

Digital Innovations Empowering Controllers in the Modern Era

Workshop assignments of Students specializing
in Controlling in the Accounting and Controlling Program
at Krakow University of Economics

Edited by
Janusz Nesterak
Anna Kołodko
Olga Malinowska



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Introduction

In today's fast-paced and technologically advanced world, digital innovations have revolutionized various aspects of our lives, including the field of finance and accounting. The role of controllers, who are responsible for managing financial operations and ensuring compliance within organizations, has also undergone a significant transformation. With the advent of digital innovations, controllers have gained new tools and capabilities that empower them to navigate the complexities of modern business environments with greater efficiency, accuracy, and strategic insight.

The development of digital innovations has brought about significant improvements in financial management and has empowered controllers to navigate the complexities of the modern era. These advancements have not only enhanced efficiency and accuracy but have also contributed to the overall development of society. The automation of routine tasks and the availability of real-time data have freed up controllers' time, enabling them to focus on more strategic and value-added activities. This, in turn, fosters innovation and promotes the growth of organizations.

Digital innovations have empowered controllers in the modern era by revolutionizing financial management processes, providing valuable insights, and enhancing communication with stakeholders. The impact of these innovations extends beyond financial management and has influenced society as a whole. The development of technology has transformed the way controllers work, enabling them to leverage advanced software, AI (Artificial Intelligence), and ML (Machine Learning) or RPA (Robotic Process Automation) technologies. The result is improved efficiency, accuracy, and strategic decision-making. As technology continues to advance, controllers must adapt and embrace these innovations to fully harness their potential and contribute to the development and success of their organizations and society at large.

This year's graduates of the Bachelor's and Master's degree programs in the Accounting and Controlling Program at Krakow University of Economics have completed their studies, joining the professional group of financial controllers. These young adepts of the art of controlling expressed themselves creatively about their profession, vividly presenting their knowledge of controlling itself, necessary IT tools, and the challenges associated with practicing this occupation in a turbulent reality.

This publication is a presentation of posters that were presented by 111 young researchers – graduates who participated in workshops.

The young researchers primarily addressed issues related to modern technologies and the impact of the Covid-19 pandemic, which was presented as a stimulator of innovative solutions in organizations and as an accelerator of digitalization and automation. CoviNovation – the search for new ways of introducing innovations in the post-pandemic period – became a significant topic of discussion, focusing on exploring new possibilities and strategies in the field of innovation, including management in both the public and private sectors. One of the key topics encompassing human capital management was the presentation of the positive aspects of digitalization, introducing the possibility of remote and hybrid work organization while considering the work-life balance, crucial for the young workforce of the future – the three generations X-Y-Z.

The conclusion drawn from the works created during the workshops emphasized the role of innovation as a key driver of economic development and regional competitiveness. In the era of turbulent environmental

changes, both public organizations and private enterprises as regional economic entities focus on implementing innovative solutions, adapting to new challenges, and seeking effective strategies for operating in the modern world.

The presented topics vividly depict solutions related to every consumer, for example, in the area of modern payment systems based on blockchain technology, AI (*artificial intelligence*), or the latest trends in ESG (*environmental-social-governance*) for electric vehicles that are not environmentally detrimental.

The works of students contributed to a deeper understanding of innovation management in a regional context, bringing a fresh perspective to the dialogue between academia and business and promoting closer collaboration between research and practice. For young scientists taking their first steps in the field of research, actively participating in discussions about the profession of controlling was an excellent opportunity to establish initial contacts, both with peers and experts in their field. Once again, the poster, as a form of conveying information, became an excellent medium for communication within the international scientific community.

Through their research, these students have explored the ongoing digital transformation in finance, focusing on the utilization of technologies such as cloud computing, artificial intelligence, data analytics, automation, and more. They have examined how these digital innovations enhance financial processes, improve data analysis, strengthen controls, and elevate the strategic contributions of controllers within organizations.

The scientific posters in this book represent the culmination of extensive research, analysis, and critical thinking. The students have examined real-world scenarios, case studies, and industry trends to shed light on the ways in which digital innovations are reshaping the role of controllers and driving organizational success.

As you explore this collection of scientific posters, you will encounter thought-provoking insights, innovative solutions, and practical recommendations that reflect the students' expertise and passion for the subject matter. The posters cover a range of topics, including cloud-based financial systems, AI-driven analytics, automation in financial processes, data visualization tools, cybersecurity in financial management, and more.

We extend our deepest appreciation to the students for their dedication, hard work, and commitment to advancing our understanding of how digital innovations empower controllers in the modern era. Their research contributes to the broader conversation on digital transformation in financial management, highlighting the opportunities and challenges that lie ahead.

We hope that this collection of scientific posters will be a valuable source of information and inspiration for professionals, researchers, and students alike. May it contribute to an ongoing discussion on digital innovations, financial management, and the crucial role of controllers in shaping the organizations of the future. Let this collection also serve as a keepsake for the students themselves, who, through imagery, presented a highly relevant subject within the broad field of controlling. In times of uncertainty and dynamic development, controlling aims to support managerial decision-making in organizations.

Janusz Nesterak
Anna Kołodko
Olga Malinowska

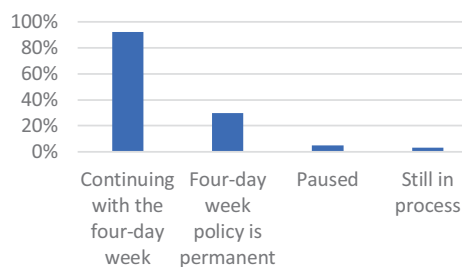
4-day workweek.

INTRODUCTION

The growing problem of professional burnout and the deterioration of the general well-being of employees is becoming a growing problem. Employers are looking for a solution that would help increase employee productivity and improve the willingness to work. One of the solutions that can really improve the condition of employees is the introduction of a 4-day work week.

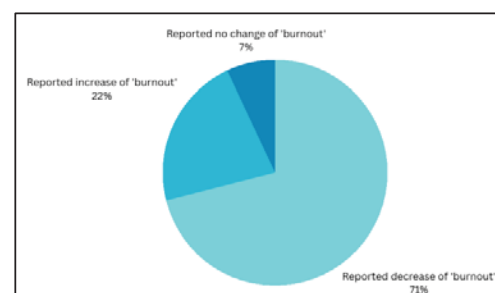
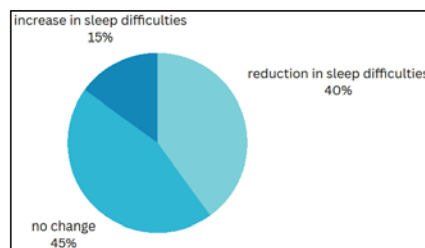
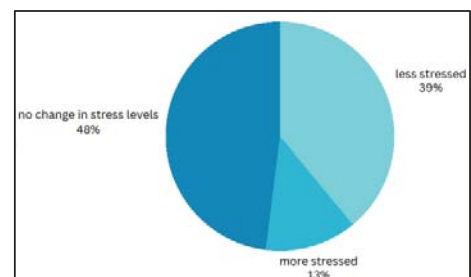
The purpose of the poster is to present the concept of changing the length of the working week and to present the results of research showing the impact of reducing working hours per week on the productivity and well-being of employees.

SURVEY



92% percent of the companies participating in the study decided to continue the four-day working week. 30% of companies confirm that they will make this change permanent. The rest of the companies did not complete or suspended the study. The average rating on a scale of 0-10 regarding satisfaction with the results of the study was 8.3. Most of the companies participating in the study confirm that company performance has increased or has not changed since the introduction of the 4-day work week.

Research shows that shortening the workweek improves employee performance and improves their well-being. Most of the companies participated in the study decided to continue working on a 4-day basis. Around the world, this idea is becoming more and more popular, so it is possible that in some time it will become the norm.



The introduction of the changes resulted in strong positive changes in the lives of the employees participating in the study. 39% of the employees participating in the survey said they felt less stressed at work, 71% said they less burnout, 40% of the respondents said that their problem with general fatigue decreased and the level of sleep improved.

<https://tiny.pl/w8kxf>

<https://www.hays.com/documents/63327/2210536>



BLOCKCHAIN

ADVANTAGES AND APPLICATION IN THE AGE OF DIGITIZATION

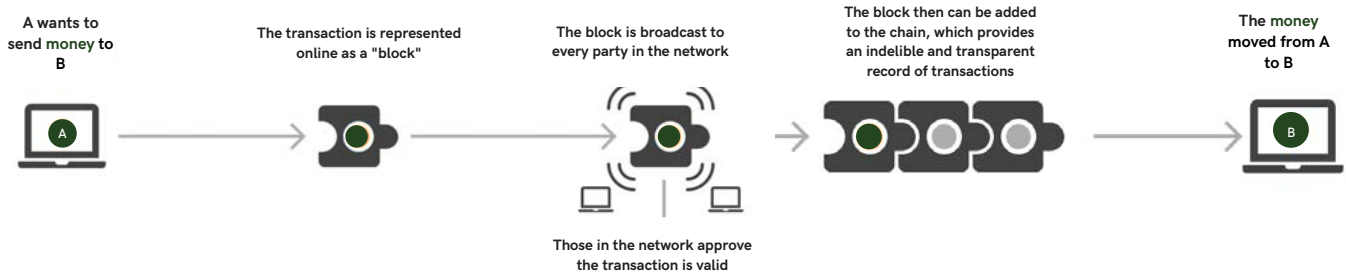
Martyna Gancarz
Natalia Sęk
Klaudia Kleszcz
Karol Bik

WHAT IS IT?

A blockchain is a distributed database or ledger that is shared among the nodes of a computer network. As a database, a blockchain stores information electronically in digital format. Blockchains are best known for their crucial role in cryptocurrency systems, such as Bitcoin, for maintaining a secure and decentralized record of transactions.

HOW DOES IT WORK?

The goal of blockchain is to allow digital information to be recorded and distributed, but not edited. In this way, a blockchain is the foundation for immutable ledgers, or records of transactions that cannot be altered, deleted, or destroyed. This is why blockchains are also known as a distributed ledger technology (DLT).



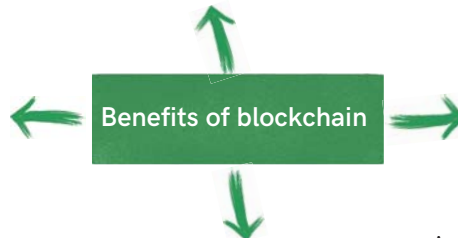
Greater transparency

Blockchain uses a distributed ledger, transactions and data are recorded identically in multiple locations. All network participants see the same information at the same time, providing full transparency. All transactions are immutability recorded, and are time- and date-stamped.



Enhanced security

Blockchain can significantly change how your critical information is viewed. By creating a record that can't be altered and is encrypted end-to-end, blockchain helps prevent fraud and unauthorized activity. Privacy issues can also be addressed on blockchain by anonymizing personal data and using permissions to prevent access.



Increased efficiency and speed

Paper-heavy processes are time-consuming and prone to human error. By streamlining these processes with blockchain, transactions can be completed faster and more efficiently. Documentation can be stored on the blockchain along with transaction details, eliminating the need to exchange paper.



Automation

Transactions can even be automated with "smart contracts," which increase your efficiency and speed the process even further. Once pre-specified conditions are met, the next step in transaction or process is automatically triggered.



Applications of Blockchain



Supply chain management



Healthcare industry



Voting system



Banking sphere



Smart contracts



Property ledgers



Secure payments



Stock exchange



Politics

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https://en.wikipedia.org/wiki/Computer_network
<https://en.wikipedia.org/wiki/Timestamp>

Benefits of ergonomics in the workplace

Presentation of the impact of ergonomics on employees

Ergonomics

Is a study of matching work environment and requirements with the workers' needs so minimize fatigue and maximise efficiency. The primary goal of ergonomics has been reducing the rate of work-related musculoskeletal disorders but currently it includes the quality, quantity, efficiency and comfort of the employee.¹

² H. W. Hendrick defined the ergonomics in *Macro Ergonomics, Theory, Methods and Applications* as a „human-system interference technology” and in his book has stated different aspects of it. The technology contains of at least five clearly identifiable subparts, that impact on the quality.

³ Based on particular researches described in the article, following examples of benefits of a proper use of ergonomics were shown:

1. HARDWARE ERGONOMICS

Refers to the study of physical and perceptual characteristics of humans and the application of this data to the design of work equipment and tools, workstations and workspace arrangements. In described research this subpart results in:

- reduction of daily amount of injuries from 10 to 0 and lead to annual saving of \$4 million in the company, increased productivity (10-30%),
- reduction of number of musculoskeletal problems.

2. ENVIRONMENTAL ERGONOMICS

Concerns the effects of various physical environmental factors, such as illumination, heat, cold, noise and vibrations on human performance. Negative impacts:

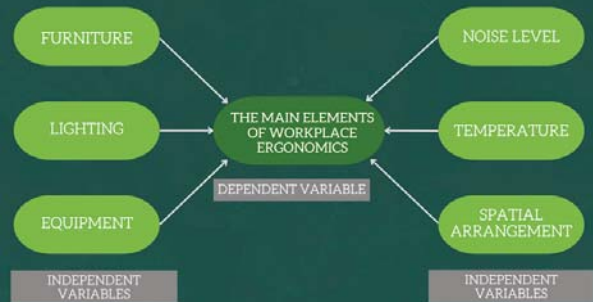
- human errors,
- disruption of individual decisions and activities.

3. COGNITIVE ERGONOMICS

Deals with how people think, conceptualize and process information, and the application of this data to software design. Several studies showed that cognitive failure have a large impact on job performance and safety,

- more than 70 percent of accidents are due to human errors,
- affects the performance and activities,
- in described research a 600-ms reduction in average call operating time. It leads to savings of \$2.94 million annually.

FACTORS AFFECTING THE ERGONOMICS OF THE WORKPLACE



4. DESIGN ERGONOMICS

Concerns the design of jobs to ensure proper workload and characteristics such as task variety or having different things to do in one's work. After implementing design ergonomics in particular cases:

- the extent of the damage to machine components dropped. This lead to annual savings \$ 65,000
- increased production by 10%.

5. MACRO ERGONOMICS

Concerns the interfacing of employees with the over-all organizational design of the work system to most effectively utilize both the employees and technology. After implementing macro ergonomics in particular cases:

- improvement of: productivity, quality, safety and health, quality of work life, user satisfaction,
- the accident rate dropped 70%, increased level of job satisfaction.

BENEFITS OF ERGONOMICS



Benefits of ergonomics

Is ergonomics worth the investment? Why do leading companies worldwide integrate ergonomics into all of their operations? Successful implementation of ergonomics can improve workers productivity and reduce the chance of injuries and illness simultaneously.



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² Hendrick H. W., *Macroergonomics: Theory, Methods, and Applications*, CRC Press 2002
³ Jazani, R.K. and Mousavi, S. (2014) The Impacts of Ergonomic Aspects on the Quality. *Open Journal of Safety Science and Technology*, 4, 15-21

BIG DATA & CLOUD COMPUTING IN BUSINESS

INTRODUCTION

Big data consists of high volume/variety/velocity of information assets that can help businesses in multiple ways if analysed precisely. An organisation or business can collect data from various platforms like social media handles, websites, or even chatbots.

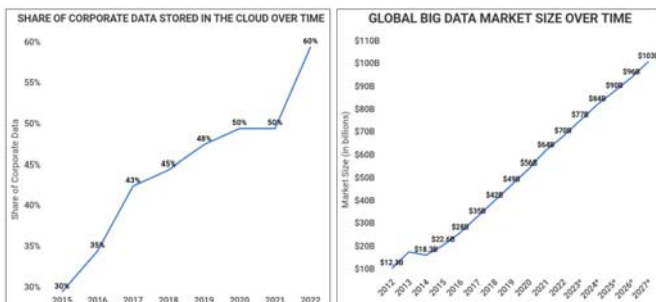
Cloud computing is a practice of storing and accessing data, files, and applications over the Internet. It eliminates the need to store data locally on a computer's hard drive.

It is a flexible, distributed resource environment that uses advanced data processing and management techniques while reducing costs.

In short, it provides users with on-demand storage, retrieval, and data processing facilities.

The big data market is worth \$56 billion. This is based on the market's annual revenue in 2020. In 2017, the global big data market earned \$35 billion in revenue, and it's expected to earn \$103 billion by 2027.

The big data market is growing by about 14% every year. This was its growth rate in both 2020 and 2021, and although it's expected to keep growing, it's supposed to see slower rates in 2023 (10%) and 2024 (9%). In 2025, the big data market is only expected to grow by 7%, and the same goes for 2026, 2027, and 2028.



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ADVANTAGES

Improved data analysis

It is simple to manage the workload as cloud computing provides a versatile infrastructure. As a result, you can easily analyze data while utilizing cloud computing's advanced capabilities.

Reliable Infrastructure

It is simple to manage the workload as cloud computing provides a versatile infrastructure. As a result, you won't have to worry about data arriving at different speeds or in varying quantities.

Cost saving

Cloud computing allows you to store and analyze your business data on remote servers provided by cloud service providers. The providers take care of the technical management, security, and maintenance of the servers, which means you can focus on your business without worrying about the technicalities.

By shifting to cloud data storage, you can avoid the cost of purchasing and maintaining physical servers, as well as the cost of hiring technical staff to manage them. Moreover, cloud computing offers flexible payment options, allowing you to pay only for the resources you use.

