



**UNIVERSITY OF NOVI SAD
TECHNICAL FACULTY
"MIHAJLO PUPIN"
ZRENJANIN**



ITROCONFERENCE¹⁴
INFORMATION TECHNOLOGY AND EDUCATION DEVELOPMENT



ITROCONFERENCE¹⁴
INFORMATION TECHNOLOGY AND EDUCATION DEVELOPMENT



PROCEEDINGS

ZRENJANIN, November 2023

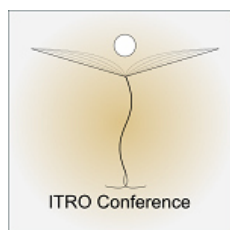


UNIVERSITY OF NOVI SAD
TECHNICAL FACULTY "MIHAJLO PUPIN"
ZRENJANIN
REPUBLIC OF SERBIA



XIV INTERNATIONAL CONFERENCE OF
**INFORMATION TECHNOLOGY AND
DEVELOPMENT OF EDUCATION**
ITRO 2023

PROCEEDINGS OF PAPERS



XIV MEĐUNARODNA KONFERENCIJA
**INFORMACIONE TEHNOLOGIJE I
RAZVOJ OBRAZOVANJA**
ITRO 2023

ZBORNIK RADOVA

ZRENJANIN, NOVEMBER 2023

Publisher and Organiser of the Conference:

**University of Novi Sad, Technical faculty „Mihajlo Pupin“, Zrenjanin,
Republic of Serbia**

For publisher:

**Milan Nikolić, Ph. D, Professor,
Dean of the Technical faculty „Mihajlo Pupin“, Zrenjanin, Republic of Serbia**

Editor in Cheaf - President of OC ITRO 2023:

Vesna Makitan, Ph. D, Assistant Professor

Proceedings editor:

Marjana Pardanjac, Ph. D, Associate Professor

Technical support:

Snežana Jokić, Ph. D, Assistant Professor

Maja Gaborov MSc, Assistant

Nemanja Tasić MSc, Assistant

Circulation: **50**

ISBN: 978-86-7672-372-0

CIP - Каталогизacija u publikaciji
Biblioteke Maticе српске, Нови Сад

37.01:004(082)(0.034.4)

37.02(082)

**INTERNATIONAL Conference on Information Technology and Development of
Education ITRO (14 ; 2023 ; Zrenjanin)**

Proceedings of papers [Elektronski izvor] / XIV International Conference on Information
Technology and Development of Education ITRO 2023 = Zbornik radova / XIV međunarodna
konferencija Informacione tehnologije i razvoj obrazovanja ITRO 2023, Zrenjanin, November
2023. - Zrenjanin : Technical Faculty "Mihajlo Pupin", 2023. - 1 elektronski optički disk (CD-
ROM) : tekst, ilustr. ; 12 cm

Sistemski zahtevi: Nisu navedeni. - Nasl. sa naslovnog ekrana. - Elektronska publikacija u
formatu pdf opsega XI, 277 str. - Tiraž 50. - Bibliografija uz svaki rad.

ISBN 978-86-7672-372-0

a) Информациона технологија -- Образовање -- Зборници b) Образовна технологија --
Зборници

COBISS.SR-ID 143397129

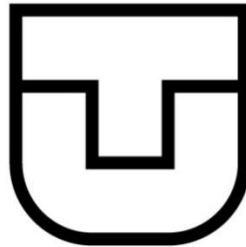
PARTNERS INTERNATIONAL CONFERENCE

**South-West University „Neofit Rilski”
Faculty of Education, Blagoevgrad,
Republic of Bulgaria**

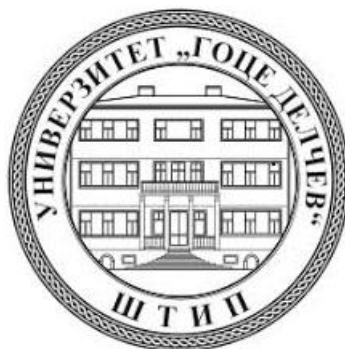


**SOUTH WEST UNIVERSITY
“NEOFIT RILSKI”**

**Technical University of Košice
Faculty of Electrical Engineering and Informatics
Slovak Republic**



**University Goce Delcev Stip
Republic of Macedonia**



THE SCIENCE COMMITTEE:

