Faculty of Business and

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MASTER THESIS

Topic:

"Online Presence of SMEs in the RNM – a Comparative Study with European Union Countries"

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DECLARATION OF AUTHENTICITY

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ABSTRACT

Small and medium-sized businesses have a significant impact on a country's economic growth and development. Also, developing a global market without barriers can provide many opportunities for businesses. In developing countries, e-commerce can be seen as an opportunity for SMEs to compete with larger businesses, as well as to have access to identifying lower-cost sources in the international market.

Nevertheless, this study will aim to increase knowledge on the process of e-commerce acceptance by SMEs. Such a result will be achieved through the development of an empirical study focused on small and medium-sized enterprises in the Republic of North Macedonia. The increase of relevant knowledge will be realized through the identification and analysis of the main factors, which have an impact on its acceptance.

Initially, the thesis identifies the main factors according to the literature, identifying relevant theories widely accepted in obtaining the advancement of new technology. Data from the companies included in the study will be congregated through a quantitative questionnaire, influencing that the method chosen for data analysis will be the statistical method.

The study included 72 small and medium-sized businesses, mostly identified in the northwestern part of North Macedonia. The questionnaire was distributed electronically and physically to the relevant business owners or managers, so the sample in this survey were the managers of Macedonian SMEs. The results of the questionnaire were initially analyzed with descriptive data, linear regression analysis, and Cronbach's Alpha measurement of the questionnaire. With the results acquired from the questionnaire, but also from online sources, we accomplished to answer the research questions raised in this study as well as testing the hypotheses that were raised on the basis of research questions. To verify these results, we have also conducted an interview with 10 managers, a qualitative component to the analysis.

In parallel, the relevant data about the e-commerce usage and its benefits as well as challenges of the SME-s in EU countries is presented. Then, the results, for the indicators that could be

compared, were matched with those from the survey in the Republic of North Macedonia's SME's.

In conclusion, the decision to accept e-commerce, according to the respective results, is influenced by the characteristics of the business and the expected benefits of ecommerce programs. However, the level of use of e-commerce is not very high, based on the opportunity offered in the market in North Macedonia, also influenced by low customer demand for specific products or services. The results of the thesis provide significant information for SME development policy makers and their executives, to analyze the level of acceptance of new technologies, benefits of using and application of these new technologies, and the factors that influence its adoption.

Keywords: *e-commerce, small and medium-sized enterprises (SMEs), acceptance/adoption of e-commerce.*

DEDICATION

To my family!

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The journey to the completion of the second cycle studies has been a very beautiful experience and with many challenges for me.

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LIST OF ABBREVIATIONS AND GLOSSARY

- SMEs Small and medium-sized enterprises
- E-Commerce Electronic Commerce
- E-Business Electronic Business
- ICT Information and Communications Technology
- RNM Republic of North Macedonia
- EU European Union
- EDI Electronic Data Interchange
- B2B Business to Business
- B2C Business to Consumer
- B2G Business to Government
- G2G Government to Government
- G2C Government to Consumer
- WWW World Wide Web
- GDP Growth Domestic Product
- SBA Small Business Act
- OECD Organization for Economic Co-operation and Development
- DESI Digital Economy and Society Index

CHAPTER I: INTRODUCTION

1.1 Introduction

As the technological growth is becoming a bigger part of today's society, the amount of people and businesses benefiting from e-commerce is increasing.

Electronic Commerce or commonly known as e-Commerce, refers to any form of business transaction conducted online, the most popular being online shopping. It relies upon and how online operations and transactions are carried out. Essentially, e-commerce is studying the different technologies involved in setting up an online business.

With the technology growth and development, there has been an influx of online retailers over the years which indicates society's acceptance of e-commerce. There is, however, still a great amount of progress happening both in terms of the technology being developed as well as in terms of the market penetration and methods of employment.

The Internet usage has increased the demand for business digitalization all around the world, as for the most developed countries, also for the less developed ones. With this increase, not only big companies benefited, but even the small and medium businesses did so.

In the emerging global economy, e-commerce and electronic business have increasingly become a necessary component of business strategy and a strong accelerant for economic development. The integration of Information and Communications Technology (ICT) in business has revolutionized relationships within organizations and those between and among organizations and individuals.

Even though people still resist using e-commerce, there is a rapid growth of it. The impact of ecommerce enables transformation in the marketplace, business growth, globalization, new employment opportunities, new business opportunities and customer relationship.

1.2 Research Problem

Today, most businesses in the world make significant investments in technology through the development or acquisition and subsequent implementation of technology applications in order to use these systems in all of their business processes, where they can then improve performance, efficiency and maximize the profitability of their business.

In the Republic of North Macedonia, most large businesses use and exploit the benefits that information technology provides in all their business processes, especially in the managerial aspect. This trend is already spreading to the SMEs sector, which tries to adopt ICT applications to improve their business, but it should be mentioned that due to infrastructure problems, the lack of qualified staff for the effective use of these technologies, as well as the costs incurred in purchasing and maintaining these systems, in some cases it can be said that the use and adoption of information technology applications in many companies is still in its initial stages.

The use of e-commerce can be identified as an opportunity which offers many benefits to businesses in terms of meeting or exceeding consumer expectations. Acceptance of e-commerce is becoming a need for businesses to have a positive performance of financial indicators. It enables a better communication with the consumers, increases the reliability, and information exchange, which can evaluate the change of the market demand in the future. (Berisha, 2017)

However, if businesses do not have a clear strategy for the future, then the level of e-commerce usage in the future will not be following the actual trends of the pace of growth. In this way, it is important to study the factors that affect the acceptance of e-commerce, producing results that can help create a clear strategy in the forthcoming periods.

The main purpose of this thesis is to identify the online presence of SMEs in the RNM, by making a comparison between main e-commerce indicators with the EU countries. This research will also investigate the impact of e-commerce on SME's in RNM by identifying the perceived barriers and benefits for e-commerce adoption. As these companies make up the largest part of the overall businesses in a country, appreciating their importance to the respective economy, they can otherwise be considered as the engines of development for a country.

1.3 Purpose and Objectives

The use of technology would help SMEs to benefit from many advancements for their business, starting from the automation of many processes within the company, which would enable greater and real-time control of all actions performed by employees and customers, and would greatly assist managers in decision making. Of course, the implementation of information technology applications does not necessarily bring benefits to every business but analyzing the results that technology brings is an important factor in explaining the importance and benefits it provides to them.

In this study we will aim to find the benefits that e-commerce gives to SMEs by analyzing their online presence. Also, its main objective is to create an overview of the importance of information technology applications, more specifically, the adoption of e-commerce in these businesses.

To achieve the purpose of this study, the following objectives have been set:

- The main objective of this study is to explain the importance of e-commerce adoption for SMEs.
- Investigating the use of technology and the online presence of the SMEs sector in RNM and EU.
- Highlighting the advantages and benefits of using technology for the SMEs development.

1.4 Research Questions and Hypotheses

Given that information technology applications are finding increased use in all business processes, it is seen reasonable to make a study on the importance of e-commerce in SMEs in the RNM. To conduct this study, the following research questions have been raised:

- What is the level of development and the impact of e-commerce on SME-s in RNM?
- What are the aspects that online presence helps SME-s?

• What lessons can be learned from the EU SME's implementation indicators?

Based on the research questions raised for this study, the following hypotheses will help us to answer the research questions:

- 1st Hypothesis: There is a significant evidence that online presence helps SME-s to increase their profits.
- 2nd Hypothesis: There is a significant evidence that digital marketing and online presence provide opportunities for EU SME-s to attract new customers and reach existing customers more efficiently, then we expect it will do so in the RNM.
- **3**rd **Hypothesis:** There is a significant evidence that online presence helps SME-s to increase brand awareness.

1.5 Methodology and Research Approach

This study focuses on the SMEs sector in North Macedonia, by comparing some indicators from the EU countries. The data for the realization of this study were collected during September 2021, where SMEs managers responded through questionnaires sent to them online through email, and social networks such as Facebook, Twitter, LinkedIn, etc., or in printed form.

Data processing was performed through the STATA program. The main components of the analysis of this study are qualitative descriptive analysis, and cross-tabulation of variables for testing hypotheses to draw final conclusions.

Studies, from a methodological point of view, can have a quantitative and qualitative approach, therefore, our study can be considered as a mixed methodology where the quantitative method will analyze different reports and indicators for the EU countries and their SME-s implementation, while the qualitative method will analyze the relationships between different variables from the data provided through the distributed questionnaire to SME owners in RNM.

Also, for the realization of this thesis will be analyzed some indicators about the online presence of businesses in RNM and EU countries, research on various articles from scientific journals, reports from various organizations and institutions which present facts and statistics on the objectives of the study and the use of various sources of information such as books related to the field of study.

1.6 Opportunities and Limitations

From the literature review we have encountered difficulties in finding information on a similar study in North Macedonia, but we have tried to research foreign studies and literatures. When distributing the survey people resisted in completing it because it was conducted in English, while when we asked to interview the participants on the survey only 10 out of 100 accepted to meet face-to-face, which turned in an opportunity for us because we found out diverse ideas letting them answer in an open-ended way.

1.7 Importance of the Study

SME-s, today, have a significant role for economic development and are also defined as the "engine" of the economy in many countries around the world. SME-s are also an important source of job creation and above all are a key factor in creating entrepreneurial spirit.

The results of the study will be a great benefit to the following:

- *Economic Development*. E-commerce will give businesses the ability to reach more customers than traditional retail way reaches.
- *Social Benefits*. The trends and data results from this study will help companies in RNM to make the difference between their position versus companies in EU countries.

It should also be mentioned that the SMEs sector has a great impact in economic growth and development in transition countries such as North Macedonia, seeing the importance and challenges that technology has created as a whole, we found it reasonable to do a study about "Online Presence of SMEs in the RNM – a Comparative Study with European Union Countries".

1.8 Thesis Outline

This study is divided into a total of VI chapters, where the content of the topics is briefly described below.

The first chapter begins with an introduction that is a general presentation of the study topic and then moves on to the problem, purpose, and objectives of the study, followed by research questions and hypotheses, a description of the methodology used and a brief description of opportunities and limitations of the study, and then the motivation of this paper is presented.

The second chapter discusses the evolution and development of e-commerce, it also presents an overview on e-commerce, where the positive performance has influenced its adoption in different areas of business operation. The chapter also contains a discussion on the challenge of e-commerce, as well as the advantages and benefits of its acceptance by businesses.

The third chapter deals with the SME sector. First, the importance of SMEs in the economy, their definition and characteristics are explained and then it starts with an overview and analysis of the SME sector in the European Union and in the Republic of North Macedonia, where comparisons are made. Then there are the current challenges the SME sector is currently facing and finally a presentation of the impact of the Covid-19 crisis on SMEs.

The fourth chapter explains in detail the methodology of this study, explaining the type of research, strategy and methodological procedure of the research process, the construction of the questionnaire and details on the sample size and time of the study. Finally, the difficulties encountered during data collection are explained.

The fifth chapter presents the analysis of the results of this study. As a start, a descriptive analysis of the search results is presented based on the data processed in the STATA program. The following is a linear regression analysis that allows us to test hypotheses and draw final conclusions.

The sixth chapter is the last chapter of this study and presents the closing part and conclusions of this study.

CHAPTER II: LITERATURE REVIEW

2.1 Description of the Theoretical Views on which this Study is Based

The second chapter will discuss in more detail the theoretical views on which this study is based and at the same time will reflect the theoretical overview on the importance of e-commerce for SMEs, seeing at them from the perspectives realized by researchers and previous studies, analyzing different models, will help us to understand the theoretical aspects based on different opinions and viewpoints.

So, this chapter aims to review the literature to establish the basis in terms of different views about the impact of E-commerce and the online presence on SMEs.

2.2 The Evolution and Development of E-Commerce

Given the time, the history of e-commerce is quite short, but for most of us, the idea of living without online shopping is virtually unbelievable. From groceries to different services and product solutions, anything you can imagine can be purchased online.

With its potential development, e-commerce has a great contribution to a country's economy. It comes as a development driven since its establishment. The first e-commerce application can be identified in the 1970s and is presented in the form of electronic system funds transfer.

The positive performance of e-commerce increased the interest in its development and adoption in other areas as well. Thus, the following innovation was introduced called Electronic Data Interchange (EDI). Its purpose was to assist in the realization of business processes or transactions through the use of electronic devices. Various purchases or orders could be carried out electronically between the respective businesses, based on certain rules identified at the outset. The Internet, meanwhile, emerged as an innovation in USA in 1969. Its purpose was to help and carry out academic and scientific research. Over the years, the spread of the internet has found high acceptance, helping to reach information in wider geographical areas. Such a development of the internet can be seen as an opportunity in the development of e-commerce, in which wider segments could be reached to sell the products and promote services of a firm.