Reduced complexity

Implementing Big Data solutions can be time-consuming and complex as many components have to be integrated. However, with cloud computing, you can reduce this complexity via the automation of these components. It will also enhance your team's productivity.

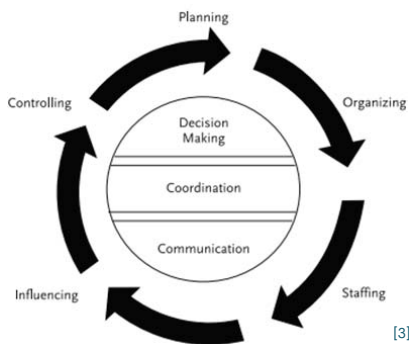
CONTROLLING IN HEALTHCARE

Why controlling?

What can be achieved through the use of controlling in healthcare? What are the benefits and what is the result of innovation?



The **main feature of healthcare management** is the implementation of non-economic tasks but they have to **respect economic aspects** [1]. Controlling in healthcare should ensure the best possible financial results by meeting the needs and expectations of patients at the lowest possible cost of treatment [2].



[3]

Aim

The aim is to **examine the benefits and limitations** resulting from the use of the controlling system in the health service and the factors facilitating its functioning.



The introduction of controlling in health care facilities should be accompanied by the implementation of new **cost accounting models**.

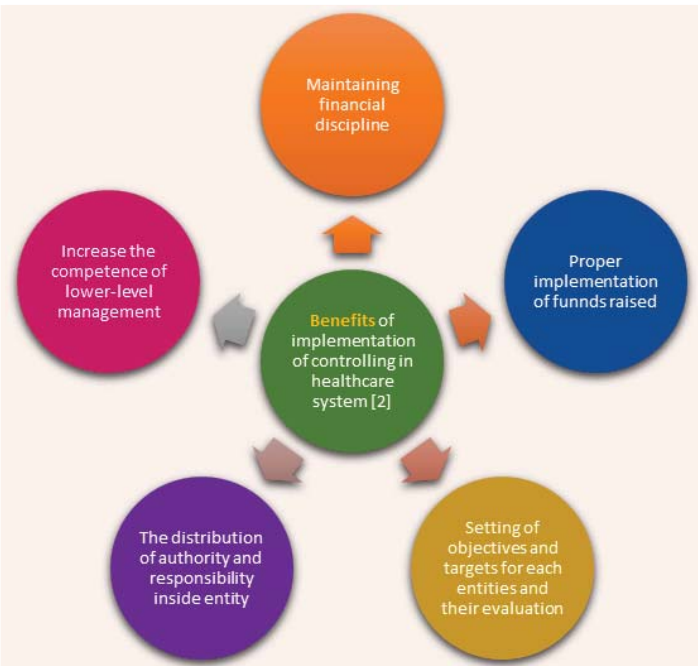


Two types of responsibility centers can be created in public health care institutions: profit centers and **cost centers**.

Mistakes

Typical **mistakes** made in healthcare management [1]:

- analysis of insignificant costs,
- miscommunication,
- failure to attempt restructuring.



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CONTROLLING IN THE AGE OF TECHNOLOGY

Introduction

Controlling plays a critical role in business success by providing decision-makers with the necessary information to manage resources and optimize operations. With the rapid development of technology, new tools and methods have emerged that allow companies to control their operations even more effectively and efficiently.

74%

Of companies have adopted new technologies for controlling, according to a recent survey.

\$1.5m

Saved per year, by companies that have embraced new controlling tools

17%

The average ROI of implementing controlling technologies

New Technologies

- **Artificial Intelligence (AI) and Machine Learning (ML)** can analyze large amounts of data and identify patterns, trends, and insights that humans might miss.
- **Robotic Process Automation (RPA)** can automate repetitive tasks and processes, freeing up employees to focus on more strategic tasks.
- **Blockchain** can improve transparency and accountability by creating a tamper-proof record of transactions.
- **Internet of Things (IoT)** can collect data from various sources and provide real-time insights into operations and processes.
- **Cloud Computing** allows for secure and scalable storage of data and easy access to information from anywhere in the world.



- **Cost Savings:** Implementing new controlling technologies can also result in significant cost savings. A report by McKinsey & Company found that companies that use automation for controlling can reduce costs by up to 60%.
- **Enhanced Security:** Technologies such as blockchain can improve security and reduce fraud by providing a tamper-proof record of transactions. A study by Deloitte found that blockchain can help reduce fraud and improve trust in supply chain operations.

Embracing new controlling technologies can help companies stay ahead of the competition and achieve their goals faster and more efficiently.

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 International Conference on Machine Learning (ICML): <https://icml.cc/>
 "Playing Atari with Deep Reinforcement Learning" by Volodymyr Mnih.



examples of companies that have implemented innovative technologies



Starbucks



FORD



AMAZON



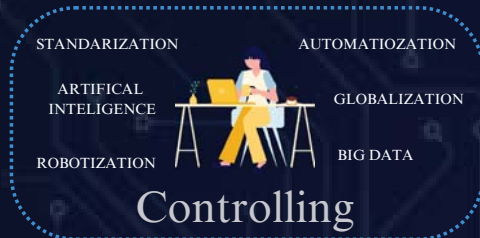
Delta Airlines

CONTROLLING IN THE DIGITAL TRANSFORMATION

Digital transformation changes how the organizations operate. It is the process of changing the way an enterprise uses technology, people and processes aims to improve business performance and adopte new business models. It affects all areas of business, including marketing, sales, customer service, but also controlling.

The aim of the study was to determine the main trends affecting controlling and to present the role of the controller in the face of widespread digitization. In times when technology that improves company management is becoming more and more available, each controller should look for newer solutions and be the initiator of changes. That is why the next part of the study presents areas in controlling that can be improved thanks to digitalization.

MAJOR TRENDS AFFECTING CONTROLLING



All presented trends have an impact on controlling. Standardization, automation, robotization eliminate repetitive, usually tedious activities of controllers and financiers. This frees up time for creativity - operational and especially strategic - supporting new directions of business activity. The focus of controlling is shifted from the operational to the strategic level.

TWO PERSPECTIVES OF THE ROLE OF STRATEGIC CONTROLLERS IN THE ERA OF DIGITIZATION

1

Controlling supports the entire digitization process because it enables development of digital innovations in the business model. Controllers should be familiar with modern technologies, such as: Internet platforms, Robotic Process Automation (RPA), Industry 4.0 technologies, BIG DATA, Advanced Analytics, artificial intelligence (AI), etc., understand the issues of business model development and know the tools of analysis and strategic planning. Controllers are the initiators of change, initiating the implementation of modern technologies in basic processes and supporting all business areas of their enterprises.

2

Controllers look at digitalization and related tools as a factor driving changes in controlling itself. Then the goal is to improve the functioning of controlling processes on the recording, calculation and reporting side.

QUESTIONS CONTROLLERS SHOULD ASK THEMSELVES IN THE DIGITAL TRANSFORMATION



Is big data analyzed using appropriate tools?

The search algorithm, which is well optimized and built into the module, makes it easier, for example, to quickly search for text documents from the database. Such a system is also a good investment in security, as these documents are only visible to authorized persons.



How do controllers have an impact on improving data quality?

Nowadays, most data transfers take place fully automatically. Such processes are difficult to keep up with, but companies need to be sure that the data they generate is reliable, as it is important for decision-making. If the quality of data is not constantly monitored and improved, this could lead to problems, mistakes and losses for the company.



Is the financial plan consistent with the strategic and operational plan?

When creating plans based on data from different sources (e. g. Excel spreadsheets, ERP system, etc.), it is difficult to avoid certain deviations in forecast results. Sometimes a single plan is feasible but does not relate to other business plans. A central database with integrated planning tools that take into account the availability of all company resources is a good solution. A tool based on a single database allows to perform reliable simulations of plan implementation and implement changes efficiently.



How does MS Excel contribute to the analysis?

Spreadsheets are a popular tool for most controllers because they are easy and flexible to use. Unfortunately, developing reports and summaries using MS Excel is time-consuming and error-prone. Controllers should consider replacing it with an effective tool supporting analysis and reporting processes. Working on spreadsheets limits access to real-time data for many people. This allows decisions to be made at the same time on different data from each other. This may cause errors and inaccuracies. Replacing an MS Excel spreadsheet with a reporting system will reduce the time needed to develop reports and reduce the risk of errors.



To what extent do the software support the development of consolidated management reports?

Many enterprises operate within capital groups and various, separate business segments. Employees of the controlling department, preparing various reports, must provide all stakeholders with complete and reliable financial information as soon as possible. They are to concern the entire enterprise, but also its individual segments, e.g. results on individual markets, product sales results, etc. The process of consolidating financial data for reporting purposes is time-consuming, involves large human resources and is often not effectively supported by appropriate IT tools.

SUMMARY

Enterprises that take advantage of the opportunities offered by digitization are perceived as modern and well-organized. Thanks to digitization, the work of controllers is much easier and more effective. Integrated systems and various software reduce the time spent on data collection and analysis. Digital transformation implemented in controlling may reverse the pyramid of activities. In short: The time saved in data merging and preparation can flow into value-adding analysis, planning and reporting activities.



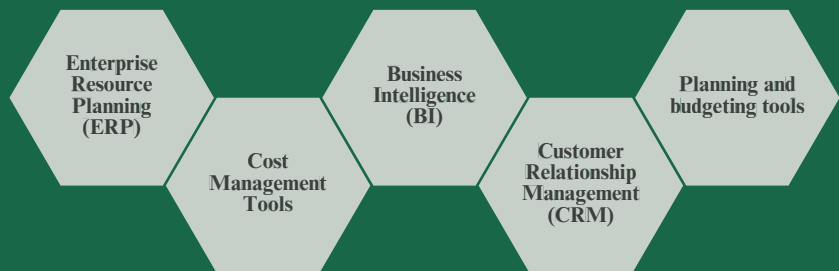
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- [6. https://oditk.pl/pl/wiedza/artykul/zobacz/controller-50-controlling-leaders-of-tomorrowday/](https://oditk.pl/pl/wiedza/artykul/zobacz/controller-50-controlling-leaders-of-tomorrowday/)

Information systems play an important role in controlling various aspects of an organization. They provide decision-makers with the information they need to monitor and manage the performance of the organization, make informed decisions, and take action to improve outcomes.



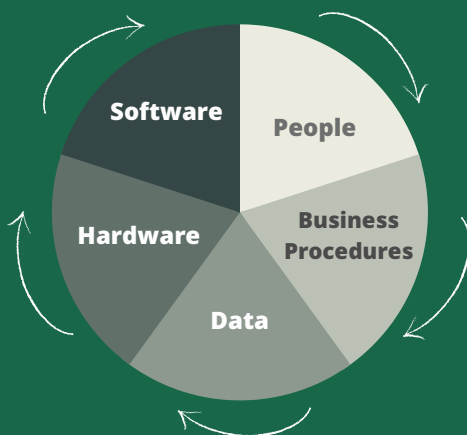
Information systems in controlling can include various tools and software, including:



- Enterprise Resource Planning (ERP) systems - used to manage enterprise resources such as finance, human resources, sales, purchases, etc.
- Cost management tools - enabling the collection and analysis of cost information from various sources.
- Business Intelligence (BI) systems - allowing for quick and accurate analysis of financial data in real-time.
- Customer Relationship Management (CRM) systems - used to manage customer relationships and analyze sales and revenue data.
- Planning and budgeting tools - enabling the creation of financial plans and budgets, as well as monitoring their execution.



- Information technology tools have many advantages for businesses. Here are some of the most important:
 - Improved efficiency
 - Process automation
 - Better data analysis
 - Increased security
 - Streamlined communication
 - Easier management
 - Accessibility and mobility



OPTIMIZATION
IMPROVEMENT

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DEVELOPMENT OF RPA

Intrudaction

ROBOTIC PROCESS AUTOMATION (RPA) IS A TECHNOLOGY THAT USES COMPUTER PROGRAMS TO AUTOMATE REPETITIVE, RULE-BASED ACTIVITIES. RPA BOTS MIMIC THE ACTIONS OF HUMANS, SUCH AS NAVIGATING COMPUTER SCREENS, ENTERING DATA, AND COMPLETING FORMS. THAT ARE USUALLY DONE BY HUMAN EMPLOYEES.



Utility

RPA CAN HELP ORGANIZATIONS TO IMPROVE EFFICIENCY, REDUCE COSTS, INCREASE ACCURACY AND PRODUCTIVITY, AND FREE UP HUMAN WORKERS TO FOCUS ON MORE COMPLEX AND VALUE-ADDED TASKS. RPA IS INCREASINGLY USED ACROSS INDUSTRIES AND FUNCTIONS, FROM FINANCE AND ACCOUNTING TO CUSTOMER SERVICE, HR, AND SUPPLY CHAIN MANAGEMENT.

General Use of RPA

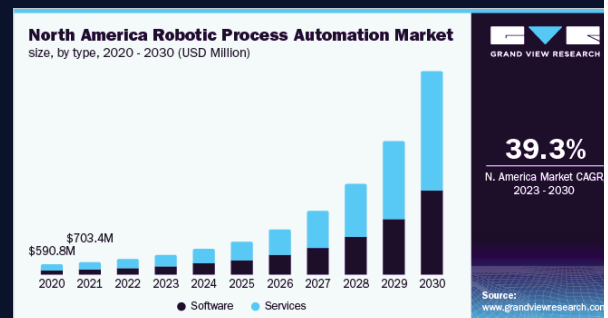


POPULARITY OF RPA

RPA IS VER RAPIDLY GROWING TECHNOLOGY. THE GROWTH OF RPA HAS BEEN DRIVEN BY SEVERAL FACTORS, INCLUDING:

- EASE OF IMPLEMENTATION
- IMPROVING ACCURACY, QUALITY AND COMPLIANCE
- COST-EFFECTIVENESS RPA IS OFTEN CHEAPER THAN TRADITIONAL AUTOMATION SOLUTIONS SUCH AS OUTSOURCING OR CUSTOM SOFTWARE DEVELOPMENT
- FITS ALL SIZE COMPANY SIZES
- IMPROVE BUSINESS SECURITY
- AUTOMATE IN NON-DISRUPTIVE WAYS

COVID-19 PANDEMIC HAS IMPACTED RPA DEVELOPMENT EVEN FASTER. FOR INSTANCE, 21% OF INDIAN FINANCIAL SERVICES RESPONDENTS TO THE REPORT "RPA IN THE APAC FINANCIAL SERVICES SECTOR" REPORTED THAT THEIR COMPANIES IMPLEMENTED RPA DURING THE COVID-19 PANDEMIC. BANKING, FINANCIAL SERVICES AND INSURANCE HOLDS THE LARGEST REVENUE SHARE IN 2022, ACCOUNTING FOR 28.8% OF THE OVERALL MARKET.



RPA TRENDS

CURRENTLY, THE ENTIRE ROBOTIC PROCESS AUTOMATION INDUSTRY IS GROWING RAPIDLY, HOWEVER, WE CAN OBSERVE SECTORS THAT ARE DEVELOPING IN EXTREMELY DYNAMIC WAY, IN WHICH WE CAN OBSERVE VISIBLE TRENDS

- IMPLEMENTING RPA IN ENTERPRISE RESOURCE PLANNING (ERP)
- LOW-COST RPA VENDORS AND HYPER-AUTOMATION SYSTEM WITH RPA
- THE RISE OF LOW-CODE PLATFORMS
- CLOUD-BASED RPA: BECAUSE THEY OFFER GREATER FLEXIBILITY, SCALABILITY AND COST-EFFECTIVENESS
- INTELLIGENT AUTOMATION: RPA IS USING AI AND MACHINE LEARNING TECHNOLOGIES MORE AND MORE FREQUENTLY, WHICH ENABLES ROBOTS TO IMPROVE THEIR PERFORMANCE BY LEARNING FROM EARLIER TASKS
- RPA AS A SERVICE: RPA VENDORS ARE NOW PROVIDING RPA AS A SERVICE, ENABLING BUSINESSES TO OUTSOURCE THEIR RPA REQUIREMENTS AND LESSEN THE WEIGHT OF INFRASTRUCTURE UPKEEP



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E-COMMERCE – PAYMENT METHODS IN POLAND

E-commerce refers to the buying and selling of products or services online. Payment methods in e-commerce are the different ways in which customers can pay for their purchases online. Here are some common payment methods in e-commerce:

- Credit and Debit Cards: This is the most common payment method in e-commerce. Customers can enter their card details on the website and the payment will be processed.
- E-wallets: E-wallets are digital wallets that allow customers to store their payment information securely. Some popular e-wallets include PayPal, Apple Pay, Google Wallet, and Venmo.
- Bank Transfers: This method allows customers to transfer funds directly from their bank account to the merchant's account.
- Cash on Delivery (COD): This method allows customers to pay for their purchase when it is delivered to their doorstep.
- Cryptocurrency: Some e-commerce websites accept cryptocurrency as a payment method, such as Bitcoin, Ethereum, and Litecoin.
- Buy Now Pay Later (BNPL): This payment method allows customers to purchase a product and pay for it in installments over time.