Milan Nikolić, Ph.D, Professor, Technical Faculty “Mihajlo Pupin” Zrenjanin, Serbia
Sashko Plachkov, Ph.D, Professor, South-West University "Neofit Rilski"/Department of Education, Blagoevgrad, Republic of Bulgaria
Nina Bijedić, Ph.D, Professor, Applied mathematics, Faculty of Informatics Bosnia and Herzegovina
Mirjana Kocaleva, Ph.D, Professor, Faculty of Informatics, University "Goce Delčev", Štip, North Macedonia
Gordana Jotanović, Ph.D, Professor, Univerzitet u Istočnom Sarajevu, Saobraćajni fakultet, Doboj, Bosnia and Herzegovina
Dušan Starčević, Ph.D, Professor, Faculty of Organizational Sciences, Belgrade, Serbia
Mirjana Segedinac, Ph.D, Professor, Faculty of Science, Novi Sad, Serbia
Dragica Radosav, Ph.D, Professor, Technical Faculty "Mihajlo Pupin" Zrenjanin, Serbia
Ivana Berković, Ph.D, Professor, Technical Faculty “Mihajlo Pupin” Zrenjanin, Serbia
Dragana Glušac, Ph.D, Professor, Technical Faculty “Mihajlo Pupin” Zrenjanin, Serbia
Marjana Pardanjac, Ph.D, Assoc. Prof., Technical Faculty “Mihajlo Pupin” Zrenjanin, Serbia
Vladimir Brtko, Ph.D, Professor, Technical Faculty “Mihajlo Pupin” Zrenjanin, Serbia
Željko Stojanov, Ph.D, Professor, Technical Faculty “Mihajlo Pupin” Zrenjanin, Serbia
Dalibor Dobrilović, Ph.D, Professor, Technical Faculty “Mihajlo Pupin” Zrenjanin, Serbia
Zoltan Kazi, Ph.D, Assoc. Prof., Technical Faculty “Mihajlo Pupin” Zrenjanin, Serbia
Ljubica Kazi, Ph.D, Assoc. Prof., Technical Faculty “Mihajlo Pupin” Zrenjanin, Serbia
Đurđa Grijak, Ph.D, Professor, Technical Faculty “Mihajlo Pupin” Zrenjanin, Serbia
Snežana Jokić, Ph.D, Asst. Prof., Technical Faculty “Mihajlo Pupin” Zrenjanin, Serbia
Vesna Makitan, Ph.D, Asst. Prof., Technical Faculty “Mihajlo Pupin” Zrenjanin, Serbia
Snežana Babić Kekez, Ph.D, Professor, Faculty of Sciences, Novi Sad, Serbia
Marina Čičin Šain, Ph.D, Professor, University of Rijeka, Croatia
Marta Takacs, Ph.D, Professor, Obuda University, John von Neumann Faculty of Informatics, Budapest, Hungary
Milka Oljača, Ph.D, Professor, Faculty of Philosophy, Novi Sad
Gordana Štasni, Ph.D, Professor, Faculty of Philosophy, Novi Sad
Jelena Stojanov, Ph.D, Assoc. Prof., Technical Faculty “Mihajlo Pupin” Zrenjanin, Serbia
Anja Žnidaršič, Ph.D, Professor, Faculty of Organizational Sciences, Kranj, University of Maribor
Janja Jerebic, Ph.D, Asst. Prof., Faculty of Organizational Sciences, Kranj, University of Maribor
Tatjana Grbić, Ph.D, Professor, Faculty of Technical Sciences Novi Sad
Slavica Medić, Ph.D, Asst. Prof., Faculty of Technical Sciences Novi Sad
Bojana Perić Prkosovački, Ph.D, Asst. Prof., Technical Faculty "Mihajlo Pupin", Zrenjanin

THE ORGANIZING COMMITTEE:

Vesna Makitan, Ph.D, Assistant Professor, Technical Faculty “M. Pupin” Zrenjanin, Serbia -
Chairman of the Conference ITRO 2023

Dragica Radosav, Ph.D, Professor, Technical Faculty “M. Pupin” Zrenjanin, Serbia

Dragana Glušac, Ph.D, Professor, Technical Faculty “M. Pupin” Zrenjanin, R. of Serbia

Jelena Stojanov, Ph.D, Associate Professor, Technical Faculty “M. Pupin” Zrenjanin, Serbia

Marjana Pardanjac, Ph.D, Associate Professor, Technical Faculty “M. Pupin” Zrenjanin, Serbia

Snežana Jokić, Ph.D, Assistant Professor, Technical Faculty “M. Pupin” Zrenjanin, Serbia

Nemanja Tasić, M.Sc, Assistant, Technical Faculty “M. Pupin” Zrenjanin, Serbia

Maja Gaborov, M.Sc, Assistant, Technical Faculty “M. Pupin” Zrenjanin, Serbia

All rights reserved. No part of this Proceeding may be reproduced in any form without written permission from the publisher.

The editor and the publisher are not responsible either for the statements made or for the opinion expressed in this publication.

The author warrants that the article is original, written by stated author/s, has not been published before, contains no unlawful statements, does not infringe the rights of others, is subject to copyright that is vested exclusively in the author and free of any third party rights, and that any necessary written permissions to quote from other sources have been obtained by the author/s.

Authors retain the following rights:

- *copyright, and other proprietary rights relating to the article, such as patent rights,*
- *the right to use the substance of the article in future works, including lectures and books,*
- *the right to reproduce the article for own purposes, provided the copies are not offered for sale,*
- *the right to self-archive the article.*

The Proceedings have been published in a digital format on the Faculty web site.

