MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

UKRAINIAN-AMERICAN CONCORDIA UNIVERSITY

Faculty of Management and Business

Department of International Economic Relations, Business & Management

Bachelor's Qualification Work

AI AND BUSINESS GROWTH: A FOCUS ON MARKETING AND MANAGEMENT (based on Jüdische Gemeinde case)

Bachelor student of the 4th year of study

Field of Study 29 – International Relations

Specialty 292 –

International Economic Relations

Educational program –

International Business

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Research supervisor

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Doctor of Economic Sciences

Kyiv – 2024

Abstract

The work focuses on the the impact of artificial intelligence (AI) on business growth, with a specific focus on marketing and management. Today, artificial intelligence technologies have established themselves as an important part of the modern world, capable of integrating into many areas of our lives and business. AI has revolutionised management practices by enhancing personnel management efficacy, and fostering new work opportunities while simplifying customer interactions. This technology is being developed in all areas of business, which not only optimises the business processes of companies, but also improves their financial results.

When making the research, the materials of "Jüdische Gemeinde" were used, namely, surveys, attracting customers via social networks and online webpage of the organisation were studied. The work draws conclusions about the impact of AI on modern organizations and management of all AI processes, and also provides recommendations on AI implementation and benefits maximisation in the organisation.

Keywords: artificial intelligence, AI implementation, AI technologies, business development, business growth.

Анотація

Робота зосереджена на впливі штучного інтелекту (ШІ) на розвиток бізнесу, з особливим акцентом на маркетингу та менеджменті. Сьогодні технології штучного інтелекту зарекомендували себе як важлива частина сучасного світу, здатна інтегруватися в багато сфер нашого життя та бізнесу. AI зробив революцію в управлінській практиці, підвищивши ефективність управління персоналом і сприяючи створенню нових робочих місць, одночасно спрощуючи взаємодію з клієнтами. Ця технологія розвивається у всіх сферах бізнесу, що не тільки оптимізує бізнес-процеси компаній, але й покращує їх фінансові результати.

При проведенні дослідження були використані матеріали «Jüdische Gemeinde», а саме опитування, залучення клієнтів через соціальні мережі та

інтернет-сторінку організації. У роботі зроблено висновки про вплив ШІ на сучасні організації та управління всіма процесами ШІ, а також надано рекомендації щодо впровадження ШІ та максимізації переваг в організації.

Ключові слова: штучний інтелект, впровадження ШІ, технології ШІ, розвиток бізнесу, зростання бізнесу.

PHEE-institute «Ukrainian-American Concordia University»

Faculty of Management and Business
Department of International Economic Relations, Business and Management

Educational level: **Bachelor degree**
Specialty **292 "International Economic Relations"**
Educational program **"International Business"**

APPROVED
Head of Department _____
Prof. Zharova L.V.
"____" _____20_____

TASK
FOR BACHELOR'S QUALIFICATION WORK OF STUDENT

Iryna Omelaienko

(Name, Surname)

1. Topic of the bachelor's qualification work

AI AND BUSINESS GROWTH: A FOCUS ON MARKETING AND MANAGEMENT (BASED ON JÜDISCHE GEMEINDE CASE)

Supervisor of the bachelor's qualification work Dr. of Sci. L. Zharova,
(surname, name, degree, academic rank)

Which approved by Order of University from ***"25" September 2023*** № 25-09/2023-5к

2. Deadline for bachelor's qualification work submission "***25" April 2024.***

3. Data-out to the bachelor's qualification work: open resources (reports of the company, analysis of the industry, data of the international organizations, governmental statistic reports), closed data (internal information received during the internship)

4. Contents of the explanatory note (list of issues to be developed)

A scientific hypothesis is the potential of AI for business growth. These are the tasks set for the research:

- Analyze modern approaches to business and the role of artificial intelligence
- Explore the use of artificial intelligence in the marketing and management process

- Conduct research on the impact of artificial intelligence on business growth
- Give a general introduction to the Jüdische Gemeinde
- Define the application of artificial intelligence in the Jüdische Gemeinde
- Explore the strategic plan for the implementation of AI in the Jüdische Gemeinde
- Analyze the planning and implementation of artificial intelligence projects
- Identify problems in implementing the Jüdische Gemeinde
- Bring the benefits of artificial intelligence to the Jüdische Gemeinde

5. List of graphic material (with exact indication of any mandatory drawings)

- Structure of investments by artificial intelligence industries
- Investments in AI technologies by leading countries
- Investments in AI technologies by EU countries
- The volume of the world market of AI systems and technologies
- Implementation of AI by industries and functional segments
- Organizational structure of management of Jüdische Gemeinde
- The result of the communication policy of the Jüdische Gemeinde
- Main stages of implementation of the Digital Enterprise management information system at Jüdische Gemeinde

6. Date of issue of the assignment

Time Schedule

№	The title of the parts of the qualification paper (work)	Deadlines	Notes
1.	I part of bachelor thesis	*10.12.2023*	Done
2.	II part of bachelor thesis	*27.02.2024*	Done
3.	Introduction, conclusions, summary	*25.04.2024*	Done
4.	Pre-defense of the thesis	*30.04.2024*	Done

Student_____
(signature)

Supervisor_____
(signature)

Conclusions (*general description of the work; participation in scientific conferences/ prepared scientific article; what grade does the student deserve*):

The thesis was carried out at a sufficient level in compliance with all requirements regarding the structure, content, format, quality of the research, and requirements for its design. The student analyzed in detail the theoretical foundations of using AI in business, particularly in marketing and communications for the selected company. The data used are up-to-date and reflect the latest trends. Illustrative material allows a better understanding of the results and complements the research text without duplicating it.

The student fulfilled all the requirements regarding the publication of research results, namely, participation in conferences.

The work can generally be rated as "excellent," and its author deserves to receive a bachelor's degree in the chosen specialty.

Supervisor_____
(signature)

TABLE OF CONTENTS

Introduction

Innovation is a driver of business and a condition for the successful development of the country's economy. The introduction of innovative technologies into the activities of industrial enterprises allows the latter to optimize their processes and reduce costs. It is the use of innovation that accelerates the development of a company and improves its financial results. Today, artificial intelligence is a technology that is developing qualitatively and rapidly, penetrating various areas of human activity. Today, artificial intelligence technologies have established themselves as an important part of the modern world, capable of integrating into many areas of our lives and business. Forward-looking companies are already using AI-powered recommendations and insights to add business value and gain market share across different sectors and industries.

Today, the most favourable conditions have been created for the development and dissemination of artificial intelligence technologies and this technology is being developed in all areas of business, which not only optimizes the business processes of companies, but also improves their financial results.

The purpose of the thesis is to analyse the impact of artificial intelligence technologies on business development using the example of the Jüdische Gemeinde.

According to this goal, the following tasks are set in the work:

– Analyze modern approaches to business and the role of artificial intelligence

– Explore the use of artificial intelligence in the marketing and management process

– Conduct research on the impact of artificial intelligence on business growth

– Give a general introduction to the Jüdische Gemeinde

– Define the application of artificial intelligence in the Jüdische Gemeinde

– Explore the strategic plan for the implementation of AI in the Jüdische Gemeinde

– Analyze the planning and implementation of artificial intelligence projects

– Identify problems in implementing the Jüdische Gemeinde

– Bring the benefits of artificial intelligence to the Jüdische Gemeinde

The object of the study is the factors influencing the development of artificial intelligence and the operations of the Jüdische Gemeinde

The subject of the study is to determine the key development trends in artificial intelligence and its impact on the marketing and management initiatives of Jüdische Gemeinde.

The work uses scientific research methods: scientific abstractions, systemic, analysis, statistical, historical, comparative, induction, deduction, forecasting, and synthesis.

The methodological and theoretical basis of the work developed by Ukrainian and foreign scientists on the development of artificial intelligence technologies, scientific literature and information from the website of the Jüdische Gemeinde. The work used data from monographic and periodical publications, materials from scientific and practical conferences.

The thesis consists of an introduction, three chapters with subdivisions, a conclusion and a list of sources used.

Chapter 1. The theoretical framework of contemporary international business development

1.1. Analysis of modern approaches for business and role AI

The word “business” is borrowed from Western terminology, where economic systems are entirely subordinated to entrepreneurship, and the relationship between the state and companies, as well as companies and society, is in the nature of entrepreneurial activity. For the sake of objectivity, it should be noted that, despite the centuries-old history of business development, its concept has not received a stable definition in foreign literature. Thus, in the encyclopedic publications Investopedia, Cambridge Dictionary, Business Dictionary, Marriam-Webster Dictionary, etc., “business” is interpreted as following (fig. 1.1).

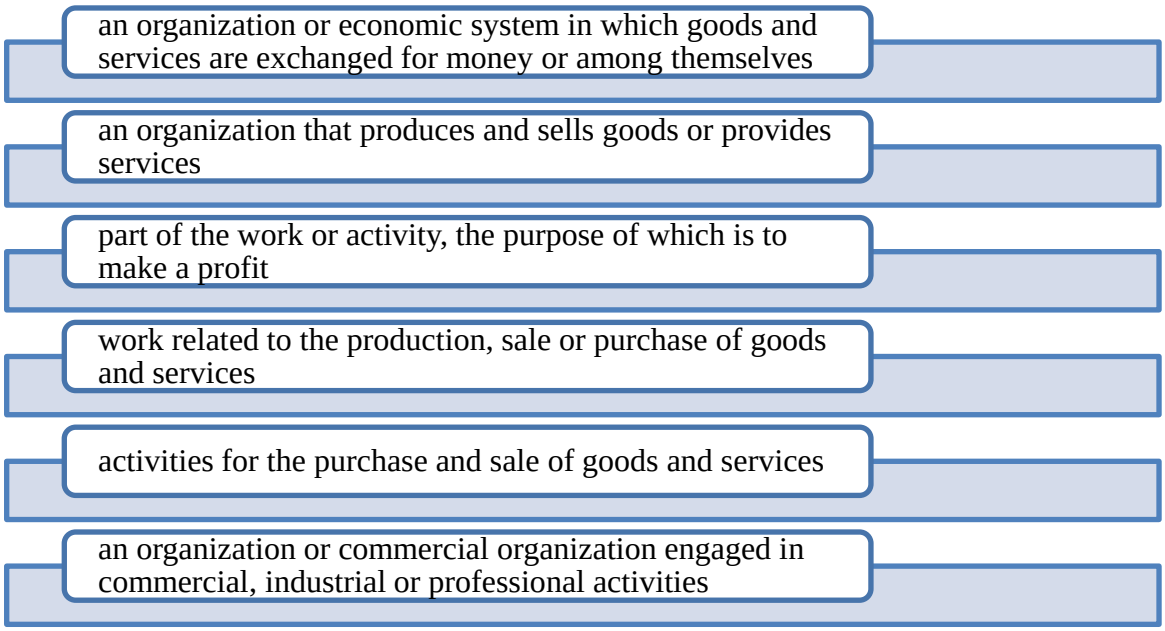

Figure 1.1 – Interpretation word business

Source: (Businessisbusiness, 2023; Cambridge Dictionary, 2023)

Western interpretations of the concept of “business” largely served as the basis for its understanding and evolution in Russian theory and practice. In general, it does not contradict its original essence; however, it was refracted through the prism of the Soviet mentality, to which entrepreneurship was alien, since it contradicted the socialist principles of management, but at the same time, based on more fundamental concepts “labor” and “labor activity”, which have a deeper nature and are “prototypical” for entrepreneurship and business. The difference between work and business is that you can work in order to obtain both personal and public benefits, without necessarily making a profit from it. As a result, in the Russian theory of entrepreneurship, business is often associated with work activity, which should be accompanied by making a profit. At the same time, it can be argued that there are several approaches to understanding and interpreting the essence of business.