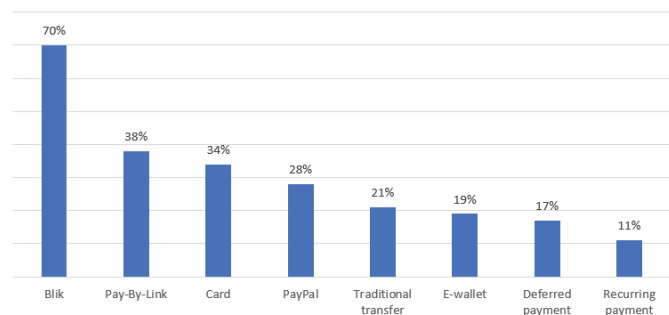
According to the National Bank of Poland, the total number of non-cash payments in Poland in 2021 was over 10.3 billion transactions, which is an increase of about 17% compared to the previous year.

The most popular non-cash payment methods in Poland are payment cards, including credit and debit cards. In 2021, the number of card transactions reached over 8.2 billion, which is an increase of about 15% compared to the previous year. Mobile payments, such as Google Pay and Apple Pay, are also becoming more popular in Poland. In 2021, the number of mobile payment transactions reached over 660 million, which is an increase of about 50% compared to the previous year.

Overall, non-cash payments are becoming more and more popular in Poland, and it is expected that this trend will continue in the future, as more people adopt digital payment methods and new technologies are introduced to the market.



Preferable online payments methods assessed by respondents 2020/2022*



Online payments refer to the process of conducting financial transactions over the internet, typically through a website or mobile app. This can include a variety of payment methods, such as credit and debit cards, e-wallets, bank transfers, and cryptocurrencies. Some of the key benefits of online payments include:

Convenience: Online payments can be made from anywhere at any time, making it easy for customers to make purchases or pay bills without needing to visit a physical location.

Speed: Online payments are typically processed much faster than traditional payment methods, which can take days to clear.

Security: Online payments can be made securely using encryption and other security measures to protect sensitive financial information.

Cost savings: Online payments can be less expensive than traditional payment methods, such as checks or money orders, which can incur additional fees.

Improved cash flow: Online payments can help businesses receive payments faster, which can improve their cash flow and reduce the risk of late or missed payments.

However, there are also some potential drawbacks to online payments, including the risk of fraud and identity theft, technical issues or glitches that can affect transactions, and the possibility of unauthorized access to financial information. Overall, online payments have become an increasingly popular way for individuals and businesses to conduct financial transactions, offering a range of benefits and potential drawbacks that should be carefully considered when choosing a payment method.

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*Survey made by SW Research commissioned by Tpay

ELECTRONIC BANKING SECURITY AND USER AWARENESS

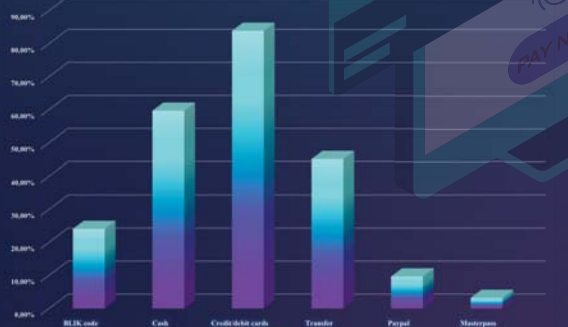
ENSURING THE REGULATION OF THE LEVEL OF SECURITY OF ADDITIONAL BANKING TO A LARGE DIMENSION. THE NATURE OF BANKING SERVICES FORCES BANKS TO USE COMPLETELY DIFFERENT SECURITY MEASURES THAN IN THE CASE OF GENERAL BANKING. HOWEVER, IT IS STILL DIFFICULT TO ASSESS WHETHER BANKS ARE IN POSSESSION OF CUSTOMER-SOURCED ANTI-FRAUD TOOLS. THE STUDY AIMS TO ASSESS THE IMPORTANCE AND TYPES OF DEPENDENCIES THAT ENABLE THE FUNCTIONING OF ELECTRONIC BANKING SERVICES IN POLAND.

OBJECTIVES:

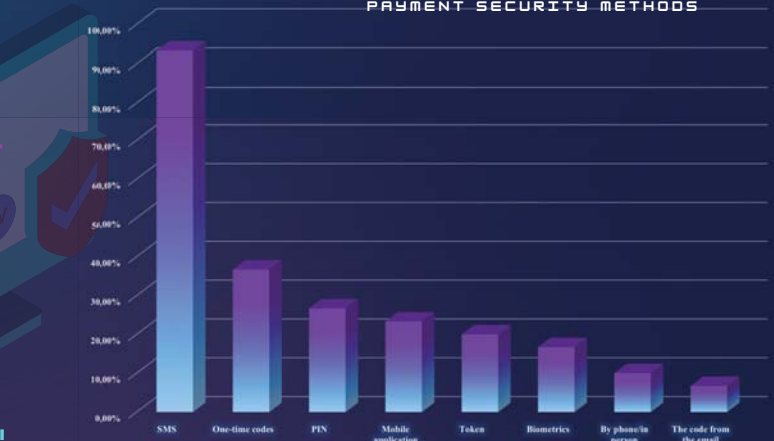
- ASSESSMENT OF THE IMPORTANCE AND TYPES OF ELECTRONIC BANKING THREATS,
- PRESENTATION OF THE MOST COMMON AREAS OF NEGLECT AND POTENTIAL CAUSES OF PROBLEMS WITH ENSURING ADEQUACY

RESPONDENTS' ANSWERS REGARDING THE KNOWLEDGE OF ELECTRONIC PAYMENT SECURITY METHODS

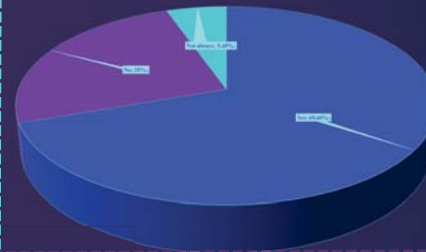
THE MOST POPULAR PAYMENT METHODS



FROM THE COLLECTED DATA, WE CAN SEE THE DOMINANCE OF DEBIT CARD PAYMENTS. INTERESTINGLY, WITH THE CURRENT TECHNOLOGICAL POSSIBILITIES, CASH PAYMENTS RANK SECOND. THIS MAY BE DUE TO THE LACK OF TRUST IN ELECTRONIC PAYMENTS AND THE FACT THAT THE MEDIAN AGE AND THE AGE STRUCTURE OF THE POLISH POPULATION HAVE CHANGED SIGNIFICANTLY OVER THE LAST FEW DECADES. WHILE IN 1990 PEOPLE OF PRE-WORKING AGE (I.E. 0-17) ACCOUNTED FOR 29.6% OF THE TOTAL POPULATION, IN 2018 IT WAS ONLY 18.1%. IN TERMS OF NUMBERS, THIS MEANS A DECREASE FROM 11.3 MILLION TO 6.9 MILLION. AT THE SAME TIME, THE PERCENTAGE OF PEOPLE AGED 65 AND OVER INCREASED FROM 10.2% IN 1990 TO 17.5% TODAY. THIS MEANS AN INCREASE OF NEARLY 2.9 MILLION PEOPLE.



OVER 69.6% OF RESPONDENTS FEEL DEFINITELY SAFE WHEN MAKING ONLINE PAYMENTS



THE DOMINANT THREAT TO INFORMATION SYSTEMS IS HUMAN ACTIVITY. TAKING INTO ACCOUNT THE ANSWERS AND CONCLUSIONS FROM THE PREVIOUS QUESTIONS AND THE DATA OF THE NATIONAL POLICE HEADQUARTERS, IT CAN BE SEEN THAT THE RESPONDENTS DO NOT WORRY ABOUT SECURITY IN EVERYDAY LIFE. WHAT MATTERS IS THAT THE SERVICE WORKS WELL, WHICH IS WHY THE SPEED AND CONVENIENCE OF A GIVEN SOLUTION ARE EMPHASIZED MANY TIMES. THE SECURITY OF BANKING SYSTEMS DOES NOT REMAIN IN THE MINDS OF USERS FOR LONG. MOST OF THEM ARE UNAWARE OF THE LURKING THREATS OR UNPLEASANT CONSEQUENCES. MANY OF THE RESPONDENTS PERSONALLY DID NOT EXPERIENCE ANY UNPLEASANT INCIDENTS. HENCE THE BELIEF THAT THEY CANNOT BE THE OBJECTS OF ATTACK, TRANSLATES INTO A FALSE SENSE OF SECURITY.

REFERENCES

ERRORS AND OMISSIONS OF PERSONNEL ARE, AS YOU CAN SEE, THE MAIN CAUSE OF THREATS, WHICH HAS BEEN MENTIONED FOR MANY YEARS. THIS IS MAINLY DUE TO HASTE, FATIGUE, IGNORANCE, POOR WORK ORGANIZATION OR HEALTH PROBLEMS. THESE TYPES OF THREATS INCLUDE MAINLY ACCIDENTAL DISCLOSURE OF INFORMATION AS A RESULT OF AN OPERATOR ERROR (E.G. SENDING DATA TO THE WRONG ADDRESS), ACCIDENTAL CHANGE OF FILE ATTRIBUTES (E.G. HIDDEN TO OPEN) OR ACCESS RIGHTS, USE OF "WEAK" PASSWORDS, UNINTENTIONAL DISCLOSURE OF THE ACCESS PASSWORD OR LEAVING THE COMPUTER ON WITHOUT PASSWORD PROTECTION, ACCIDENTALLY ENTERING INCORRECT DATA INTO THE SYSTEM, IMPROPER REMOVAL OF CONFIDENTIAL DATA, LOSS OF THE CARD USED FOR IDENTIFICATION AND AUTHENTICATION. FOR THIS REASON, IN ADDITION TO IMPROVING THE QUALITY OF SECURITY AND CREATING NEW TECHNOLOGIES, IT IS ALSO WORTH FOCUSING ON APPROPRIATE EDUCATION AND RAISING PEOPLE'S AWARENESS BY BANKS AND THE STATE. FORTUNATELY, MORE AND MORE INSTITUTIONS ARE PAYING ATTENTION TO THIS, WHICH CAN RAISE THE LEVEL OF PUBLIC AWARENESS

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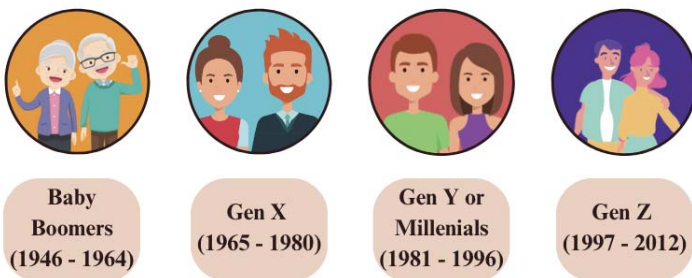
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- [HTTP://BZP.KGP.POLICJA.GOV.PL/](http://bzp.kgp.policja.gov.pl/) (DOSTĘP: 10.03.2023 R.)

GENERATIONS IN THE MODERN WORKPLACE

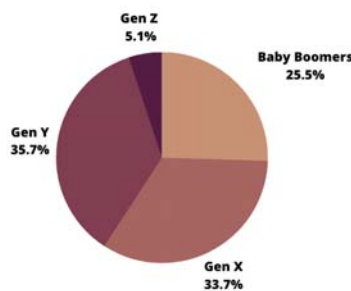
The purpose of this poster is to bring viewer closer look what people from the different generations expect from their work.

In recent years, the appearance of several generations in the workplace has been noticeable. This situation creates unique opportunities as well as many challenges for employers. The conscious and purposeful creation of multigenerational teams is an opportunity to make the best use of intellectual potential, fosters the development of new ideas, implementation of innovative solutions, and, above all, serves social integration. Unfortunately, in many organizations there tends to be resistance and reluctance to combine age-diverse employees in one team.³

Currently, 4 generations are distinguished in the labor market.



In Poland there is also the phenomenon of multi-generationalism. The labor market share of the baby boomers generations is 25%, generation X – 33%, generation Y – 35%, generation Z – 5%.



People from each generation bring different values and qualities to the workplace while expecting different needs.²

Baby Boomers expect occupational health benefits and the possibility to work until retirement

Gen X wish to be more independent, flexible at work managing a larger team.

Millennials want a stable and comfortable job in which they have the opportunity to develop their career.

For the **Gen Z** it is important to maintain financial security while taking care of their mental health.¹

Job prestige	53%	58%	64%	59%
Job security	44%	41%	41%	46%
Chances for growth	37%	46%	42%	33%
Flexibility	32%	36%	39%	34%
High earnings	25%	37%	27%	31%
Effective communication	18%	12%	11%	18%
Positive atmosphere at work	9%	14%	11%	14%
Work-life balance	1%	3%	4%	6%
	GEN Z	GEN Y	GEN X	BB

Tips for employers and HR departments how to go to potential candidates.⁴

	Baby boomers	Gen X	Gen Y	Gen Z
Attitude to change	Risk	Opportunity	Development	Normality
Communication preference	Facebook, YouTube, Google, press, radio, TV	Google, YouTube, Facebook, LinkedIn	Facebook, YouTube, Instagram	TikTok, Instagram, LinkedIn
Attitude to work	True to employer	True to profession	Work "with" employer, not "for" him	Flexibility for changing employer

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HOW WILL AUTOMATIZATION INFLUENCE FINANCIAL CONTROLLER'S WORK?

Overall, automation in the work of a financial controller is likely to bring significant benefits in terms of efficiency, accuracy, and data-driven insights. However, it is important for financial controllers to continue to develop their skills in order to remain competitive in the changing landscape of finance. Financial controllers will need to be able to leverage automation to their advantage while still providing the human expertise and judgment that is essential to effective financial management.

Automation is likely to have a significant impact on the role of a financial controller in the coming years. Here are some of the ways that automation is likely to change the work of a financial controller:

- 1. Improved data management:** Automation will enable financial controllers to manage large amounts of financial data more efficiently. This will allow them to identify trends and insights that can inform business decisions more quickly.
- 2. Increased accuracy:** Automation can reduce the risk of errors in financial reporting by automating many of the manual tasks involved in data entry, validation, and analysis.
- 3. Streamlined compliance:** Automation can help financial controllers to stay up-to-date with changes in financial regulations and compliance requirements. This can reduce the risk of non-compliance and improve the accuracy of financial reporting.

Advantages and disadvantages of automation in the work of a financial controller.

Advantages:

- **Increased efficiency:** Automation can help financial controllers to streamline many of the repetitive tasks involved in financial management, allowing them to focus on more strategic tasks.
- **Improved collaboration:** Automation can improve collaboration between different departments within an organization by providing access to real-time financial data.
- **Real-time data:** Automation can provide financial controllers with access to real-time financial data, allowing them to make more informed decisions about financial management.

Disadvantages:

- **Initial investment:** Implementing automation technologies can require a significant initial investment, which may be a barrier for some organizations.
- **Training and expertise:** Financial controllers will need to develop the necessary skills and expertise to effectively use automation technologies, which may require additional training.
- **Risk of job loss:** Automation technologies can replace certain tasks that were previously carried out by financial controllers, potentially leading to job loss.

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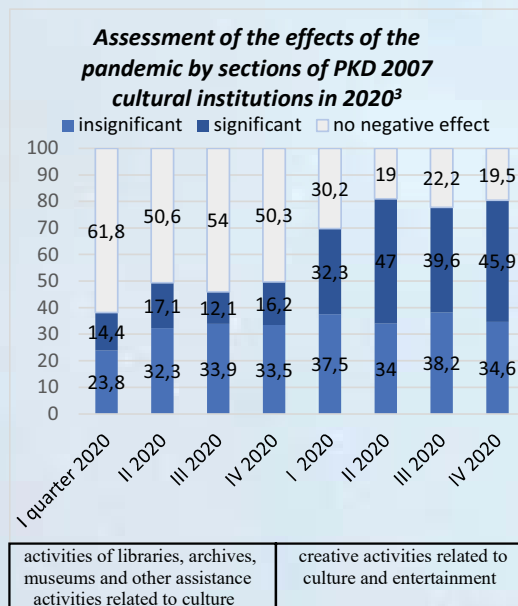
THE CULTURAL AND CREATIVE INDUSTRIES DURING THE PANDEMIC

The cultural and creative industries

Culture, entertainment and tourism were some of the most affected areas of the pandemic. The fight against the epidemiological threat involved total or near total closure of activities. Moreover, despite the importance that cultural industries have for society, they do not generate essential products or services, therefore, in the face of the sanitary and economic situation, they lose their audience quicker.¹

Lockdowns

The pandemic also had a dramatic impact on the situation of the cultural institutions. Sanitary restrictions have greatly reduced or have completely frozen the possibility of using cinemas, operas, philharmonics, theatres, museums or galleries. Lockdowns and restrictions on the functioning of the businesses contributed to a significant deterioration in the living conditions of many creators and artists and people associated with them. Difficulties caused by the pandemic had an extremely negative impact on this group due to the lack of legal regulation of the status of an artist and unstable employment conditions (temporary contracts, irregular work)².



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⁴ Fundusz wsparcia kultury – rekompensata strat czy strategiczna interwencja

The purpose of the poster

The purpose of this poster is to present the impact of the COVID-19 pandemic on the cultural and creative industries and how they managed to cope with it.

Organization of cultural events

Cultural events have been partially transferred to the virtual world. As a result, various groups and profiles on social networks have been created, where you can watch theatre performances, live concerts, meetings with writers or online visiting museums or exhibitions. Many artists have also opened up to new forms of contact with the audience. Meetings, workshops, lectures and discussions related to culture were organized via the Internet. Nevertheless, the lack of direct contact with the recipient was a significant barrier to the implementation of the planned projects. The problem also was lack of appropriate equipment, the difficulty in creating a specific type of work in digital form, the reluctance of some the public to attend or pay for online participation in a cultural event.