INTRODUCTION

International Conference on Information Technology and Education Development (ITRO) 2023, was held at the Technical Faculty "Mihajlo Pupin" for the fourteenth time. This year we have gathered our dear colleagues, scientists, researchers and students from several countries (Slovak Republic, Hungary, Macedonia, Bosnia and Herzegovina, India, Malaysia, USA and Serbia). They presented papers and promoted the results of research and scientific work in the field of information technology in education. The main course of the Conference was set up with some of the introductory lectures:

- "Challenges of the Technical Science Subject Teaching " held by Tünde Anna Kovács from Óbuda University, Bánki Donát Mechanical and Safety Engineering, Hungary;
- "VR Technologies in the Educational Process of Disabled People and in University Education On-line presentation" held by Csaba Szabó from Department of Computers and Informatics, Faculty of Electrical Engineering and Informatics, Technical University of Košice, Slovak Republic. Author and co-authors: Branislav Sobota, Štefan Korečko, Miriama Mattová, and Gabriel Strop;
- "Analysis of Students' Academic Achievements in the Field of Mathematics and Computer Science" held by Gordana Jauševac from University of East Sarajevo/Faculty of Transport and Traffic Engineering, Doboj, Bosnia and Herzegovina. Author and co-authors: G. Jotanovic, G. Jausevac , D. Nedic, D. Mandic (from University of Belgrade/Faculty of Education), and D. Glusac (from University of Novi Sad/Technical faculty "Mihajlo Pupin", Zrenjanin);
- "Toward intelligent data analysis in higher education institutions" held by Nina Bijedić from Faculty of Information Technologies University Džemal Bijedić of Mostar, Mostar, Bosnia and Herzegovina. Author and co-authors: A. Joldić and D. Gašpar.

The other presented papers have cast light on various aspects of contemporary education in our country and abroad, such as: school without mobile phones, the phenomenon of academic boredom, augmented reality learning environment, cloud technologies in education, etc. They addressed experiences, problems, questions, etc. in relation with information technologies and education development.

The conference was financially supported by the Provincial Secretariat for Higher Education and Scientific Research, Novi Sad. The Technical Faculty "Mihajlo Pupin" has provided the necessary technical support.

The ITRO Organizing Committee would like to thank to the authors of articles, reviewers and participants in the Conference who have contributed to its tradition and successful realization.

See you at the next ITRO Conference,

Chairman of the Organizing Committee
PhD Vesna Makitan

CONTENTS

INVITED LECTURE

T. A. Kovács CHALLENGES OF THE TECHNICAL SCIENCE SUBJECT TEACHING.....	2
B. Sobota, Š. Korečko, M. Mattová, Cs. Szabó and G. Strop VR TECHNOLOGIES IN THE EDUCATIONAL PROCESS OF DISABLED PEOPLE AND IN UNIVERSITY EDUCATION.....	5
G. Jotanović, G. Jauševac , D. Nedić, D. Mandić and D. Glušac ANALYSIS OF STUDENTS' ACADEMIC ACHIEVEMENTS IN THE FIELD OF MATHEMATICS AND COMPUTER SCIENCE	10
A. Joldić, D. Gašpar and N. Bijedić TOWARD INTELLIGENT DATA ANALYSIS IN HIGHER EDUCATION INSTITUTIONS.....	17
D. Glušac, M. Kavalić, V. Makitan and S. Stanisavljev THE PHENOMEN OF ACADEMIC BOREDOM AMONG ADOLESCENTS IN THE DIGITAL WORLD	23
S. Đukić Popović, K. Vuletić, I. Popović, S. Popović, D.Vučković and S. Ivanković THE CHALLENGE OF MODERN EDUCATION - A SCHOOL WITHOUT MOBILE PHONES	28

SCIENTIFIC PAPERS

M. Kocaleva Vitanova, E. Karamazova Gelova and B. Zlatanovska MIGRATION AND REDESIGN OF AN EXISTING WEBSITE TO A NEW SERVER.....	33
A. Mamić and S. Pešut PROGRAMMING DRONES IN ELEMENTARY EDUCATION.....	38
E. Karamazova Gelova, S. Mančevska and M. Kocaleva Vitanova STATISTICAL ANALYSIS OF KNOWLEDGE FOR TOPIC COMPLEX NUMBERS OF STUDENTS FROM THE FIRST ACADEMIC YEAR	45