After 2000s, the development of Internet was very rapid, also affecting the improvement of the telecommunication structure. These developments were also related to the developments in e-commerce. Thus, the number of internet users was increasing at high rates, influencing, and increasing the demand for purchasing various products and services.

In this way, business development models were further improved, based on the focus that businesses had on selling products, so, the Internet became increasingly important for firms doing business internationally (Humphrey, J., Mansell, R., Paré, D., Schmitz, H., 2003). The two most common forms were e-commerce between businesses – business-to-business (B2B) and e-commerce between a business and its customers – business-to-consumers (B2C). The model determined the type of business and who its main customers were.

In conclusion, the use or acceptance of e-commerce is at high levels, both by large firms also by medium-sized businesses. Its use is related to a set of factors that help the development of a business and increase its benefits. The main aspects related to the development and acceptance of e-commerce will be addressed later in this chapter.

2.3 The Use and Development of Internet

Internet technology has undergone significant development over the years. Its performance has been positive, and the impact is significant in each country (Curtis, G., Cobham, D., 2008). Meanwhile, the three most important historical developments that have influenced the increase in the number of Internet users are related to the creation of facilities in the Internet search process. Thus, in 1990, the World Wide Web (www) was introduced, which was a program that enabled computers to connect to each other. Another important development was the introduction of search engines, which facilitated the internet search process. This way, users could search for a

keyword and access a set of information about it. The most popular search engines are Google and Yahoo.

The following table shows the performance over the years of the number of Internet users, compared to the percentage of the total population in the world. It is noted that the latest data, March 2021, identifies that the number of Internet users in total accounts for about 65.6% of the population. Meanwhile, in 2000 the number of internet users made up approximately 6% of the entire population. So, from 2000 to 2021, there has been an increase for about 1000% in the number of internet users.

DATE	NUMBER OF USERS	% WORLD POPULATION	INFORMATION SOURCE	
December, 2000	361 millions	5.8 %	Internet World Stats	
August, 2001	513 millions	8.6 %	Nua Ltd.	
September, 2002	587 millions	9.4 %	Internet World Stats	
December, 2003	719 millions	11.1 %	Internet World Stats	
December, 2004	817 millions	12.7 %	Internet World Stats	
December, 2005	1,018 millions	15.7 %	Internet World Stats	
Dec, 2006	1,093 millions	16.7 %	Internet World Stats	
Dec, 2007	1,319 millions	20.0 %	Internet World Stats	
Dec, 2008	1,574 millions	23.5 %	Internet World Stats	
Dec, 2009	1,802 millions	26.6 %	Internet World Stats	
Sept, 2010	1,971 millions	28.8 %	Internet World Stats	
Dec, 2011	2,267 millions	32.7 %	Internet World Stats	
Dec, 2012	2,497 millions	35.7 %	<u>I.T.U.</u>	
Dec, 2013	2,802 millions	39.0 %	Internet World Stats	
Dec, 2014	3,079 millions	42.4 %	Internet World Stats	

Dec, 2015	3,366 millions	46.4 %	Internet World Stats
Dec. 2016	3,696 millions	49.5 %	Internet World Stats
Dec 2017	4,156 millions	54.4 %	Internet World Stats
Dec 2018	4,313 millions	55.6 %	Internet World Stats
Jun, 2019	4,536 millions	58.8 %	Internet World Stats
Dec, 2020	5,053 millions	64.2 %	Internet World Stats
Mar, 2021	5,168 millions	65.6 %	Internet World Stats

Table 1. History and Growth of the Internet from 2000 till Today. Source:www.internetworldstats.com (2021).

Meanwhile, the following table summarizes the main statistics for 2021 on internet use by continents. The table can also identify the percentage of user growth from 2000 to 2021, for each continent.

WORLD INTERNET USAGE AND POPULATION STATISTICS 2021 Year-Q1 Estimates						
World Regions	Population (2021 Est.)	Population % of World	Internet Users 31 Mar 2021	Penetration Rate (% Pop.)	Growth 2000-2021	Internet World %
<u>Asia</u>	4,327,333,821	54.9 %	2,762,187,516	63.8 %	2,316.5 %	53.4 %
Europe	835,817,920	10.6 %	736,995,638	88.2 %	601,3 %	14.3 %
<u>Africa</u>	1,373,486,514	17.4 %	594,008,009	43.2 %	13,058 %	11.5 %
Latin America	659,743,522	8.4 %	498,437,116	75.6 %	2,658.5 %	9.6 %
North America	370,322,393	4.7 %	347,916,627	93.9 %	221.9 %	6.7 %
Middle East	265,587,661	3.4 %	198,850,130	74.9 %	5,953.6 %	3.9 %
Oceania / Australia	43,473,756	0.6 %	30,385,571	69.9 %	298.7 %	0.6 %
WORLD TOTAL	7,875,765,587	100.0 %	5,168,780,607	65.6 %	1,331.9 %	100.0 %

Table 2. World Internet Usage and Population Statistics. Source: www.internetworldstats.com

2.4 Overview of E-Commerce

Initially, this section will identify the meaning of traditional commerce, and then move on to its new developments, called e-commerce. Thus, commerce can be identified as a process of exchanging something of value between two entities (Kotler, P., Keller, K., L.; , 2012). In this definition, something valuable means a product, a service, information, etc.

Commerce is a negotiated exchange of valuable objects or services between at least two parties and includes all activities that each of the parties undertakes to complete the transaction. According to the authors (Kotler, P., Keller, K., L.; , 2012), some criteria must be met in order for the exchange to occur:

- 1. There are at least two parties,
- 2. Each party has something that might be of value to the other party,
- 3. Each party is capable of communication and delivery,
- 4. Each party is free to reject the exchange offer, and,
- 5. Each party believes it is appropriate or desirable to deal with the other party.

(Kotler, P., Keller, K., L.; , 2012) argue that each party has the right to accept or reject exchange. Meanwhile, in the traditional commerce development, the exchange process must take place in a certain environment, where both parties must be physically present. In this way, the intention of one party (seller or supplier) is to offer the product in exchange for a certain value, paid mainly in cash. Meanwhile, the purpose of the other party (buyer or demander) is to offer money to purchase a product or service that it requires.

In its broadest definition, electronic commerce or e-commerce implies a process of making purchases through the use of internet. This process means the digitally enabled commercial transactions between and among organizations, individuals, and government (Davis, 2003).

E-commerce development has brought positive results in small businesses, which manage to make a profit from online sales, even though they have a small capital. These results are a consequence of the characteristics of the e-commerce model: quick access to various information about products or customers, the ability to carry out or control every day online business activity, which enable the development of business through the Internet.

E-commerce is a new service and lacks a clear definition. It has been evaluated as a method of interaction and exchange of a range of products and services through electronic data technology,

such as email, electronic payment system, etc. The concept of e-commerce refers to the use of internet to conduct faster and better transactions.

There are a number of definitions of e-commerce by different authors, such as:

- Electronic commerce is a key method for negotiating and servicing contracts, marketing, and the implementation of supply chain processes that accommodate the established relationships and enhance the overall value created by channel members. (Samiee, 2007)
- While (Kalakota, R., and Whinston, A. B., 1996) identify the term e-commerce in these aspects:
- *i.* From the communication channel perspective: e-commerce is the distribution of information, products or services and payment through appropriate methods, such as telephone, computer, etc.
- *ii.* From the business perspective: e-commerce is the development of technology, which helps in the process of a business, having impact on the performance of business transactions.
- *iii.* From the service perspective: e-commerce is a way which expresses or seeks to meet the requirements of businesses, improving the quality of products and increasing the speed of orders delivery.
 - One definition that connects the traditional commerce model with the electronic commerce model is the definition identified by (Schneider, 2011). According to the author, electronic commerce or e-commerce means the use of electronic data to drive business processes. In this definition, business processes mean the set of activities needed to be carried out in order to complete the stages of doing business.

Meanwhile, various authors have identified a number of respective models of traditional and electronic commerce. Further, two models will be addressed which deal more specifically with the traditional and electronic commerce.

Authors (Korper, S. & Ellis, J., 2000) have identified a model of trade/commerce development according to the traditional model. This model is characterized by several successive processes before the product reaches the final customer. The schematic model is presented in the following figure:



Figure 1. The traditional trading model. Source: (Korper, S. & Ellis, J., 2000, p. 13)

In this way, the product or service moves from the business to the consumer through several channels. Throughout this process, each member at each step sets a profit percentage on the sale of the product, influencing the product that reaches the final consumer to have a higher cost, compared to the price of its production. Also, the process is characterized by the extended time for the products to pass between the distribution channels to reach the customer.

Another model that presents the traditional way of trading is the so called "Brick and Mortar". This model represents a traditional way of trade, where a physical place is needed in which the buying or selling process can take place. (Kotler, P. & Keller, L. K., 2006) identify three features of this model:

- Location means the physical place where the sale process can take place. Location is an
 important element, which has an impact on reaching a broader range of customers.
 Except large stores, which are built in certain areas and it is the consumer who identifies
 it.
- Employees are an important element of traditional trade. Employees are those individuals who provide communication or sale of products to the customer. They interact with customers by providing product information and facilitating the sales process.
- 3. *Consumer* is also the purpose of the operation of a sales unit. The purpose of a business is to provide products or services that meet the needs of customers. In this way, the

location and employees of a business are customer oriented, in order to connect and communicate with them and to offer the relevant products.

Meanwhile, (Korper, S. & Ellis, J., 2000) also present the new model of electronic commerce development. Compared to the traditional model, the product can reach the customer without going through many channels or vendors. The model is shown in the figure below:



Figure 2. The electronic commerce model. Source: (Korper, S. & Ellis, J., 2000, pp. 14-15)

Electronic commerce helps saving time in completing the buying process. Also, the cost of the product is lower, due to the reduced stages/channels of its passage to the customer. So, e-commerce has helped in price reductions of various products, and its higher spread through improving the process of direct communication with the consumer.

Meanwhile, an important discussion is to identify the differences between e-commerce and ebusiness. Often, e-business can be referred to as a synonym for e-commerce. Thus, e-business represents new ways of conducting business, where electronic networks of companies to a large extent make e-business an inter-organizational activity (Eikebrokk, 2007). E-business includes marketing, selling, buying, distributing, paying for a product or service, network information for the seller, etc. So, e-business does not only include the part of selling or buying products or providing information only for this process. It refers to the promotion or control of e-commerce development processes.

2.5 Types of E-Commerce Business Models

In the e-commerce classification, one of the most popular criteria relates to the type of participants in transactions. In this way, the following main categories can be identified: business-to-consumer (B2C); business-to-business (B2B); consumer-to-consumer (C2C); consumer-to-business (C2B); business-to-government (B2G); government-to-government (G2G); and government-to-consumer (G2C).

So, there are three main participants that are identified in the e-commerce processes: government, business, and consumers. From the interactions between them the above commerce categories can be created. Further, we will address some of the key categories.

2.5.1 Business to Consumer (B2C) E-commerce Model

Business-to-Consumer or B2C is one of the most widespread and important e-commerce business models in generating profits. In this category online transactions are made between businesses and individual consumers (Turban, 2015), it includes retail transactions of products or services from businesses to individual shoppers, the typical shopper at <u>amazon.com</u> is of this type.



Figure 3. Business-to-Consumer Model. Source: www.investopedia.com

B2C commerce means a set of online transactions which involve the sale of products, services or information between consumers and the business. Consumers are now individuals who use the computer and physical stores have turned to websites. So, customers can check out the products a business offers online and can decide to buy if it meets their personal requirements.

The development of e-commerce helps in changing the traditional commerce model. Products or services can be purchased online. This way, consumers can identify the products they like and can evaluate their price. Such a process affects the ease of finding the required product, causing this type of trade to develop rapidly.

2.5.2 Business to Business (B2B) E-commerce Model

B2B e-commerce model means electronic interaction between two or more businesses. This form has had a positive development, as e-commerce has facilitated many processes regarding the possibility of purchases between businesses. It has also helped to improve the business environment and has contributed to its growth in many parts of the world.

B2B e-commerce model helps businesses in reaching a broader range of customers, through the electronic communication channel. B2B e-commerce is an important issue that is controlled by top management. Its control can affect the identification of products with lower costs and in a short time, having a significant impact on the profits the relevant business.

This form of e-commerce requires a set of financial services, which include the following aspects:

- a. Assessment of business solvency,
- b. Certification of products, in relation to their characteristics,
- c. Loss protection,
- d. Fast payment, etc.

In realizing effectiveness of communication between two businesses, banks play a key role in providing financial services and can ensure payment processing for products and data confidentiality.

(Swapan Kumar Saha, 2014) identifies some principal differences between B2B and B2C models:

- In B2B model, sales volume is higher,
- The payment method in B2B is based on purchase orders, while in B2C it is realized via debit or credit card,
- The purchase of B2B products is much riskier,
- In B2B model there is a longer purchasing process, etc.