Total support and number of the Fund beneficiaries

	Number of beneficiaries	Average support	Total support
Self-government artistic institutions	144	657 k PLN	94 716 434 PLN
Non-governmental organizations	306	126 k PLN	38 578 661 PLN
Entrepreneurs	448	203 k PLN	90 959 964 PLN
Companies providing scenic and technical back-up services	1166	150 k PLN	175 235 109 PLN

Co-financing from the culture support fund

The Culture Support Fund is an instrument of financial assistance for the cultural sector based on the Regulation of the Council of Ministers of September 30, 2020 on financial support for entities conducting cultural activities in the field theatre, music or dance. For financial assistance under the 400-million budget of the Support Fund 2,246 entities running cultural activities in theatres, music or dance.⁴

Conclusions

To sum up, the pandemic had an enormous impact on the cultural and creative industries. Due to the lockdowns, most cultural institutions were forced to shut down. Most artists suffered from a significant deterioration in the living conditions, which led to many of them changing profession.

Implementation of controlling in the enterprise

Stages of introducing controlling in the company

How to introduce controlling in the company?

Stage I - preparations for the implementation of controlling in the enterprise

The stage of preparation for the implementation of controlling in the enterprise is full of ideas and goals, which is why the concept we adopt is a challenge. At this stage, we estimate the benefits that the introduction of controlling will bring us. For some it will be the development of the organization, for others the optimization of the current situation of the company. For others, the implementation of controlling tasks allows them to achieve a higher level of management.

And all this is connected by one idea: access to more detailed, up-to-date and reliable information, which is to serve better decisions made by managers, to increase the effectiveness of the entire organization through controlling.

In this phase, the main task is to define the goals: What should be the purpose of the implemented controlling? What do we want to achieve once it starts operating?

Is controlling to be focused only on the company's finances or is it supposed to implement the broadly understood goals of the company through proper planning, coordination and control of the actions taken? Or maybe it is to improve the acquisition and management of information? The answers to these types of questions determine the direction for the design of controlling in a given enterprise.

Stage II - designing controlling in the enterprise

The stage of designing controlling in an enterprise abounds in organizational, technical, and mental and social barriers and obstacles.

The concept of controlling is to be a stimulator of ideas and an initiator of changes that will support the implementation of strategic goals of the company. Unfortunately, many managers are overly afraid of implementing these methods. The company that plans to implement them wants the controlling methods to be effective and work efficiently. Importantly, an overly complicated and advanced controlling model, not suited to the characteristics of the company, will lead to frustration and reluctance. Too complicated methods will absorb too much time of managers and controllers. As a result, this may lead to withdrawal from controlling concepts in a given organization.

Frequent concerns

For example, I often meet managers with fear of too much emphasis on budgeting or producing reports in numbers overwhelming the recipients. The budget should not be an end in itself, but should be used to limit resources and control the current state. On the other hand, the controlling report only makes sense when it is read and used to make decisions. At the implementation stage, I encountered an "anti-post" attitude among non-financial departments (e.g. production or support). Over time, however, it turned out that a good concept of presenting data (targeted at a specific recipient) and appropriate visualization strengthened the expost analysis and accelerated the reaction in the case of negative partial deviations so as to "save" the achievement of the goal at the end of the reporting period.

The most important thing is to break old rules, arrangements, beliefs. Look at the organization anew and build a controlling model tailored to its needs.

Finances

One of the barriers when making a decision to introduce controlling is the financial issue. Smaller companies often cite high implementation costs as a barrier to the implementation of controlling concepts and tools. And this is about the costs of employing controllers or acquiring competences. In addition, time shortages cause the fear that investing in reports, and then their thorough analysis, will consume time, which is not enough anyway. The belief that the company has so far functioned without controlling is often so strong that it is impossible to change.

Organizational changes

Larger enterprises cite organizational changes that would force a new controlling model as a fear in the implementation of controlling. They also raise the risk that this system will increase bureaucracy and the costs of its operation.

Efficient tools

An additional aspect that strengthens the financial barrier is the need to equip the company with an efficient IT system for controlling. The constantly growing amount of collected data, the amount of information to be analyzed, the need to look at the organization and economic events from different perspectives generate the need to choose an effective tool.

The currently available controlling tools give specific benefits and quality in this area. Thanks to cheaper technology and flexible supplier offer, they are now affordable even for small companies. They are also, like the Eureka system, available on a subscription basis. Importantly, some tools have ready-made controlling models, sets of indicators and reports developed by controlling practitioners and experts, and their suppliers also offer training and substantive support. In the field of controlling tools, there have been major changes over the last 5 years, with great benefit for their users.

Sources: <https://www.controlling-systems.pl/blog-o-controllingu/bariery-we-wdrzaniu-controllingu-w-przedsiębiorstwie/?fbclid=IwAR3PmK0mgxDAUPHK5xw08vF3G0mmufvt-b-Cx-95iWwlQrYXj-TWXs-07M>



Stage III - implementation of controlling in the enterprise

At the stage of implementing controlling in the enterprise, the company faces the challenge of implementing changes with the help of specialists from external companies, or using the existing resources, knowledge and experience of employees.

When the implementation team includes employees on the client's side, their willingness to develop and motivate to new challenges is one of the key elements of the project's success. The potential of employees and their experience may positively influence the perception of the project by other organizational units that will cooperate with the controlling department in the future.

The role of employees

In the organization, the controlling implementation team must convince internal customers to its model. Often employees mistakenly identify controlling as control. Most often, this is due to the fact that training in this field is intended only for economic departments. Hence the very strong perception of the link between controlling only and the financial aspect of the company's operation. Training and meetings of future cooperators with the controlling department should concern operational and technical departments and their processes. Making employees aware of the common benefits of controlling thinking is the key to overcoming all internal barriers. Thanks to the open attitude of the implementation team, the project has a chance of success and understanding. The involvement of cooperating departments is one of the elements of the correct functioning of the controlling model in further stages.

Unfortunately, there is often reluctance to set goals and strategies among cooperating departments. By setting a specific, measurable and concisely formulated goal, for which a time has been set, it is easy to verify whether it has been achieved. A difficult but feasible task of the implementation team is to present the concept of controlling in such a way that all participants of the implemented processes treat them as helpful tools in developing strategies for achieving the goals of individual units. Due to the fact that one of the tasks of controlling is to identify bottlenecks, this may cause reluctance to reveal untruths or inefficiencies, and as a result, affect the entire organization.

How important is motivation?

Every organization has its own factors that influence the motivation of its employees. Each organization should be approached individually. However, the motivation of people and their initiative are extremely important for the proper functioning of all processes taking place in the organization. Success in identifying bottlenecks and identifying places to improve efficiency depends on the involvement of people in the previously established controlling processes. In addition, motivation and initiative are important to bring these repair processes to fruition and, as a result, to obtain much more effective processes.

The quality of the controller's work and the effect of his work for the company result to a large extent from his attitude. At this stage, the key decision becomes the selection of people for the controlling team. Substantive preparation, experience and competences are unquestionable, but one should not forget about such features as commitment, willingness to learn, focus on cooperation in a team and with an internal client, courage and independence.

Stage IV - exploitation of controlling in the enterprise

The exploitation stage is the last and the longest stage of the functioning of controlling in the enterprise. However, as it may seem, it does not have to be stable and unchanging for years. Controlling, due to its function supporting management, can take various forms depending on organizational and personnel changes to overall changes in the organization's strategy. The challenge for the controller is to be flexible, committed and at the same time professional in his tasks. The recipe for smooth adaptation to changes is the controller's open attitude to development, learning new methods and directions of controlling development.





IMPLEMENTATION OF THE PROCESS APPROACH IN A MUSIC INDUSTRY COMPANY

Paweł Król
Jakub Łakomicz
Anita Byś



The research was carried out with the music band „Chłopcy z Placu Broni”. An interview with the band's manager not only allowed information to be obtained on the course of individual tasks (which take place during the organisation of a concert or the release of an album), but also an understanding of these processes. Awareness and understanding of all the activities that take place during the realisation of projects is a key element that allows improvements to be implemented in existing processes.



Questions posed when conducting the survey:

- Can process times be reduced?
- Can the costs associated with the process be reduced?
- Can the number of tasks to be performed be reduced?
- Will working with external service providers allow for a more efficient operation?

The survey carried out at the company made it possible to identify the many steps that need to be followed to implement a process. The analysis and conclusion period lasted one year. Such a period of time allowed for a thorough understanding and analysis of the processes that take place within the studied entity, i.e. the band "Chłopcy z Placu Broni". The first stage of learning about processes did not pose any major problems. This is due to the fact that the band has extensive experience of both new music releases and organising their own concerts. Complications, however, began to arise when analysing the processes under investigation. Understanding the different stages and activities went smoothly. Both the manager and the band members are aware of the tasks to be performed. However, they have no knowledge or experience of the process approach to running a business. Hence, it is essential to define objectives on the basis of the research done. These objectives will allow the company to implement improvements that will directly contribute to the better functioning of the organisation.

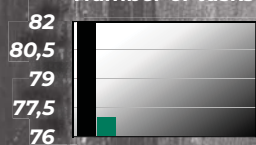
- Businesses belonging to the music industry rarely have the knowledge and competence of a process approach to management,
- The processes existing in the business are not subject to modernisation or analysis,
- The activities carried out within the processes are not in any way systematised and thoroughly thought through,
- Some of the tasks are not carried out by specialists in the field, but in-house, which contributes to a reduction in efficiency and an increase in the duration of the tasks,
- Instead of solving problems comprehensively, each issue is dealt with separately.



Recommendations:

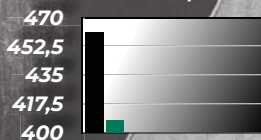
- Courses and training for managers on process management in the company,
- Implementation of the acquired knowledge and the process approach into company life,
- Analysis of activities, tasks and whole processes in order to optimise their duration and efficiency of execution,
- Employing specialists needed to perform tasks more efficiently, e.g. in connection with running a promotional campaign for a music album.

Number of tasks



■ Before ■ After

Work Time (1000 min)



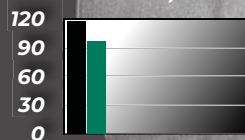
■ Before ■ After

Cycle time (1000 min)



■ Before ■ After

Waiting Time (1000 min)



■ Before ■ After

With the introduction of the recommendations:

- The number of tasks for which stakeholders involved in the processes were responsible was reduced,
- The duration of the work performed and the waiting time between activities has been reduced,
- The marketing campaign for the promotion of the music album will be carried out much more efficiently,
- During the consultation of the music event plan with the city authorities, transport costs will be incurred, but the personal meeting will avoid ambiguities and the whole plan will be analysed in one day.

Source: Król P., IMPLEMENTACJA PODEJŚCIA PROCESOWEGO W PRZEDSIĘBIORSTWIE BRANŻY MUZYCZNEJ, Kraków 2021.



Implementation of the process approach on the example of handling theater events

The process approach is a way of thinking that involves understanding and planning the sequence and interactions of processes within a system. To apply the process approach, we analyze our processes to determine how they interact with each other. This allows us to gain a deeper understanding of our system and identify areas for improvement. By using this method, we can optimize our processes to achieve our organizational objectives and continuously improve our performance.

The aim of the poster is to describe of implementing the process approach in company from cultural branch, as well as streamlining the analyzed bidding process and the audience service process



The process approach started with the selection of the object to be tested, followed by a survey in which the characteristics of the company were examined.

The next step was to select the processes to be tested. The two most important and frequently occurring processes in the selected object were chosen, and then described in detail.

The next step was to create process maps, which made it possible to visualize and analyze the processes from beginning to end. This stage also involved creating documentation that allowed for the preparation of reports describing the exact activities and how to perform them.

The final stage of the study involved recommending improvements for the processes and creating improved maps.

The last stage of the research involved creating process dashboards

Thanks to improvements of the audience service process:



Cost fell by 64 zloty



Has been shortened by 1450 minutes

Thanks to improvements of the bidding process:



Cost fell by 245 zloty



The number of owner quests has been decreased by 11

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INNOVATIONS AND INDUSTRY 4.0



Objective of the poster:

Promoting understanding and awareness of artificial intelligence and its impact on society and the future, can encourage people to better understand what artificial intelligence is, what its capabilities and limitations are.

Here are a few ways in which new technologies and innovations are impacting the economy:



1. Increased efficiency and productivity - New technologies enable process automation and increased productivity in the industry. As a result, companies can produce more goods in a shorter time and at lower costs.

2. Development of new industries and sectors of the economy - New technologies open doors to the development of entirely new industries and sectors of the economy.



3. Creating new jobs - The development of new technologies contributes to the creation of new jobs in industries related to the development of these technologies, such as engineering, programming, or research and development.

THE FUTURE IS TECHNOLOGY

INTERESTING APPLICATIONS OF BUSINESS INTELLIGENCE

Business intelligence (BI) refers to the technologies, strategies, and practices used to analyze and make sense of data in order to inform business decisions. BI can be used in a variety of industries and functions, such as sales, marketing, finance, operations, and human resources.

The aim of the project is to present interesting and unusual applications of Business Intelligence and to show in which industries and areas BI is used.

Business intelligence (BI) has numerous interesting applications, including:

- Data-driven decision making: One of the most important applications of BI is to help businesses make better decisions. By analyzing data from multiple sources, BI tools can provide insights into various aspects of a business, such as customer behavior, sales trends, and operational efficiency, which can inform decision-making.
- Fraud detection: BI tools can help businesses identify suspicious patterns in their financial data, such as unusual transactions or discrepancies in accounting records. By detecting fraud early, businesses can minimize losses and protect their reputation.
- Competitive analysis: BI tools can help businesses analyze their competitors' strategies, products, and market positioning. By understanding the competition, businesses can develop more effective strategies and stay ahead of the curve.
- Customer profiling and analysis: BI can be used to analyze customer data to identify patterns and trends in customer behavior, preferences, and needs. This information can be used to create targeted marketing campaigns and to improve customer retention.
- Supply chain optimization: BI can be used to analyze supply chain data to identify bottlenecks, optimize inventory levels, and reduce lead times. This can lead to significant cost savings and improved customer satisfaction.



In the catering industry, with a BI system we can also see which waitress or waiter is performing best. By comparing turnover from different shifts, we are able to venture a guess as to who performs the best service.

curiosities

The lighter the plane, the less fuel used and therefore the greater the savings, so American Airlines has removed one olive from the Greek salad served during travel. Southwest chain staff started cutting (for drinks) a lime into 16, rather than 10 slices as before.



Virgin Atlantic has replaced the glassware of glasses and goblets with thinner glassware. Carrier United replaced the paper on which magazines (with articles and duty-free offers) were printed with lighter paper.

And so on. The result? On a per-passenger basis, the saving is almost imperceptible, but globally, on an annual basis, it is up to several million dollars!

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Methods and good practices of automatisation of data flow in remote work

Alicja Czerska
Klaudia Olchawa
Karolina Sordyl

Introduction

The rise of remote work has brought about a significant shift in the way organizations operate. With teams dispersed across different locations and time zones, managing data flow has become increasingly complex.

To ensure seamless communication and collaboration, automating data flow has become an essential practice for remote teams. Automating data flow not only saves time and improves efficiency but also minimizes the risk of errors and ensures data accuracy. In this context, it is essential to understand the methods and good practices of automating data flow in remote work. In this poster, we will explore various techniques and best practices that can help remote teams automate their data flow effectively.

Purpose of poster

The purpose of exploring the methods and good practices of automating data flow in remote work is to provide guidance and recommendations for remote teams to optimize their data flow processes.

Examples of techniques and practices

- Use cloud-based software and tools for data storage, collaboration, and automation. For example, Google Drive, Dropbox, and Microsoft OneDrive offer cloud-based solutions for remote teams to store, share, and collaborate on data.
- Implement workflow automation tools such as Zapier, IFTTT, or Microsoft Power Automate to automate repetitive tasks such as data entry, file transfers, and notifications.
- Standardize data formats and naming conventions to ensure consistency and ease of data processing across the team.
- Use virtual private networks (VPNs) to ensure secure and encrypted communication and data transfer between team members.
- Use data visualization tools such as Tableau, Power BI, or Google Data Studio to create clear and insightful visual representations of data.
- Implement access control and permission settings to ensure that team members only have access to the data they need to perform their tasks.
- Use automated backups to prevent data loss and ensure data recovery in case of unexpected events.
- Regularly review and audit data flow processes to identify areas for improvement and optimize the efficiency of the system.

Problems of Methods and good practices of automatisation of data flow in remote work

- Different software and tools may not be compatible, which can cause issues with data transfer and integration.
- Automating data flow can create new security vulnerabilities and increase the risk of data breaches, especially when using cloud-based storage and collaboration tools.
- Setting up and configuring automation tools can be technically challenging, requiring specific skills and expertise.
- Some automation tools may not be fully customizable to meet the unique needs of the team, leading to inefficiencies and frustration.
- Some automation tools may come at a high cost, which may not be feasible for small or budget-conscious remote teams.
- Over-reliance on automation may lead to complacency and lack of attention to detail, potentially leading to errors and inaccurate data.
- Some team members may be resistant to changes in the data flow process, leading to resistance or reluctance in adopting new automation practices.