S. Jokić, M. Pardanjac, A. Ilić, M. Hadžić and M. Ninkov FORMATIVE ASSESSMENT IN DISTANCE EDUCATION - EXAMPLES FROM THE PRIMARY SCHOOL PRACTICE OF TECHNICS AND TECHNOLOGY	51
D. Radovanović SOME INFORMATION COMMUNICATION TECHNOLOGIES IN LOGISTICS AND SUPPLY CHAINS	56
T. Sekulić and J. Stojanov AUGMENTED REALITY LEARNING ENVIRONMENT FOR MATHEMATICS AND SCIENCES IN GEOGEBRA 3D	61
A. Velinov, D. Stojanov, A. Nikolova and Z. Zdravev REVIEW OF THE USAGE OF CLOUD TECHNOLOGIES IN EDUCATION	66
M. Kocaleva Vitanova, A. Risteska - Kamcheski and Z. Zlatev WITH AN ELECTRONIC STORE CLOSER TO OUR CUSTOMERS	79
J. Slavić DEVELOPMENT OF DIGITAL LITERACY AND TECHNOLOGICAL ABILITIES OF EMPLOYEES	84
D. Kovač, E. Terek Stojanović, M. Gaborov and M. Čočkalović-Hronjec ADVANTAGES OF EDUCATION AND TRAINING OF EMPLOYEES IN MODERN BUSINESS	88
V. Gluvakov, D. Čočkalović, M. Bakator, I. Vecštejn and S. Ugrinov OVERVIEW OF STUDIES REGARDING ETHICAL LEADERSHIP IN EDUCATIONAL INSTITUTIONS.....	93
Z. Kazi and D. Šeljmeši IMPROVEMENT OF TEACHING IN THE SUBJECT: ENTERPRISES COMPUTER INFRASTRUCTURE MANAGEMENT.....	98
S. Ugrinov, M. Bakator, M. Kavalić and V. Gluvakov SYNERGY BETWEEN MARKETING STRATEGIES 4.0 AND EDUCATION IN SMALL AND MEDIUM ENTERPRISES	103
V. Amižić, Lj. Kazi, D. Radosav, D. Glušac, M. Bhatt and N. Chotaliya USER EXPERIENCE EVALUATION METRIC MODEL BASED ON GRAPHICAL AND CONTENT ELEMENTS ESTIMATION	109
D. Čočkalović, M. Bakator, S. Stanisavljev, M. Kavalić and M. Čočkalović-Hronjec ENTREPRENEURSHIP EDUCATION FOR NEW BUSINESS CONDITIONS IN SERBIA.....	114

Siti Bealinda Qinthara Rony, S. Arsovski, B. Markoski, P. Pecev and N. Mandić VARIABLE DURATION MELODY GENERATION USING LTSM ENCODER- DECODER ARCHITECTURE.....	119
N. Mandić, B. Markoski, V. Premčevski and P. Pecev CLIENT SIDE TESTING OF WEB APPLICATIONS.....	124
M. Jovanov CHALLENGES, EDUCATION AND OPPORTUNITIES FOR YOUNG DIGITAL ENTREPRENEURS.....	130
I. Kostovski, Z. Žigić, R. Dragović and V. Milošev EDUCATIONAL SOFTWARES IN THE FUNCTION OF IMPROVING EDUCATION OF CHILDREN WITH SPECIAL NEEDS	136
T. Ranković, V. Maksimović, M. Simić, B. Milosavljević and G. Sladić ENFORCING ZERO TRUST IN DISTRIBUTED CLOUD DEPLOYMENTS	142
M. Knežević, B. Markoski and V. Premčevski PROJECTS USING THE NATIONAL PLATFORM FOR ARTIFICIAL INTELLIGENCE OF THE REPUBLIC OF SERBIA: REVIEW.....	151
B. Jovanov, K. Milosavljević Pavković, K. Milanović and J. Stojanov ATTITUDES OF TEACHERS AND PROFESSIONAL ASSOCIATES ON THE ORGANIZATION OF SCHOOL WORK USING THE PLATFORM MICROSOFT TEAMS 365	155
S. Popović, R. Jevtić, S. Đukić Popović, J. Ničković, I. Popović and V. Čabrić DISCIPLINE OF STUDENTS - THE PROBLEM OF MODERN EDUCATION.....	161
M. Lazić, M. Kovačević and N. Tasić IMPORTANCE OF APPLICATION OF STANDARDS AND PROCEDURES OF WORK PLANS QUALITY ASSURANCE FOR TEACHING PROCESS QUALITY	166
D. Dobardžić, V. Ognjenović and I. Berković UTILIZING NATURAL LANGUAGE PROCESSING FOR ENHANCING EDUCATIONAL CONTENT AND ACCESSIBILITY IN TECHNICAL EDUCATION.....	170
A. Kupusinac THE CLASSROOMS WORKLOAD AS A PARAMETER FOR THE QUALITY ANALYSIS OF TEACHING SCHEDULE	174
N. Đapić CURRICULUM OF MARINE ECOSYSTEM CHARACTERISTICS	179