Initially, B2B was realized by large firms, which had the appropriate resources to carry it out. However, the development of this model has reduced the costs for its acceptance, increasing the competition between businesses. However, not all businesses are active in this regard, influenced by a number of factors that prevent the process of technology adoption, such as readiness to use, costs, lack of strategic plans, etc.

2.5.3 Consumer to Consumer (C2C) E-commerce Model

The C2C e-commerce model represents an important business type of online transaction. This way, customers can sell products or information among themselves. It means that consumers are in direct contact with each other, mainly in auctions, various online forums, etc. A similar example is <u>ebay.com</u>, which has a high number of users selling or buying different products.

This business model eliminates intermediaries in the product purchasing process. Thus, in the purchasing process some costs can be eliminated, which accounts a profit percentage for intermediaries. The payment method of purchases is considered as an intermediary, which can be realized while sending checks or payments via the payment system through the connection to the bank account.

C2C businesses benefit from self-propelled growth by motivated buyers and sellers but face a key challenge in quality control and technology maintenance (BigCommerce).

2.5.4 Government to Consumer/Business (G2C & G2B) E-commerce Model

The type of e-commerce can be realized even in the case when the government is primary. The process can be accomplished through access to relevant websites, or by phone. So, in this type of electronic commerce, products, services, or information can be exchanged between the consumer (C2G) and between the business (B2G).

In this way, consumers or businesses can interact with the government by accessing the website depending on the needs they have, such as making payments, obtaining information, requesting permits, and so on. Online activity performance can be a good alternative as it has lower costs, higher speed in obtaining information, etc.

On one hand, the government aims to provide faster services to the demands of consumers or businesses, by promoting the use of online services. On the other hand, it can be assessed that the effectiveness of the implementation of online services through the government is not the same in different countries. Thus, in developing countries it is estimated that the government is focused on what services it can provide online and not on what services are required by other agents (Helbig, 2005).

2.6 Benefits of E-Commerce

The development of commerce, mainly in the SMEs sector, is becoming a very important aspect for the development of the economy in a given country. In developed countries, e-commerce presence on SMEs is taking on an important role in terms of leading the product distribution channel. Meanwhile, in developing countries, this sector of the economy is undergoing constant change, which helps to develop the market there. It helps in delivering products that meet the specific needs of a particular market segment, also, the impact can be seen in changing people's lifestyles, which can more easily identify the products or services they need. E-commerce has found wide application in a country's economy, influencing its positive performance. It has brought positive results and benefits to the economy, affecting the performance of many businesses. Meanwhile, e-commerce services have found application in organizations, individuals, even government. It has enabled businesses to place orders for products from many businesses operating in different parts of the world. This means that the products offered by a business are easily accessible by many customers. Such an aspect reduces their costs and the duration of the buying process.

Meanwhile, e-commerce helps in developing a successful online marketing for companies. Using online marketing strategies helps in achieving a higher target group and reducing costs. Many businesses choose the opportunity to promote themselves through social media.

Using social media marketing helps companies to be able to inform more customers, at a lower cost. Companies can also gather more data about customer behavior, which will help identify the target group, the characteristics of the products they need and influence the improvement of customer service.

The e-commerce features allow sellers to communicate with buyers. Such a situation can have a positive impact on increasing consumer confidence in the business. Also, the business can obtain certain data which can serve to assess the characteristics of customers in a given area and find the appropriate products for that segment (Laudon, 2021).

The development of e-commerce has improved the economic situation of a country, contributing to the development of small and medium enterprises. Thus, some advantages of using ecommerce are:

1. Ubiquity

Traditional commerce encourages customers to go somewhere and buy products or services physically, e-commerce can be anywhere, it is ubiquitous.

2. Global Reach

Offering online sales services, e-commerce has reached the potential to cover a larger geographical extend. Such a process helps businesses to increase their profits and access customers around the world who can buy any products at a lower cost. Making it possible for

customers to make purchases from home, e-commerce is acceptable from any country, at any time (Laudon, 2021).

3. Interactivity

E-commerce helps in direct contact between the buyer and the manufacturer, reducing the time in receiving the product and the cost of purchasing it. Consumers can also contact sellers directly on their website, which can be considered as an alternative of face-to-face communication in traditional commerce (Laudon, 2021).

4. Information Richness

Consumers have the opportunity to get more information on product features, by reading the information provided or by requesting a detailed information on a particular product offered online. The electronic marketplace helps in creation of price transparency, allowing consumers to evaluate the current price of a product (Laudon, 2021).

5. Universal Standards

The use of e-commerce helps in comparing prices between products offered by different businesses. Such behavior may affect the identification of lower cost products. Meanwhile, ordering the product directly from the manufacturer, helps reduce some channels on the purchasing process, avoiding the profit margins placed on each channel.

6. Information Density

E-commerce can create a competitive advantage among businesses, especially those that have not accepted this service due to the high information density. The advantage created can affect the increase of benefits for the company.

7. Personalization and Customization

E-commerce enables the seller to target customer segments more clearly by offering specified or personalized products (Laudon, 2021). The business can also identify the needs of customers and can offer specific products or services by studying their behavior or experience from online shopping. Meanwhile, <u>www.dell.com</u> offers the opportunity for the customer to choose the features and appearance while ordering a computer or an electronic device.

8. Social Technology

It enables writing information about the products or services, creating a user-generated content for the products, and helps sharing them through social networks.

2.7 Challenges of E-Commerce

The development of e-commerce presents many opportunities in terms of economic development of a country. It enables trade to spread throughout the territory of a country and payments to be made quickly through the services of the online banking system. However, this development faces a number of challenges in terms of growth and the provision of quality and fast services.

Businesses that offer the opportunity to develop e-commerce, faced a series of changes in order to adapt to market demands. They need to change the structure of the company, as well as change the strategies on the services provided to the customers. Such changes are needed to take advantage of the opportunities that arise in a market that operates in a new way. New advantages are related to the identification of new resources, low costs, use of new communication channels, etc. Businesses must change the corresponding structure in order to allow the implementation of new strategies. This process of change will be accompanied by the use of new software, choosing the development of an appropriate infrastructure to respond to market demands.

(Mitchell, 2004) identifies five main challenges that affect the acceptance of e-commerce by businesses:

- Reduction on the control level: changes in the new market model also affect changes in the business model. The collected data is stored in computer programs, lowering the work control level.
- *Software integration*: changes in the company require a development or improvement of the IT structure, where computers connected to the network can be easily controlled.
- *Request for organizational structure change*: the organizational structure needs to change in order to adapt and implement new strategies, in order for them to be more effective.
- *Hidden costs*: different costs may arise from infrastructure development, costs related to the maintenance of software or computers, etc.

- *Security and reliability*: increasing the number of transactions and the amount of data requires the development of appropriate strategies or methods for their management.

Although e-commerce offers great opportunities for SMEs, there are still some issues that need to be addressed in order for it to be fully accepted. There is a need to improve the legal aspect which protects each party from various issues, such as fraud, problems raised with the online payment system, data storage issues, etc. However, nowadays businesses implement new technologies every day becoming more adaptive to the market needs and, accompanying legal basis for conducting online business.

CHAPTER III: THE DEVELOPMENT OF SMEs SECTOR

3.1 Definition and Characteristics of SMEs

The term SMEs constitutes an important field in the literature of economics and business in the recent years, especially in the aspect and study of information technology. Different studies provide different definitions for it, using different classification criteria.

Thus, according to the European Commission (2016), the SMEs definition takes into account the following three criteria: Staff headcount, annual turnover, and annual balance sheet total. "The category of micro, small and medium enterprises consists of enterprises which employ less than 250 people and have either an annual turnover not exceeding EUR 50 million or an annual balance sheet total not exceeding EUR 43 million". The following table summarizes the business categorization according to the three criteria used in Europe:

Enterprise Category	Staff/Employee	Annual Turnover		Annual Turnover		Annual Balance
	Headcount	ſ		Sheet Total		
Medium-sized	< 250	\leq EUR 50 million	Or	\leq EUR 43 million		
Small	< 50	\leq EUR 10 million		\leq EUR 10 million		
Micro	< 10	\leq EUR 2 million		\leq EUR 2 million		

Table 3. Definition of SMEs in Europe. Source: (European Commission, 2016)

SMEs are a very heterogeneous group. SMEs are found in a range of business activities, starting with a single person doing handicrafts, a neighborhood cafe or supermarket, a small firm making software to sell in overseas markets, or a company that produces car parts sold to multinational companies in domestic or foreign markets.

SME owners can be rich or poor as their firms operate in a variety of markets (rural, local, urban, national, regional, and international), involving different levels of skills, capital, sophistication,
orientation growth, and may be in a formal or informal economy. In many cases the competition is big enough for SMEs as many businesses are small suppliers in the countries where they operate and are often unable to influence price or quantity.

In developing countries SMEs face significant barriers and problems in financing. Financial constraints are generally higher in developing countries as SMEs are particularly constrained by gaps in the financial system, administrative costs, high collateral percentages, and inexperience of financial intermediaries. Increasing access to finance for SMEs can improve economic conditions in developing countries by boosting macroeconomic elasticity and GDP growth (Dalberg Global Development Advisors, 2011).

According to a study done by (Parida, 2010) in contrast to large companies SMEs are characterized by 5 main characteristics:

- 1. Organizational structure
- 2. Higher flexibility
- 3. Drivers for economic growth and innovation
- 4. Risk taking behavior
- 5. Closer to the customer.

Further, we will describe in more detail all the above mentioned characteristics of SMEs as opposed to large companies.

Organizational structure - The organizational structure of SMEs is more organic compared to the normal structure with more bureaucracies of larger companies. This means less formal work and a more standardized process which gives SMEs the advantage of making decisions faster as a result of avoiding bureaucratic processes. Also, the lack of complex processes facilitates different levels of formal communication, so in SME communication through employees is faster, more informal and the main activities of the company are faster (Parida, 2010).

It should also be mentioned that in most cases SMEs do not have multiple departments that need to be coordinated with each other and it is the manager or owner of the company who communicates with his subordinates directly and makes decisions about the company. *Higher flexibility* - SMEs have the advantage of being very flexible in their processes, due to the strategic orientation and operations performed within their business compared to large firms. This flexibility increases the ability to operate in a more dynamic environment that adapts to changing market needs as SMEs are closer to the customer during their market operation.

SMEs are more flexible compared to large companies as they have greater advantages of changing plan or objectives much faster than large firms. This means that they can bring a product to market faster when there are only a few people involved in creating that product. A large company needs to involve a lot of people and processes in product development, slowing down the process and giving advantage to SMEs. SMEs can also tailor the product, based on customer feedback, much more easily than the competition of larger firms. While they are exploring options and obtaining approvals, SMEs may have put the product up for sale.

Drivers for economic growth and innovation - Generator for economic growth and innovation -It is widely accepted that SMEs are a generator of economic growth and are quite innovative. This is because SMEs are created more easily and with less capital, so this increases the number of companies operating in the country, which also increases employment and per capita income. If people's incomes are higher, they will also increase consumption and open up new opportunities in the market and encourage the creation of more new SMEs. The state where they operate directly benefits from the growth and success of SMEs, because most of them are mainly domestic firms.

SMEs are also very innovative, as they operate in the market with many other competitors offering similar products, many SMEs most of the time are likely to change and to offer new products or services and this strategy gives them the advantage of generating more profits. Also due to high competition in the market SMEs use the latest technologies to create market advantages.

Risk taking behavior - Risk-taking is usually more pronounced in SMEs than in large firms, because they operate in a market with more competition and all the time their strategy and objectives may change as a result of creating and exploiting new opportunities. The result of these actions is not always successful and can lead to loss of profits or even bankruptcy.

Closer to the customer - As they are smaller in structure, SMEs are closer to the customer than large companies. This is a pretty big advantage for SMEs as being close to the customer is the key to a successful business, and a small business is often much closer to the client than the big one.

A small business manages to meet the customer more often and develop a personal relationship more than a large company. A large company has many levels and departments and often has procedures that prevent close contact with the customer. At SMEs, customer complaints can be handled more quickly and on a more personal level, making long-term customer relationships easier and more profitable.

Above we outlined five key characteristics that distinguish SMEs from large companies. These characteristics in most cases constitute a fairly large advantage for SMEs as they are smaller in structure and are closer to the customer, such a thing is important for success in business. Small businesses have many advantages over their larger competitors. Larger companies are not as "agile" and fast as small businesses, large companies are often hampered by their size, making difficult and slow changes. Small businesses can also be more innovative and try new things because they are not slowed down by past experiences and achievements. The pace of a small company is often very dynamic, and this speed is often an advantage in getting new products to market. With fewer levels of management, SMEs have the ability to make decisions much faster, allowing for the flexibility and convenience that a large company lacks.