Conclusion

In conclusion, automating data flow in remote work can be a powerful tool for increasing efficiency, productivity, and accuracy in data processing. By implementing best practices and techniques such as using cloud-based tools, workflow automation, data standardization, and access control, remote teams can streamline their data flow processes and achieve better outcomes. However, it is important to be aware of potential problems such as compatibility issues, security concerns, technical challenges, lack of customization, cost, over-reliance on automation, and resistance to change. By addressing these challenges, remote teams can successfully implement data flow automation and enjoy its many benefits. Ultimately, optimizing data flow automation can contribute to the success of remote teams and organizations in the current era of remote work.

NEW GENERATION MEDICINE

PURPOSE OF THE POSTER

The purpose of the poster is to present the difference between telemedicine and traditional approaches for diagnosis in terms of costs and what new devices are emerging in the medicine right now.



TELECONSULTATION

Remote provision of medical services has already become our everyday reality. Thanks to telemedicine, the need to directly use medical facilities has been minimized, in favor of chatbots using artificial intelligence, telephone and online consultations, e-prescriptions, electronic medical records or mobile applications monitoring health. Telemedicine enabled access to doctors from the comfort of home, shortening the waiting time for a specialist and improving diagnostics.



The total costs when there is mix of 18% share of the population using telemedicine approaches vs. 82% using traditional approaches are lower than the total costs in a situation with 100% individuals using traditional approaches (81.2 euros and 89.4 euros respectively), indicating a clear dominance of telemedicine solutions over traditional approaches for diagnosis, treatment and monitoring. In this case, the general costs per patient (standardised by the EU population including the EEA area) represent 7.8 euros per individual using telemedicine tools and services and 73.3 euros using traditional approaches for diagnosis, treatment and monitoring.

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WRISTBAND

The global market may see sets of devices that allow the patient to carry out tests that until now could only be carried out in a doctor's office. An example of such a device that is already available is Viatom Checkme, a wristband that allows the recording of an increasing amount of data. Its latest version allows you to track your heart rate, measure blood pressure, pulse, analyze the quality of our sleep and check the level of oxygen in the body.

THE ROLE OF SMARTPHONES

The smartphone has a chance to become our medical "hub" - a center for acquiring, storing and sharing knowledge about our health condition. Their growing computing power and personal nature should result in a flood of applications whose task will be to record and process data about our health.

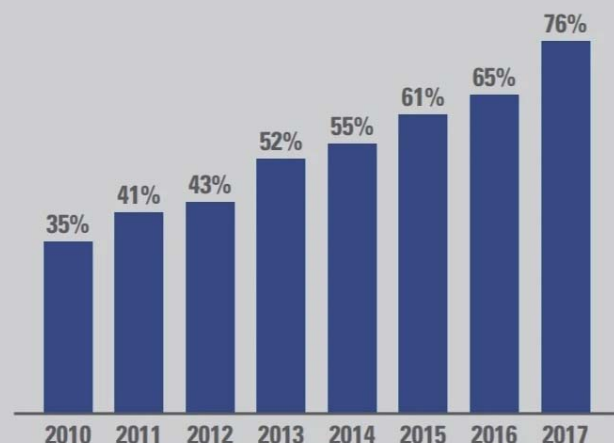
SENSORS

Today, work is already underway on sensors that will allow us to process signals coming from the recesses of the human body. In the future, a sensor placed in the mouth will allow us to examine the state of the teeth, breathing, and even jaw function. Certainly a useful thing before visiting the dentist or a doctor examining the condition of our lungs.

RESEARCH CHART

Use of telehealth in hospitals has grown rapidly.

Percent of hospitals fully or partially implementing computerized telehealth system, 2010-2017



Source: 2011 to 2018 AHA Annual Survey IT Supplement

OCR AS OPTIMIZATION OF PROCESSES IN ACCOUNTING

Introduction: OCR (Optical Character Recognition) is a technology that can help automate the process of data entry in accounting. OCR software can recognize text from scanned documents, images, or PDFs, and convert it into editable and searchable data.

The objective of this poster is to demonstrate how OCR technology can optimize accounting processes by automating data entry, improving accuracy, and reducing costs. The poster will highlight the benefits of OCR technology in accounting, explain how it works, and provide examples of its use in various accounting processes. The goal is to educate the audience on the potential of OCR technology to revolutionize accounting workflows and provide them with insights on how they can adopt OCR technology to optimize their own accounting processes.

Benefits of OCR in Accounting: OCR technology can help optimize accounting processes in several ways. Firstly, it can save time by automating the manual data entry process, allowing accountants to focus on more value-adding activities. Secondly, OCR can reduce errors and improve accuracy by eliminating human errors that are often associated with manual data entry. Finally, OCR can help save costs by reducing the need for additional staff and increasing efficiency.



Benefits of OCR in Accounting: OCR technology can help optimize accounting processes in several ways. Firstly, it can save time by automating the manual data entry process, allowing accountants to focus on more value-adding activities. Secondly, OCR can reduce errors and improve accuracy by eliminating human errors that are often associated with manual data entry. Finally, OCR can help save costs by reducing the need for additional staff and increasing efficiency.

How OCR works: OCR technology uses a combination of image processing, pattern recognition, and machine learning algorithms to extract text from images. The software analyzes the image, identifies characters and words, and then translates them into digital text that can be edited and searched.



OCR use cases in Accounting: OCR can be used in various accounting processes such as invoice processing, bank statement analysis, and receipt management. For example, OCR can be used to extract data from invoices and match them to purchase orders or delivery notes, which can help automate the accounts payable process. Similarly, OCR can be used to extract data from bank statements and receipts, which can help automate the expense reporting process.

Limitations of OCR: Although OCR technology has numerous benefits, it is not without limitations. OCR can be affected by poor image quality, low resolution, and variations in fonts and handwriting. Therefore, it is important to ensure that the quality of the source material is of sufficient quality to ensure accurate OCR results.



Conclusion: OCR technology has the potential to revolutionize accounting processes by automating data entry, improving accuracy, and reducing costs. However, it is important to understand the limitations of the technology and to use it in conjunction with other tools and processes to optimize accounting workflows.

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ONLINE BANKING INNOVATIONS IN MODERN ECONOMY



INTRODUCTION

Self-service banking has become not just a want but a necessity. Banks tend to invest more in innovations in order to gain competitive advantage. Online banking is an example of digital transformation, which has gradually expanded worldwide.

OBJECTIVES

The purpose of this poster is to draw viewer's attention to digital channels trends in e-banking and mobile banking

DEFINITION

Managing bank accounts and conducting financial transactions over the Internet using a computer or mobile device outside the regular opening hours of bank branches - at any time and from anywhere in the world.

SOURCES

- <https://www.usertesting.com/glossary/s/self-service-banking>
- <https://www.thebalancemoney.com/what-is-an-online-bank-315204>
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- <https://www.businessinsider.com/ai-in-banking-report?IR=T>

BENEFITS

Benefits for banks	Benefits for clients
<ul style="list-style-type: none"> ➤ Handing over part of bankers' duties to customers ➤ Personalized offer increases customer interest in new products and their satisfaction ➤ Increase in sales thanks to omnichannel services ➤ Reducing paperwork, which has a positive environmental impact ➤ Lower front office costs due to fewer employees and branches required 	<ul style="list-style-type: none"> ➤ Possibility to open new account from home ➤ Unlimited access to user accounts ➤ Easy money transfer process ➤ Speed loan application process ➤ Continuous account monitoring and convenient budgeting application at fingertips ➤ Personalized offer which predicts customer needs ➤ Security assured – online banking is considered as safer than traditional banking

INNOVATIONS

One of the most popular innovation in Poland is Blik. This is a payment system, which allows users to make instant payment by using a 6-digit one-time code. Another one, which is used by many smartphone or smartwatch owners, is NFC mobile technology. It is based on contactless payments that exchange data between readers and payment devices (like Apple Pay and Google Pay e-wallets). A new innovation that is just being implemented in Polish banks is the use of Blockchain in electronic banking. Blockchain technology provides a way for untrusted parties to come to an agreement on the state of a database, without using a middleman. Innovation, which makes using online banking safer is biometric authentication. Identifiers like facial features, fingerprints and voice are a part of developing area of online banking. Currently, customers not only log into the application in this way, but can also approve payments. Banks are also using artificial intelligence across multiple channels: front office (chatbot, voice assistant), middle office (risk management, fraud detection) and back office (processing applications for opening accounts, underwriting).



Outsourcing - conceptualisation of the concept

Outsourcing is the unbundling of a company's business processes and outsourcing them to external parties who are able to perform the processes more efficiently in a shorter period of time. Outsourcing controlling services undoubtedly makes it possible to exploit their potential for forecasting a company's economic situation and planning its future. It is also a factor in which staff are better able to cope with crisis situations. A controlling department adapted to the enterprise makes it possible to prepare periodical budgets, financial plans, assumptions for future investments. It serves the ongoing monitoring of the set objectives and financial results. This enables owners and management to react quickly to any irregularities.



It is almost impossible to imagine outsourcing the most strategic services for a company, and such is without a doubt controlling. And yet, in specific cases, just such a solution can become a source of knowledge and strategic support for the management. Inspiration comes from the top, from the largest corporations, which for a long time have concentrated all controlling in a shared service center, employing local specialists who analyze all processes, with specialized software at their disposal. The price of using even just management software like ERP, Big Data Analysis, or similar in a shared service center is radically lower than in each of the business units for which this center performs controlling.

Outsourcing controlling is designed for fast-growing companies, where revenue and employment levels have recently increased.

Outsourcing is more profitable and will bring more benefits in smaller companies, where the arrangement of the process is much simpler and more efficient. The condition, however, is that the external advisor has the opportunity to get to know the company and be treated not as a service provider, but as a partner to assist in making good decisions.

STRENGTHS

- **cooperation with companies that offer professional treasury management and accounting services**
- financial benefits - does not force the need to develop these areas in-house, through additional training
- external companies take the risk and bear the financial consequences in case of violation of legal regulations, failure to meet deadlines

WEAKNESSES

- entities choosing to outsource may lose important information and technology that is part of their core competencies
- there is a possibility of choosing the wrong outsourcing company with inadequately qualified staff or practical experience, which may reflect on the quality of the outsourced products and services

In 2023, there will be many changes in outsourcing that will affect businesses:

NOW

The advantage of the nearshore model:

in this model, geographic distance is important, company processes are focused on smaller distances, and efforts are made to reduce cultural differences, no need to adapt to a different mentality. This is to help establish daily relationships and facilitate understanding. In Europe, this trend is most popular in Poland and the Czech Republic.

Sourcing the best specialists:

this involves finding the best specialists, who can come from any part of the world. These are supposed to be talents who will provide a given company with more than another employee. Hiring the best specialists is related to the development of artificial intelligence, which is increasingly used in various processes carried out by companies.

Need for advanced technologies:

in 2023 will increasingly rely on advanced technology. The main focus will be on machine learning and process automation. Emphasis will also be placed on cloud computing.

Maintaining business continuity:

it will be important to maintain a business relationship between the seller and the buyer. These activities are expected to minimize changes in the company.

Focus on flexibility:

quickly adapting to changes in the environment, new work models: for example, working remotely or working 4 days instead of 5 days

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<https://www.controlling-24.pl/artykul/controlling,outsourcing-controllingu-czy-jest-mozliwy-czy-ma-sens>

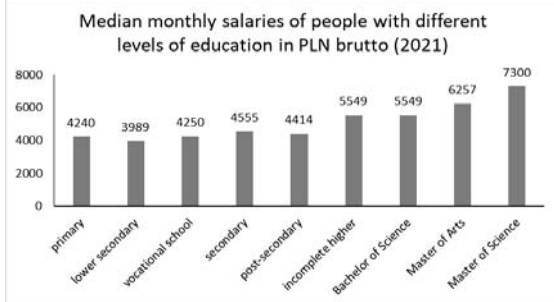


OVERVIEW OF LABOR MARKET FROM YOUTHS PERSPECTIVE.

The poster presents literature and business reports overview of selected aspects about the labor market of young and students who are just starting their professional career. It focused mainly on: what are the main factors in choosing an employer and what are the desired technical and language skills, the difference in defining internships and apprenticeships was presented.

The purpose of the poster is to show various aspects related to the youth labor market and the opportunities it offers. But also to illustrate how young people perceive the labor market and employers. In addition, how does young fit into globalized world with required English skills and knowledge of professional IT tools.

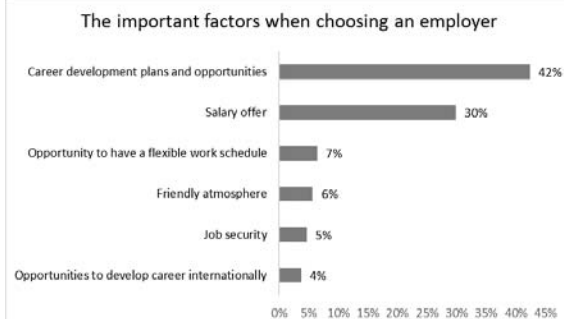
Earnings increase significantly as the level of education increases. People with a master's degree earn up to 30% more than the average¹.



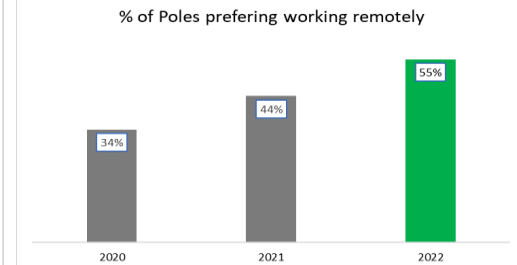
Basic differences between internship and apprenticeship⁵:

	Internship	Apprenticeship
Duration	Counted in months; usually 1-6 months	Counted in weeks
Type of contract	Two-sided (student – employer)	Tripartite (student – university – employer)
Salary	Yes	Often not
Purpose and content	Acquisition of an initial range of knowledge, skills and competences in a specific field	Career orientation in a given professional field
On-the-job learning	Important as well as classes	Usually complementary to classes; additional option

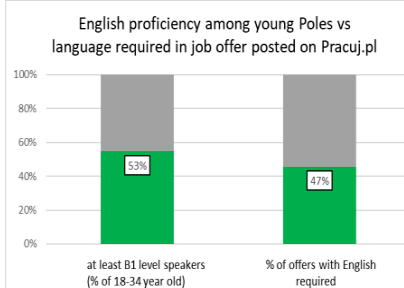
An observation worth noting is the fact that young people value career development plans and opportunities above salary offer. However, these are two the most important factors when choosing employer².



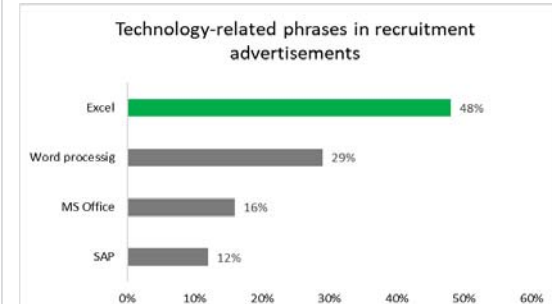
Fewer and fewer young people choose to work from the office. 54,5% of young Poles prefer working remotely to working on-site⁶.



The analysis of job offers posted on pracuj.pl showed that 47% of them required any proficiency in English³. However, more than half of young Poles speak English at a minimum B1 level⁴.



When it comes to working with software, the ability to use MS Excel definitely prevails. It is required in almost half of office job advertisements. However, despite the dominance of Microsoft software, the ability to use the most popular ERP system - SAP is also desired⁷.



1. Sedlak & Sedlak. (2021). Ogólnopolskie Badanie Wynagrodzeń. Raport Sedlak & Sedlak
 2. Deloitte. (2021). First Steps into the Labour Market. 2021 International survey of students and graduates Central Europe. Access: 14.03.2023, from: <https://www2.deloitte.com/pl/pl/pages/human-capital/articles/Raport-Pierwsze-kroki-na-rynku-pracy-2021.html>
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 6. PWC. (2022). Young Poles on the labor market. Young Poles on the labor market - survey third edition - May 2022. Access: 14.03. 2023, from: <https://www.pwc.pl/pl/pdf/young-poles-on-the-labor-market-2022-eng.pptx.pdf>
 7. Lee, C. B. P., Tang, H., Sam, K. M., & Xiong, G. (2018). Spreadsheet proficiency: which spreadsheet skills are important?. J. Inf. Technol. Manag., 29(3), 35-44

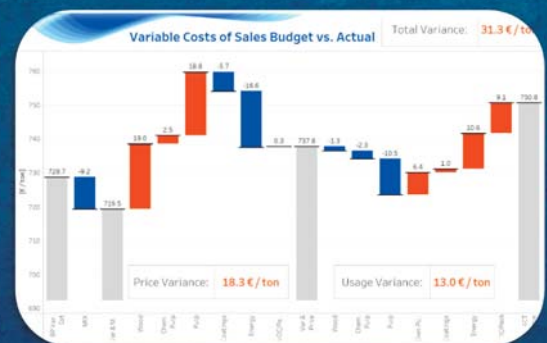
Tableau BI (Business Intelligence) is a powerful data visualization and analytics tool that has become increasingly popular in recent years. It allows organizations to connect to a variety of data sources, create interactive visualizations, and gain insights from their data in a way that was previously not possible. For controllers, Tableau BI can be an invaluable tool for managing and analyzing financial data, monitoring key performance indicators, and identifying trends and patterns.



In this poster, we will explore some of the ways in which Tableau BI can be used to support controllers in their day-to-day work, and the benefits that it can provide.