I. Nemeša, M. Pešić, N. Bukhonka and V. Bozoki DEVELOPMENT OF TESTS FOR E-LEARNING STUDIES	182
K. Bašić INTERPERSONAL RELATIONSHIPS AS A PREREQUISITE FOR SUCCESS IN EDUCATIONAL INSTITUTIONS: AN EMPHASIS ON CONFLICT MANAGEMENT	188
P. Glušac DESIGN AND IMPLEMENTATION OF A LAMBDA CALCULUS INTERPRETER ..	193
P. Novokmet, E. Brtka, M. Kavalić and S. Mitić WORDPRESS AS A WEBSITE DEVELOPMENT PLATFORM – A CASE STUDY ...	202
L. Đorđević, J. Pekez, B. Novaković, M. Đurđev and M. Bakator ENHANCING EDUCATIONAL PRACTICES THROUGH 3D PRINTING AND RESEARCH INVESTIGATION	206
V. Bozoki, M. Pešić, I. Nemeša, N. Bukhonka and D. Bajić LEARNING IN NEW WAYS: E-LEARNING IN THE FASHION AND TEXTILE INDUSTRY	211
D. Drinić and D. Krneta ONE APPROACH TO WEB APPLICATION DEVELOPMENT TO SUPPORT LIBRARY BUSINESS PROCESSES	216
Z. Stojanov, S. Bajić, M. Kavalić, S. Mitić and M. Nikolić A QUALITATIVE STUDY ON ONBOARDING IN A SMALL SOFTWARE COMPANY	221
I. Vecštejn, V. Gluvakov, D. Kovač and N. Tihi WEB DEVELOPMENT TRENDS IN E-LEARNING	227
B. Novaković, Lj. Radovanović, L. Đorđević, M. Đurđev and M. Bakator SCIENTIFIC-EDUCATIONAL APPLICATION OF LASER ALIGNMENT IN DEVELOPING ENGINEERING STUDENTS' SKILLS.....	230
Lj. Kazi, T. Lojović, Ž. Cvijanović, V. Amižić and M. Kazi IMPROVING USER EXPERIENCE ASPECT AT A PRESCHOOL WEBSITE – A CASE STUDY	234
Em. Brtka, El. Brtka, E. Boral and I. Berković ARTIFICIAL INTELLIGENCE IN ONLINE LEARNING	240

S. Jokić, M. Pardanjac, V. Srdić and S. Vranješ MICROLEARNING IN TECHINICAL EDUCATION: DIDACTIC ASPECTS AND THE POSSIBILITY OF PRACTICAL APPLICATION IN ELEMENTARY SCHOOL.....	244
A. Kolevska and N. Blazheska-Tabakovska ENHANCING EDUCATIONAL PROCESSES: CONTEMPORARY COMMUNICATION IN WEB DESIGN TEACHING	254
S. Maravić Čisar, R. Pinter and P. Čisar EMPOWERING LEARNING THROUGH PBL AND SCRUM IN COMPUTER SCIENCE EDUCATION.....	260
M. Kovačević, M. Lazić, N. Tasić and M. Gaborov STANDARDS AND PROCEDURES FOR QUALITY ASSURANCE OF STUDY PROGRAMS ON THE EXAMPLE OF THE HIGHER SCHOOL OF APPLIED STUDIES.....	265
D. Dobardžić and V. Ognjenović METRICS FOR DASHBOARDS IN EDUCATION	270
A. Mesaroš and V. Makitan COMPARISON OF TRADITIONAL AND E-LEARNING DURING THE COVID-19 VIRUS PANDEMIC	274

With an Electronic Store Closer to our Customers

M. Kocaleva Vitanova, A. Risteska - Kamcheski and Z. Zlatev

Faculty of computer science, Goce Delcev University, Stip, R. N. Macedonia

mirjana.kocaleva@ugd.edu.mk, aleksandra.risteska@ugd.edu.mk, zoran.zlatev@ugd.edu.mk

Abstract - E-commerce (electronic commerce) is the activity of electronic purchase or sale of products on online services or through the Internet, i.e., a channel of goods distribution and services mediated by the Internet. The e-store is a place that connects the suppliers and buyers of certain products and services in one place (website), where the sale and purchase of a product or service is made. In this paper, the goal is to show how e-commerce and e-store can be used to start an online business without any experience, and why an e-store is a great way to build an online business. An e-store for selling watches will be considered and this e-store will be available to customers and buyers from all over the world.

I. INTRODUCTION

Electronic commerce is the process of buying, selling, transferring, or exchanging products, services, or information over computer networks, including the Internet. E-business is a broader definition than electronic commerce, which includes not only buying or selling goods and services, but also customer service, cooperation with business partners, etc. Electronic commerce has three forms, depending on the degree of digitalization: the product, the process, and the supply agent. All three forms can be physical or digital. Depending on that, we have "pure" or "partial" electronic commerce. Physical organizations conduct their business off-line, selling physical products through physical representatives (brick-and-mortar). Organizations that perform their activities exclusively online are also known as virtual organizations (pure play). There are also organizations that perform some e-commerce activities but perform their primary activities in the physical world (click-and-brick). Most electronic commerce is conducted over the Internet, but it can also be conducted over private networks, such as VAN's (value-added networks) and LAN's (local area networks). The skeleton of electronic commerce consists of

1. At the very top are the applications of electronic commerce (direct marketing), job search, online banks, E-government, auctions, consumer services...
2. Support services (people, public policy, marketing and advertising, business partnership).
3. infrastructure

A. Importance and benefits of e-commerce

- E-commerce helps reduce costs.
- E-commerce helps businesses go global.
- E-commerce can be done with less overhead and less risk.
- E-commerce can expand your brand and expand your business.
- E-commerce offers better marketing opportunities.
- Your online store will remain open 24/7/365.
- E-commerce is easier and more convenient.
- Personalization of shopping experience.
- Improving the image of your business.
- Easy to get product feedback.
- Maximum security of transactions.
- Increase sales.