Thus, the most common approach should be recognized according to which business is understood as the activity of a business entity (an individual entrepreneur or an organization of more complex forms) aimed at making a profit (Iivari, M. M., 2015).

This type of activity allows you to cover a whole range of processes. Firstly, it contributes to the emergence of new goods and services that, to varying degrees, turn out to be valuable to consumers. Secondly, there is a growing need to meet increasing needs. Thirdly, it is necessary to combine factors of production and make the most efficient use of the resources that the company has. All this is necessary to achieve maximum performance with limited resources.

Business involves a complex continuous process that is renewed based on the changing needs of customers. Businesses try to satisfy these needs through the production and sale of goods and services. Doing business in the short term brings high costs and there is a high probability of bankruptcy in the first stages of the formation of any company, however, with a successful combination of

circumstances and competent management of the company, the company can achieve the required level of cash income.

Along with the process approach, business is often considered within the framework of a systems approach, and it is presented as a system covering the subjects and objects of management involved in the implementation of an entrepreneurial idea and achieving the goals of the organisation, as well as methods and methods of decision-making used by management subjects in regarding objects. Thus, a business is an organization that has at its disposal the necessary resources (objects of management) and the creation of a management system (subjects of management), the interaction between which is carried out through the use of methods and methods of management influence (Nuvolari A., 2019).

The organizational approach to understanding the essence of business is that activities aimed at making a profit are carried out in the conditions of a business environment, within the framework of the chosen organizational form, in the presence of the appropriate infrastructure. At the same time, business participants are in certain business relationships with each other, which are regulated by the norms of current legislation, regulations and internal local regulations of the organization. To improve the efficiency of the company, an organizational culture is formed in accordance with the values and attitudes determined by management.

Generalization of the essential characteristics of a business in accordance with the process, system and organizational approaches allows us to form a fairly complete picture of the organization as a business entity that, in order to achieve its business goals, generates resources, organizes the processes of production and sale of goods and services, and ensures management of the formation and use of resources through the use of concepts, systems and management methods. The synthesis of the three above approaches contributes to the formation of a practice-oriented approach to understanding business,

which represents methods, technologies and models for organizing activities to achieve profit and implement the company's strategy - business model, business processes, business system, etc. (Shoham, Y., et all, 2018).

The interpretation of the concept of business in relation to people leads to the emergence of the concept of “businessman” as a person engaged in entrepreneurial activity with the aim of making a profit. It is obvious that an entrepreneur can directly engage in labor activity, but it must be aimed at making a profit, otherwise such activity will lose the nature of entrepreneurship.

Correlating the concept of “business” with objects that are phenomena and non-physical concepts leads to the emergence of a number of tools, technologies and methods for managing the activities of business entities in order to optimize them and increase profits. Such concepts are, first of all, a business system, a business model, business processes, business analysis, business modeling, etc.

In modern conditions, the basis of key concepts and models for managing the activities of a modern organization is formed by the concepts of a business system and business processes, which determines their significance in the context of this study (Simon, H., 1996).

The scientific literature presents different approaches to defining the designated concepts, which in their essence correspond to process or system approaches, and in some cases are based on their combination, since, in accordance with the general theory of systems; a system is a way of implementing processes (Mitchell, D., & Coles, C., 2003). Thus, when defining the concept of “business system,” researchers resort to identifying profit with a synergistic effect achieved as a result of the interaction of elements and operating conditions of a commercial organization.

Thus, in the scientific literature, business is usually understood as organized efforts and activities carried out regularly and characterized by

novelty, risk, initiative, and ingenuity of individuals in the production and sale of goods and services for the purpose of making a profit.

Depending on the scale of such activities, a business can acquire one or another organizational form - from a sole proprietorship to an international corporation. The larger the scale of the business, the more complex the organizational structure it has, as a rule, and the more diverse methods of combining production factors are used, which ensures the company's development of new types of products and activities. At the same time, the totality of parallel or sequential transactions concluded and executed in the company in the process of financial and economic activities increases, as well as the number of business transactions carried out in the organization to maintain its functioning and development (Rosa, M., et al., 2017).

To summarize, we can draw the following conclusion. Thus, the search for new creative ideas, analysis and evaluation of these ideas from the from the buyer's perspective, as well as economic benefits, improvement of the processes of production and sale of the organization's products, investing in new bold ideas for acquiring income in the future, in general, all the necessary actions taken owners and employees of the company to obtain additional income, that is, additional profit and are included in the concept of "business".

Only large organizations could work on AI even twenty or thirty years ago. They had rapid connections, robust technology, and a technological infrastructure at their disposal. A mere developer did not have access to colossal arrays of data in the public domain. Furthermore, a shortage of processing capacity substantially slowed AI development. The most ideal circumstances for the growth and application of AI are now present: massive memory capacities, massive data processing powers, cloud computing, high-speed wireless optic communication, prevalent Wi-Fi and IoT, and modern infrastructure and ecosystem have enabled AI to start "thinking. (Stiglitz, J. E., 2016).

Today, not only large companies have the opportunity to work on AI intelligence, but also, if desired, any developer can do research in the field of AI.

As for the interest of private companies in AI, the interest of companies can be estimated by the number of patents they have registered for the use of AI technologies (Fig. 1.2).

The Information Data Corporation (IDC) estimates that global spending on AI systems (including hardware, software, and related services) will increase from $8 billion in 2016 to $78 billion in 2023. According to Gartner forecasts, by 2023 artificial intelligence and machine learning technologies will be incorporated in nearly every new software products and services. It is expected that by this time AI will become part of digital transformation strategies and will be a priority for the investments of almost a third of companies in the world (Montobbio, F., et al, 2020).

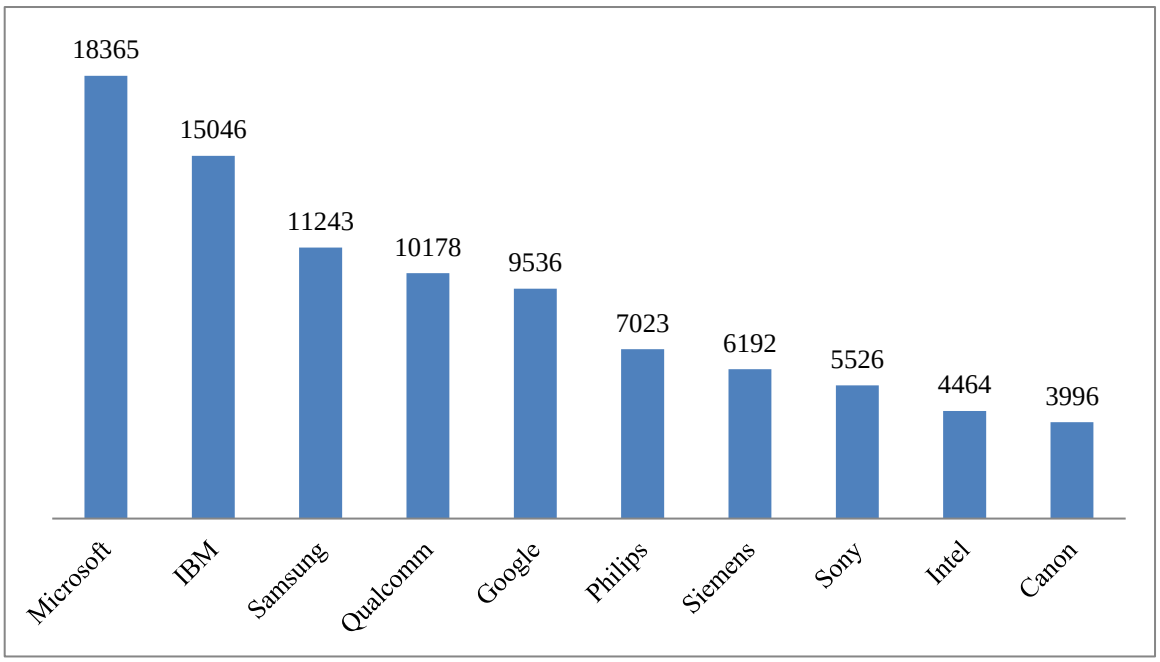

Figure 1.2 Number of companies with the most AI patents in 2021

Source (Statista, 2023)

Notably, AI startups received $68,5 billion in funding in 2021, the highest on record. The number of rounds also grew 4455 transactions were made using AI technologies (Fig. 1.3).

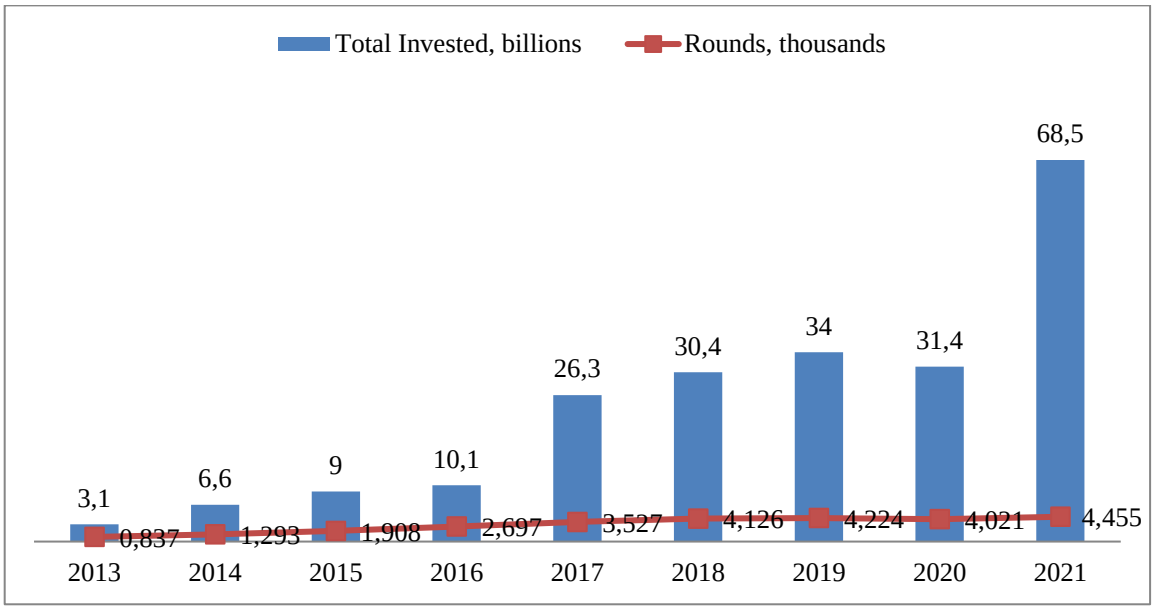

Figure 1.3 Investments in AI startups (USD million) and number of round
Source (Special Series Launch, 2023)

Next, let's analyze the structure of investments by branches of artificial intelligence (Fig. 1.4).