Improved Financial Analysis:

Tableau BI's powerful analytics capabilities can help controllers identify trends, outliers, and other insights that may not be immediately apparent in financial data. For example, controllers can use Tableau BI to create a variable cost waterfall chart comparing actual vs budget to identify areas where costs are higher than expected and take corrective action.

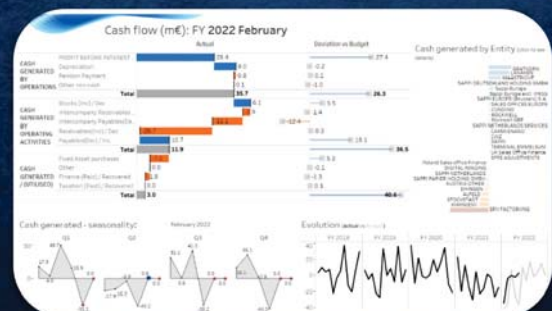


Better Data Visualization:

Tableau BI's interactive dashboards and visualizations can help controllers communicate financial data to stakeholders more effectively. For example, controllers can create a profit and loss dashboard that shows revenue, expenses, and net income over time, allowing stakeholders to quickly see how the company is performing.

Real-time Reporting:

Tableau BI's ability to connect to live data sources means that controllers can produce financial reports in real-time, allowing stakeholders to make more informed decisions. For example, controllers can create a cash flow dashboard that shows cash inflows and outflows in real-time, allowing stakeholders to monitor cash flow and make decisions accordingly.



References:

Business Intelligence and Analytics Software ([tableau.com](https://www.tableau.com))

TAKING CONTROL: ENHANCING FINANCIAL PROCESSES THROUGH EFFECTIVE CONTROLLING

Controlling plays a crucial role in improving financial processes. It involves monitoring, analyzing, and evaluating financial data to ensure that the financial goals and objectives of an organization are met.

The objective of this poster is to highlight the importance of controlling in financial processes improvement and to provide an overview of the key benefits of controlling in financial management.

One of the key benefits of controlling is that it provides real-time visibility into the financial performance of an organization. By monitoring key performance indicators (KPIs) such as revenue, expenses, and profits, controllers can identify areas that need improvement and take action to address them. For example, if a company's expenses are higher than expected, controllers can investigate the root cause and take steps to reduce costs, such as renegotiating contracts with suppliers or optimizing internal processes.

Controlling also helps in identifying risks and opportunities. By analyzing financial data, controllers can identify potential risks and take preventive measures to mitigate them. Similarly, they can also identify opportunities for growth and expansion and take steps to capitalize on them. For example, if a company's financial data indicates strong demand for a particular product or service, controllers can work with other departments to develop a strategy to capitalize on that demand.

Furthermore, controlling helps in ensuring compliance with regulatory requirements and internal policies. By monitoring financial data, controllers can identify potential violations of regulations and policies and take corrective action to avoid penalties or legal action. For example, if a company's financial data indicates that it has exceeded certain regulatory limits, controllers can take steps to bring the organization back into compliance.

Controlling is a critical component of financial processes improvement. It provides real-time visibility into financial performance, identifies risks and opportunities, and ensures compliance with regulations and policies. Organizations that prioritize controlling as part of their financial management strategy can benefit from improved financial performance and reduced risks.

In summary, controlling is a vital function in financial management as it enables organizations to maintain financial stability, achieve growth, and remain competitive in the marketplace. By monitoring financial data, identifying risks and opportunities, and ensuring compliance with regulations and policies, controlling helps organizations to make informed decisions and take action to improve financial processes. As such, organizations that prioritize controlling as part of their financial management strategy can benefit from improved financial performance, reduced risks, and better decision-making capabilities.

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<https://www.trintech.com/blog/5-steps-to-improving-financial-processes-and-controls-with-technology/>

Institute of Management Accountants. (2017). Global Management Accounting Principles: Improving Decisions and Building Successful Organizations.

The role of financial controlling in business. (2019). Retrieved from <https://www.kpmg.cz/cs/dokumenty/the-role-of-financial-controlling-in-business.html>

The concept of Business Intelligence in knowledge controlling

Knowledge is a resource which is used unlimited and continuous in every enterprise. It can give additional effects not only organizational but also financial. Each company must develop its own concept of controlling using knowledge for effective management. Investments in knowledge have now become the most important determinant of growth and increasing the market value of the company.

There are four main tasks of knowledge management:

Knowledge creation Knowledge transfer Collecting knowledge Supply of knowledge

Benefits of Business Intelligence

- ➔ Improves the decision making process
- ➔ Makes it easy to access and share information
- ➔ Enables real-time analysis with quick navigation
- ➔ Helps identify waste in the system
- ➔ Reduces the risk of bottlenecks
- ➔ Helps you know your business

BI systems allow for collecting, identifying, processing, generating, analyzing and designing knowledge. Efficient use of this technology should lead to the maximization of the company's profit while minimizing the risk and its costs activities. In addition, skillful use of the processed with the use of BI technology gives rise to a competitive advantage to organizations in such changing conditions of global competition.

The aim of the poster is to present methods based on Business Intelligence used in knowledge controlling, its impact on modern knowledge management, areas of use as well as the possibilities and benefits it brings.

A high level of knowledge management can be achieved by supporting:



People



Process



Technology



AREA OF BUSINESS INTELLIGENCE USE



DATA MINING



ANALYSIS



BENCHMARKING



REPORTING



MEASURE



STRATEGY



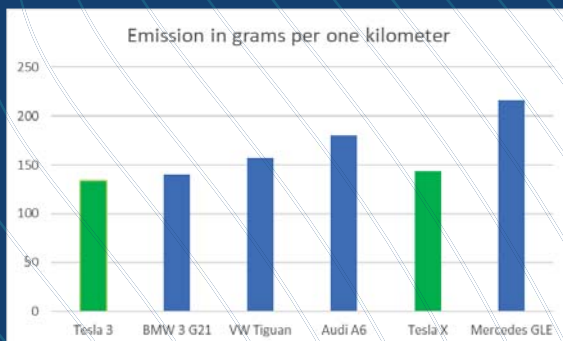
MANAGEMENT

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- https://dspace.uni.lodz.pl/bitstream/handle/11089/44766/73-122_Gontar.pdf?sequence=2&isAllowed=y
- <http://piz.san.edu.pl/docs/e-XII-1.pdf#page=11>

Nowadays, we can see a revolution in the automotive industry. More and more companies are competing each other making innovative electric cars with more eco-friendly technology, for example natural leather free interiors, plastic panels used in car are made of recycled materials or synthetic fabrics. However, it is worth asking yourself, are electric cars really ecological? There is no denying that driving an electric car is almost emission-free, but the production process is definitely not.

The core of EV – the battery it is made of lithium-ion due to its high energy storage capacity, high power density and long life. The problem is not exploitation, but the extraction of these materials. One ton of rare earths generates 75 tons of acidic waste, which pollutes local waters. The processes of extracting lithium from crushed rock in Australia or from salt lakes in South America also have a negative impact on the environment due to high-temperature chemicals. Another problem is battery disposal. At the moment, used batteries cannot be recycled, so they must be stored somewhere or destroyed.



Conclusions? We need to invest in renewable energy. Only then will electric cars become fully ecological.

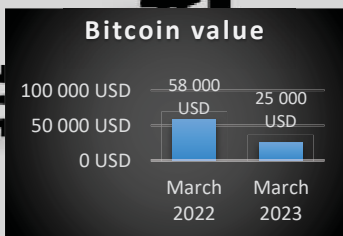
The electricity we use to charge the batteries had to be produced. In Poland, this almost certainly means energy from combustion coal. Each kilowatt-hour of energy produced in Poland resulted in the emission of 657.1 grams of CO₂ into the atmosphere. Let's compare one of the most popular electric car – Tesla Model 3 to a similar combustion engine car – BMW 3 Series with a 3.0 litre diesel engine and similar power. Tesla 3 consumed an average of 20.4 kilowatt-hours of energy per 100 kilometers, what gives 13 404 grams of CO₂. Meanwhile, BMW produces 14 000 grams of CO₂ on the same distance.

References:

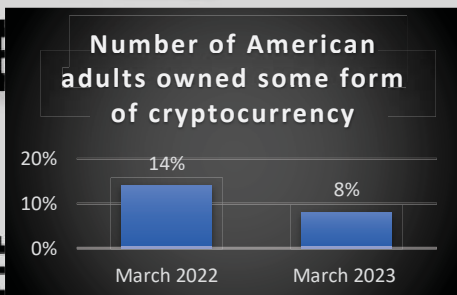
<https://www.cire.pl/artykuly/elektromobilnosc-materialy-problemowe/czy-samochody-elektryczne-sa-ekologiczne>
<https://www.auto-swiat.pl/wiadomosci/aktualnosc/slady-weglowy-aut-spalinowych-i-elektrycznych/6xj3j8j>

THE FALL OF CRYPTOCURRENCY USING CHAT GPT

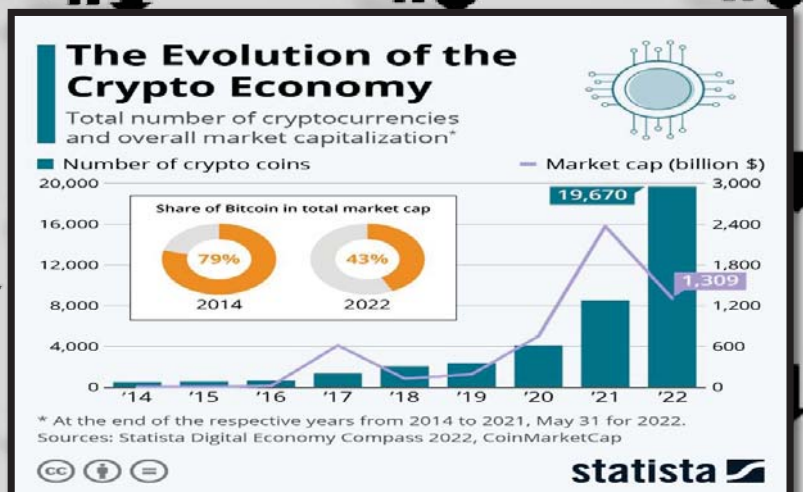
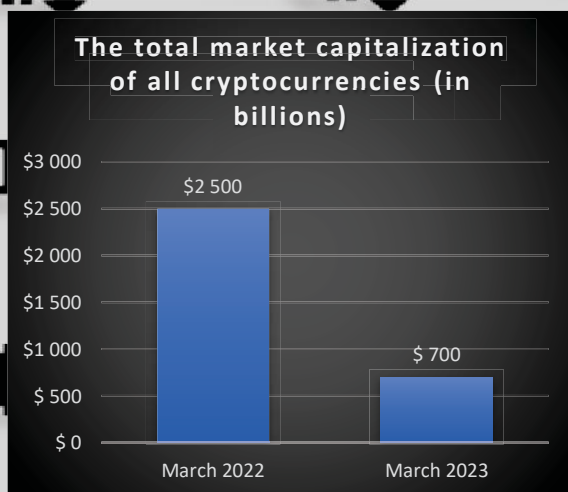
Cryptocurrency has taken the world by storm in recent years, with Bitcoin and other digital currencies becoming household names. However, the past year has seen a significant decline in the value and popularity of these digital assets. Let's take a look at some statistics that illustrate the fall of cryptocurrency:



Bitcoin's value has dropped by over 50% in the past year. In March 2022, Bitcoin was valued at around \$58,000, but by March 2023, its value had plummeted to around \$25,000. Other major cryptocurrencies, such as Ethereum and Ripple, have also experienced significant drops in value over the past year. Ethereum's value has dropped by over 60%, while Ripple's has dropped by over 70%.



The total market capitalization of all cryptocurrencies has dropped from around \$2.5 trillion in March 2022 to around \$700 billion in March 2023. The number of new cryptocurrencies being created has also declined sharply. In March 2022, there were over 10,000 different cryptocurrencies in circulation, but by March 2023, that number had dropped to around 5,000.



Related Literature:

- <https://chat.openai.com/auth/login>
- <http://cdn.statcdn.com/Infographic/images/normal/27561.jpeg?fbclid=IwAR3UovMR7bgWIRfDbgQDLbmwuqcPaCoaN21Vg1tBZDJV uAArPEMnKK3-GIU>

THE FUTURE OF CRYPTOCURRENCIES

INTRODUCTION

Cryptocurrencies are digital or virtual tokens that use cryptography to secure and verify transactions and to control the creation of new units. The first and most well-known cryptocurrency, Bitcoin, was created in 2009 and has since been joined by numerous other cryptocurrencies such as Ethereum, Litecoin, and Ripple. Cryptocurrencies have been hailed as a revolutionary new technology that could transform the way we exchange value and conduct financial transactions. In this poster, we will explore the basics of cryptocurrency technology, their potential impact on the economy, and why they are becoming increasingly popular among investors and tech enthusiasts alike.

HOW CRYPTOCURRENCIES WORK

When someone makes a transaction using a cryptocurrency, that transaction is verified by a network of users called nodes. These nodes use complex mathematical algorithms to verify the transaction and add it to the blockchain. Each transaction is linked to the previous one, creating a chain of transactions that is virtually tamper-proof. Once a transaction is added to the blockchain, it cannot be altered or deleted. To incentivize users to participate in the network and verify transactions, cryptocurrencies offer rewards in the form of newly created units. This process is known as cryptocurrency mining. Cryptocurrency mining involves using specialized hardware and software to solve complex mathematical problems. When a miner solves a problem, they are rewarded with a certain amount of new units. The supply of most cryptocurrencies is limited, which means that new units are created at a decreasing rate over time. This helps to prevent inflation and maintain the value of the cryptocurrency.

ADVANTAGES OF USING CRYPTOCURRENCIES

1. **Decentralization:** Cryptocurrencies are decentralized, which means they operate independently of governments, financial institutions, and other intermediaries. This makes them more resistant to censorship and government interference.
2. **Lower transaction fees:** Compared to traditional financial institutions, cryptocurrencies often have lower transaction fees. This can be especially beneficial for international transactions, which can be costly with traditional methods.
3. **Faster transactions:** Transactions with cryptocurrencies can be completed within minutes, as opposed to traditional financial systems which can take days to process.
4. **Improved security:** Cryptocurrencies use advanced cryptography to secure transactions and prevent fraud. This can make them more secure than traditional financial systems, which can be vulnerable to hacking and other forms of cybercrime.
5. **Increased accessibility:** Cryptocurrencies can be used by anyone with an internet connection and a digital wallet, regardless of their location or financial status. This can help to promote financial inclusion and provide greater access to financial services for people who are unbanked or underbanked.

THE POTENTIAL TO IMPACT THE ECONOMY

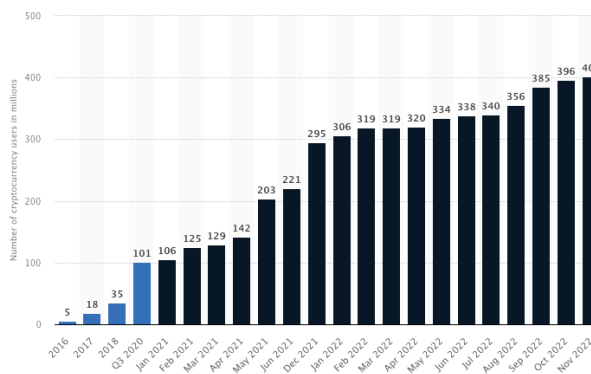
1. **Disruption of traditional financial systems:** Cryptocurrencies have the potential to disrupt traditional financial systems by offering an alternative means of conducting financial transactions. This could reduce the role of banks and other financial intermediaries, potentially making financial transactions faster, cheaper, and more secure.
2. **Increased financial inclusion:** Cryptocurrencies could potentially provide greater access to financial services for people who are unbanked or underbanked, especially in developing countries where traditional financial systems may be less accessible.
3. **Potential for illicit activities:** Cryptocurrencies have been associated with illicit activities such as money laundering, tax evasion, and the purchase of illegal goods and services. However, it's important to note that the vast majority of cryptocurrency transactions are legitimate and above board.
4. **Volatility and risk:** Cryptocurrencies are highly volatile, which means their value can fluctuate rapidly and unpredictably. This can make them a risky investment, and could potentially destabilize financial markets if large amounts of money are invested in cryptocurrencies.
5. **Regulatory challenges:** Cryptocurrencies operate independently of governments and financial institutions, which makes them difficult to regulate. This could lead to regulatory challenges and potentially hinder the widespread adoption of cryptocurrencies.

THE NUMBER OF USERS

The number of users of cryptocurrencies has grown significantly (what can be seen on the chart). While there are no exact figures on the number of cryptocurrency users, estimates suggest that there are tens of millions of active cryptocurrency users around the world.

There are a number of factors that have contributed to the growth in cryptocurrency users. One of the main drivers has been the increasing popularity of cryptocurrencies as an investment opportunity. Many people have invested in cryptocurrencies in the hopes of making a profit, and as the value of cryptocurrencies has increased, more people have become interested in them.

Another factor that has contributed to the growth in cryptocurrency users is the increasing acceptance of cryptocurrencies as a means of payment. While many businesses and individuals still do not accept cryptocurrencies as payment, there are a growing number of merchants and service providers who are beginning to accept cryptocurrencies as a valid form of payment.