B. Success factors

- High quality products are important to keep customers loyal to your business.
- The price of the product is important, you don't want it to be too low and customers doubt the quality of the products, or it is too high that they can't afford to buy it.
- Make the store accessible on many devices such as mobile devices. There are things you can do to improve your online store's visibility on mobile devices, such as optimizing your images and using responsive design.
- A good website with a nice look and attractive designs.
- Safety is a top priority. It is one of the main concerns about e-commerce for consumers and business owners, as their personal and financial information is handled over the Internet.

C. E-commerce during COVID-19

In March 2020, global retail website traffic reached 14.3 billion visits, marking unprecedented growth in e-commerce during the 2020 US lockdown. Meanwhile, as many as 29% of surveyed shoppers said they would never go back to shopping in person again; In the UK, 43% of consumers said they expect to continue shopping the same way even after the pandemic is over.

E-commerce retail sales show that COVID-19 is having a significant impact on e-commerce and its sales are expected to reach \$6.5 trillion by 2023.

II. E-STORE

Like normal business transactions, electronic stores are usually operated by a single supplier (dealer or manufacturer). The supplier connects with the individual buyer through this type of store. The contract and the exchange of products/services materialize after the negotiations are carried out. On the WWW, these types of stores are the online places, where you can compare, choose, and of course purchase products. The electronic market is created when multiple electronic stores compete for customers. Companies usually start their web presence by acquiring information about the

the suppliers. Also, the time savings should not be underestimated.

III. MARKET RESEARCH

Before starting e-commerce, or rather starting an e-store or online business, you must first research the market.

Market research is an organized effort to gather information about target markets and customers: by knowing them, starting with who they are. It is a very important component of business strategy and a major factor in maintaining competitiveness. Market research helps to identify and analyze market needs, market size and competition. With the help of the internet and today's technology on the internet there are too many useful applications and platforms where information can be gathered about a particular business model. In our case, this e-shop would be for selling watches, so with the help of the following few platforms we got some information about whether this business would be good to start. For this research we needed the following platforms:

- Statista is an online portal that provides data on the global digital economy, industry sectors, consumer markets, public opinion,

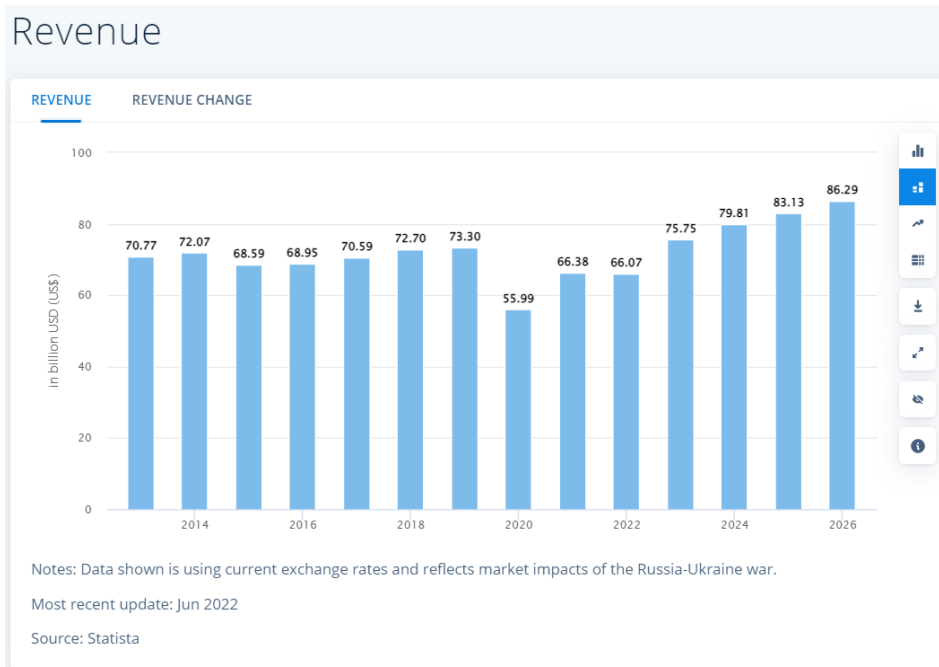


Figure 1.
Revenue in
Watches
Sales
Segment
(2012-2026)

company and its products, in support of other sales channels. The online store is formed if the order and payment methods are added to this information. The most important advantages of online shopping are that customers no longer travel to buy something, these stores are available 24 hours a day, and an easy comparison can be made. among several offers from

media, and macroeconomic trends. Quantitative data from 425 economic sectors in 50 countries is provided with a range of infographic analysis and visualization tools.