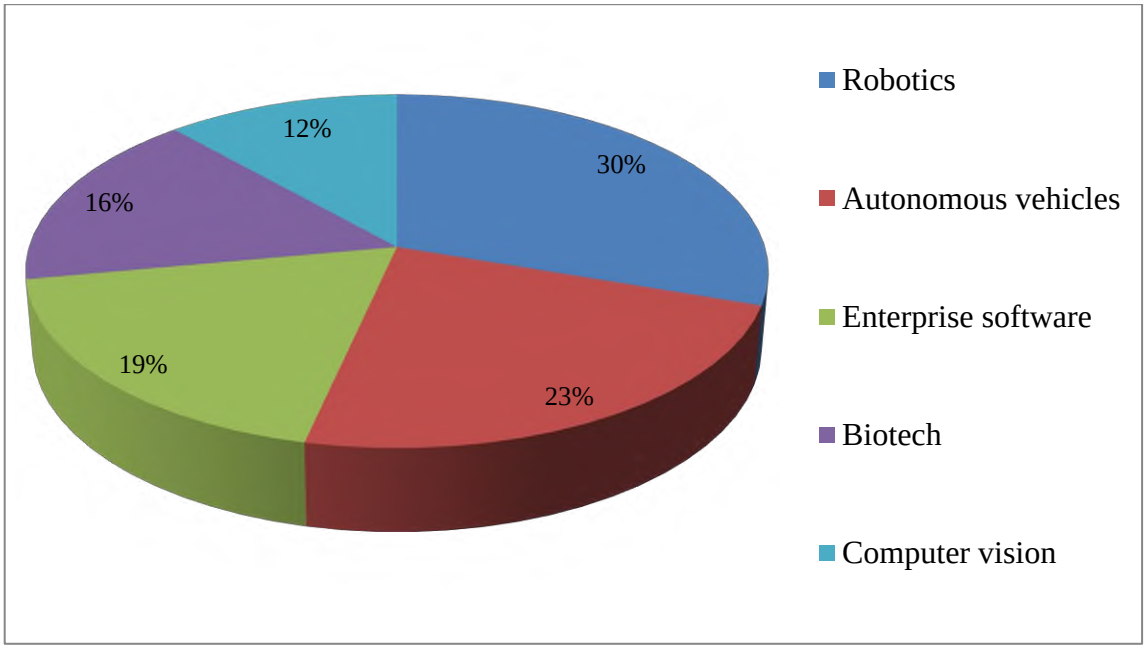

Figure 1.4 - Structure of investments by artificial intelligence industries for 2021, %

Source (Special Series Launch, 2023)

As you can see from Figure 1.4, robotics accounted for the largest share of investments in 2021, followed by autonomous cars, and enterprise software closes the top three.

According to Frost & Sullivan, the US remains the leader in AI investment and deals, followed by China and the UK (Figure 1.5).

However, if we take into account the average value of a transaction, then China is the undisputed leader, the average size of transactions of which in the last two years amounted to more than 100 million US dollars against 15 and 5.4 million dollars for the US and the UK, respectively. In China, AI technologies are very popular, their development is actively supported by the government, and the market for these technologies is developing at such a rapid pace that, if they are retained, China could become a world leader in this field, overtaking the United States.

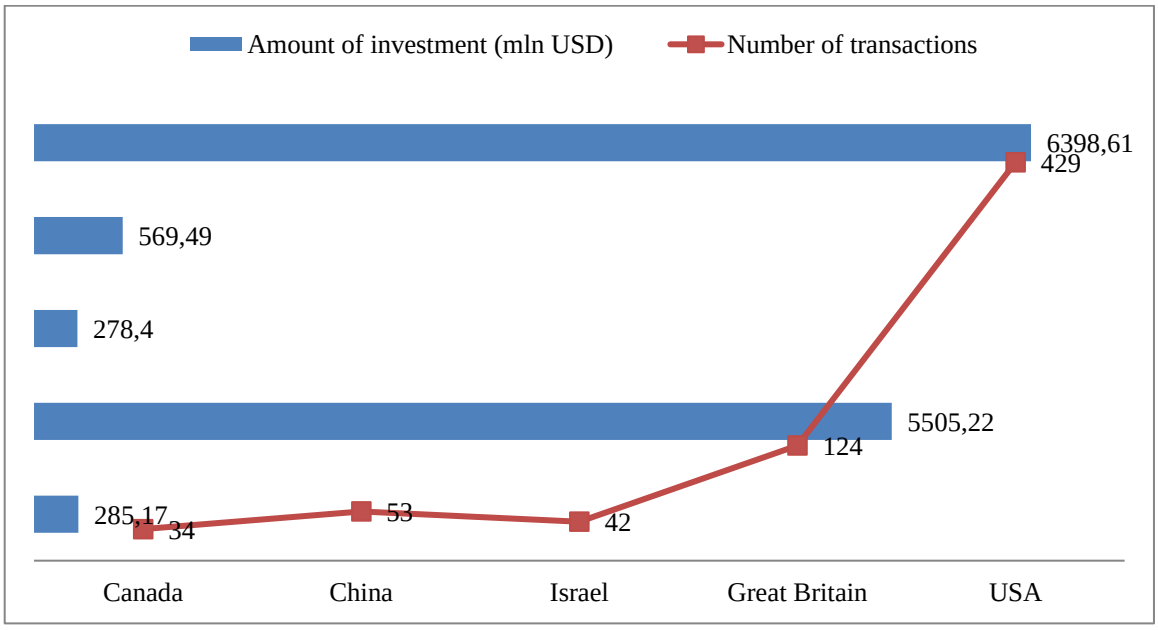

Figure 1.5 Investments in AI technologies by leading countries

Source (Romania Journal, 2023)

But, as is usually the case with new developments, in an effort to attract as much investment as possible, many companies only claim that they are engaged in AI technologies, although in fact such technologies are not developed or used. Thus, customers and investors are misled and the risks for investors are increased.

Analysis of investments in AI in European countries (Figure 1.6).

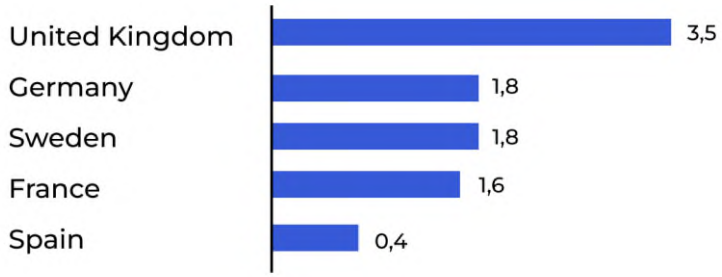

Figure 1.6 Investments in AI technologies by EU countries in 2022, billions euro

Source (European Parliament, 2023)

As for European countries, analysts at MMC Ventures (2019) note that as of March 2021, the UK had the most start-ups involved in artificial intelligence - 479, followed by France - 217, followed by Germany - 196, then Spain - 166 and the Netherlands - 103. In the industry context, most startups are developing AI technologies for medicine and health maintenance. As a result, we propose to consider investments in financial technologies as one of the innovative areas for the development of artificial intelligence.

1.2. Application of AI in marketing and management process

The rapid development of AI systems and technologies in the last decade gives reason to many experts, businessmen and scientists to believe that this is not just another technological advancement; rather, it is the technological foundation of the fourth industrial revolution, which is related to the hopes of acceleration of global economic expansion and strengthening national and corporate competitiveness. Less than a decade ago, there was a dramatic leap in the performance of information processing algorithms, made possible by fast GPU-based computers, exploding data growth, and the advent of near-limitless data storage and access technologies. On this basis, it became possible to develop deep learning technologies based on the creation and training of artificial neural networks based on the principles of the human brain. Through deep learning, computers are able to learn to recognize and analyze speech, images, video and audio data as well, and sometimes even better, than humans (Musso, S., 2013).

The benefits of AI systems and technologies increase even more when it is used in combination with other technologies such as analytics, ERP, IoT, blockchain and even quantum computing. There is a kind of convergence of AI technologies with other technologies, which gives the greatest effect. According to PwC research (AI Predictions, 2022), 36% of executives have included managing AI convergence with other technologies as a top AI challenge for 2019, along with employee retention. Convergence is only slightly behind building trust in AI in this ranking. Companies also share the view that another priority is the further development of advanced, predictive and streaming analytics with the help of AI. This convergence can power new data-driven business models.

Notably, for the Internet of Things, convergence with AI will also create big benefits. Very soon, large enterprises will have millions of sensors connected to IoT and collecting information from corporate equipment and

client devices. AI and analytics will play an important role in discovering patterns in the vast mass of data for tasks ranging from systems maintenance to marketing analysis. AI microprocessors built directly into IoT devices to collect data in the field will help to cope with this (Blumberg Capital, 2019).

Developing cognitive intelligence systems and building a cognitive computer is the most significant path in the advancement of artificial intelligence technology that is able to learn by learning about the world around it, independently draw insights from them and base decisions on them. Such a project is being developed by IBM in collaboration with a number of universities commissioned by the US Department of Defense. IDC predicts that AI solutions will grow to more than $500 billion in 2027. Currently, artificial intelligence statistics also show that AI software will be the largest and fastest growing technology category, covering about 40% of all cognitive and AI spending (Fountaine, T. et al., 2019).

Of course, the recurring trends in the growth of the global AI market for systems and technologies are formed not only from the supply side, but also from the demand side and, above all, from the business side. Moreover, the role of business in increasing the demand for AI technologies will only grow in the future. The PwC (2019) research shows that more than 70% of US business leaders consider AI fundamental and absolutely essential to develop future business opportunities. In addition, in order to maintain a competitive advantage in the market, 85% of executives expect that AI will provide their businesses with a competitive advantage in the market, and three-quarters believe that AI will help their companies take their business on a new footing or start a new business. (Garbuio, M. & Lin, N., 2019)

Today, about 80% of the interaction of companies with customers is carried out without people. It is known that many repetitive tasks that people used to perform sometimes for a long time are now performed much faster by

chatbots. Although such robots are put to use in delivery services and banks, where they are at the highest level of use in customer service.

Accenture's study of 12 developed countries shows that incorporating AI into business could double their economic growth by 2035. Businesses that use AI in sales have been able to increase leads by 50% while reducing call times by 60-70%. This, in turn, helped reduce costs by 40-60% by reducing the number of lost leads and deals (Lee, J. ey al., 2019).

Statistics on AI implementations demonstrate that they enhance the profitability and efficiency of businesses. In particular, a recent study by Harvard Business Review (Fountaine T., et al., 2019) found that increasing robotic transactions through the use of AI leads to increased sales and has proven to be extremely profitable. Of particular note is that, according to reports from consulting companies, the number of robotic transactions reached $10.1 billion in 2019. Transactions declined in July 2019 alone, after a $1.1 billion increase in June 2019. AI statistics also show that some investments have skyrocketed by several billion US dollars, such as Volkswagen's Argo AI and Microsoft's Open AI (AI Multiple, 2024).

AI technologies are widely used in digital marketing strategies, especially since traditional marketing methods such as direct mail and display advertising have fallen out of favor and are now considered completely ineffective. These include content creation, on-site personalization, optimization and testing, and email marketing for data analysis and sales forecasting. Over 80% of marketers consider AI to be an important advertising trend. The largest modern companies in the world are increasingly trusting artificial intelligence when it comes to marketing, as they have seen the benefits of using it effectively in their marketing research. Marketers believe that the use of AI in marketing will help identify potential customers and improve overall marketing effectiveness. In large companies, 51% of marketers are already using AI, and 27% plan to include it in their digital marketing strategy, 87% of companies that have

adopted AI technologies have used it to improve email marketing. Currently, over 80% of email marketing has been converted to AI technology, but it is expected that the level of AI use will continue to grow. In addition, 61% of marketers plan to use artificial intelligence in sales forecasting as well. According to 2019 Accenture data, most marketers use AI to analyze and explore data that shows that about 40% of consumers tend to change brands due to a lack of personalization and trust, and 43% are more willing to purchase goods from businesses that enhance a personalized customer experience. Future trends in artificial intelligence predict that AI will become an important factor in improving personalisation and delivering superior content. In 2020, approximately 90% of brands used some form of personalization to improve the quality of their services and their appeal to potential customers (Hernández-Orallo, J., 2016; Irani, L. C. &Silbernman, M., 2013).