3.2 The Importance of SMEs

Small and medium enterprises (SMEs) have played a key role in all industrial societies both in terms of turnover as well as the level of employment. SMEs play a very important economic and social role, as a result of their contribution to the functioning of the economic network and the creation of new jobs. Undoubtedly, it can be said that SMEs are an economic generator that provide employment opportunities and that can help reduce the unemployment rate, in addition, the development of the SME sector can contribute to strengthening competitiveness and

productivity, while boosting revenue. SMEs are often seen as the core of an entrepreneurial economy, most of the European workforce is employed by small firms. (Fida, 2017)

Nowadays, the SME sector is the main pillar of the economy of the most developed countries, but this sector is less developed in developing countries, including North Macedonia. The Organization for Economic Co-operation and Development (OECD) reports that more than 95% of businesses in the OECD area are SMEs. These businesses enable almost 60% of employment in the private sector, make a major contribution to innovation and support regional development and social cohesion. Also, in developing countries the SME sector has a major impact on GDP and employment (OECD, 2017).

Today majority of countries in the world have a political and fiscal program to support the creation, growth, and sustainable development of the SME sector. Government policies for SMEs include the facilitation of policies and legislative measures such as the provision of affordable loans, the provision of technical assistance and fiscal incentives, business development services such as the training of new businesses and employees, and advisory assistance to technology adoption etc.

3.3 SMEs Sector in the European Union

Small and medium-sized enterprises (SMEs) are the backbone of the Europe's economy. They represent 99.8% of all enterprises in the European Union (EU). Over the last five years, about 65% of new jobs have been created by SMEs and have provided two thirds of total private sector employment in the EU. The annual contribution of SMEs to the EU economy is around 3.5 trillion euros in 2020, where 1.25 trillion euros of this amount was accounted by micro-sized enterprises. European Commission considers SMEs and entrepreneurship as key to ensuring economic growth, innovation, job creation and social integration in the EU (European Commission, 2021).

According to a definition of the European Union in 2003, an enterprise is "any entity engaged in economic activity, regardless of its legal form" (European Commission, 2003). In the European

Union SMEs are divided into 3 main categories: micro, small and medium. For more details on the definition and classification of SMEs in the EU review Table 3, above.

The definition of SMEs by the European Commission also uses three quantitative criteria to divide SMEs into different classes. Enterprises are classified as micro, small, medium according to the number of employees, annual turnover, and total balance sheet. In particular, enterprises must meet a certain threshold for the number of employees or choose between the annual turnover threshold or the maximum balance sheet amount to be assigned to the relevant size category. In addition to these quantitative criteria, the definition of SMEs by the European Commission also includes provisions for related parties in that enterprise. An enterprise should not own 25% or more of the capital or voting rights of potentially related parties. Furthermore, any external party shall not hold 25% or more of the enterprise's capital or voting rights. If these requirements are not met, the employment threshold, turnover and total balance sheet apply to the whole group of enterprises instead of the independent unit (European Commission, 2016).

According to the 2015-2016 annual report of the European Commission, 99 out of 100 businesses in the EU are SMEs. The report also shows that 9 out of 10 SMEs are Micro (with less than 10 employees). The 2016 annual SME report by the European Commission found that in recent years new SMEs have created new jobs (on a net basis) and the EU needs more new firms to create jobs. SMEs are key contributors to the growth dynamics of the EU economy. However, it should be mentioned the fact that many start-ups fail in their early years, and it is difficult to start all over again after a possible failure the first time (European Commission, 2016).

Based on the 2015-2016 report, further we will present the number of SMEs and the percentage divided by enterprise size class and which categories of SMEs employ the most in the European Union. We will also present the gross value added for SMEs in the countries of the European Union. Follow Table 4 below:

	Micro SMEs	Small SMEs	Medium-sized	All SMEs
			SMEs	
		Enterprises		
Number	21,044,884	1,282,211	199,362	22,526,457

%	93.3%	5.7%	0.9%	99.8%
Value Added				
Value in €	1,179,476	1,071,196	1,087,613	3,338,286
million				
%	18.7%	17.0%	17.3%	53.0%
Employment				
Number	36,988,539	25,313,006	20,130,548	82,432,093
%	29.2%	20.0%	15.9%	65.0%

Table 4. Number of SMEs, value added, and employment divided by enterprise size class in EU.Source: Adjusted by author based on EU data ((European Commission, 2021).

In all EU countries, SMEs make up 99.8% of enterprises, 53.0% of value added and 65.0% of employment (see Table 4). The number of SMEs divided by size class is unevenly distributed, with micro-enterprises accounting for 93.3% of SMEs, small enterprises accounting for 5.7%, and medium-sized enterprises accounting for only 0.9%. SMEs also have a very significant weight in employment, where the main place is occupied by micro-enterprises with 29.2%, small enterprises with 20.0% and medium enterprises with 15.9% of employment (European Commission, 2021).

Further we will be able to look at the five most important sectors of where SMEs are located in the European Union (see Figure 4):



Figure 4. Sectors where SMEs are located in the European Union. Source: Adjusted by author based on EU data (European Commission, 2016)

Based on the European Commission report as can be seen in Figure 4, the main sector where SMEs are located in the EU is the wholesale and retail trade sector with 22%, followed by the manufacturing sector with 14%, the services sector with 14%, construction sector with 11% and accommodation and food sector with 4%. It is also worth mentioning the fact that 29% of SMEs are spread across other smaller sectors which makes SMEs very heterogeneous (European Commission, 2016).

It should also be mentioned the fact that in the European Union SMEs during their operation in the market encounter many different problems or issues. Further we will be able to show a table with the difficulties that SMEs face during their operation in the market. This table is presented by the report of the European Commission for the year 2015-2016. For more details you can follow the table below.

The Problem	Percentage
Finding Potential Customers	25%
Finding Skilled Employees or Experienced	18%
Managers	

High Competition	14%
Legal Norms	13%
Labor and Production Costs	13%
Access to Finance	10%

Table 5. The most numerous problems that SMEs faced in the market for 2015-2016. Source:(European Commission, 2016)

As you can see from the table above (Table 5) about 93% of SMEs encounter various difficulties in the EU during their operation in the market. The main difficulty of SMEs is finding potential customers and this problem is encountered by 25% of SMEs in the EU. Also, another big issue for SMEs according to the European Commission report is that 18% of SMEs have trouble finding qualified staff, here specifies experienced managers. Another issue is high competition as there are many SMEs that offer products similar to each other which also affects the reduction of prices and profits. About 13% of SMEs face the problem of adjustment according to EU legal norms and the cost of labor and production and this comes as a result of competition as prices fall and profit per unit of product becomes smaller. It should be mentioned that 10% of SMEs have trouble finding finances and this is especially encountered in the new SMEs that are being created.

Seen from the tables and figures above SMEs play a significant role, have a very large weight in the economy of the European Union and are always in the main focus of economic policies and legal norms as the EU has a primary goal of having a developed SME sector because of the importance they have for the whole EU economy.

3.4 SMEs Sector in the Republic of North Macedonia

SMEs are considered to be the driving powers of the developed and developing world economies, as they are encouraging job creation, economic growth, and provide social stability. We find these companies in different shapes and sizes. However, in the business environment they may be part of the market, in which they may have financial, operational nature or managerial category relationships with other enterprises. These SME relationships often make it difficult to draw a dividing line between an SME and a large enterprise.

The importance of SMEs is highlighted due to the direction of the current world economy towards the knowledge-based economy, which requires innovation and new technologies. It has recently been proven that the application of innovations and new technologies came mainly from SMEs, which have created competition and rapid economic development. The second reason is the fact that after the financial crisis of 2007 to 2009, the economies around the world began to turn their attention to micro, small and medium enterprises. The source of this increased attention to this category of enterprises was their ability to recover faster than other categories.

In the legislation of each country there is also the law on micro, small and medium enterprises, which includes all their characteristics and definitions. These characteristics have their source from the definition given by the European Commission, but with minor differences, depending on the level of development of the respective country.

The SME sector is one of the most important sectors for the Macedonian economy and as a structure it is similar to the SME sector in the European Union. As in the EU, SMEs in North Macedonia provide the majority of jobs and value added. The average size of the firm in North Macedonia is smaller than in the EU and later in this chapter we will make a more detailed comparison between the SMEs sector in RNM and EU.

The development of the SME sector is very important for the Macedonian economy, especially considering that the social problems are numerous and to a large extent. The development of SMEs creates new jobs, which can help reduce the level of unemployment and cope with migration to EU countries. In addition, the development of the SME sector can contribute to strengthening competitiveness and productivity, while boosting Macedonia's GDP growth.

In the Republic of North Macedonia, the definition of business is based on two laws: "Law on Accounting" and "Law on Transformation of Socially Owned Enterprises", which states that the legal identification of SMEs in RNM is regulated by law, based on the number of employees and the annual or total turnover of assets. North Macedonia is still making efforts to adapt SME categorization regulations, in line with European Commission regulations. The category of micro, small and medium enterprises consists of enterprises which employ less than 250 people and have either an annual turnover not exceeding EUR 10 million or an annual balance sheet total not exceeding EUR 11 million". The following table summarizes the business categorization according to the Macedonian regulations:

Enterprise Category	Staff/Employee Annual Turnover		Annual Balance
	Headcount	C	Sheet Total
Medium-sized	< 250	\leq EUR 10 million	\leq EUR 11 million
Small	< 50	\leq EUR 2 million	\leq EUR 2 million
Micro	< 10	≤ EUR 50,000	\leq EUR N/A

Table 6. Definition of SMEs according to Macedonian regulations. Source: (Министерство заЕкономија, 2004)

According to the report of the (European Commission, 2019), roughly 99 out of 100 businesses in the RNM are SMEs. The report also shows that 9 out of 10 SMEs are Micro (with less than 10 employees). We had almost the same statistics in the EU countries.

Based on the "2019 SBA Fact Sheet" for the Republic of North Macedonia report, we will present the number of SMEs and the percentage divided by enterprise size class and which categories of SMEs employ the most in the RNM. We will also present the gross value added for SMEs in the RNM. Follow Table 7 below:

	Micro SMEs	Small SMEs	Medium-sized	All SMEs
			SMEs	
Enterprises				
Number	49,372	4,576	797	54,745
%	89.9%	8.3%	1.5%	99.7%
Value Added				
Value in €	880.0	950.7	864.4	2,695.2
million				
%	20.7%	22.4%	20.3%	63.4%
Employment				
Number	122,402	87,555	78,000	287,957
%	31.6%	22.6%	20.1%	74.2%

Table 7. Number of SMEs, value added, and employment divided by enterprise size class in theRNM. (European Commission, 2019)

In the RNM, SMEs make up 99.7% of enterprises, 63.4% of value added and 74.2% of employment (see Table 7). The number of SMEs divided by size class is unevenly distributed, with micro-enterprises accounting for 89.9% of SMEs, small enterprises accounting for 8.3%, and medium-sized enterprises accounting for only 1.5%. SMEs in North Macedonia also have a very significant weight in employment, where the main place is occupied by micro-enterprises with 31.6%, small enterprises with 22.6% and medium enterprises with 20.1% of employment, making it roughly 75% of total employment in the country to be dominated by this business category.

Making a comparison with the SME sector in the EU, the share of micro-enterprises in the total number of active enterprises in North Macedonia is lower than the EU average for about 3.4%, but the percentage of jobs created by North Macedonian micro-enterprises is higher than in the EU for about 2.4%. While in terms of small enterprises in RNM they make up 8.3% of active enterprises while in the EU they make up 5.7% and the percentage of employment is higher in RNM for 2.6% compared to the EU countries. The percentage of medium-sized enterprises is close between RNM and EU, but the percentage of employment created by medium-sized enterprises in RNM is higher by over 4%. These comparisons were made according to 2016-2019 reports in North Macedonia and the European Union (see Tables 4 and 7).

Further we will be able to look at the sectoral distribution of SMEs in the Republic of North Macedonia (see Figure 5):



Figure 5. Sectoral distribution of SMEs in Republic of North Macedonia. Source: (OECD, 2019)

As it can be seen from the Figure 5 above and the (OECD, 2019) report, the sector where North Macedonian SMEs are located is the Distributive Trade Sector with 40.4% where this sector is for 18% higher than the average percentage of this sector in the European Union. Then, we have the Manufacturing Sector with 13.3%, which tends to be for about 7% lower than the average percentage of this sector in the EU. Next is the Transportation and Storage Sector with 9.9%, followed up by the Construction Sector with 8.1%, which is again lower for 3% compared to the average in the EU countries, the Information and Communication Sector occupies only 3% of the SMEs in the country, and also about 25.3% of SMEs in the RNM are distributed in smaller sectors.

According to the State Statistical Office North Macedonia and Eurostat (Structural Business Statistics Database) (2017) at the end of the 2017 in North Macedonia there were 54,745 active SMEs out of 54,896 total enterprises in the country. So, as can be seen from the above tables that we have composed on the SME sector in North Macedonia, we can say that SMEs have a great

weight and are the main pillar of the Macedonian economy as about 99.7% of active enterprises in Macedonia are SMEs and about 74.2% of employees come from SMEs.