On this platform, we found interesting information about the revenue in the watch segment

which in 2022 was 66.07, and the market is expected to grow annually by 6.90% (CAGR 2022-2026).

- Similarweb is a digital intelligence provider for enterprise and small and medium business (SMB) customers. The platform provides web analytics services and provides its users with information about the web traffic and performance of their customers and competitors.

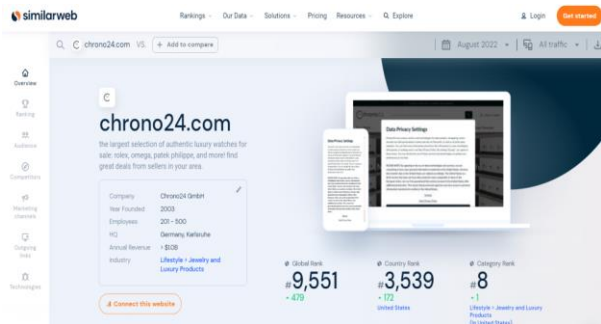


Figure 2. Revenue and ranking statistics of "Chrono24"



Figure 3. "Chrono24" visitation statistics

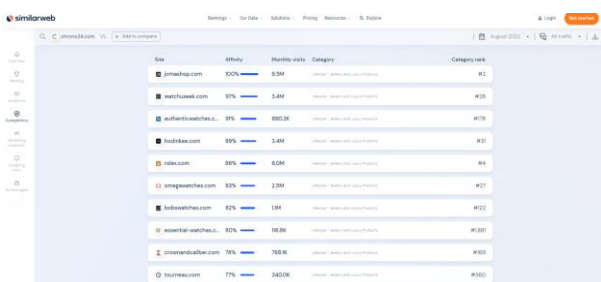


Figure 4. Statistics of the biggest competitors in the watch market

As an example, we researched "Chrono24" - a leading marketplace for the sale of luxury watches. Figures 2 and 3 show information and statistics for the "chrono24.com" website, such as income, attendance, ranking in the world, etc. While on the other hand, figure 4 shows the statistics of other sites that are one of the largest competitors in this area.

A. How big is the watch industry worldwide?

Despite recent developments, such as the economic crisis and COVID-19, the market size of the watch industry has managed to withstand the blow reasonably well. Moreover, it also shows excellent signs of recovery for the coming years, especially if we consider the effect of the increasing expansion of smartwatches.

The latest analysis of the luxury watch industry by Mordor Intelligence tells us that the global watch market (comprising traditional and smartwatches) was valued at USD 61.85 billion in 2020 and will register a CAGR (compound annual growth rate) of 13 % during the forecast period (2021-2025) to reach over USD 100 billion.

- 2020 USD 61.85 billion
- 2025 USD 117.8 billion

IV. E-STORE FOR THE SALE OF WATCHES

The next step after the market research is to start creating an e-shop where we will develop our business for selling watches. We used WordPress to create our website or so-called e-shop.

WordPress is the simplest and most popular way to create your own website or blog. In fact, WordPress powers over 43.3% of all websites on the Internet.

Next, we used WooCommerce to run our business. WooCommerce is an e-commerce plugin for WordPress. It makes creating and managing an online store simple, with reasonable levels of flexibility and several vital features such as inventory and tax management, secure payments, and shipping integration. Other plugins that we needed for the e-shop were:

- CartFlows – allows us to Create checkout pages and sales flows for WooCommerce.
- Checkout Plugins - Stripe for WooCommerce provides a simple, secure way to accept credit card payments on our WooCommerce store.
- Elementor - The Website Builder: drag and drop page builder, pixel perfect design, mobile editing and more.
- Starter Templates – required templates for one page, blocks, and images.
- Variation Swatches for WooCommerce - Provides a super easy shopping experience by displaying beautiful variations on the WooCommerce store and product page.
- WooCommerce - A suite of e-commerce tools that help you sell anything.

- WooCommerce Cart Abandonment Recovery – Recovers lost revenue. It captures the email address of users on the checkout page and sends follow-up emails if they do not complete their purchase.
- WP Affiliate Manager – A plugin for recruiting, managing, tracking, and paying our affiliate partners.
- WPForms Lite - WordPress contact form plugin.

V. MARKETING AND ADVERTISING

After the product is launched on the market, the next step is its sale, so good marketing and advertising is needed. Since, our business is online, digital marketing will be of the greatest benefit for sustainable business growth.

Marketing, in the most general terms, has the task of delivering goods or a service from the point of production to the point of demand for that good or service. The main marketing goal is to increase the volume of sales or expand the market share. To this end, marketers form a marketing mix.

In modern theory and practice, synonyms of the marketing mix are "marketing means", "marketing elements" and "marketing complex". Especially popular is the naming "4P" from the first letters of the English words:

- Product
- Price
- Place
- Promotion

Digital marketing, also called online marketing, is the promotion of brands to connect with potential customers using the Internet and other forms of digital communication. This includes not only email, social media, and web-based advertising, but also text and multimedia messaging as a marketing channel.