CONCLUSIONS

Cryptocurrencies are a relatively new and rapidly evolving technology that have the potential to impact the economy in a variety of ways. While there are potential advantages to using cryptocurrencies, such as improved security, lower transaction fees, and increased accessibility, there are also potential challenges and risks, such as regulatory challenges, volatility, and the potential for illicit activities.

Despite these challenges, the number of users of cryptocurrencies has grown significantly in recent years.

It is clear that cryptocurrencies are here to stay, and their impact on the economy is still being studied and debated. While there is much uncertainty about their long-term prospects, it is clear that cryptocurrencies will continue to play an important role in the financial landscape for the foreseeable future.

RELATED LITERATURE

<https://www.statista.com/statistics/1202503/global-cryptocurrency-user-base/>

Whole Substantive content was created by Artificial intelligence.

THE IMAGE OF THE CONTROLLER PROFESSION IN THE EYES OF CONTROLLING STUDENTS

The image of controllers is varied. They are viewed as good strategists and observers. They possess adaptation capabilities, intuitive thinking, and creativity. A controller's position is seen as significant as they enhance results, watch over other workers, and minimize mistakes and costs. Controllers are respected or even feared, dangerous, and sometimes they play the role of an alpha wolf.

The purpose of the poster is to present the image of the controller profession viewed by young people, in this case by students of controlling. The aim of this study was to answer the question: How do potential future controllers perceive the controller profession?

METHODOLOGY

In the study the Forced Metaphor Elicitation Technique (FMET), was used as a research tool. The study involved 24 students of controlling aged 23 to 25 years including: 18 women, 2 man and 4 people who did not state their gender. Students had little professional experience in accounting (less than one year) and no experience in controlling.

RESULTS

In assessing the character of the people who perform the job, there was a general agreement that controllers are:

**CUNNING, CLEVER,
INTELLIGENT**

Their intellectual qualities include:

**STRATEGIC AND INTUITIVE THINKING,
OBSERVATION AND ADAPTATION ABILITIES,
CREATIVITY**

The intellectual virtues of controllers are quite varied. They also include features that are very distant from each other, like observation skills and intuitive thinking.



The controller's job description that emerged from respondents' answers is also multifaceted. It includes:

**FOCUSING ON DETAILS BUT ALSO
ENCOMPASSING THE ENTIRE COMPANY
"FROM A BIRD'S EYE VIEW".**

The list of necessary interpersonal skills that emerges from the respondents' answers includes:

**USE OF DIFFERENT TOOLS,
INDEPENDENCE, PROBLEM SOLVING,
COOPERATION WITH OTHERS,
ADAPTING TO THE ENVIRONMENT**

Regarding relations with others, controllers usually play the role of:

**GUARDIANS AND PROTECTORS,
OR THOROUGH SUPERVISORS**

Therefore controllers are usually:

**RESPECTED OR EVEN
FEARED, SOMETIMES
PERCEIVED TO BE SIMILAR
TO ALPHA WOLVES**

DISCUSSION

The image of controllers in the eyes of students and the self-image of controllers have similarities and differences. Students perceive controllers as potentially annoying and are sometimes viewed with skepticism by their colleagues, yet they recognize that controllers also earn the respect of other employees. These observations align with controllers' own self-description. Additionally, both groups view controllers as intelligent, shrewd, and astute.

The controllers see their profession mainly through the lens of their duties, responsibilities, and objectives. They identify two primary roles: that of an advisor and a active observer. In contrast, the students prioritize different tasks and functions, but their overall perspectives on topics such as gaining a comprehensive overview of a company and conducting analyses are similar to those of the controllers.

The controllers also listed a range of specific, individual tasks, such as addressing bottlenecks, utilizing various control mechanisms, and identifying inaccuracies and errors. Controllers perceive their profession more holistically while the students focus more on differentiated tasks, as if the tasks were separate and unrelated. The students also place a significant emphasis on tasks like identifying errors, and detecting malfunctions which the controllers did not specifically mention.



CONCLUSIONS

The findings reveal that potential future controllers perceive the profession in a modern way. However, they do not acknowledge such "novelties" as the controller's role in environmental management control. Nor do they perceive the controller as a "business partner" or "strategic partner", as animals that lead individual lives mostly dominate in their metaphors.

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 Hyra M. (2017), Jak zmienił się controlling na przestrzeni lat?, "Controlling i Zarządzanie", wrzesień 2017, s. 1-9.
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Substantive content

The outbreak of the Covid-19 pandemic has affected not only the lives of millions, but also the functioning of the entire economy.

Objective of the poster/research problem

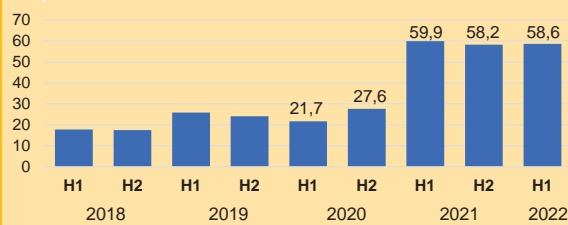
The purpose of the poster is to show the impact of the Covid-19 pandemic on the Venture Capital market in Europe, including e.g. an indication of the industries that developed in that period.

Introduction:

The demand for capital reported by start-ups in many cases cannot be met by the founders' own funds. Also, banks are not interested in investing in such projects due to the high level of investment risk. These companies do not have access to the stock market, new technologies, and their network of contacts is very limited. One of the solutions to the above problem is VC funds¹.

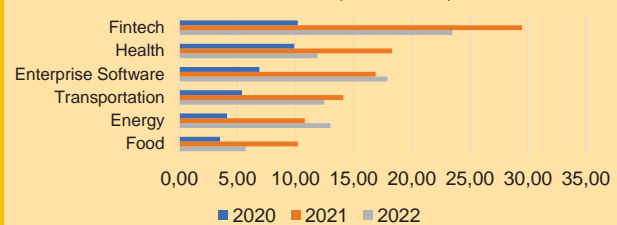
Venture Capital in scientific sources: The National Venture Capital Association (NVCA) defines Venture Capital as an investment in a venture in a young enterprise with high potential for development, accompanied by high risk. The concept of Venture Capital financing in Europe differs from that used in the United States. While in Europe Venture Capital obtains financing both at the beginning and later stages of the enterprise's development, while the American view refers precisely to the financing of the early stage of the enterprise's functioning².

VC investment in European startups 2018-H1 2022 (in USD bn)³



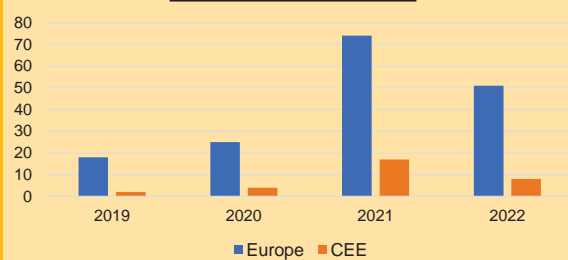
In the chart above, we can observe a slight decrease in investment value at the turn of H2 2019 and H1 2020, which is the time when the pandemic started. In H1 2021, a rapid increase in VC funding occurred, which can be the result of the development of the health and technology industries. After H1 2021, when the cases of Covid-19 rose again, the investment value remained at a stable level.

Investment by industry, the most popular verticals 2019-H1 2022 (in USD bn)⁴



In the presented chart, we can see that in 2021 there was a sharp increase in VC investments, especially in the Fintech, Health and Enterprise Software industries. This may be due to the pandemic that the entire Health sector has focused on. The Fintech and Enterprise industries had to adapt to the conditions of remote work and thus spread their wings. A year later, we can see a slight decline in VC investments, especially in the Health industry, when the Covid-19 virus was recognized as a common disease.

Number of new unicorns⁵



The chart above clearly shows that the most significant number of new unicorns was made in Europe in 2021, which is most likely related to the pandemic and the then development of many industries. A year later, the situation calmed down, but many new unicorns were still created.

The most popular verticals for unicorns⁶



The chart shows that both in Europe and in CEE the most popular industries where VC financing is used are the Fintech and Enterprise Software industries. In Europe, investments were also made in Security and Energy, while in CEE - in Health and Transportation.

Conclusion:

To sum up, in 2021 in Europe we could see a significant increase in the numbers of VC investments and new unicorns. We can conclude that the pandemic has had a great impact on VC investments and new unicorns. We have been forced to develop in sectors such as Fintech, Health and Enterprise Software. In later years, we can see a slight decrease in investment in VC and new unicorns, but their size is still greater than in pre-pandemic times.

¹ W. Przybylska-Kapusińska, M. Lukowski, *Fundusze Private Equity i Venture Capital i ich znaczenie dla gospodarki*, (In:) *Innowacje, a wzrost gospodarczy, Studia Ekonomiczne / Uniwersytet Ekonomiczny w Katowicach*, 2014, nr 186, pt. 2, page: 288.
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THE IMPLEMENTATION OF HACCP MANAGEMENT SYSTEM IN A CHOCOLATE ICE CREAM PLANT

Hazard Analysis Critical Control Points (HACCP) is an internationally recognized method of identifying and managing food safety related risk and, when central to an active food safety program, can provide your customers, the public, and regulatory agencies assurance that a food safety program is well managed.

The purpose of the poster is to present the safety of the Hazard Analysis Critical Control Points (HACCP) system as exemplified by production process of chocolate ice cream and to evidence that implementing the HACCP system in food manufacturing can effectively ensure food safety and quality, expand the market and improve the manufacturers' management level.

HAZARD ANALYSIS OF ICE CREAM PRODUCTION

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- 7

Acceptance of raw materials - egg products contain a large amount of lecithin. Serving as an emulsifier and stabilizer, lecithin gives ice cream a smooth and stable texture and flavor and it should meet the limits set by the Department of Health: Egg Product Hygiene Standard. Moreover, egg suppliers are required to submit salmonella inspection reports. The chocolate ice cream final product should contain over 8% of milk fat, 30% of solid content, and 2.6% of milk protein. Every batch of material should be sampled and inspected.

Material mixing - weighted materials are mixed according to the ice cream formula and technical requirement. All processes must be conducted at a sanitary environment; the mixing vat should be fully cleaned and sterilized in advance to ensure that no pathogen is left. Additives must fulfill the requirements of the Department of Health: Standards for Specification, Scope, Application and Limitation of Food Additives.

Homogenization - through homogenizing the mixed material, ice cream can gain a fine and smooth mouth feel and stable texture. Homogenization can increase the overrun and reduce ice crystallization within the ice cream. It should be performed under a strict temperature and pressure-controlled environment.

Pasteurization - appropriate pasteurization will kill most food-borne pathogens. An extra-high temperature can damage the materials nutrients and bioactivity, and affect the flavor of the final product, by contrast, an extra-low temperature will not be able to sufficiently eliminate the pathogens. During the final product testing, where a 1-mL sample is melted in water, the viable bacterial count should be less than 30,000, and the coliform bacterial test result should be negative.

Aging - during aging process protein, lipid, emulsifier, and stabilizer fully expand with water, optimize the foamability of mixed materials, and increase viscosity. Proper time and temperature are crucial and have to be closely monitored. Materials must be quickly cooled down to 0-4°C and the cooling rate must be maintained at high level. The aging facilities must be carefully sealed to prevent microorganism contamination.

Freezing - process involves intensely bleeding aged material, so as tiny air bubbles will be added and evenly spread in the material. The air pumped into the material must be sanitary, thus requiring the processing environment and the facility to be clean. The freezing procedure should be performed at a "clean operation area" to prevent bringing in pathogens from the air, meaning the area needs to be fully isolated from other environments. Personal hygiene needs to be carefully checked prior to when personnel can enter the area, and a special unit for preventing the entry of dust and insects should be installed.

Hardening - after being packaged, the product needs to be processed through a certain period of low temperature freezing. The water content will be fully crystallized, and the shape of final product will be fixed. The hardening process must be performed within a short period, or any temperature rise will cause melted crystals to agglomerate and form large ice crystals after hardening. Normally, hardening lasts for 12-24 hours in 25°C to 18°C

TWO MAIN CCPs

CCP1 pasteurization

The first CCP chosen in this study was the pasteurization process. Temperature should be maintained at 80-85 °C for 15 minutes. Incorrect pasteurization may allow the pathogens to remain and grow. Maintaining extra-high temperature or extra-long pasteurization may affect product quality in negative way.

CCP2 The freezing and chocolate chip addition process

Freezing facilities should be located in a "clean operation area", where factory environment, personal hygiene, and presence of dust and insects are strictly controlled. Standard cleaning-in-place procedures should be followed to ensure that the air contained in the ice cream remains hygienic. The microbiological quality of ice cream can be low, as it is a good growth medium for microbes because of its nutrients (lactose, proteins) and to its almost neutral pH of 6-7.



In order to prevent unsafe products from reaching consumers, a corrective action is carried out when there is a deviation from any established CCP. During this procedure, problems will be corrected and production will be put back in control. Any unqualified product will be further tested to determine its safety.

A complete HACCP plan also requires a verification procedure, such as random sampling and testing, to examine whether HACCP can effectively control food safety.

The implementation of the HACCP system should be well documented. Documentation usually includes the content of hazard analysis and CCP determination, and recordkeeping includes CCP monitoring activities, deviation and associated corrective actions, and verifications.

CONCLUSION

The main hazards in chocolate ice cream production are: using excessive food additives, inappropriate processing conditions, and unsanitary manufacturing environment. Results of study show positive impact of HACCP system introduced in a chocolate ice cream factory. It increased microbiological quality of the final product and total quality/hygiene management. The documentation and records generated in the HACCP system are crucial tools in tracing the origin of contamination, preventing production of substandard products and lower the consumption of manpower, material, and financial resources. System also allows to find weak points resulting from the local culture.

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THE PANDEMIC SHIFTED THE WORLD OF BEAUTY

The COVID-19 pandemic ended up making a huge global impact across virtually every industry that exists. The beauty industry is no exception. Skin care, color cosmetics, hair care and fragrances, has been shocked by the COVID-19 crisis.

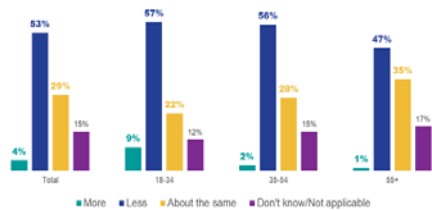
The aim of the poster is to show how the COVID-19 pandemic, lockdowns and related work from home culture have transformed the beauty market.

LESS IS MORE

Worldpanel's new study shows a striking decrease in the weekly use of cosmetics in every market, with weekly usage down an average of 28% compared with pre-pandemic levels, as women choose simpler routines.

Beauty routines are trending towards lessened use of makeup. Ipsos survey shows that women overall are wearing less makeup. The pandemic has also given some women the self-confidence to try going make-up free.[1]

Q. Compared to before the pandemic started, are you wearing, or doing, each of the following more or less now, or about the same as before? - Wearing makeup



SKINCARE OVER MAKEUP

COVID-19 has caused lifestyle changes for everyone around the world, which has led to changes in beauty habits, too. Many consumers are cutting back on makeup use, likely because they're not leaving the house as much.

In fact, the survey found that 54% of consumers indicate they wear less makeup now than pre-pandemic with focus now switching to skin care, with 56% indicated they're more focused on skin care now than they were before the pandemic.

Self-care has become an important buzz word in these difficult times. Historically, economists would say that lipstick sales thrive during difficult economic times. But this time pandemic has seen the sale of red lip products fall by 40%.[1]

The boss of Boots in the UK, Sebastian James, told the BBC his chain had seen the same trend. "Over the pandemic we saw a lot less colour cosmetics in our trade, lipsticks and so on, and a lot more spend on self care, so skin care, haircare, and particularly what we call expert skin care.."

Affected by consumers' preferences, functional skin care product sales hit a new high level. The sales growth of several functional skin care products was more than 100%.[4]

AT HOME BEAUTY

Another notable trend is the rise of DIY beauty care. Many beauty salons have closed, and even in places where they have not, consumers are forgoing services because of concerns about close physical contact.

DIY hair coloring, nail care, and care in other beauty categories are finding new customers. In the United States, Nielsen reported rises in the sales of hair dye and hair clippers by 23 and 166 percent, respectively, in the first week of April 2020 versus a year ago.

After the outbreak of the pandemic, "skin care at home" has become a new way for many beauty lovers to enjoy their life. The topic of "What is it like to take care of your skin at home" has been posted more than 80K times on RED, a famous social platform in China. The same topic was also hotly discussed on Sina Weibo, with views more than 32 million. [4]

Beauty-product category	Estimated year-to-date sales, \$ million	Average price, \$	Year-over-year change, 2019-20, 4 weeks ending April 11		
			Retail sales, %	Average price, %	Retail sales, \$ million
Body wash, soap, and lotion	321	14.91	35	10	44
Nail care	55	10.02	38	3	37
Hair care	640	18.43	27	12	33
Men's grooming	241	25.44	26	6	26
Skin care	640	18.17	20	14	27
Hair coloring	48	11.64	172	-1	17
Women's hair removal	74	16.16	53	14	8
Eye makeup	102	12.02	5	10	1
Face makeup	77	11.17	-1	11	-1
Lip care and color	45	11.11	-18	10	-2
Beauty tools, devices, and accessories	116	18.62	-1	10	-1

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MAKEUP DESIGN FOR SPECIFIC SCENES

With the resumption of work but the normalization of wearing masks. "Mask makeup" tutorials have become a hot topic on social media.

It was aiming at practical problems such as how to protect your face. Related topics such as "Mask Universal Formula" have been searched on Sina Weibo, and RED for more than 20k Times.