3.5 Current Facing Challenges by SMEs

The SME sector is very important for the economy of any country because it generates economic growth, contributes to employment growth, is a driver of innovation, etc. However, SMEs are facing various challenges such as increased competition from globalization, restrictions on access to financial resources, etc.

SMEs usually have very good internal communication and many of them have a dynamic and entrepreneurial management style (Jones, 2011). SMEs typically explore new infrastructural and technological spaces. Indeed, innovations in small firms may be more efficient and effective (Lu, 2010). But it should also be mentioned that many SMEs are not innovative at all.

The current existing global level economic conditions have worsened the typical challenges that SMEs already face. So, the SME sector is particularly vulnerable in times of crisis as a result of a number of reasons: Reducing the number of employees is often not an option as due to their already small size, also, SMEs tend to be less diversified in their economic activities, have a weaker financial structure and fewer financing opportunities.

After reviewing various EU studies on the SME sector, further, we will present the five most common challenges that SMEs currently face in the market:

- 1. Difficulty in finding financial resources
- 2. Increased market competition from larger multinational firms as a result of globalization and economic integration
- 3. Lack of adequate and skilled staff
- 4. Securing funds to grow their business
- 5. Increase expenditures and decrease revenues.

Above we mentioned some of the many challenges SMEs currently face while operating in the market. In order for the challenges of SMEs to be solved and overcome, it is important for the businesses to have a management with the right experience. Business plans should be reviewed if

necessary. Cash flow and access to business capital should occupy the main focus for management. This means reassessing costs and reducing unnecessary expenses.

A 2016 report from the EU recommended five key areas that are critical for SMEs to focus on:

- 1. The internationalization of their business
- 2. Finding skilled and talented staff
- 3. Solve funding problems
- 4. Investment in technology
- 5. Leadership.

Whatever challenges businesses are currently undergoing, it is not easy to manage and grow the activity of a small company, especially in a business world that is changing more and more. Technological advances, new employment strategies, and political and economic changes all add to the existing business challenges that business owners must address.

3.6 Impact of Covid-19 Crisis on SMEs

The Covid-19 pandemic period became a stressful situation for all people around the world as well as for businesses, whether small or large in size. There was not only a decline in the work and activity of businesses, but this situation led to the closure of businesses, which caused a severe economic and financial wave. Significantly it began to look how businesses were suffering decline day by day, causing temporary also in some cases permanent shutdown.

The pandemic had a very great impact on EU countries during 2020, where many SMEs experienced decline in sales and profitability. In order to overcome this situation, most of the SMEs in EU started to use different supportive programmes executed by national governments, such as receiving subsidies from the government in order to pay their wages and overcome cash-flow issues. Thus, many SMEs put their focus on digital tools, such as web-based online selling, reducing the working hours or staffing.

Overall, available data from the (European Commission, 2021), shows that the value-added generated by SMEs in the EU countries in 2020, declined by 7.6%, while the employment from SMEs fell by 1.7%.

The most pandemic impacted SMEs sectors in the EU countries in terms of value added were the accommodation and food service activities (-37.8%), transport and storage (-16.1%), administrative and support service activities (-13.3%), and manufacturing (-9.8%).

In contrast, SMEs value added increased in the 'real estate activities' and 'information and communications industries' and fell only moderately in the 'digital sector' and in the 'electricity, gas, steam and air conditioning supply', 'construction and professional', 'scientific and technical activities industries'. Moreover, the EU countries SMEs employment increased by 1.5% in the digital sector and declined by 1.9% in the non-digital sector. (European Commission, 2021)

Not only SMEs in developed countries such as those in the EU felt the pandemic crisis in terms of value added and employment, also the developing countries such as the Republic of North Macedonia which have been obviously impacted by the effects of Covid-19, suffered a decline on SME value added by 8.6%.

This decline was particularly accurate in the 'accommodation and food services sector', with SME value added falling by 10.2%. It should be mentioned that the wholesale and retail trade sector, as the largest sector in terms of SME value added, was also affected, albeit not as severely, with value added down 1.8%. (European Commission, 2021)

Even though the Macedonian government adopted four economic measuring packages to overcome liquidity issues related to the crisis, the pandemic made itself again and as a result the country faced a decline in employment, where in 2020 only, 20,000 employees were made redundant and signed out as unemployed. (European Commission, 2021)

CHAPTER IV: RESEARCH METHODOLOGY

4.1 Methodological Procedure of the Research Process

This chapter explains in more detail the followed methodology for the research done in relation to this thesis. In this chapter will describe how the data was collected, the type of the research, the steps and the strategy used to conduct this research, the design and content of the questionnaire, the time and place of this study, the data sources and sample size.

To conduct this study, a quite extensive literature was used to clarify the concepts of e-commerce and SMEs, as well as their online presence. Numerous sources of information are included in this literature, such as: books related to this study, scientific articles, master and doctoral theses, various scientific journals, statistical reports of European and local institutions, comparison of different articles, etc.

It should be stated that during the research done for the reference sources of this study, there was a noticeable lack of literature on this topic in North Macedonia. We have found various studies related to SMEs or e-commerce, but not something that studies and analyzes both together, or the online presence of SMEs in the country. As a result, for the theoretical and literature review part, we have tried to use foreign literature from various sources of information, as we mentioned earlier in this chapter, both for data about North Macedonia, as well as for the European Union.

The two main instruments used for this study are the statistical and comparative data from accurate EU sources (such as European Commission), as well as a questionnaire conducted with various managers or executives of SMEs in North Macedonia. The questionnaires were distributed to the targeted individuals by asking them to fill out the questionnaire either in electronic or written form, through social networks such as Facebook, Twitter, LinkedIn, WhatsApp, or by sending them via email the link for completion of the questionnaire.

4.2 Research Strategy and Methodology

The objectives of this study are to investigate the online presence and use of e-commerce by SMEs in North Macedonia and making a comparison with several indicators in the EU countries. For the realization of this study, we have found it reasonable to follow the next steps:

- 1. Definition of the research
- 2. Data collection and literature review
- 3. Develop a preliminary report on what has been found
- 4. Creating an empirical research process for the study
- 5. Designing thesis hypotheses
- 6. Designing the manner of data collection
- 7. Analysis of results
- 8. Completion of the study.

Viewed from the methodological point of view, there are generally two types of research methods: quantitative and qualitative methods. Qualitative research is mainly exploratory research, includes information gathered in more detail such as interviews and is used in cases where it is intended to obtain data about the reason, opinions, motives for things to happen. Quantitative research includes numerical data that are usually presented in the form of statistics that can be obtained through questionnaires sent to selected models and used in studies that measure the importance of perceptions and comparisons when several dimensions are used for variables and when testing the relationship between them (Ghauri, 1995).

The choice of research methodology is influenced by the theoretical perspective of the researcher and also his attitude towards the ways in which the data will be used. Our study can be considered as a study with a mixed methodology approach where the quantitative method will analyze different reports and indicators for the EU countries and their SME-s implementation and there has been conducted a survey about the online presence of SMEs in the RNM where the data from the survey will be analyzed in STATA, while the qualitative method will analyze the relationships between these indicators collected from the data provided through different reports in EU and through the distributed questionnaire to SME owners in RNM, presenting diversity of ideas and information gathered during data collection.

By research strategy we mean the precise definition of research objectives, the sources of data collection (Iacobucci, 2018) and the limitations that research may contain, such as time and access to data (Creswell, 2008). To conduct our study in addition to reviewing the literature from secondary sources we have decided to use the survey as a main form of data collection.

Surveys are a widely used form for various studies also because they are a fairly fast, efficient, and low cost tool to provide information. Surveys are used in research, as they enable the collection of a large amount of data in a short time and at low cost, but also provide better opportunities to measure individuals' knowledge, opinions, beliefs, behaviors, attitudes, and motives (Babin, 2012).

The surveys are mainly conducted using questionnaires that are pre-prepared, through which the information we need for the study is obtained from the individuals who become part of the survey. In our case we used a structured questionnaire as a result of the nature of the study and the method of data collection and analysis. As (Babin, 2012) point out, the structured questionnaire provides defined choice options for the individuals surveyed.

4.3 Questionnaire Construction and Structure

The questionnaire used for this study was addressed to managers or executives of SMEs in North Macedonia where we tried to ask concrete questions which in turn will give us answers to the hypotheses raised in this study, so after the adjustments made the questionnaire consists of a total of 5 sections, starting from the "Biographical Data" section which contains 3 questions about the Age, Sex and Education of the participant; then we move to the next section "Demographic Data for the Employees in the Company" which contains 7 questions such as the Number of employees engaged in their company; How many years their company is operating in the market; Does their company have a website; Do they use information systems (software) in the company; Which of the information systems do they use in their company; When did they start using e-

commerce in their company; and if yes, In which sector does their company operate; further we have the next section "Recognition and use of e-commerce" which asks the in what applications they use e-commerce; also, we have a section for the "Benefits of using e-commerce" and the last section "Evaluation of the factors that have influenced the use of e-commerce", in both these two sections of the questionnaire is used the Likert scale based on a five-point scale (closed answers formulated according to the Likert scale), where the participants can answer their agreement or disagreement for each question asked. Possible answers to the closed questions are: "Strongly Agree", "Agree", "Neutral", "Disagree", and "Strongly Disagree".

4.4 Sample Size and Time of Conducting the Study

The determination of the sample (target group in the study) is important for the study as it directly affects the ability of the results obtained to serve, generalize, and represent the study population (Kotler, 2011), inability to involved in the study the entire population. Thus, logically the wider the sample selected the more accurate the study, as the results become more representative, always not forgetting the composition of the sample, which is also very important.

To be more specific in this study, the primary goal was the inclusion of all managers/owners of the SMEs in North Macedonia, but because in RNM according to the 2017 data from State Statistical Office and the Ministry of Economy there are about 54,745 SMEs, so it is almost impossible to interview all SME managers, therefore a random selection of managers has been made with whom we reached a physical contact or through the internet. We have managed to contact 100 different SME managers in North Macedonia and 72 questionnaires have been completed by various SME managers. It should also be mentioned that the study targets managers of all levels of SMEs, whether micro, small, or medium and senior, middle, and lower level managers, or owners. The selection of the sample was done completely randomly.

The nature of the study does not limit the period of conducting surveys. Thus, the process of conducting the survey was carried out in the time period from 29 August 2021 to 12 September

2021, so for a period of 15 days the data for this study were collected. The survey was conducted with any SME manager that we were able to establish physical or online contact with.

4.5 Encountered Difficulties during Data Collection

During the data collection process for this study, we encountered some difficulties. Initially we have encountered the reluctance of a significant part of SME managers to complete the questionnaire, in some cases this reluctance is justified by the lack of willingness to cooperate in completing the questionnaire, and in some cases by the lack of time from contacted managers.

The second difficulty we encountered during data collection as some SME managers were not familiar with some of the terms of the questionnaire regarding SMEs and e-commerce and their theories and in this case a preliminary explanation was given to explain them in more detail the used terminology. However, despite the difficulties from 100 contacted managers/owners, we received 72 completed questionnaires for a period of 15 days, where 72% of the questionnaires were returned completed and this cooperation can be improved for other studies in the future.

CHAPTER V: ANALYSIS OF RESEARCH DATA

5.1 Introduction to Analysis of Research Data

After we have discussed in general the theoretical level on e-commerce and the online presence of SMEs, in this chapter will be presented the process of data analysis and testing of the hypotheses that have been raised in this study. In many cases in scientific research there are inevitable limitations in the choice of research method and analysis. Among the most numerous problems during data collection are the lack of materials for the given topic, data collection problems due to the size of the sample, etc.

This study aims to analyze the use of e-commerce and the online presence of SMEs in North Macedonia, making a comparison with the countries of the European Union. Empirical data to conduct this study were collected through a questionnaire which was distributed to 100 SME managers in North Macedonia, and we managed to obtain about 72 completed questionnaires. Also, we managed to make physical contact with 10 participants from the survey, interviewing them face to face and received open-ended information from them. It should be taken into account that the SME sector in the RNM is very large, so the sample in this case was randomly selected and all managers that we managed to create contact either online or offline were asked to complete the questionnaire.

To analyze the data of the questionnaire, the program "STATA" was used, in which all the data obtained from the completed questionnaire were exported. After analyzing the results collected from the questionnaire, it will be possible to accept or reject the hypotheses.

It should also be mentioned that in this chapter there will be a descriptive analysis of all data and variables of the questionnaire, which will mainly reflect the data collected from the questionnaire with percentages, frequencies of variables with search results and relevant explanations to give a

general overview of the research results, and finally through the program "STATA", the hypotheses raised in this study will be tested.

5.2 Descriptive Data Analysis

Descriptive data analysis describes the relationship between variables in a study and includes summarizing the data that has been collected, presenting the results in a way that communicates the most important findings or characteristics and/or tests the hypotheses.