SEO marketing is a subset of digital marketing that includes website and website optimization for major search engines like Google. As these search engines have become the dominant way to find almost anything, a variety of practices have emerged to help organizations improve the visibility of their digital assets.

The term "search engine optimization (SEO)" refers to a combination of internal and external tactics. Each of the major search engines has its own formula for ranking pages in search results. Technically called algorithms, these formulas are

closely guarded practices that major search engines protect as trade secrets.

Components of SEO:

1. Content

Search engine marketing is highly dependent on producing good content on a regular basis. From this point of view, content must satisfy a need, generally by providing information or answering a question.

2. Keywords

Keywords refer to the subject or topic of the content that is the basis of the search query. Keyword research and selection are closely related to content production and are essential to SEO marketing efforts. To maximize search engine marketing, organizations need to choose the right keywords, both in terms of search frequency and competitiveness.

3. The architecture

Website or page architecture is another important aspect of on-page optimization. When optimizing websites or pages for SEO benefits, the following architectural elements are critical:

- Site map
- Loading speed
- Suitable for mobile phones
- Website security

When it comes to the promotion of the product and how to present it more easily to potential buyers, there are 2 types of promotion:

A. Paid advertising as part of digital marketing

Social media is one of the best places to build awareness of your brand online. That is the main reason why businesses use social media promotion, but some other benefits of social media include that it can lead to:

- Target audience (target group) with exact precision: social media platforms know a lot about their users. If you promote your brand on social media, you can use that information to target your audience based on demographics such as age, location, preferences, behaviors, etc.
- Increase sales and leads: Social media platforms allow you to advertise your products and services. Many platforms even allow you to set up landing pages and stores directly on the platform (Facebook Marketplace) so people can easily convert or buy.
- Help you better understand your audience: With advanced targeting and tracking information

provided by social media platforms, you can more easily analyze data and optimize your social media promotions to match your audience.

- The social nature of social media platforms means that people are eager to communicate and engage with others. Considering that 74% of people follow brands on social media, you have ample opportunity to engage with your audience using social media.
- Social media promotion helps work towards gaining a significant social media presence if you are willing to make consistency an integral part of your social media presence.

Google Ads is Google's online advertising program. Through Google Ads, you can create online ads to reach people exactly when they are interested in the products and services you offer.

- Google Ads is a product that you can use to promote your business, help sell products or services, raise awareness, and increase traffic to your website.
- Google Ads accounts are managed online, so you can create and change your ad campaign at any time, including ad text, settings, and budget.
- There is no minimum spending obligation, and you determine and control your own budget. You choose where your ad will appear, set a budget that's convenient for you, and easily measure the impact of your ad.

B. Free advertising as part of digital marketing

Free advertising is using social media or social media marketing: Instagram, Facebook, TikTok, YouTube, Pinterest, etc., where you present your brand to people from all over the world, by sharing content that will be related to your business/ brand.

Social media is online communication that allows you to communicate with your customers and share information in real time. You can use social media to:

- reach your customers better.
- create online networks.
- market and promote your products and services.

Social media can help you engage with your customers and find out what people are saying about your business.

Social media can help a business to:

- attract customers, get customer feedback, and build customer loyalty.
- increase market reach, including international markets.
- do market research.
- increase revenue by building customer networks.
- analyze competitors.

VI. CONCLUSION

E-commerce (electronic commerce) is the activity of electronic purchase or sale of products on online services or via the Internet, that is, a channel of distribution of goods and services mediated by the Internet. The e-shop is a place that connects the suppliers and buyers of certain products and services in one place (website), where the sale and purchase of a product or service is made. Importance and benefits of e-commerce and online store are:

- E-commerce helps you reduce costs.
- E-commerce helps businesses go global.
- E-commerce can be done with less overhead and less risk.
- E-commerce offers better marketing opportunities.
- Your online store will remain open 24/7/365.
- E-commerce is easier and more convenient.
- Easily get product feedback.
- Maximum security of transactions.
- Increase in sales.

REFERENCES

- [1] Bezovski, Zlatko (2020) Е-Бизнис Скрипта. ISBN 978-608-244-715-5.
 - [2] Kutz, Martin. "Introduction to E-commerce." combining business and information technology (2016).
 - [3] King, David, H. Michael Chung, and Jae K. Lee. Electronic commerce: A managerial perspective. Prentice Hall PTR, 1999.
 - [4] Влијанието на Ковид-19 врз е-трговијата, <https://ecommerce.mk/vlijanieto-na-kovid-19-vrz-e-trgovijata/>
 - [5] e-commerce, TechTarget, 2022, <https://www.techtarget.com/searchcio/definition/e-commerce>
 - [6] What Is SEO Marketing?, American marketing association, <https://www.ama.org/marketing-news/what-is-seo-marketing/>
 - [7] Social media for business, Australian government, <https://business.gov.au/online/social-media-for-business>
 - [8] Analyze any website or app, <https://www.similarweb.com/>
- Find statistics, forecasts and reports, <https://www.statista.co>