We have therefore concluded that new technologies are crucial to the design and execution of international events. We suggest looking into the overall costs of digital marketing that multinational corporations carry out before moving on to the analysis of the characteristics of international activities. (see Fig. 1.6).

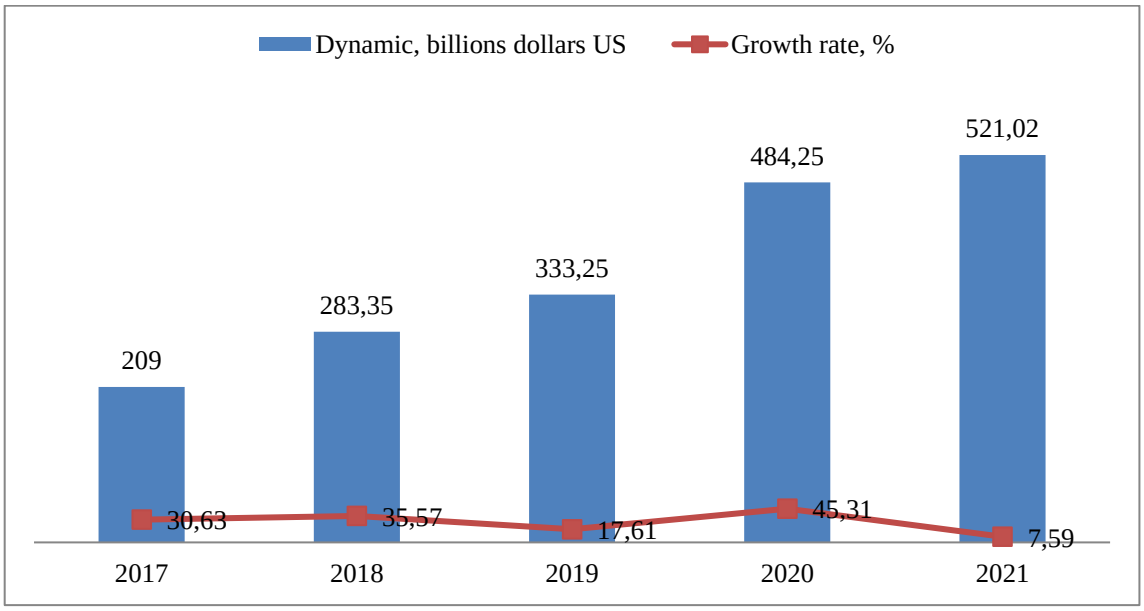

Figure 1.6 - Dynamics of costs for marketing activities for the period 2017-2021

Source (Worldwide Ad Spending, 2022)

Therefore, the dynamics of marketing activity expenditures are increasing in direct proportion to the expansion of market and client needs. In fact, we find it hard to picture any business operating in the modern world without utilising digital marketing tools to advertise their goods and services or plan different kinds of events.

In today's scenario, digital technologies are at the core of all companies, and digital marketing is the principal tool in the hands of brands and marketers to implement marketing strategies during a pandemic. While the field of marketing as a whole has been hit hard, the digital marketing branch has experienced tremendous growth. Covid-19 has accelerated digital marketing and paved the way for further development and improvement of digital marketing activities. We propose to analyze the total capitalization of the Internet sales market (see Fig. 1.7)

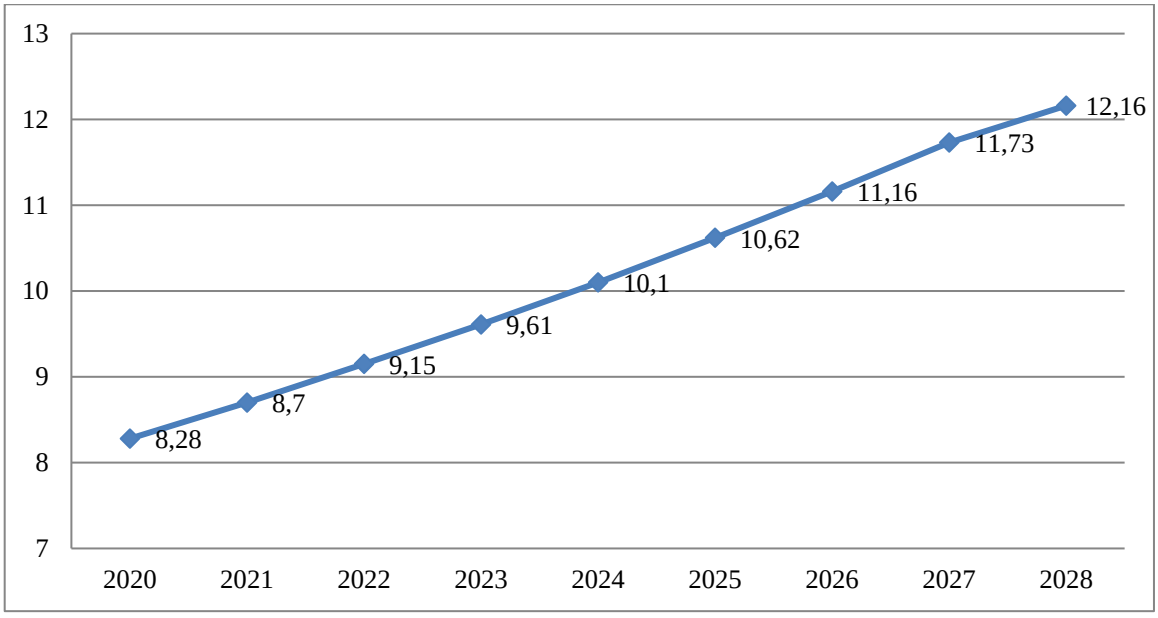

Figure 1.7 Dynamics and growth forecast of the Internet sales market for 2020-2028, billion dollars

Source (Statista, 2023)

As digital technologies develop, online sales will only grow, as most companies are gradually moving to online sales, which, firstly, are much cheaper than running physical stores, and secondly, much faster.

The main push to online sales occurred during the Coronavirus Pandemic in 2020, where the whole world was forced to stay at home, and that is when the insane development of online commerce as the only way to purchase goods took place, because physical stores were closed.

Next, we examine the main companies in the Internet trading market. Amazon remains the world's largest online seller in 2020, its revenue reached 386,1 billion. In second place is JD with $104 billion revenue and third place was taken by Alibaba - $104 billion revenue (Global data, 2023). In Figure 1.8, I propose to depict the sales revenue of the main players in the Internet commerce market in 2020.

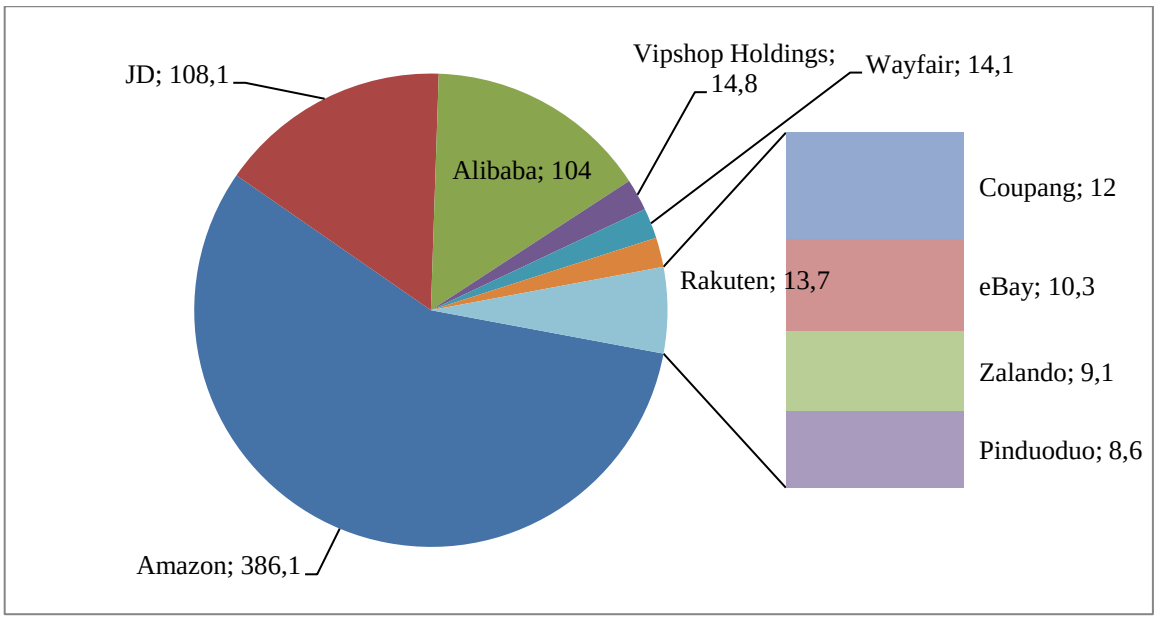

Figure 1.8 Revenue from the sale of leading companies in the e-commerce market for 2022, billion dollars USA

Source (Statista, 2023)

With the proliferation of big data and artificial intelligence that analyzes purchase data and ratings, many e-commerce firms are now modernizing their operations in line with the recommendations.

Consumers are making smarter decisions based on feedback from other consumers, and companies are attracting more customers using their recommendations. The influence and spread of social networks has created a base of potential buyers connected by online platforms. Currently, a significant share of sales in social e-commerce accounts for Facebook, Twitter, and Pinterest (Kerr, W. R, et al, 2018; M. A. Rahman, 2019).

Artificial Intelligence (AI) technologies are being actively applied as virtual assistants for machine learning, image analysis, predictive analysis, neo-robot construction, and autonomous intelligent motor vehicles, in intelligent energy transmission and metering systems, systems for diagnosing diseases and their treatment, intelligent personal medical consultants, smart homes and smart cities, security and smart weapons (Sena, V. & Nocker, M., 2021).

It should be especially noted that the fourth industrial revolution is based on the rapidly developing AI systems and technologies, which represent not only another breakthrough in technology but also the technological foundation for faster global economic growth and higher national and multinational competitiveness.

1.3 Research of the impact of AI on business growth

Artificial intelligence corresponds to a collection of interconnected systems and technologies that are expanding quickly and in a qualitative manner affecting many aspects of human endeavors such as stock markets, data mining and marketing, robotics, industry, financial and credit risk management, recruiting, recruiting in the military, medical, music, publishing, and so forth. As it was mentioned prior to that, one of the most important advances in the world

economy is the continued growth and utilization of artificial intelligence systems and technology. They can now be found in numerous aspects of our lives and businesses, demonstrating their importance in the modern world. Promising companies are already using AI-driven recommendations and insights to drive business value and capture market share across multiple sectors and industries (Cockburn Iain, et al., 2017; Dean J., 2014, Delcamp H., 2011).

According to analysts from the same company, published in January 2019, the widespread adoption of AI systems and technologies will increase the volume of the global market for goods and services by 15.7 trillion US dollars by 2030.

Similar assessments are given by other companies and agencies. For example, according to Tractica, the global AI market is expected to reach $118.6 billion by 2025 (Figure 1.9). Moreover, with a high degree of likelihood that could be argued that this trend will dominate in the next few years.