Further, we will present the descriptive analysis of the data collected from reliable sources about the e-commerce usage and the online presence of SMEs in the EU countries analyzing and comparing indicators in addition analyzing and describing the questionnaire conducted with SME managers/owners in the RNM.

In the digital transition of the economies and societies all around the world the central part belongs to online platforms. They play a very significant role and continue to strengthen every day, especially during the pandemic time which led the SMEs "going digital", through different growth channels provided from various online platforms.



5.2.1 Descriptive Analysis on E-Commerce Adoption Indicators in the EU SMEs

Figure 6. Digital Economy and Society Index (DESI) 2020 ranking. Source: (European Comission, 2020)

Digital transformation is getting more important every single day, as a result of technological advancements and market needs. In the above graph (Figure 6), we can see the Digital Economy and Society Index (DESI), which reports the 2020 ranking for EU-28 countries in 5 principal policy fields such as connectivity, human capital, the use of internet services, integration of digital technology and digital public services. (European Comission, 2020)

Based on the above graph, we can conclude that Finland, Sweden, and Denmark are the leader countries in the EU for digital technology integration and use of internet services. Followed up by countries like Netherlands, Malta, Ireland, and Spain, performing above the EU average measured by DESI score.

It needs to be mentioned that the majority of EU SMEs still lack integrating digital technologies, where only 17.5% have used e-commerce and sold their products online in 2019. However, during the pandemic Covid-19, the internet usage has increased sharply, 85% of the population has used the internet at least once a week.



Figure 7. Adoption of Digital Technologies, EU, 2018 (% of enterprises). Source: (Eurostat, 2019)

There is a significant difference between large enterprises and SMEs in adoption of digital technologies in the EU countries. From the above graph (Figure 7), we can slightly notice this difference, where 78% of large enterprises implement ERP systems in their companies in contrast only 36% of SMEs do so, the same scenario is in CRM implementation with 45% by large enterprises vs. 20% of SMEs, Could Computing 40% vs. 18%, and e-Commerce 39% vs. 18%. We can say that the difference in digital technologies adoption from SMEs is about 50% lower in comparison to large enterprises.



Figure 8. Percentage of firms using e-commerce, by firm size, 2019. Source: (Eurostat, 2020)

Each business has the right to sell online, in any way, let it be through their own websites/apps or through different e-commerce marketplaces. SMEs in the EU countries are more likely to sell

through their own websites/apps than e-commerce marketplaces. Although, large online marketplaces offer low costs for SMEs to integrate, they still resist in sharing sensitive data, by contrast if SMEs decide to create their own websites/apps it could be much more costly for them, as they need to have a trained staff in IT. Interesting part with Germany SMEs not using online marketplaces at all, then Portugal medium-sized enterprises use only online or e-commerce marketplace, or Ireland where ¹/₂ of SMEs have their own websites or apps.



Figure 9. Enterprises having a website, by functionality and size class, EU-27, 2019. Source: (Eurostat, 2019)

Based on the Eurostat report about the "Digital Economy and Society Statistics – Enterprises", in 2019, 77% of the enterprises in EU countries owned a website, with a 74% share from small enterprises and 86% medium-sized enterprises, but the highest share was dominated by large enterprises with 94%.



Enterprises using social media, by type and size class, EU-27, 2019 (% of enterprises)

Figure 10. Enterprises using social media, by type and size class, EU-27, 2019. Source: (Eurostat, 2019)

According to the Eurostat report about the "Digital Economy and Society Statistics -Enterprises", large enterprises in the EU countries scored 77% in using any social media or 30% higher than small enterprises which scored 48% in using any social media in 2019.



Figure 11. Use of internet ads by type and by enterprise size, EU-28, 2018 (% enterprises using internet ads). Source: (Eurostat, 2019)

While using online advertising or internet ads, Contextual advertising has only a 2% difference between large enterprises with 82% of advertisement vs. SMEs with 80% online advertisement. Behavioural targeting was used by 46% of large enterprises in the EU countries, while 31% by SMEs. Geo-targeting ads were used by 44% of large enterprises and 36% SMEs in the EU.



Figure 12. Biggest obstacles for SMEs when operating in the Single Market (% of SMEs citing obstacle). Source: (ISSUU.com, 2019)

The "Eurochambres 2019 Business Survey" shows that 78% of SMEs operating in the Single Market find out complex administrative procedures, 70% have different national service rules and lack access to information on rules, 66% find out different national product rules and different contractual/legal practices, while 62% concern about resolving commercial disputes.

The SMEs sector is growing every day in context of digital transformation, adoption of digital technologies, e-commerce usage, owning websites/apps, social media usage, and online advertising, although it is behind the large enterprises sector, SMEs still face big obstacles when operating in the market.

5.2.2 Descriptive Analysis on E-Commerce Presence in the RNM SMEs

Further, we will develop the descriptive analysis on E-Commerce presence in the RNM SMEs, obtained from the questionnaire data.





Figure 13. *Age of the survey participants*. Source: (Questionnaire on the Online Presence of SMEs in the RNM – prepared by the author of the thesis).

In the first question the participants were asked about their "Age", and it results that 20 managers are under 24 years old or 28.2%, the same percentage is for the managers/owners aged between 25-34 with 28.2%, at the age of 35-44 there were 17 managers/owners, 9 participants or 12.7% were 45-54 years old and 5 participants or 7% are above 55 years old.



Figure 14. Sex of the survey participants. Source: (Questionnaire on the Online Presence of SMEs in the RNM – prepared by the author of the thesis).

In the second question of the survey the participants were asked about gender. Male participants were 48 or 67.6%, while female participants were 23 or 32.4%.



Figure 15. *Education of the survey participants*. Source: (Questionnaire on the Online Presence of SMEs in the RNM – prepared by the author of the thesis).

The next question asked about "Education" where it results that 31 participants have completed the Bachelor or 43.7% of the participants, 15 or 21.1% of the participants have completed their Master, 4 or 5.6% have completed their PhD, while a critical issue is that 21 or 29.6% of the participants are only with high school, which makes almost 1/3 of all the participants in the survey.



70 responses



Figure 16. *Number of employees in the participants companies*. Source: (Questionnaire on the Online Presence of SMEs in the RNM – prepared by the author of the thesis).

In the question of the number of employees engaged in your company, 46 or 65.7% responded less than 10 employees, which means these are micro-sized enterprises. While 13 or 18.6% responded that they have 10 - 49 employees, 8 or 11.4% of them are over 100 employees, and 3 or 4.3% have 50-100 engaged employees in their companies.



Figure 17. *Website possession*. Source: (Questionnaire on the Online Presence of SMEs in the RNM – prepared by the author of the thesis).

When asked if your company has a "Website", the vast majority of participants, i.e., 49 or 70% answered that their company has a website, which shows that SME managers in North Macedonia pay attention to information technology applications. While only 21 or 30% of them responded that they don't have a website for their business.

4. Do you use information systems (software) in your company? 70 responses



Figure 18. *The use information systems (software)*. Source: (Questionnaire on the Online Presence of SMEs in the RNM – prepared by the author of the thesis).

When asking if they use the information systems (software's) in their companies, 53 or 75.7% responded that they use it, while 17 or 24.3% of them said that they don't use any information systems or software's in their companies.



Figure 19. *Mostly used information systems*. Source: (Questionnaire on the Online Presence of SMEs in the RNM – prepared by the author of the thesis).

SME owners/managers in the RNM based on the survey they use information systems or software's about "Accounting", "Selling Products", "Human Resources" or any other systems for various activities that they perform, while 23% do not use any information system.



Figure 20. *For how long SMEs in the RNM use e-commerce*. Source: (Questionnaire on the Online Presence of SMEs in the RNM – prepared by the author of the thesis).

Here we noticed that almost 33% of the SME owners participated in the survey never used ecommerce, while 31.4% use it for more than 5 years, 23% are using e-commerce in 1 - 3 years now, and 13% for less than a year.



55

Figure 21. *SMEs sector in the RNM*. Source: (Questionnaire on the Online Presence of SMEs in the RNM – prepared by the author of the thesis).

The largest sector based on the participants in this survey is the "Commerce" sector, followed up by "Industry" and "Transport / Telecommunication" sector, next is "Health", "Construction", "Financial Activities" and "Real Estate / Travel Agency" sector.

No Yes 60 40 20 0 **Email Communication** Product Promotion on Request for Online **Receiving Online** Acceptance of Online the Website Information from Orders from Customers Payment by Customers Customers

Please rate which of the following e-commerce applications you use:

Figure 22. *Useful e-commerce applications*. Source: (Questionnaire on the Online Presence of SMEs in the RNM – prepared by the author of the thesis).

In the next Section of the survey, we asked which e-commerce applications managers/owners of SMEs in the RNM use. The important part here is that 60 or 85% use Email Communication, 39 participants use Product Promotion on the Website, 36 participants Request for Online Information from Customers, 35 Receive Online Orders from Customers, 32 or 45.7% of the participants does not Accept Online Payments by Customers, which is a lack for their business.

In what applications do you use e-commerce? 70 responses



Figure 23. E-Commerce Business Models used. Source: (Questionnaire on the Online Presence of SMEs in the RNM – prepared by the author of the thesis).

31 or 44.3% participants said that they use B2C business model, while 14 or 20% use both models – B2C and B2B, only 6 or 8.6% of the participants use the B2B model, while 27.1% didn't specify which model they use.



Listed below are some of the benefits of accepting/using e-commerce. Please rate the following alternatives by importance:



We asked participants about some benefits of accepting/using e-commerce, and we provided a 1 - 5 scale possible answers, where they can agree or disagree about those benefits. As we can see from the above graph (Figure 14), participants mostly "Agree" accepting/using e-commerce

because it "Increases Profits", it is "Time-Saving", "Increases Geographical Extent", "Increases Information in Products/Services", "Increases the Effectiveness of Communication with Customers", and also "Increases the Opportunity to Compete with other SMEs". Although participants "mostly" agree, they still resist in accepting that e-commerce "Reduces Costs", where we have 23 participants remaining "Neutral" in this question, the same scenario is also with the indicator pointing out that e-commerce "Assists in Financial Transactions", where 28 participants remain "Neutral" about it, 28 participants remained Neutral about "Affecting Efficiency of Business Operations", and also it should be mentioned that there are still participants who "Disagree" or "Strongly Disagree" such as about "Time-Saving", "Increasing Geographical Extent" and "Easiness in Managing the Business".



Please evaluate the factors that have influenced the use of e-commerce:

Figure 25. *Factors that influence e-commerce usage*. Source: (Questionnaire on the Online Presence of SMEs in the RNM – prepared by the author of the thesis).

As we have achieved to gather participants from different sectors, in this scenario we have "mixed results" about each factor that influences the use of e-commerce by SME owners. 26 participants Agreed and 17 Strongly Agreed that their "Employees in the Company have Knowledge on IT", but there are 18 participants who remain "Neutral", and 9 participants "Disagree" or "Strongly Disagree" with this. Asked if the use of e-commerce "Fits the Business Values and Culture", 3 participants "Disagree" that the "Maintenance of Technological

Network is at a Reasonable Cost", 28 remain "Neutral", and 24 "Agree" with it. The next factor seems to be the less powerful as it indicates if the "Government Provides Training on Information on the Benefits of E-Commerce for Companies and the Economy", and most of the participants "Agree" or "Strongly Agree" that "E-Commerce Implementation is Important in Maintaining a Competitive Advantage".

5.2.3 Descriptive Analysis on E-Commerce Use in the RNM – Interview Q&A

In this study we are using the mixed research method, with which we aim to integrate and analyze quantitative (survey, statistical data analysis) and qualitative (interview) research. After we conducted the survey, we tried to reach SME owners in the RNM and interview them face-to-face in order to provide a more complete understanding of the research problem. The number of participants in this interview process were 10, out of 72 respondents from the survey. The following questions were asked:

- 1. Are you aware of e-commerce adoption, if yes do you support it?
- 2. What are some important benefits that you think e-commerce brings to a traditional business?
- 3. What are some barriers of e-commerce adoption?
- 4. Do your employees have the knowledge of using and understanding e-commerce?
- 5. Do you agree that e-commerce adoption, digital and social media marketing will bring the business a larger number of customers?

The interviewed participants were SME owners in the RNM, located in cities such as Skopje, Tetovo, Debar and Struga, and the sectors where they are operating are construction, travel agency, commerce, and IT services.

According to their open-ended information, in regard to the first question 50% of the participants definitely support e-commerce adoption in their businesses, 30% of the participants partially support it, while 20% of the participants do not support it due to their business activities and knowledge advancement in IT infrastructure. The second question asks interviewees about the benefits that e-commerce brings to a traditional business, where 40% say that it helps in attracting new customers and provide adequate information for their customers, 30% think that it
will benefit in competing with other SMEs, while others think that it increases brand awareness, increase sales, and reduces costs. The third question points out the barriers of e-commerce adoption, where most of the interviewees mention that there is a lack in IT infrastructure, but also their workforce does not have the level of using IT applications, others say that people in the RNM still doesn't have the culture for online ordering and online payments, the rest think that it is costly and puts their businesses in financial risk. In accordance with the fourth question, 40% of interviewees agree that their employees are aware of e-commerce and have the ability to understand and use it in their business activities, 20% said that the employees has information about e-commerce, but they don't use it in their businesses, 10% said they still don't trust technology, while 30% don't use it for specific purposes. The fifth question asks if e-commerce adoption, digital and social media marketing will bring the business a larger number of customers, where 80% of the participants agree with it, while 20% remain neutral because they think if the business and its employees doesn't know how to properly promote their products or services, it would be worthless.

