 shows that in Singapore the most significant portion of the choices went to convenience, with 87 participants who opted for it. Following this factor, 79 of the participants felt

Table 7. Reasons behind participants' retail store preferences

Retail Stores	Country	23 and under	24 to 39	40 to 55	TOTAL
Availability of Product	Singapore	10	48	4	62
	Austria	4	47	6	57
Competitive pricing	Singapore	8	33	4	45
	Austria	3	19	3	25
Enjoy the ability of being able to choose and touch the product	Singapore	16	67	4	87
	Austria	4	74	10	88
Loyalty/trust	Singapore	11	23	2	36
	Austria	5	47	4	56
Others	Singapore	-	1	1	2
	Austria	-	1	-	1

Source: own research.

compelled by the competitive pricing offered by e-commerce stores. Ranking closely was customer reviews, where 77 participants have chosen as the reason that motivated them to purchase from e-commerce. Forty-eight participants have chosen the product's availability, with loyalty/trust trailing behind with 42 votes. Lastly, thirty-two participants have chosen customer service, and there was another option chosen, and the factor is written the ability to have more variety in the choices for the purchase that he/she wishes to make.

Competitive pricing came out as the most chosen factor that drove the Austrian participants' preferences, with 83 votes (Table 8). Convenience was voted as the second

favourite factor, with 73 participants who have chosen it. Following very closely behind comes the factor availability of the product, with 72 counts. Fifty-one participants have chosen customer reviews, 12 have chosen loyalty/trust with the e-commerce stores, followed by one who has inputted another factor; the factor provided was the possibility of a more extensive selection of choices for the item he/she wishes to purchase, and if the participant is looking for something unique, he/she would be able to find it faster in the e-commerce store.

The participants were further prodded with the five factors. They were questioned about which of the factors would

increase the frequency of their purchases from e-commerce. The collated results are displayed and seen in Table 9. The top voted factor in Singapore, with 81 counts were convenience. Next up, 68 of the participants have chosen

competitive pricing as the factor that increased their frequency of e-commerce purchases. Customer reviews were next, with 52 votes. They were followed by the product's availability with 46 votes, and 21 have chosen customer

Table 8. Reasons behind participants' e-commerce store preferences

E-commerce Stores	Country	23 and under	24 to 39	40 to 55	TOTAL
Availability of Product	Singapore	6	41	1	48
	Austria	6	59	7	72
Competitive pricing	Singapore	11	62	6	79
	Austria	5	71	7	83
Convenience	Singapore	17	65	5	87
	Austria	6	60	7	73
Customer Reviews	Singapore	16	57	4	77
	Austria	4	43	4	51
Customer Service	Singapore	5	26	1	32
	Austria	1	10	-	11
Loyalty/trust	Singapore	7	31	4	42
	Austria	-	12	-	12
Others	Singapore	-	1	-	1
	Austria	-	1	-	1

Source: own research.

Table 9. Factors that increases the frequency of e-commerce purchases

Factors increasing the frequency of purchases e-commerce	Country	23 and under	24 to 39	40 to 55	TOTAL
Availability of Product	Singapore	4	39	3	46
	Austria	5	56	5	66
Competitive pricing	Singapore	8	54	6	68
	Austria	5	56	7	68
Convenience	Singapore	13	64	4	81
	Austria	4	45	6	55
Customer Reviews	Singapore	7	40	5	52
	Austria	3	25	3	31
Customer Service	Singapore	2	18	1	21
	Austria	-	7	-	7
Loyalty/trust	Singapore	4	20	2	26
	Austria	-	7	-	7
Others	Singapore	-	2	-	2
	Austria	-	2	-	2

Source: own research.

service. Two have chosen others and have provided the factors that have increased the frequency of their purchases. The first given factor was the ongoing promotion campaign, and an example of the 11.11 promotion was provided. The next factor was the delivery right to their doorstep, especially if the participant purchases something heavy or bulky, he/she will not have to carry the heavyweight back home.

The most voted factor in Austria was competitive pricing, with 68 counts (Table 9). The next factor was the product's availability, with 66 of the participants who had opted for it. Convenience was voted next, with 55 votes. This was followed by customer reviews with 31 votes, seven chosen customer service, and seven opted for the loyalty/trust factor. Last but not least, 2 of the participants have chosen others but have failed to provide any reasoning behind their choices.