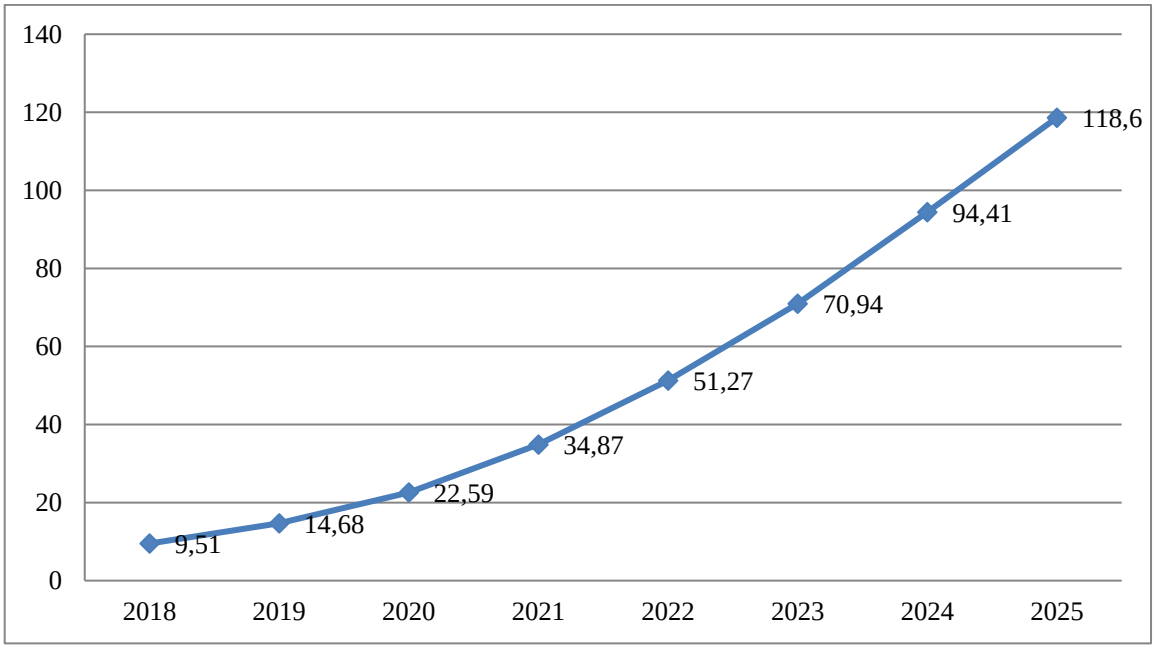

Figure 1.9 The volume of the world market of AI systems and technologies, 2018–2025, USD billion

Source: (Statista, 2023)

Rapid digitalization, as well as the active development of the Internet of things (IoT), explain the growing role of AI in the world and business. PwC (2022) estimates that by 2030, global GDP will grow by 14% or $15.7 trillion due to the use of artificial intelligence.

More than half of this increase will come from increased labor productivity, and the rest from increased consumer demand. China (+26% GDP growth in 2030) and North America (+14.5%) will be the biggest economic beneficiaries of AI. However, today (as well as in the coming years), the US productivity growth rate will exceed that of China due to higher levels of automation and readiness for AI. In developing countries (Latin America and Africa), the pace of AI penetration will be more modest (less than 6%) due to less intensive penetration of IT in general (Fig. 1.10).

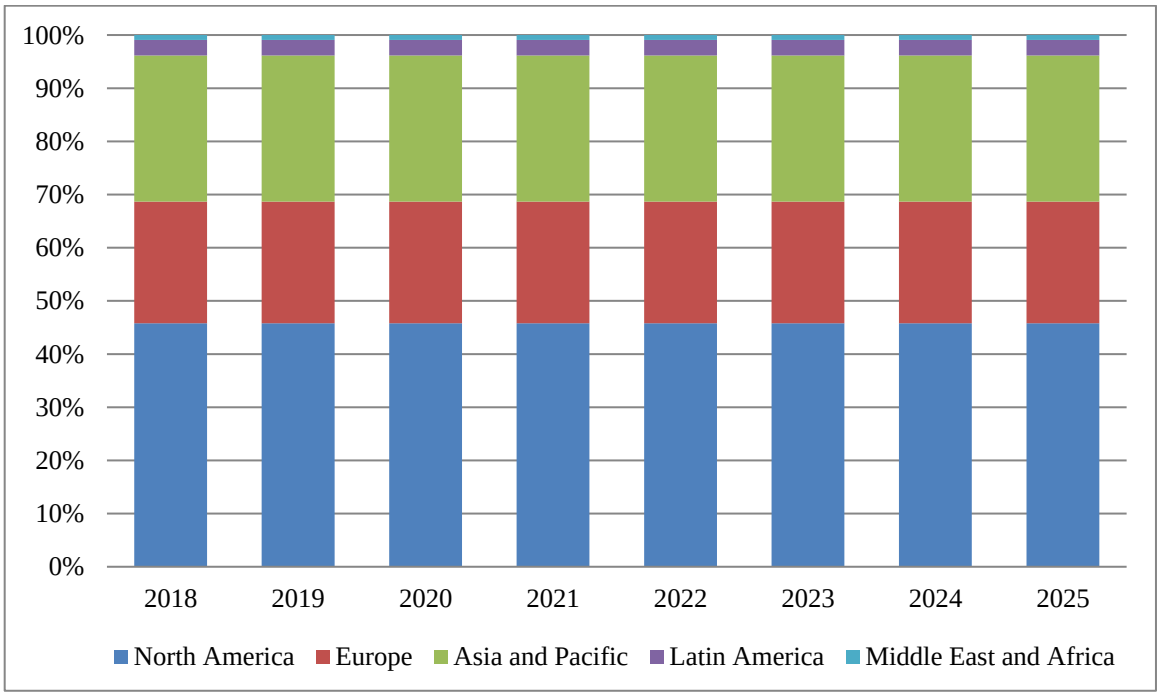

Figure 1.10 Dynamics of regional artificial intelligence markets, billion USD

Source: (Statista, 2023, Blumberg Capital, 2019)

Today, AI is used in many areas of our lives. The business industry has seen the benefits for itself and is adapting artificial intelligence to its needs and needs, using it not only to increase sales, but also to develop new products and services. The main thing in any business is to increase the appeal of goods and services to clients, and artificial intelligence is one of the ways to achieve this. Many industries have already adopted AI technology (Figure 1.11) and are benefiting tangibly from its use.

Blumberg Capital (2019) published a survey examining how many Americans know about AI. In fact, according to their statistics on artificial intelligence, exactly half of those surveyed feel optimistic and are really informed about AI. However, the other half knows nothing about AI and is even afraid of it. About 5% of surveyed users also believe that the vast majority of the services they use on a frequent basis are based on AI, while 26% believe that they have at least one daily interaction with AI. The study also shows that 50% of businesses have AI built into their business. According to a survey conducted by Morning Consult (Voicebot, 2017), over 18 million Amazon Echo smart speakers were sold in 2017, which can act as the central hub of a home automation system to control other smart devices. In addition, the same survey shows that 15.7 million Google Home smart speakers were purchased during the same period.

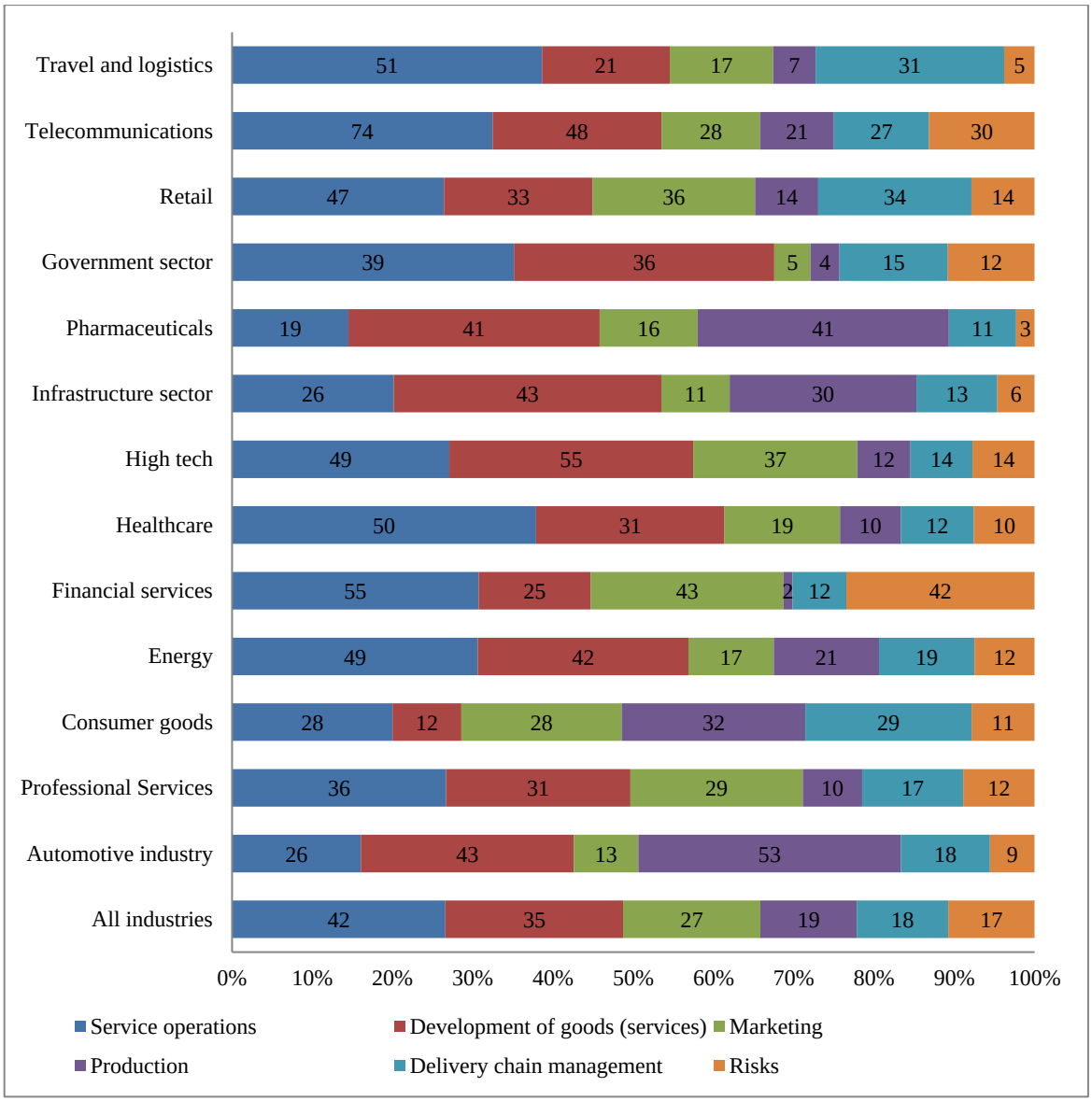

Figure 1.11 Implementation of AI by industries and functional segments in 2022, % of respondents

Source: (World Top Software, 2023)

It should be noted that today seventy-five countries use artificial intelligence technologies for video surveillance systems. In addition, AI has found one of the widest applications in surveillance. Many countries around the world have adopted AI technology to develop CCTV cameras. In fact, AI statistics clearly show that fifty-six countries around the world are using AI for smart city platforms. Sixty-four countries have added facial recognition

software, while fifty-two are already using smart policing. Interestingly, Chinese companies such as Hikvision, Huawei, ZTE, and Dahua are supplying essential AI technology to sixty-three countries and some US firms (Foss, N.J., Saebi, T., 2017; Furman, et al. 2015).

Software producers are among the most important elements in the overall technology industry. The types of software can vary widely and include, for example, entertainment, business or security software. Below is an updated list of the top 10 software companies in the world in 2020. It is based solely on software revenue generated either by the company itself or through its subsidiaries (Figure 1.12).