The enthusiasm for makeup has also led to a resurgence in sales of eye makeup products. On Feb 19, Taobao Economics Bulletin showed that 8.2 million people watched a live broadcast of "mask makeup". In addition, lipstick was also popular due to the resumption of work, sales of brand lipstick increase between 300% and 700%; Eye makeup products also ushered in the hot buying tide, according to Taobao global purchase data, the sales of nine mesh eye shadow increased by nearly 1.5 times. [5]

FILING FOR BANKRUPTCY

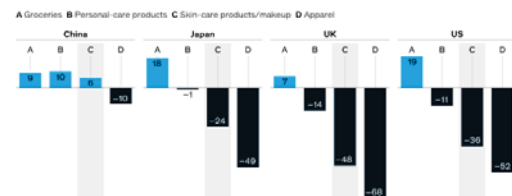
Sources blame the pandemic, which has caused a two-year decline in color cosmetics sales and supply chain issues.

The normalization of wearing masks has created new problems, leading to a continued decline of demands for lip make-up. The reduced demands [2] for one of the most used makeup products partially reshaped the industry of cosmetics, and the companies in the field had to strive to cater to the changes in market demands.

Cosmetics maker Revlon has filed for bankruptcy. The company was said to be the victim of disruptions in its global supply chain that drove up the cost of raw materials. It is emphasized that the company's bad situation was first caused by the COVID-19 pandemic, which extended delivery times and increased transport costs. [3]

In a variety of markets, consumers report they intend to spend less on beauty products in the near term (largely driven by declines in spending on color cosmetics).

Forma Brands, the owner of the Morphe make-up, Lipstick Queen and Jaclyn Cosmetics brands, is set to file for Chapter 11 bankruptcy, according to a report published by WWD, citing "sources familiar with the matter.[2]



Note: Incent calculated by subtracting % of respondents stating they expect to decrease spend from % of respondents stating they expect to increase spend. Question: Over the next 3 weeks, do you expect that you will spend more, about the same, or less money on these categories than usual? Source: McKinsey COVID-19 Consumer Pulse Survey, results segmented and weighted to match general population aged 18 years Apr 16 - 18, 2020, in China including Hainan province (n = 1,886), Apr 17 - 18, 2020, in Japan (n = 600), Apr 18 - 19, 2020, in UK (n = 1,005), Apr 20 - 26, 2020, in US (n = 1,486)

SAVING THE BRAND

Facing the impact of the pandemic on offline sales, many beauty brands quickly adjusted their marketing channels and started a new way to save their brands.

During the pandemic, live broadcast has shown its strengths and become a great "weapon" for many brands to make up for their sales decline in offline channels. One typical brand is called "Lin Qing Xuan", a domestic makeup brand in China. It has switched to Taobao live since the first of February, transferring all 1,600 offline guides and 400 employees in the headquarters to online sales. [5]

After half a month of full broadcast, sales increased by 45% compared with the numbers last year. On February 14, Sun Laichun, founder of Lin Qing Xuan, appeared on the live broadcast, attracting more than 60,000 viewers and achieved nearly 400,000 yuan in sales.[5]



THE PHENOMENON OF "EKIPA FRIZA"

INTRODUCTION



Ekipa, also known as Ekipa Friza - a Polish group of youtubers and influencers. They own the Ekipatonosi brand and several other companies, operate on the stock exchange under the name EKIPA HOLDING S.A. The largest and most popular group creating on the Polish Internet.

MUSIC



The group has created many music tracks that can be heard on their original album "Sezon Trzeci" which is also available on streaming platforms such as spotify or youtube. The most popular songs are: "Przejmujemy Jutuby", "3kipa", "Chill".



COLABORATIONS

Koral - the team in this collaboration released sorbet ice cream called Ekipa, as well as carbonated drinks, the cooperation lasts from March 2021. It aroused a lot of emotions, the desire to have these products led to the sale of empty ice cream packaging on the Internet.

Energylandia - In July 2021, the team established cooperation with the Polish amusement park Energylandia. As part of this cooperation, the Ekipa Light Explorers rollercoaster and the Ekipy chill zone were created, which were opened on July 14.

Herlitz - In mid-July 2021, the team established cooperation with Herlitz - school supplies modeled on the Friza team were produced. Notebooks and folders were created. The utensils could be purchased in August, mainly in Dino stores.

Dooti Donuts - In March 2022, donuts with the Ekipa logotype appeared in the Biedronka chain of stores.

HOW THEY BECAME A BIG INFLUNCE IN POLISH INTERNET?



They creates content for people of all ages. The format of usually funny, several-minute videos conquered the youtube platform with its simplicity and at the same time very well thought-out marketing and PR tactics. The first video on the "EKIPA" channel on YouTube appeared on August 31, 2018, which was an announcement of the project created by Karol Wiśniewski. In the creation of the "Dom Ekipy" project, the following people were involved: artists such as: Friz, Wersow, Tromba, Mini Majk, Wujas, Patec, Murcix. All members had friendly relations with each other, which resulted in great sympathy of the audience and the possibility of identifying and engaging in their lives through daily films. regularity and high quality of production also contributed to Karol's success. In July 2022, Karol "Friz" Wiśniewski announced the completion of the "Dom Ekipy" project. This project attracted a lot of new followers to them, which ensured the crew's popularity. However, the paths of the team members diverged. Currently, most of them create content on the Internet individually. Despite everything, they still generate very high views.



EKIPA HOLDING S.A. AND EKIPATONOSI



After signing the contract with the Beskidzkie Biuro Inwestycyjne in 2021, Ekipa Friza expressed its desire to enter the stock exchange as Ekipa Holding Joint Stock Company. The company's share capital in 2021 was over PLN 1 million[99]. Since 2023, the President of the Management Board of the company is Łukasz "Wujek Łuki" Wojtyca and the largest shareholder is Karol "Friz" Wiśniewski (41.21%). In May 2022, the company was merged with Beskidzkie Biuro Inwestycyjne S.A.

They also has its own brand with clothing, toys and gadgets - EkipaToNosi. They offer e.g. sweatshirts, t-shirts, hats, mugs.

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<https://ekipaholding.pl/>

THE POWER OF AI ROBOTS IN CRYPTO TRADING AND TECHNICAL ANALYSIS

What is the cryptocurrency market?
What is technical analysis?

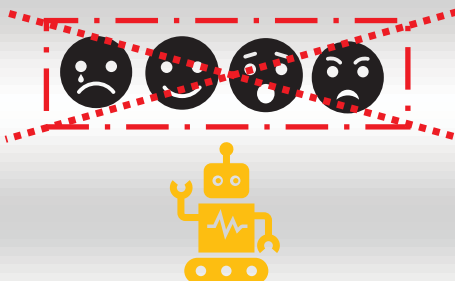
Will AI robots replace professional traders in the future?

Cryptocurrency markets are notoriously volatile, with rapid price fluctuations making it difficult for even the most experienced traders to consistently make profitable trades. However, the use of AI robots is revolutionizing the way crypto trading is done.



Technical analysis is a key tool for traders looking to make informed investment decisions based on market trends and patterns. However, it can be time-consuming and complex to analyze vast amounts of market data and identify meaningful insights.

AI robots are able to analyze vast amounts of market data in real-time, enabling them to identify patterns and trends that would be impossible for humans to detect. By using machine learning algorithms, these robots can then make highly accurate predictions about future price movements, giving traders a significant edge in the market.



Moreover, AI robots are not subject to human emotions, such as fear or greed, which can cloud judgment and lead to poor trading decisions. They are also able to process and act on information much faster than humans, making split-second trades that can make all the difference in a volatile market. They can also adapt and learn from new information, constantly improving their analysis and predictions.

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THE TOOLS OF THE FINANCIAL CONTROLLER'S FUTURE

In the future, the standard financial controller may be replaced by developing technologies related to automation and artificial intelligence. The use of AI is likely to transform the role of the financial controller, allow for more automation of routine tasks, enabling them to focus on more strategic activities and providing them with the tools they need to make better decisions.

The purpose of the poster is to present the modern tools of the financial controller as a strategic advisor using technology to make the right decisions



- **Automating data analysis** - such as financial statements, balance sheets, and income statements
- **Predictive analytics** - predicts future financial trends, identify risks and opportunities, and recommend appropriate actions
- **Fraud detection** - detects fraudulent financial transactions and identify anomalies that may indicate financial fraud or error
- **Cost savings** - helps reduce costs associated with financial management by automating routine tasks and reducing errors

- **Automating repetitive and time-consuming tasks** - such as data entry, report generation, and account reconciliation
- **Improving accuracy and efficiency** - performs tasks with a higher degree of accuracy and speed than humans, reducing errors and improving efficiency
- **Enhancing compliance** - helps ensure compliance with regulations and internal policies by performing tasks consistently and according to predefined rules
- **Enabling real-time monitoring** - enables real-time monitoring of financial transactions, making it easier for companies to track their financial health and respond quickly to changes



- **Automating accounting and financial processes** - such as auditing, reconciliation, and financial reporting
- **Ensuring accuracy and transparency** - reduces errors, fraud, and corruption in financial transactions
- **Streamlining financial operations** - enables real-time tracking of financial transactions, making it easier for companies to monitor their financial health and make decisions

- **Customized financial management tools** - enables create customized financial management tools tailored to their specific needs, such as automated financial reporting, cash flow analysis, and budgeting
- **Automation of financial processes** - such as invoice processing, payment approval, and expense management
- **Faster deployment of financial applications** - allows for faster deployment of financial applications without the need for extensive coding
- **Collaboration and transparency** - enables collaboration between the financial controller and other departments, such as sales and marketing, to ensure transparency and alignment of financial goals with overall business objectives



REFERENCES: Chat GPT



THE USE OF CLOUD INFRASTRUCTURE IN BUSINESS MANAGEMENT

The most important information about the use of cloud infrastructure in business management including the concept of a cloud, basic features, models of providing services, its advantages and benefits, weaknesses and barriers preventing organizations from choosing this technology.

The poster's purpose is to define the role of the use of cloud infrastructure in business management taking into account the advantages and disadvantages of implementation in the company.

INTRODUCTION

The term cloud computing refers to the on-demand remote sharing of adjustable hardware and software for data processing and archiving. The development of the cloud was possible thanks to the technology of virtualization. It involves mimicking adjustments to particular hardware or software characteristics. The cloud is expandable and adaptable because to its structure. Scalability refers to the ability to change performance based on user demand and user volume. The traditional approach to IT resources involves the organization taking care of everything itself, starting with the network, disks, servers, operating system, application work environment, integration of these components, and data and business processes. Cloud solutions are available in the:

- IaaS model - where the provider provides only the hardware,
- Paas model - where it extends the infrastructure with an operating system
- SaaS model - where we are dealing with the provision of infrastructure along with the operating system, application environment and ready-made applications. In this variant, the organization is relieved of tasks related to the operation of hardware and technology, which are transferred to the cloud provider. Managers can fully concentrate on business process management, which is the most important substantive area.

THE ADVANTAGES AND DISADVANTAGES OF CLOUD SOLUTIONS

The advantages of cloud solutions include: the optimization of investment and operating expenses, charges only for the resources used, IT resources available from anywhere in the world, at any time, no need to manage servers, systems, hardware, links, no downtime due to equipment failure, access to the necessary computing power at a given moment, unlimited data storage space. In addition, enterprises have the ability to serve more customers and have increased reliability and data security. Thanks to the use of cloud solutions, companies always have up-to-date and latest versions of programs, greater opportunities to use new functionalities and experiment with new services. Another advantage is the lower need for IT staff, as well as the ease of using IT resources.

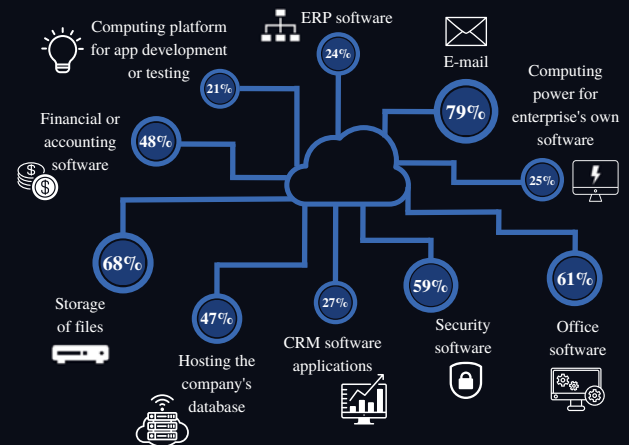
The most important disadvantages of cloud solutions include lack of physical control over data, unknown location of data, lack of privacy and confidentiality of data, dependence on the provider, possibility of theft, disclosure, falsification of data, lack of guarantees and standards regarding data integrity and control, lack of standardization ensuring a single market. Judicial issues related to law enforcement access to data, lack of transparency of contracts, differentiated access to enforcement unsatisfactory provisions in the event of bankruptcy or major failure of the supplier are also important issues connected with cloud computing. An important disadvantage is also the difficulty in changing the supplier, unclear payment schemes, lack of control over variable costs.

In addition to security issues, other barriers also appear during the cloud implementation process: financial and technological (the offered technology may not meet the requirements or be incompatible with the older technology present in the enterprise). Cultural barriers are also visible: lack of a clear cloud strategy, employee resistance, and lack of management commitment.

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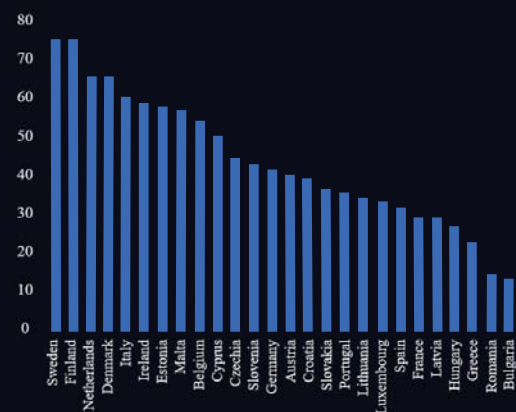
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THE USE OF CLOUD COMPUTING SERVICES IN EU ENTERPRISES



THE CURRENT SITUATION OF CLOUD COMPUTING IN EU

In 2021, the cloud computing was used by 42% of EU companies.



To sum up, the use of cloud computing brings many benefits to enterprises, making it a breakthrough solution that means new opportunities and a new quality of the company's functioning. According to IT Trends Report, the implementation of cloud computing can result in potential savings from 15% to 20% in IT spending.

A state of balance between work and career and family life and entertainment

The concept of work-life balance emerged in the 1980s, when it was noted that excess time spent at work, did not lead to increased employee efficiency at all. On the contrary, people working 10-12 hours at a time were more stressed. That period was also characterized by a focus on achieving results and setting ambitious professional goals. The so-called "rat race" prevailed in many companies. Today, both employees and employers are beginning to notice that this attitude does more harm than good.

Goal: To raise awareness of the importance of a healthy balance between work and free time and how it may change your life.

75%

75% of working Poles believe that maintaining a work-life balance is important

26%

26% of Poles devote more time to work than private life

23%

23% of employers in Poland do not take any initiatives to support the work-life balance of their employees

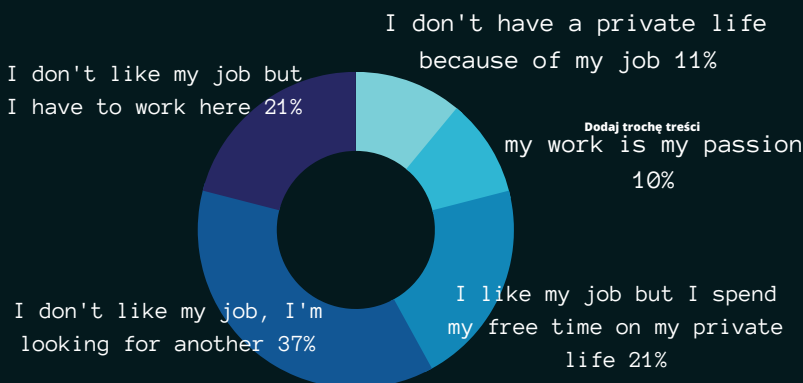
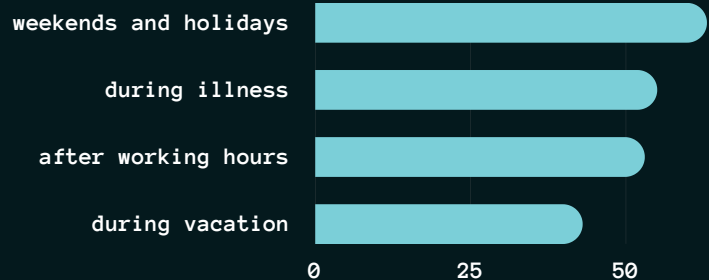
A happier employee is a better employee

Research shows that an employee who is not overworked works more efficiently. An employee who feels work-life balance and experiences a good atmosphere at work is more attached to his workplace

What workers can do?

1. Take care of proper work organization and efficiency,
2. Take breaks during work, even small ones,
3. Limit your perfectionism,
4. Take care of physical activity and eat healthy,
5. Do not work on holidays and weekends,
6. Schedule time for family and friends,
7. Develop your passions.

Percentage answered "yes" to the question: Do you happen to work in such a situation



How Polish companies support work-life balance for working parents?

1. Flexible working time,
2. Additional paid leave,
3. Holiday subsidy,
4. A shorter working day,
5. Kindergarten or nursery in the company,
6. Places for breastfeeding mothers

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