Lastly, the participants were questioned about the factor(s) that have stopped them from purchasing from e-commerce.

The overview of the data collected from the Singaporean participants can be observed in Table 10. Based on the data collected, the most off-putting factor to the Singaporeans were negative customer reviews, with 61 votes behind this option. The next factor chosen the most was the bad experience obtained from their previous buys with 52 votes, followed by the factor of not having the ability to choose and touch the product they wished to purchase with 37 votes. Thirty-two participants have opted for uncompetitive pricing, followed by 29 who have chosen mistrust as the factor that has stopped them from purchasing from e-commerce stores. Lastly, 25 of them have indicated that they have not stopped purchasing from e-commerce stores, and 1 participant has chosen the other option and has indicated a not applicable statement for him/her.

A big part of the participants in Austria, 48 of them, have opted not to stop purchasing from e-commerce (Table 10). The next most voted factor, with 35 votes, was negative

Table 10. Factors that have stopped participants from purchasing from e-commerce

Factors that have stopped the purchases e-commerce	Country	23 and under	24 to 39	40 to 55	TOTAL
Bad Experience from Previous Buys	Singapore	9	41	2	52
	Austria	2	26	4	32
Mistrust	Singapore	3	24	2	29
	Austria	-	19	1	20
Negative Customer Reviews	Singapore	9	48	3	61
	Austria	3	29	3	35
Not having the ability of being able to choose and touch the product	Singapore	6	30	1	37
	Austria	2	21	2	25
Uncompetitive Pricing	Singapore	7	25	-	32
	Austria	1	10	1	12
Have not stopped purchasing online	Singapore	3	20	2	25
	Austria	3	42	3	48
Others	Singapore	-	1	-	1
	Austria	-	3	-	3

Source: own research.

customer reviews, followed by 32 votes who have opted for terrible experiences from previous buys. Twenty-five of the participants have chosen that they have stopped purchasing from e-commerce because of not having the ability to choose and touch the product they wished to purchase, and 20 of them have chosen mistrust as the factor. Last but not

least, the least voted factor was uncompetitive pricing with 12 votes, and 3 of the participants have opted for the others option. The participants provided the other factors that have stopped them from purchasing from e-commerce were; the potential CO₂ impact on the environment, supporting the local economies, and having only bad delivery options.

Analysis based on t-test

In order to analyse the factors that may or may not affect the consumers' buying behaviours t-test analysis was chosen. A convenient significance value of 0.05% was assumed throughout this entire research.

A significance value of 5% was assumed and utilized throughout this entire research. Table 11 shows an overview of the t-test analysis results for the Likert scale question 11, on how vital the six factors, namely availability of a product, competitive pricing, convenience, customer service, customer reviews, and loyalty/trust, are for the participants before they would purchase from e-commerce. The exhibited p-values for Singapore show that the only factor with p-value higher than 0.05 was availability of product. Thus, the null hypothesis could not be rejected. Thus, the availability of product may not affect Singaporean consumers' buying behaviour in e-commerce settings. For all other factors the null hypothesis could be rejected since the p-value was lower than the assumed significance value of 0.05. As a result, competitive pricing, convenience, customer service, customer reviews and loyalty/trust might affect Singaporean consumers' buying behaviour (s) in e-commerce settings.

Table 11. Results of t-test for question 11

One-sample t-test (Sig. (2-tailed))		
Factors tested	Singapore	Austria
Availability of Product	0.771	0.006
Competitive Pricing	0.000	0.415
Convenience	0.008	0.000
Customer Service	0.004	0.237
Customer Reviews	0.000	0.000
Loyalty/Trust	0.002	0.810

Source: own research.

According to results of the t-test in the Austrian sample (Table 11), availability of product, convenience and customer reviews play an important role in the Austrian consumers' buying behavior(s) in e-commerce settings. In these three cases the p-value was lower than the 0.05 and the null hypothesis could be rejected. On the other hand, competitive pricing, customer services and loyalty/trust might not affect the Austrian consumers' buying behaviour(s) in the e-commerce settings since they exhibit p-values lower than 0.05 and the null hypothesis for these factors could not be rejected.