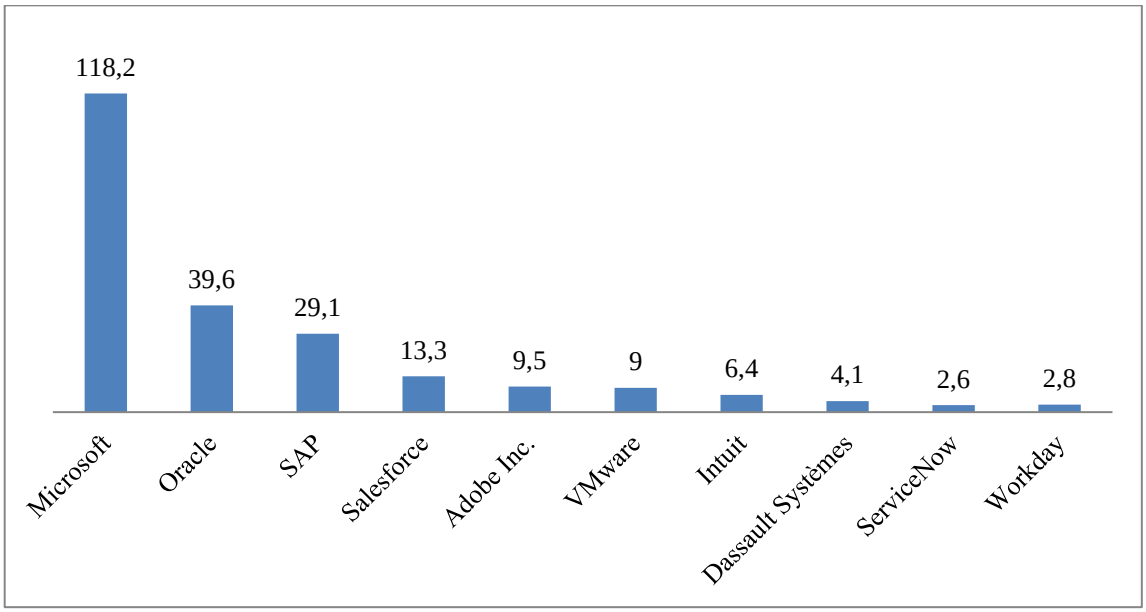

Figure 1.12 - Revenue of the largest software companies in 2020, billions dollars

Source (Statista, 2023)

Microsoft, a computer software corporation is the first among the top ten largest software companies in the world in 2020, the perennially popular US multinational technology company. This brand, also called Microsoft Corporation, is known for its Windows operating system. The company also

develops, manufactures, licenses, and sells electronics for consumers, desktop and laptop computers, and related services.

Microsoft is followed by Oracle Corporation, a worldwide American company focused on computer technology with its main office located in Redwood Shores, California. The company is known for selling its own brand of computer database management systems and specializes in the tools needed for enterprise resource planning (ERP) software, human capital management (HCM) software, customer relationship management (CRM) software and supply chain management (SCM) (Garcez, A., et al., 2015; Goluchowicz, K. & Blind, K., 2011).

And closing the top three is SAP, a European multinational software development corporation that produces enterprise software for business operations and customer relationship management.

The next study is the profit dynamics of the software industry in accordance with the sectors for the period 2016-2020 (Figure 1.13).

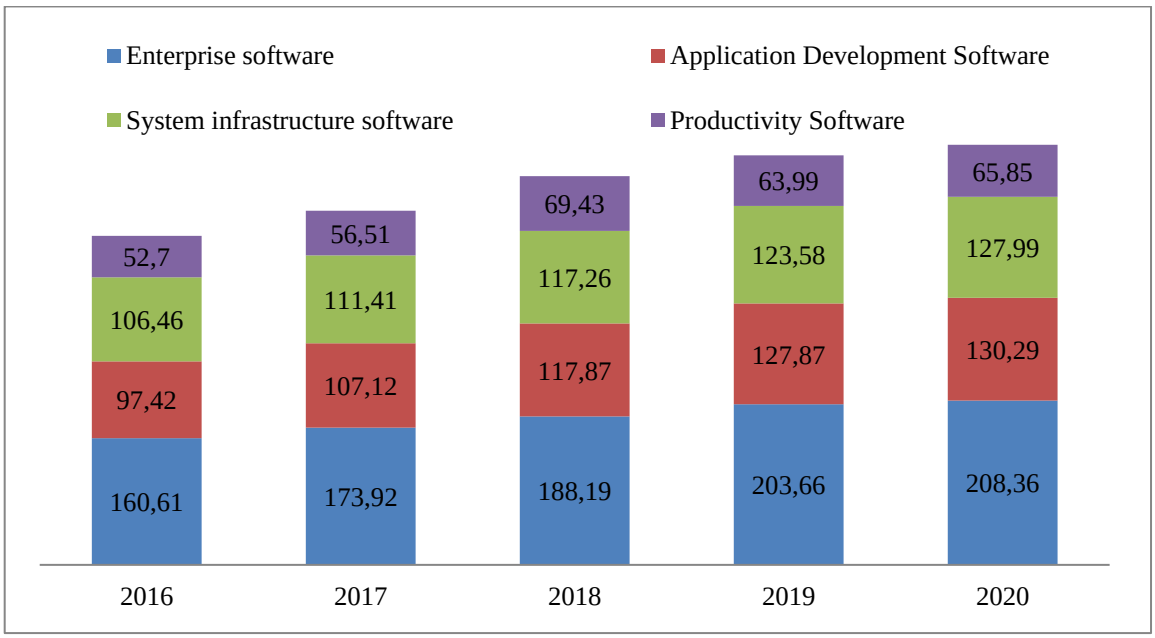

Figure 1.13 Income of the global software market by segments for the period 2016-2020, billion dollars USA

Source (Statista, 2023)

As we can see from Figure 1.13, software industry revenue is up 4% overall since 2016. Growth occurred in all market segments, in particular, the most significant increase in revenues of relationship development software (33%), in a yawn with the popularization of this product in the modern world.

The introduction of so-called "smart technologies" is the basis for building a digital economy. Today, all large companies and transnational structures are actively investing in their development. In a number of foreign countries, including the countries of the European Union, the Persian Gulf, and Asia, the Smart City concept, which includes the creation of basic and intellectual infrastructure, has become widespread (Anthopoulos L., et al., 2016).

Professionals with extensive knowledge of information technology and its broad adoption of digital tools into production and economic processes note that this will lead to the release of a large number of employed able-bodied population. It is no coincidence that the concept of establishing a 4-day working week is being expressed today. In addition, it is necessary to note the potential negative impact on raising the retirement age. In this regard, the problem of adapting human capital to the rapidly changing conditions of the outside world to accept the challenges and threats of uncertainty and risk that accompany a person throughout his life becomes even more relevant in a digitized environment.

Chapter 2. Analysis of ai usage in Jüdische Gemeinde

2.1 General familiarization with Jüdische Gemeinde

Jüdische Gemeinde is a Jewish community whose office is located in Halle, Germany. This community is engaged in the religious enlightenment of its believers and organizes various religious tours for its believers.

The history of the Halle Jüdische Gemeinde is given in Table 2.1.

Table 2.1

History of the creation of the Jüdische Gemeinde

Year	Event
1953	Opening of the synagogue, rebuilt by the community from the former cemetery chapel on Humboldtstr.
1991	The ceremonial reception of the first Jewish immigrants from Eastern Europe into the community, timed to coincide with the celebration of Rosh Hashanah
1998	New charter of the Jewish community of Halle adopted
1999	The community becomes a member of the Land Union of Jewish Communities of Saxony-Anhalt and the Central Council of Jews in Germany. Since that time, the religious mentor of the community has been Rabbi David Sussan
2003	Establishment of the Prize named after. E. L. Fackenheim. The first laureate is Dr. Begrish
2004	Second award of the E. L. Fackenheim Prize. The award was presented to the Land Association of Anti-Fascists
2007	Moshe Flomenman takes office as land rabbi. He also takes over the organization of religious work in Halle
2007	Third Presentation of the E. L. Fackenheim Prize to Mrs. G. Geseke
2010	The fourth winner of the E. L. Fackenheim Prize is the Seminar on Judaism of the University of Halle
2011	The Jewish community of Halle is one of the founders of the "Association of Traditional Jewish Communities of Germany"
2011	Starting this year, the Halle community has its own rabbi - Rabbi Alexander Kakhanovsky
2013	Buying a new Torah Scroll in Israel. It was written and produced especially for the Halle community
2014	The fifth E. L. Fackenheim Prize has been awarded, this time to the Philanthropium Dessau and the Harzgerode High School
2015	Opening of the Hunt-H-Unger Museum in the Synagogue

Source: (Jüdische Gemeinde, 2023)

The supreme governing body of the jüdische Gemeinde is the general meeting of participants, they consist of the owners or representatives appointed by them (Fig. 2.1).

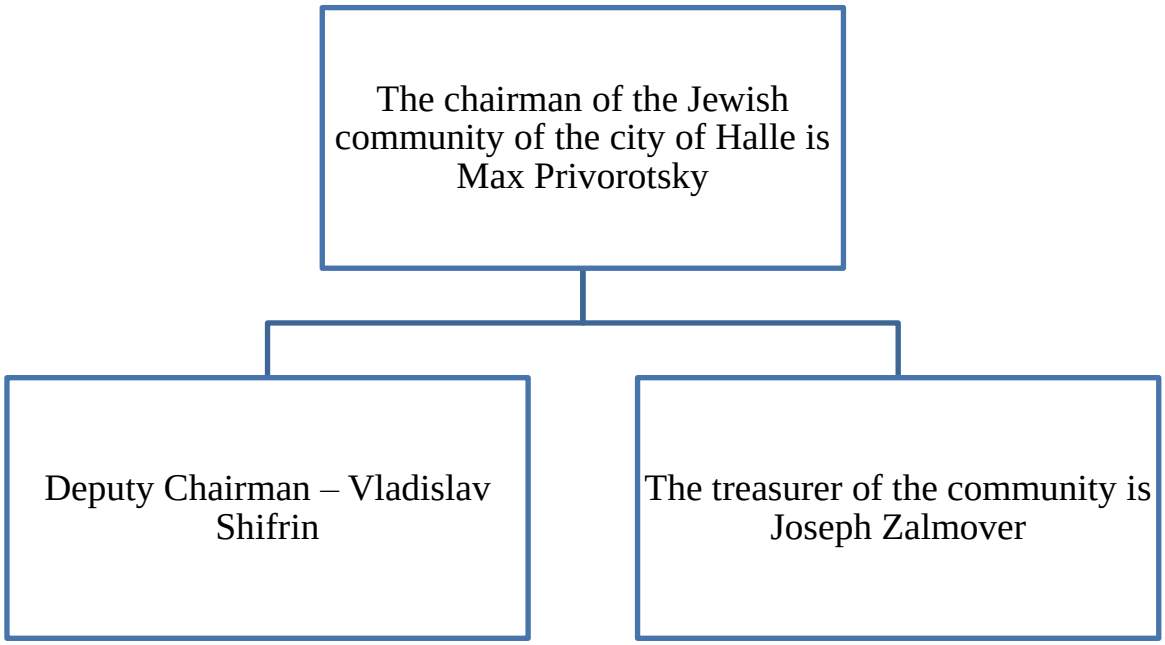

Figure: 2.1 Organizational structure of management of Jüdische Gemeinde

Source: (Jüdische Gemeinde, 2023)

The Meeting of Representatives is guided in its work by the principles of a legal democratic state, making decisions by a majority vote, within the framework of the competence and responsibility assigned to the Representatives.