5.2.4 Comparative Analysis of the Results from Questionnaire, Interview, and Electronic Data

SMEs DATA in RNM vs. EU							
% of SMEs that Have a Website in the RNM	70%						
% of SMEs that Have a Website in the EU	74% (small) & 88% (medium-sized)						
% of E-Commerce Usage by SMEs in the RNM	67.1%						
% of E-Commerce Usage by SMEs in the EU	83%						

 Table 8. Comparative Analysis on SMEs E-Commerce and Website Usage in RNM vs. EU.

 Source: Adjusted from the author of the thesis based on the results from Questionnaire,

 Interview, and Electronic Data

The above table compares the SMEs that own a Website in the RNM vs. SMEs that own a Website in the EU, shown by percentage. Also, it compares by percentage the E-Commerce Usage by SMEs in the RNM vs. SMEs in the EU. We can conclude that the percentage of the RNM SMEs having a website is pretty close to the percentage of the EU SMEs having a website.

While the e-commerce usage percentage in the RNM is a little lower than e-commerce usage percentage in the EU, realizing that for a developing country like North Macedonia, the trends of digital transformation are growing every day. With this being said, the comparative analysis that we prepared based on the results from the questionnaire, interview, and electronic data, lead us to realize that the 2nd hypothesis of the thesis is proved.

5.3 Linear Regression Analysis

This part of the study will follow the process of using statistical methods to analyze our data. Initially, the data need to be evaluated to see if they can meet the relevant statistical requirements. Consequently, the data analysis process goes through three main steps:

- Preparing data to test
- Analysis of data normality and reliability
- Testing hypotheses through the linear regression model.

Finally, through the linear regression method, an econometric equation has been constructed, which will express the impact of each identified variable on the performance of the dependent variable, which is the use of e-commerce – increases profits. The relevant results of the econometric equation will help in evaluating or accepting the relevant hypotheses.

The questionnaires were taken from Google Docs in Excel format and were automatically imported by the program. Subsequently, the process continued with checking the imported data, aiming to avoid errors in data entry, or to avoid questionnaires that had incomplete questions. At the end of the process there are 72 completed questionnaires in total.

Meanwhile, the way of encoding each question in the target variable is presented in the respective table in the appendix of the thesis. This coding has helped to statistically construct the variables and then test them.

Further will be discussed whether the data meet the statistical conditions evaluated by the literature, which constitutes the second phase of data analysis.

Assessing the validity and reliability of a questionnaire is important as it helps reduce potential errors, both in obtaining data but also in statistical analysis. (Mark Saunders, 2009) The relevant test that enables the assessment of the reliability of the questionnaire is the Cronbach alpha test.

The Cronbach's Alpha correlation measures the reliability and internal consistency of the questionnaire by making comparisons by combining each of the variables of the questionnaire with all the other variables of the scale as a group. Most of the acceptable researchers consider the internal stability when the reliability of the dependent variables exceeds the limit of 0.70, while there are also studies that consider the coefficient acceptable level above 0.60 and high when it is 0.88 (Michael, 1997).

Total scale = mean(unstandardized items)							
Average interitem covariance	.2521132						
Number of items in the scale	7						
Scale reliability coefficient	0.7706						

Table 9. Cronbach's Alpha – Testing Questionnaire Reliability.Source: Data analyzed inSTATA by the author of the thesis.

So, after entering the data in STATA and analyzing the questionnaire, the Cronbach's Alpha of the questionnaire used in this search is 0.77. Based on the literature discussed above, this coefficient in all cases is considered high, which means that the reliability of the questionnaire is at a high level.

Number of strata = 1 Number of PSUs = 70			Number of Number of	strata = PSUs =	= 1 = 70		Number of obs Population size Design df	= 70 = 70 = 69	
Does your company Education have a website? : No Yes Total		Education	Do inform (softw No	you us mation s ware) in company? Yes	se systems your Total				
Bachelor Doctor High Sch Master	.1 .0143 .1429 .0429	.3286 .0429 .1571 .1714	.4286 .0571 .3 .2143	Bachelor Doctor High Sch Master	.0571 0 .1571 .0286	.3714 .0571 .1429 .1857	.4286 .0571 .3 .2143		
Total	.3	.7	1	Total	.2429	.7571	1		

Table 10. Education Crossed by Two Other Variables – Website & Information Systems Usage.Source: Data analyzed in STATA by the author of the thesis.

From the above table we can conclude that participants that have finished their Bachelor studies are the top users of Information Systems with 37% and own Websites or Apps with 33% for their businesses.

Number of s Number of F	strata = PSUs =	: 1 : 70		Number of Number of	f <mark>strata</mark> f PSUs	= 1 = 70	Number Popula Design	of obs tion size df	=	70 70 69
	Do inform (softw	you us mation s mare) in	e ystems your		Does	s your c	company			
Age:	No	Yes	Total	Age	: No	o Yes	Total			
25 - 34 35 - 44 45 - 54 Under 24 above 55	.0286 .0714 .0571 .0714 .0143	.2571 .1714 .0714 .2 .0571	.2857 .2429 .1286 .2714 .0714	25 - 34 35 - 44 45 - 54 Under 24 above 55	4 .014 4 .085 4 .0714 4 .114 5 .014	3 .2714 7 .1571 4 .0571 3 .1571 3 .0571	.2857 .2429 .1286 .2714 .0714			
Total	.2429	.7571	1	Total		3.7	1			

Table 11. Age Crossed by Two Other Variables – Website & Information Systems Usage. Source:Data analyzed in STATA by the author of the thesis.

Here we can notice that the younger generations 25-34 do use Websites/Apps and Information Systems in their businesses much more than the older generations.

Number	of	strata	=	1
Number	of	PSUs	=	2

```
Number of obs = 71
Population size = 71
Design df = 1
```

		3.	Education:		
2. Sex	Bachelor	Doctor	High Sch	Master	Total
Female	.1127	0	.0986	.1127	.3239
Male	.3239	.0563	.1972	.0986	.6761
Total	.4366	.0563	.2958	.2113	1

Table 12. Two-Way Table Between Sex and Education. Source: Data analyzed in STATA by the author of the thesis.

The level of education in the RNM SMEs owners based on our survey is 2/3 in comparison to females 1/3, or 67% males and 33% of females have finished a specific level of education. This makes us to understand that females still lack behind males in owning a business.

Survey	: Pr	roportio	on	estimation			
Number	of	strata	=	1	Number of obs	=	69
Number	of	PSUs	=	69	Population size	=	69
					Design df	=	68
2.1							

			Linearized	Log	it	
		Proportion	std. err.	[95% conf.	interval]	
	IncreasesProfits1			10100300308	00072312	
1.	Strongly Disagree	.0144928	.0144928	.0019377	.100228	
	2. Disagree	.0144928	.0144928	.0019377	.100228	
	3. Neutral	.2608696	.0532498	.1690271	.3798066	
3. Neutral,	5. Strongly Agree	.0144928	.0144928	.0019377	.100228	
	4. Agree	.3623188	.0582898	.2556411	.4845352	
	5. Strongly Agree	.3333333	.0571662	.2303249	.4551665	

Table 13. Proportion Estimation on the Impact of e-Commerce Increasing Profits. Source: Dataanalyzed in STATA by the author of the thesis.

The above estimation shows us that 33.33% of the participants in our survey Strongly Agree with the benefits that e-commerce brings to their businesses, in our case increasing their profits. Then, 36% Agree, 26% remain neutral in answering this question, while only 2% disagree with it.

Survey: Mean estimation

Number of strata = Number of PSUs =	1 69		Number of o Population Design df	obs = 69 size = 69 = 68
	Mean	Linearized std. err.	[95% conf.	interval]
IncreasesProfits1	4.695652	.1562895	4.383781	5.007523

Table 14. Mean Estimation on the Impact of e-Commerce Increasing Profits. Source: Dataanalyzed in STATA by the author of the thesis.

While the mean estimation in the above graph shows us that 47 participants in total agree that ecommerce adoption brings benefits and increases profits for their businesses.

Source	SS	df	MS	Numbe	r of obs	=	69
Model	9.39130435	1	9.3913043	- F(1, 5 Prob	67) > F	=	5.98 0.0171
Residual	105.217391	67	1.5704088	B R-squ	ared	=	0.0819
	A and and a second		and the second	- Adj R	-squared	=	0.0682
Total	114.608696	68	1.6854219	9 Root	MSE	=	1.2532
IncreasesP~1	Coefficient	Std. err.	t	P> t	[95% co	onf.	interval]
Whendidyousta	.7826087	.3200281	2.45	0.017	.1438	3	1.421387
_cons	3.391304	.5543049	6.12	0.000	2.28490	7	4.497702

. reg IncreasesProfits1 Whendidyoustartusingecomme1

Table 15. Linear Regression Analysis to Test that e-Commerce Adoption Increases the BusinessProfits. Source: Data analyzed in STATA by the author of the thesis.

The result of the linear regression test is presented in the table above. The variables identified are e-commerce adoption in years and profit increase. It can be noticed that the sign of the impact of the variables is positive, influencing the increase of the level of e-commerce use by the respective businesses. The corresponding results or coefficients are set in the presented econometric model.

There is a positive correlation between the two variables analyzed in the above table, meaning that e-commerce use increases the profits by 78% (as the value of the independent variable increases, the mean of the dependent variable also tends to increase).

5.4 Verification of Hypotheses

In the descriptive analysis of this study, we looked at the data of the questionnaire, but that analysis was only the first step of the whole analysis of the study. Through descriptive analysis, some general but important statistics were extracted regarding the number of owners/managers involved in the study, the length of their business functionality and operation, education, etc. While the most important was the information on the data for the acceptance and use of e-commerce by SMEs in North Macedonia.

Hypothesis verification will be accomplished by commenting on the respective results of the linear regression model. Respectively, a hypothesis will be accepted if the corresponding variable satisfies the condition that the value of the coefficient $\boldsymbol{\rho}$ is less than the criterion of $\boldsymbol{\rho}$ value = 0.05, for the 95% confidence interval ($\boldsymbol{\rho}$ of the variable < $\boldsymbol{\rho}$ value (0.05)). The corresponding results can be identified in Table 14, which presents the results of the linear regression analysis ($\boldsymbol{\rho}$ 0.017 < $\boldsymbol{\rho}$ 0.05).

In the linear regression analysis, we first measured the reliability of the questionnaire by calculating the Cronbach's Alpha coefficient, crossed the questionnaire variables where we extracted the statistics and tested the hypotheses. Thus, the statistical results of the paper are in the same direction as the results in the literature. Statistical results estimate that e-commerce acceptance increases the profitability of SMEs. From the results obtained from the above tables we confirm that:

- 1st Hypothesis: There is a significant evidence that online presence helps SME-s to increase their profits. H1 Accepted
- 2nd Hypothesis: There is a significant evidence that digital marketing and online presence provide opportunities for EU SME-s to attract new customers and reach existing customers more efficiently, then we expect it will do so in the RNM. H2 Accepted
- 3rd Hypothesis: There is a significant evidence that online presence helps SME-s to increase brand awareness. H3 Accepted

CONCLUSIONS

The overall purpose of this study was to analyze the online presence of SMEs in the country by making a comparison of several indicators in EU countries. We have presented the theoretical basis on which the detailed literature review was made. Also, for the realization of the study a questionnaire was built, and an interview was conducted which served us as an instrument for the collection of primary data. The data collected through the questionnaire were intended to answer the study questions and test the hypotheses raised on the basis of research questions. Both the literature reviewed, and the empirical findings provided valuable results regarding the acceptance of e-commerce and its use by SMEs.

Accordingly, to the outcomes from the questionnaire and interview, and to the findings from electronic sources, we managed to validate and at the same time compare the use of e-commerce and the possession of websites of SMEs in North Macedonia and European Union. From this comparison it was noticed that the online presence of SMEs in both the RNM and the EU is quite visible and approximate, experiencing an everyday rapid increase.

While testing the questionnaire, we used the Cronbach's Alpha analysis where the coefficient of 0.77 confirms the reliability of the questionnaire used. Then we made a descriptive analysis of this study where general statistics were derived and the 2^{nd} hypothesis was confirmed, after that we continued with the analysis of linear regression and intersection of variables where the hypotheses raised for this study were confirmed.