Table 12 provides an overview of the t-test analysis results for the Likert scale question 12, on how the five factors, namely bad experience from previous buys, mistrust, negative customer reviews, inability to choose and touch the product, and lastly uncompetitive pricing, would stop the Singaporean and Austrian consumers from purchasing from the e-commerce.

Table 12. Results of t-test for question 12

One-sample t-test (Sig. (2-tailed))		
Factors tested	Singapore	Austria
Bad Experience from Previous Buys	0.001	0.422
Mistrust	0.000	0.110
Negative Customer Reviews	0.246	0.000
Inability to Choose and Touch the Product	0.328	0.328
Uncompetitive Pricing	0.775	0.000

Source: own research.

The t-test analysis conducted for Singapore on the factors bad experience from previous buys and mistrust have revealed p-values lower than 0.05. The null hypothesis could be rejected. Thus, these two factors might affect Singaporean consumers' buying behaviour(s) in e-commerce settings. While negative customer reviews, inability to choose and touch the product and uncompetitive pricing might not affect Singaporean consumers' buying behaviour(s) in e-commerce, since for these three factors the p-values are higher than 0.005 and the null hypothesis could not be rejected.

While, the t-test results for Austria (Table 12) show that bad experience from previous buys, mistrust and inability to choose might not affect the Austrian consumers' buying behaviour(s) in the e-commerce settings since the p-values for these factors are higher than 0.05 and the null hypothesis could not be rejected. On the other hand, negative customer reviews and uncompetitive pricing revealed p-values lower than 0.05 and the null hypothesis could be rejected. Thus, negative customer reviews and uncompetitive pricing might affect the Austrian consumers' buying behaviour(s) in the e-commerce settings.

Correlation analysis

Subsequently, after conducting the t-test analyses, a correlation analysis between the six factors was also tested with Pearson's correlation test and the study of each of its significance values. Pearson's r varies between +1 and -1, where +1 is a perfect positive correlation, and -1 is a perfect negative correlation. With a value of 0, it means that there is no linear correlation at all (Ezspss, n.d.).

Table 13 depicts an overview of the datasets obtained from the Pearson correlation analysis on the six factors: availability of a product, competitive pricing, convenience, customer service, customer reviews, and loyalty/trust for the Singaporean participants. It can be observed that with the Pearson's correlation test for the availability of product shows a small, moderate correlation strength to competitive pricing, convenience, service and reviews with statistically significant Pearson Correlation r-values among of 0.248 and 0.366, and even lower r-value for loyalty/trust, which is not statistically significant.

The correlation analysis results for the competitive pricing show weak correlation with convenience, service, reviews and loyalty/trust with statistically insignificant r-values among 0.016 and 0.190. Thus, there is no evidence of the

existence of the correlation. As for convenience the r-values regarding other factors are statistically significant and exhibit values among 0.269 and 0.404, providing evidence of weak correlation among convenience on one hand and service, review and loyalty/trust on the other. Correlation among customer service and reviews amounts to 0.323 and is statistically significant, while correlation among customer service and loyalty/trust resulted in 0.361 and is also statistically significant. And the last pair of factors is correlation among customers reviews and loyalty/trust, where the statistically significant r-value is 0.280.

Table 14 depicts an overview of the datasets obtained from the Pearson correlation analysis on the six factors: availability of a product, competitive pricing, convenience, customer service, customer reviews, and loyalty/trust for the Austrian

Table 13. Pearson correlation analysis for Singapore

Factors tested	Pricing	Convenience	Service	Reviews	Loyalty/Trust
Availability of Product	0.248	0.294	0.289	0.366	0.130
Sig. (2-tailed)	0.012	0.003	0.103	0.000	0.189
Competitive Pricing	-	0.118	0.019	0.190	0.016
Sig. (2-tailed)	-	0.233	0.847	0.055	0.870
Convenience	-	-	0.306	0.404	0.269
Sig. (2-tailed)	-	-	0.002	0.000	0.006
Customer Service	-	-	-	0.323	0.361
Sig. (2-tailed)	-	-	-	0.001	0.000
Customer Reviews	-	-	-	-	0.280
Sig. (2-tailed)	-	-	-	-	0.004

Source: own research.