The organization of planning and control over the implementation of plans is entrusted to the planning and economic department of the Jüdische Gemeinde.

Its functions include:

- development of the structure of plans mandatory at the communities and sending them for approval to the governing bodies of the communities and organization of work on drawing up plans, the form of which is approved by the

management of the communities, preparation of materials and initial data in all departments and services of the communities participating in the planned work;

- preparation of technical and economic forecasts for the most important areas of the communities's activity and coordination of plans for all divisions of the communities and development of regulatory planning documents (types and structure of plans) for the structural and functional divisions of the communities;

- Influence over the process of implementation of the plans of the communities as a whole, and its individual structural and functional divisions.

The main tasks of the planning and economic department of the Jüdische Gemeinde are:

1. Carrying out feasibility studies in the realm of economic and financial operations of the Jüdische Gemeinde.

2. Development and improvement of the economic policy of the communities, intended to achieve the best possible outcomes at the lowest possible cost in terms of material, labour, and financial resources; to speed up the rate at which labour productivity is growing; increasing solidarity for economic activity's efficiency and profitability; to improve product quality while lowering costs; and to guarantee that labour productivity grows more quickly than the rise in wages.

3. A thorough economic examination of the company's operations, together with the prompt formulation of policies aimed at accelerating the rate of increase in labour productivity growth, raising capital productivity and profitability, cutting production costs, getting rid of losses, and cutting wasteful spending.

4. Establishing the organization's price strategy and formulating suggestions for enhancing the system in order to maximize production capacity, labor costs, and material costs.

5. Monitoring of the process on how well the organization's divisions are implementing the plan targets and if they are applying set prices correctly.

The personnel of the planning and economic department of the Jüdische Gemeinde, together with the top management, develops the jüdische Gemeinde's strategic plan, participates in the selection and justification of economic goals, analysis and evaluation of the planned and actual results of the communities. The planning and economic department interacts with the planning bureaus of structural divisions, as well as with the functional divisions of the communities as a whole, once: the marketing department, the sales department, the pricing department, financial services and others, coordinates their work in preparing certain types of communities plans. The recommendations of the planning and economic department regarding planned work are mandatory for all structural and functional units, with the exception of those that, according to regulatory documents, are within the competence of the communities's management.

Since Jüdische Gemeinde is a non-profit organization, we propose to analyze the membership fees of participants in this community (Table 2.2.).

Table 2.2

Characteristics of membership fees in the Jüdische Gemeinde

Indicator	Characteristick
Amount of contributions	1. A community member pays 3 Euros per month, a member of his family pays 2.50 Euros. Children under 18 years of age are exempt from paying fees. A community member or family member under 27 years of age who does not have his own income is also exempt from paying contributions.
	2. Concessional contributions are paid by members of the community if: they receive benefits in accordance with Codes of Social Laws II or XII. They are required to prove their right to pay preferential contributions. The reduced contribution amount is 1.50 Euro; for people over 65 years of age, reduced contributions are 1 Euro per month.
	3. Members of the community are obliged to notify the responsible person of a change in their financial status no later than a month later.
	4. If it is determined that a community member had to pay a larger amount of contributions, then he is obliged to compensate the difference.
	5. If it is determined that a community member should have paid a smaller amount of contributions, the difference will be reimbursed to him. This provision is retroactive for no more than 6 months.
Payment of fees	1. Contributions must be paid no later than the 1st day of the third month of the quarter. Payment is made either in cash or to the community bank account.

	2. In case of non-payment of dues by the 1st day of the second month of the next quarter, membership in the community is frozen. The rights of his family members are also frozen.
	3. The community board announces a special meeting time to resolve issues related to the collection of contributions.
Accounting	1. At the request of a community member, once a year he can receive confirmation of payment of contributions.
	2. Information about payment or non-payment of contributions is entered into the list of community members.

Source: (Jüdische Gemeinde, 2023)

The amount of contributions depends on the income and source of livelihood of the community member's family for the last year. Payment is made once every 3 months. The community treasurer is responsible for the correct calculation and acceptance of contributions, he may assign this to a community employee.

The Jüdische Gemeinde is an organization whose budget consists of community membership fees. Community funds are used for the maintenance of the Jüdische Gemeinde and the development of religion.

2.2 AI approaches in Jüdische Gemeinde

Jüdische Gemeinde use technologies in marketing and implement it in other direction of companies activity.

One of the most important marketing communication channels of the Jüdische Gemeinde is communication through the World Wide Web, and the most important tool for this communication for the company, in turn, is social networks and email.

The task of the Jüdische Gemeinde page on social networks is to convey to the end user the maximum information about specialists, to tell about the experience and knowledge of each of them, but without pathos and vanity.

In social networks, just like in society, you can be popular if you spread information that is useful to clients in the form of articles, videos, documents,

comments - excellent tools for creating expert status.

Report on the results of communication of the Jüdische Gemeinde for September 2022 (see Figure 2.2).

From the analysis of the switching policy of Jüdische Gemeinde we can see the main channels of communication with clients, both potential and permanent, are social networks, which are used by the Jüdische Gemeinde to effectively promote their services in Germany.

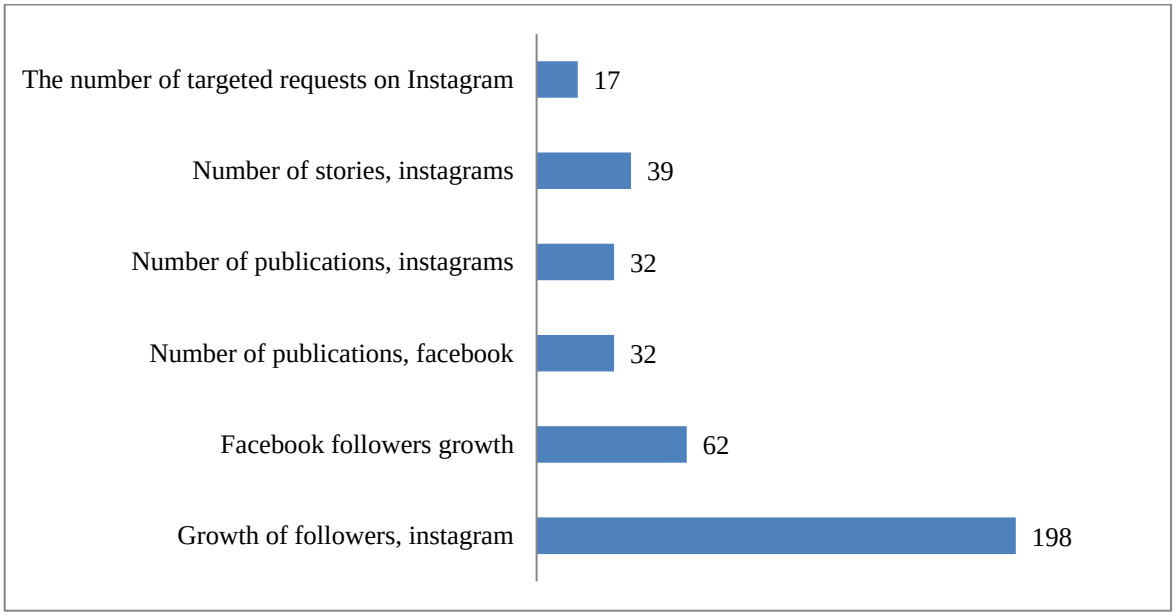

Figure 2.2 - The result of the communication policy of the Jüdische Gemeinde for September 2022

Source: Developed by the author according to the Jüdische Gemeinde

Thanks to regular communication, employees of the Jüdische Gemeinde retain customers. Social networks will allow you to attract new customers through maintaining professional accounts, contextual advertising, creating groups and communities. Cooperation is carried out on the basis of a concluded contract, where the conditions of work and payment are discussed in detail.

Judische Gemeinde strictly monitors compliance with the logical chain of product advertising. In turn, the managers of the Judische Gemeinde try to

provide the potential client with all the information he needs about its services.

Figure 2.3 shows the indicators of the use of advertising means of the Jüdische Gemeinde

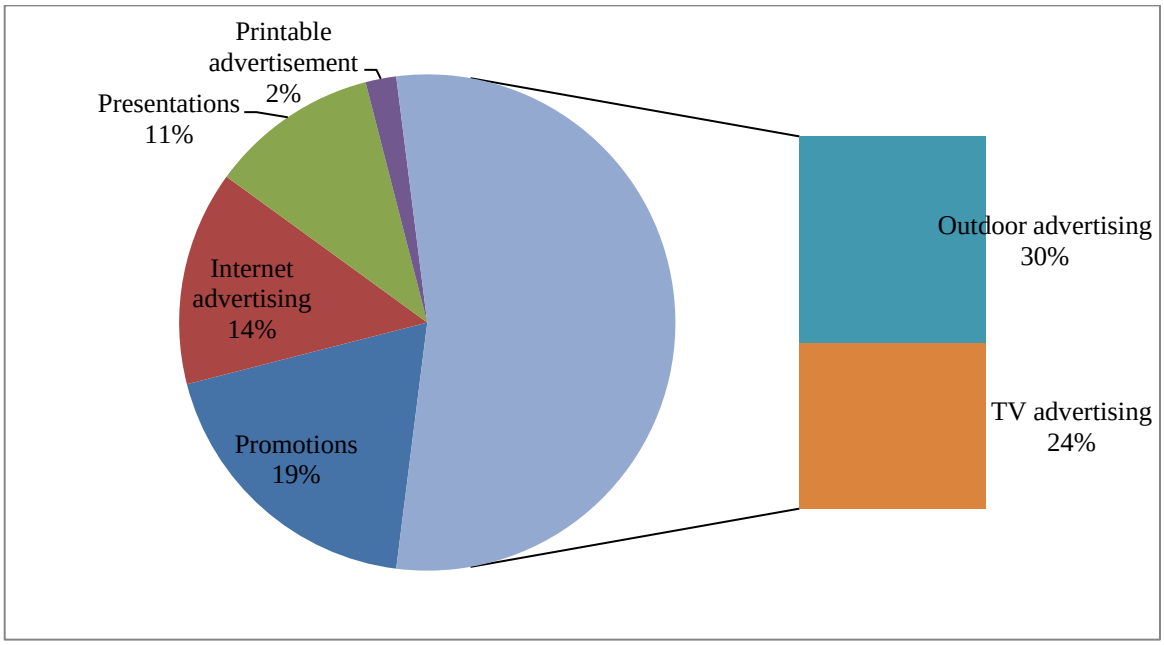

Figure 2.3 - Indicators of the use of advertising means of the Jüdische Gemeinde

Source: developed by the author according to the Jüdische Gemeinde.

Based on the diagram data, we can conclude that the Jüdische Gemeinde company invests most of its funds in TV advertising and outdoor advertising. This media channel is the most effective and expensive among all the others. Other characteristics of the use of advertising media can be estimated based on the chart data.

After analyzing the advertising activities at the community, the following conclusions can be drawn - all advertising activities are consistent with the organization and activities of the advertising service of the city (magazines, newspapers, TV channels), where the company places its advertising messages.

Thus, even in crisis and difficult economic conditions, the Jüdische Gemeinde pays great attention to its advertising activities. However, it is obvious that an increase in the effectiveness of the company's advertising

activities is possible due to the development of an advertising strategy for the Jüdische Gemeinde company.

Jüdische Gemeinde constantly strives to implement innovative methods of working with human resources, ranging from planning for human resources, hiring, screening, developing individuals managing performance, and compensating employees. The pace of technological change is so fast that we have to make incremental changes to our HR processes and functions at a much faster rate to achieve excellence in the digital marketing business.