Meanwhile, from the analysis identified in this study, it is identified that the highest percentage of businesses in North Macedonia are individual businesses or micro-sized enterprises (employing 0 - 9 individuals). This is an important aspect, appreciating the importance of this sector in the economy. Whereas, regarding the gender of the individual business leader, it is noticed that in about 70% of them are identified male leaders.

Questionnaire identified the need for the business to show more interest in customer requirements. They need to present and receive more information about customer behavior, in order to identify emerging needs and orient the business towards meeting them. Businesses need to advertise more relevant products by identifying an appropriate marketing strategy, which will be different for different categories of customers.

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ANNEX I: Master Thesis Questionnaire

Online Presence of SMEs in the RNM – a Comparative Study with European Union Countries

Dear participant,

My name is Egzona Fida Kaja, second year Master student in Business Administration (MBA) at the South East European University. The purpose of this study is to analyze the online presence, and the e-commerce adoption/use of SMEs in the country. With the help of this questionnaire, we will obtain general data to carry out statistical analysis of the master thesis.

E-Commerce is a term used mainly in the field of sales, which offers the possibility of conducting several commerce processes through the Internet. E-Commerce is a development of the traditional commerce which enables customers to stay informed and place orders through the access of the company's website.

Your participation is voluntary, and you have the right to ask questions or withdraw at any time without giving reasons and your rights will not be violated. We remind you that your information will be used for study purposes only and your data will be confidential. The questionnaire takes about 10 minutes to complete.

Some orientation definitions:

SMEs - Small and Medium-sized Enterprises

E-Commerce – Electronic Commerce

Please do not enter your name in this survey.

Please read all questions carefully and write down only one answer.

Thank you for your participation and cooperation!

Biographical Data

1. Age:

a) Under 24

- b) 25 34
- c) 35 44
- d) 45 54

e) above 55

2. Sex

a) Female

b) Male

3. Education:

a) High School

b) Bachelor

c) Master

d) Doctor

Section A: Demographic data for the employees in the company

1. Number of employees engaged in your company:

- a) 0-9
- b) 10-49
- c) 50-100
- d) Over 100

2. How many years your company is operating in the market? _____

3. Does your company have a website?

- a) Yes
- b) No

4. Do you use information systems (software) in your company?

a) Yes

b) No

5. Which of the following information systems do you use in your company? (Select all the systems you use)

- a) Accounting systems (such as SAP, Helix, etc.)
- b) Systems for selling products
- c) Systems for human resources (HR)
- d) Other systems
- e) Do not use any

6. When did you start using e-commerce in your company?

- a) Less than 1 year
- b) 1-3 years
- c) More than 5 years
- d) Never used

7. In which sector does your company operate?

- a) Industry
- b) Construction
- c) Commerce

- d) Transport / Telecommunications
- e) Financial Activities
- f) Real Estate / Travel Agency
- g) Health
- h) Other

Section B: Recognition and use of e-commerce

Please rate which of the e-commerce applications you use:

E-Commerce	Yes	No
Email Communication		
Product Promotion on the Website		
Request for Online Information from Customers		
Receiving Online Orders from Customers		
Acceptance of Online Payment by Customers		

In what applications do you use e-commerce?

- a) Business-to-Business (B2B)
- b) Business-to-Consumer (B2C)
- c) B2B and B2C
- d) Business-to-Government (B2G)
- e) None of the above

Section C: Benefits of using e-commerce

	Strongly Disagree	1	Disagree	2	Neutral	3	Agree	4	Strongly Agree	5
Increases Profits										
Time-Saving										
Reduces Costs										
Assists in Financial Transactions										
Increases Geographical Extent										
Increases Information in Products/Services										
Easier to Manage the Business										
Affects the Efficiency of Business Operations										
Increases the Effectiveness of Communication										
with Customers										
Increases the Opportunity to Compete with										
other SMEs										

Listed below are some of the benefits of accepting/using e-commerce. Please rate the following alternatives by importance:

Section D: Evaluating the factors that have influenced the use of e-commerce

Please evaluate the factors that have influenced the use of e-commerce:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
Employees in the Company have Knowledge on					

Information Technology (IT)			
The Use of E-commerce Fits with the Values			
and			
Business Culture			
The Maintenance of the Technological Network			
is at a Reasonable Cost			
The Government Provides Training on			
Information on the Benefits of E-commerce for			
Companies and the Economy			
E-Commerce implementation is important in			
maintaining a competitive advantage			

Thank you for your time!

ANNEX II: Interview Questions

Online Presence of SMEs in the RNM

- 1. Are you aware of e-commerce adoption, if yes do you support it?
- 2. What are some important benefits that you think e-commerce brings to a traditional business?
- 3. What are some barriers of e-commerce adoption?
- 4. Do your employees have the knowledge of using and understanding e-commerce?

5. Do you agree that e-commerce adoption, digital and social media marketing will bring the business a larger number of customers?

Answers:

1.1 Yes, I am aware of it, I do support it.

1.2 Yes, I am aware, it is about selling and promoting products online, I do support it.

1.3 I heard about it, every day the technology is getting advanced more and more, I wish to support it but the sector we are currently operating doesn't fit very good with e-commerce.

1.4 I know what it is, and I do support it, all the businesses should do though, the digital transformation helps small businesses to grow rapidly.

1.5 I know about selling online, I think it is good if you have people who understand IT in the company.

1.6 Our company is currently using e-commerce, we definitely support it.

1.7 I only know about promoting product on social media, but we don't have a website and we don't use e-commerce in our business for now.

1.8 We know about it, but I cannot fully support it, we lack in many things and this way our businesses stay far away from technology advancements.

1.9 We are promoting our products in social media for more than 3 years now, it has helped us a lot, we do support it.

1.10 Every day we hear about new technological developments, we support some of them, the ones we can achieve to manage.

2.1 It helps getting new customers.

2.2 It allows us to promote our products online.

2.3 We can gain new customers, and this way increase our profits.

2.4 We can sell domestically but also international.

2.5 It helps in reducing our costs.

2.5 Brand-awareness.

2.6 We can stay in contact with our customers.

2.7 We can match prices with our competitors.

2.8 It helps us in competing with other SMEs in the sector.

2.9 It makes possible higher sales than traditional way.

2.10 We can place information on each product we sell, so the customers can have the information they want to know about a specific product.

3.1 It needs more workforce, employees that can deal with online ordering.

3.2 It needs knowledge about technology.

3.3. It is costly for a small business.

3.4 Maintaining IT infrastructure in the company is an expense that we cannot cover, because of the low standard.

3.5 We don't know how to use it, this way we have to hire new employees, which will be an additional cost.

3.6 People in the RNM don't trust small businesses to place online orders and payments.

3.7 People cannot touch the product and decide.

3.8 There are individuals who place cash orders and don't pick them up when delivered to them.

3.9 There are barriers such as financial risk.

3.10 There is an absence of IT structure.

4.1 The employees already know what e-commerce is, but they do not have the level of using it.

4.2 Yes, they do understand it and they use it in our business.

4.3 They lack in using it.

4.4 We don't use it, because the employees need to be trained for it.

4.5 We are e micro business, me, as owner I don't use it.

4.6 My employees understand and know how to use e-commerce, although we still resist in adopting it.

4.7 Employees are on an average level of using e-commerce, they still lack online customer service.

4.8 We use e-commerce, basically selling through social media, my employee takes care of this process.

4.9 We are still intimidated of using and adopting e-commerce, so the employees do not use it.

4.10 Our employees try to give their best in accordance with using and understanding e-commerce.

5.1 Being present in different online platform of course helps the business reach a broader range of customers.

5.2 In our company we sell through social media, it has helped us a lot in reaching new customers.

5.3 Our company is selling construction products, although it can help us reach more customers, we still don't use it.

5.4 Of course it supports every business in attracting new customers, for example, selling through social media at no cost + reaching new customers is very profitable for the business.

5.5 I do agree that e-commerce adoption and digital transformation helps the business in getting new customers, but you need to have the right people to handle the IT part in the company.

5.6 Absolutely agree, it is a true fact for our business.

5.7 I think so, we never used it, so I cannot give a concrete answer.

5.8 If you don't know how to use it, I don't think it will help in attracting new customers, you need to know how to promote your products properly otherwise worthless.

5.9 If you are on the right business and the right time, e-commerce helps a lot in reaching new customers.

5.10 I think we can reach customers through social media much more than if the business owns a website which is available for placing online orders.

ANNEX III: Regression Analysis - STATA

Total scale = mean(unstandardized items)							
Average interitem covariance	.2521132						
Number of items in the scale	7						
Scale reliability coefficient	0.7706						

Table 9. Cronbach's Alpha – Testing Questionnaire Reliability. Source: Data analyzed inSTATA by the author of the thesis.

Number of Number of	strata = PSUs =	= 1 = 70		Number of strata = 1 Number of PSUs = 70		Number of obs Population size Design df		70 70 69		
Does your company Education have a website? : No Yes Total		Education :	Do you use information systems (software) in your on company? No Yes Total		;e systems n your) Total					
Bachelor Doctor High Sch Master	.1 .0143 .1429 .0429	.3286 .0429 .1571 .1714	.4286 .0571 .3 .2143	Bachelor Doctor High Sch Master	.0571 0 .1571 .0286	.3714 .0571 .1429 .1857	.4286 .0571 .3 .2143			
Total	.3	.7	1	Total	.2429	.7571	1			

Table 10. Education Crossed by Two Other Variables – Website & Information Systems Usage.

Source: Data analyzed in STATA by the author of the thesis.

Number of S Number of S	strata = PSUs =	1 70		Number of Number of	strata PSUs	= 1 = 70	Number Popula Design	of obs tion size df	= = =	70 70 69
	Do inform (softw	you us ation s are) in	e ystems your		Does	your c	ompany			
Age:	No	Yes	Total	Age:	No	Yes	Total			
25 - 34	.0286	.2571	.2857	25 - 34	.0143	.2714	.2857			
35 - 44	.0714	.1714	.2429	35 - 44	.0857	.1571	.2429			
45 - 54	.0571	.0714	.1286	45 - 54	.0714	.0571	.1286			
Under 24	.0714	.2	.2714	Under 24	.1143	.1571	.2714			
above 55	.0143	.0571	.0714	above 55	.0143	.0571	.0714			
Total	.2429	.7571	1	Total		.7	1			

Table 11. Age Crossed by Two Other Variables – Website & Information Systems Usage. Source:Data analyzed in STATA by the author of the thesis.

Number	of	strata	=	1
Number	of	PSUs	=	2

Number of obs = 71 Population size = 71 Design df = 1

		3.	Education:		
2. Sex	Bachelor	Doctor	High Sch	Master	Total
Female	.1127	0	.0986	.1127	.3239
Male	.3239	.0563	.1972	.0986	.6761
Total	.4366	.0563	.2958	.2113	1

Table 12. Two-Way Table Between Sex and Education.Source: Data analyzed in STATA by theauthor of the thesis.

Survey: Proportion estimation

Number of strata = 1 Number of PSUs = 69

Number of obs	=	69
Population size	=	69
Design df	=	68

		Linearized	Logit		
	Proportion	std. err.	[95% conf.	interval]	
IncreasesProfits1		·	101003600316	000000000	
1. Strongly Disagree	.0144928	.0144928	.0019377	.100228	
2. Disagree	.0144928	.0144928	.0019377	.100228	
3. Neutral	.2608696	.0532498	.1690271	.3798066	
3. Neutral, 5. Strongly Agree	.0144928	.0144928	.0019377	.100228	
4. Agree	.3623188	.0582898	.2556411	.4845352	
5. Strongly Agree	.3333333	.0571662	.2303249	.4551665	

Table 13. Proportion Estimation on the Impact of e-Commerce Increasing Profits. Source: Dataanalyzed in STATA by the author of the thesis.

Survey: Mean estimat	tion			
Number of strata = Number of PSUs = (1 59		Number of Population Design df	obs = 69 size = 69 = 68
	Mean	Linearized std. err.	[95% conf.	interval]
IncreasesProfits1	4.695652	.1562895	4.383781	5.007523

Table 14. Mean Estimation on the Impact of e-Commerce Increasing Profits. Source: Dataanalyzed in STATA by the author of the thesis.

Source	SS	df	MS	Numbe	r of obs	; =	69
Model	9.39130435	1	9.3913043	F(1, Prob	67) > F	=	5.98 0.0171
Total	114.608696	68	1.6854219	- Adj R 9 Root	R-squared Adj R-squared Root MSE		0.0682
IncreasesP~1	Coefficient	Std. err.	t	P> t	[95% c	onf.	interval]
Whendidyousta _cons	.7826087 3.391304	.3200281	2.45 6.12	0.017 0.000	.143	83 007	1.421387 4.497702

. reg IncreasesProfits1 Whendidyoustartusingecomme1

Table 15. Linear Regression Analysis to Test that e-Commerce Adoption Increases the BusinessProfits. Source: Data analyzed in STATA by the author of the thesis.