Table 14. Pearson correlation analysis for Austria

Factors tested	Pricing	Convenience	Service	Reviews	Loyalty/Trust
Availability of Product	0.062	0.018	-0.046	-0.004	0.066
Sig. (2-tailed)	0.533	0.853	0.645	0.970	0.507
Competitive Pricing	-	-0.044	0.049	0.160	0.154
Sig. (2-tailed)	-	0.657	0.623	0.107	0.121
Convenience	-	-	0.217	-0.162	0.072
Sig. (2-tailed)	-	-	0.028	0.101	0.470
Customer Service	-	-	-	0.166	0.366
Sig. (2-tailed)	-	-	-	0.094	0.000
Customer Reviews	-	-	-	-	0.121
Sig. (2-tailed)	-	-	-	-	0.224

Source: own research.

participants. The availability of product shows a very weak statistically insignificant correlation to competitive pricing, convenience, service, reviews and loyalty/trust. Thus, there is no evidence that this correlation does exist within this sample population. Similarly, there is no proof of correlation among convenience and reviews, and among convenience and loyalty/trust, as there are relatively low statistically insignificant r-values. However, there is a weak statistically significant correlation among convenience and service. Furthermore, there is no statistically significant correlation among customer service and customer reviews, and among customer reviews and loyalty/trust. But correlation among customer service and loyalty/trust is proven to be statistically significant with r-value of 0.366.

Interpretation of Results

The main hypothesis "Consumers' buying behaviours may affect the e-commerce environment." can be divided into two parts considering a positive or negative effect of selected factors related to customer behaviours to the e-commerce environment.

Regarding the positive factors in Singapore, the one-sample t-test analyses showed that the participants placed higher importance on certain factors before they purchased from e-commerce. It was found that the following factors: competitive pricing, convenience, customer service, customer reviews, and loyalty/trust, may play a role towards the contribution of a positive effect and impact on their buying behaviours in the e-commerce environment. Availability of product was ruled out with the t-test analysis, and thus it was implied that this factor might not affect their buying behaviour(s) for the e-commerce. As for Austria, the results of t-test analysis have shown that the following factors: product availability, convenience, and customer reviews, may positively affect customers' buying behaviour(s) in the e-commerce environment. Competitive pricing, customer service, and loyalty/trust were ruled out and may not cause any positive impacts on their buying behaviour(s).

Regarding the negative effect in Singapore and based on the t-test, the factors identified were bad experiences from previous buys and the sense of mistrust that would impact their buying behaviour(s) negatively. The following factors were ruled out from the one-sample t-test and thus would not negatively affect the Singaporeans' buying behaviour(s): negative customer reviews, inability to choose and touch the product, and lastly, uncompetitive pricing. In Austria, the results of the t-test have disclosed that negative customer reviews and uncompetitive pricing might negatively affect and impact their buying behaviour(s) in the e-commerce

environment for the Austrians. The remaining factors, bad experience from previous buys, mistrust, the inability to choose and touch the product, were tested and ruled out as having any adverse effects on the Austrians' buying behaviour(s).

Based on the outputs received from the Pearson's correlation tests, some weak signs of correlation, be it positive or negative, between the five factors existed. For this research's case, it was discovered from the sample of Singapore that when the factor availability of the product was chosen, it was also highly likely that the following factors competitive pricing, convenience, and customer reviews, would be selected well. Also, as most of the correlations were relatively weak, with r-values ranging from 0.2 to 0.4, it indicates weak relationships between the tested factors. With double-checking conducted on the results with the significance test, the outcomes have proven that specific correlations may have existed between the factors. There were no negative correlations detected from the Singapore sample. For the Austrians, it was discovered from the sample dataset that when the factor customer service was chosen, it was probable that the factor loyalty/trust would be selected. The majority of the correlations were relatively weak, with r-values ranging from 0.01 to 0.3, which indicated weak relationships between the tested factors. However, after conducting a check with the significance test results, some of the outcomes could not prove the correlations between the factors. On the other hand, several negative correlations were detected, for example, the factor availability of the product and its correlation with the factor of customer service. It could be interpreted that when the Austrians chose product availability, they are less likely to have also chosen customer service. However, a check with the significance test has shown otherwise and, as such, holds insufficient evidence to confirm that the negative correlations existed.

Conclusion

The data collected has revealed that most Singaporean consumers and a majority of the Austrian consumers mostly purchase once a month from the retail stores. Similarly, these two groups of sample consumers also purchase once a month from e-commerce. Based on the findings observed from the statement "E-commerce has increased the frequency of you making purchases," it can be observed that Singaporean participants feel that they are generally more impacted by e-commerce. A higher number of the Singaporeans, 43 of them, feel a solid agreement to the prior statement than 7 of the Austrians' strong agreements. Lastly, the overall agreement rate (between agree and strongly agree) of 74% from the Singaporeans was also higher than the Austrians' agreement rate at 52%.

A considerable portion of the Singaporean and Austrian consumers have indicated that they prefer to shop from retail and e-commerce stores. Seventy-nine of the Singaporeans and 57 of the Austrians have chosen both retail and e-commerce as their preferences. For the remaining sample, which has not chosen both as a preference, it can be gathered that 32 of the Austrians prefer to shop from retail stores, and 17 of the Singaporeans prefer to shop from e-commerce. Overall, it can be concluded from this sample data that Singaporeans may hold a higher preference towards purchasing from e-commerce in general, as compared to the Austrians.

The primary motivator that may have positively impacted the buying behaviours of most Singaporeans and Austrians to purchase from retail stores was the ability to choose and touch the product(s) that they wish to buy. Following behind very closely was the factor availability of the product as the second most chosen motivator by both sample groups.

Next, briefly will discuss the motivators that positively push and support the Singaporeans and Austrians to purchase from e-commerce stores. Based on the data, it was observed that convenience was the top motivator that most Singaporeans have chosen, which may positively impact their online buying behaviours. The second most chosen factor was competitive pricing. Whereas for the Austrian participants, the bulk has chosen competitive pricing as the primary

motivator that may positively impact their online shopping preferences and following very closely behind was the chosen factor, convenience.

Statistical t-test analysis was conducted on the responses obtained from both of the sample groups. It was observed from the results that for Singaporeans, competitive pricing, convenience, customer service, customer reviews, and loyalty/trust are the five factors that may positively impact washing behaviours in e-commerce settings. As for the Austrian consumers, it was discovered that their results were different from that of the Singaporean consumers. The listed four factors: availability of the product, convenience, and customer reviews, were found to have a potentially positive impact on the Austrian consumers' buying behaviour(s) in the e-commerce settings.

Similarly, the statistical t-test analysis was also conducted on the data samples to identify the potential negative impact(s) a factor may have on the participants' buying behaviours. As derived from the obtained results, it was seen that bad experiences from their previous buys and mistrust could potentially negatively impact Singaporean consumers' online buying behaviours. As for the Austrian consumers, the following factors that may have posed negative impact(s) on their online buying behaviours were negative customer reviews and uncompetitive pricing.

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Učinki nakupnega vedenja potrošnikov na e-trgovino na visoko razvitem nastajajočem trgu in razvitem trgu: primer Singapurja in Avstrije

Izvleček

E-trgovina postaja v sodobnem svetu vse bolj pomembna in predvsem aktualna, zlasti v trenutni pandemiji. Zaradi povečane uporabe interneta je rast e-trgovine eskalirala. Ta raziskava se osredotoča na e-trgovinski okolji singapurskega in avstrijskega trga. Vsebuje oris, ki se dotika teoretičnih delov in izvedbe empirične študije, v kateri smo proučili, analizirali in primerjali rezultate anketiranja 206 udeležencev. Za to raziskavo sta bili izbrani statistični metodi analiza t-testa in korelacijska analiza. Empirična študija je služila kot kvantitativna razprava o trgih e-trgovine obeh držav. Analiza izpolnjenih vprašalnikov je omogočila boljše in jasno razumevanje nakupnega vedenja in njegovega možnega vpliva na trge e-trgovine v Singapurju in Avstriji. Glede na rezultate primerjav je raziskava izpostavila tudi nekaj zanimivih ugotovitev in razlik v nakupnem vedenju singapurskih in avstrijskih kupcev.

Ključne besede: e-trgovina, oblikovanje cen, nakupno vedenje, potrošniki, Singapur, Avstrija