Let's begin the analysis of project management within the framework of four modern areas of marketing: transactional, basic, interactive and network marketing

As far as marketing transactions are concerned, maximizing project management profitability and increasing project efficiency are important aspects of marketing transactions. Project management in the Jüdische Gemeinde should focus on results such as services, and the project execution should focus on the market where the profit is made, that is, on the profitable direction of project management, so that project resources, whether financial resources, people or time, it was possible to invest the cost indicator of the project implementation. It is imperative to interact with audience through usage of social media or other advertisement or market communications that limit contact with the client during the life cycle of the project, since all that matters to the client is only the final outcomes. There is a tendency to interact with clients, especially after the completion of a project, since the relationship between the project and the client is often portrayed as a temporary relationship, since most projects undertaken are dedicated to different clients and customers (Guasch, J.L., 2007).

In basic marketing, project management and marketing should focus on satisfying customers and creating satisfaction and loyalty, which requires project management to focus on actual customer needs. Project management should be aimed at obtaining information for the development of databases in the markets

in which projects are implemented. Use financial resources, people and time to create customer databases, maintain and develop the database to improve communication with customers (Harhoff, D., et al., 2016). Here it is necessary to use various channels of marketing communications, social networks, advertising and other tools for specific segments of consumers; contact with the client must be frequent and extremely specific. Unlike transactional marketing, in basic communication with clients continues even after the project is closed, which means that the relationship with clients is an ongoing relationship and contact with them is often made through email, social networks or similar media.

Interactive marketing at Jüdische Gemeinde aimed at establishing a permanent collaborative relationship with the client. The main goal of interactive marketing is that project management is aimed at developing relationships with the client and developing the client's relationship with the project. In this regard, building long-term relationships is essential, so that time, money and people are invested in beginning, managing and sustaining client relationships. Developed databases ought to make a contribution in client relationship development and communication with clients and focus on customizing communications according to their benefits. This requires the use of databases to maintain specific communication with an individual client or customer through project staff. Throughout the project’s life cycle, direct interactions with the clients is carried out through the project manager, as well as through project employees. In this case, the relationship with the customer becomes personal, since the project team is involved in the interaction (He, Z.L. & Wong, P.K., 2004).

The last one is network marketing, which at Jüdische Gemeinde focuses on cooperation with project stakeholders. This requires the focus of collaborative project activities on establishing and preserving connections with distributors, suppliers, and other businesses that may be relevant to the project nowadays or in the future for this exact or upcoming endeavours. Many company managers,

project managers and marketing managers agree that network marketing should target the target market for project management to establish strong and lasting partnerships with other organisations, including distributors and suppliers as it influences projects in the future. Consequently, it is important to commit a combination of investments in budget, time, and human resources, who would be invested in establishing and maintaining relationships with these organizations and stakeholders to the maximum extent possible. Collaborative activities in this type of marketing are limited to project managers and administrative personnel associated with these organizations, or other stakeholders with business relationships or other interests in the project. Network marketing efforts emphasize both direct and indirect forms of communication with organisations and stakeholders during the life cycle of a project, as well as the use of personal and non-personal forms of contact or via clients from companies and other stakeholders with whom the project is involved and is carried out. maintains alliances or relationships of great weight. Ultimately, communication with these parties occurs through project managers, project administrative staff of suppliers, distributors and other companies. Using network marketing helps in solving customer problems rather than delivering a product. This type of marketing will be the dominant marketing for this type of project. Companies must move from project orientation to customer-centric marketing, moving from fragmentary project activities to building ongoing relationships with customers. Increased relevance in marketing strategies will result from this trend. Infrastructure projects can greatly benefit from the usage of network marketing. Many project experts noted the importance of choosing the most appropriate email marketing methods and tools to increase the effectiveness of the project. Finally, most experts emphasized the importance of functional separation of marketing activities to ensure the allocation of project resources, as well as to achieve operational efficiency, timely project delivery and efficiency in achieving goals (Jia, K., Kenney, et al.,

2018).

Project Management at Jüdische Gemeinde may create long-term relationships and ongoing relationships with clients and stakeholders by utilizing both network and interactive marketing strategies. Email marketing activities focus on personal communication techniques through managers and administrative staff who follow up with customers or stakeholders. Encouraging clients to cooperate at all stages of the project is critical to the success of the project and achieving satisfactory results.

2.3 Strategic plan on implementation AI into the Jüdische Gemeinde

In my opinion, company management should monitor all processes, and not just the final results. To do this, I propose to introduce a “Digital Enterprise”, which, in my opinion, will significantly increase the use of CIS in Jüdische Gemeinde. The management of Jüdische Gemeinde will be able to identify constraints and take the necessary steps to reduce them.

The practical implementation of the Digital Enterprise information management system at Jüdische Gemeinde should include four main stages (Fig. 2.4).

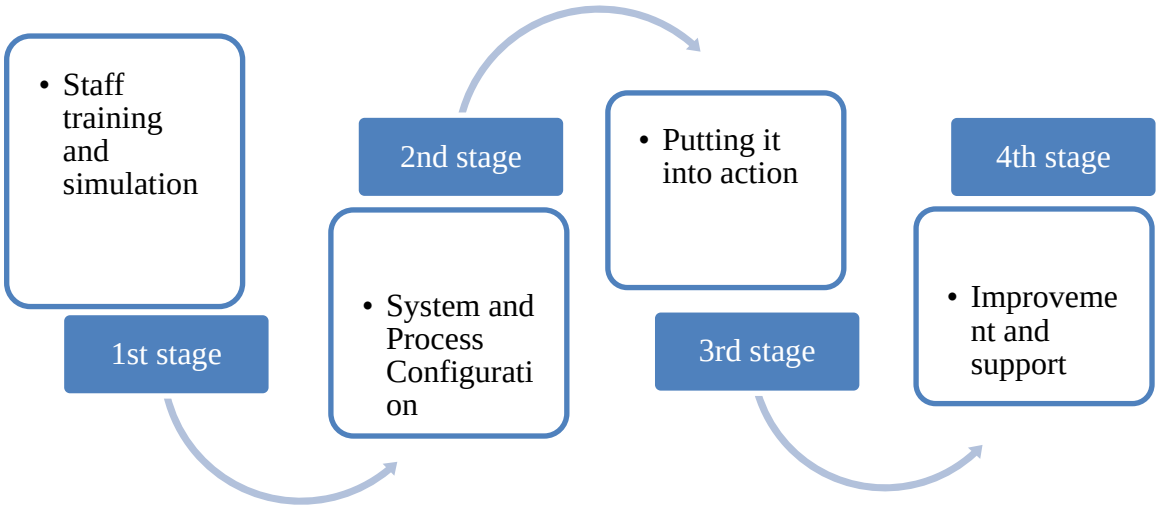

Figure 2.4 – Main stages of implementation of the Digital Enterprise management information system at Jüdische Gemeinde

Source: Created by the author

Stages of implementation of the Digital Enterprise program at Jüdische Gemeinde:

Stage 1: Training employees and building business processes

At this stage, training is carried out for management and related employees of Jüdische Gemeinde in the following areas:

– Theoretical training and research into the operating conditions of the IT-Enterprise system and acquisition of relevant skills by employees of Jüdische Gemeinde and and according to the recommendations of the “Project Charter”.

– Training occurs within the specific time frames that are restricted and continuously observed by the management of Jüdische Gemeinde.

In order to organize training for employees of Jüdische Gemeinde, it is necessary to provide them with appropriate equipment and provide each with a personal computer.

Training is presented in the form of lectures and system integration demonstrations on a randomly selected collection of IT-Enterprise systems, and during which the appropriate skills for working with this system are obtained.

The training itself occurs simultaneously with system modeling. It is at this stage that the formation of Jüdische Gemeinde business processes already available in the system takes place. In order for these business processes to constantly occur, it is necessary to hold working meetings and document the current business processes of Jüdische Gemeinde, the main problematic issues and information technology aspects of the implementation of future business processes in the IT-Enterprise system (Johnson, M.W., et al., 2008).

It's also essential to create fundamental suggestions for streamlining business operations and authorize foundational business process models.

The primary results of this stage for Jüdische Gemeinde are approved business process models and approved main criteria for completing the configuration stage and implementing it in practice.

Stage 2: Combination of the system and processes into a single whole.

Its main objective is to establish the IT management system of Jüdische Gemeinde based on coordinated business processes using the IT-Enterprise system. The implementation of the second stage comes through the following work (Figure 2.5)

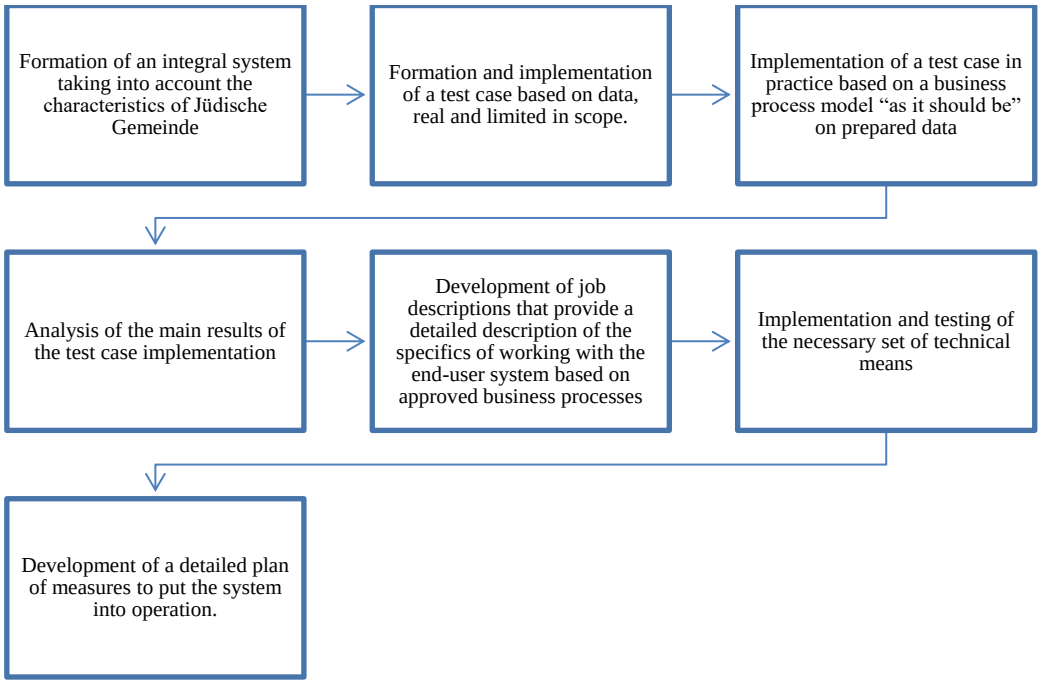

Figure 2.5 – Main works of stage 2

Source: Created by the author

The result of completing the 2nd stage is the efficient configuration of the system in compliance with the “as it should be” business process model.

Stage 3: Putting it into action

Utilizing the system for routine company operations is the first step in its implementation at Jüdische Gemeinde and requires the following work:

1. Obtaining consent from the management of Jüdische Gemeinde to to initiate the system's functioning.

2. Setting up the reference data and entering it into the system database necessary to start the system's operation in accordance with certain business procedures.

3. Program development and training of end users in the management of Jüdische Gemeinde.

4. Ongoing support for system users by the Jüdische Gemeinde implementation team at the implementation stage.

5. Approval and coordination with the management of Jüdische Gemeinde of the technical act once the implementation phase has been finished.

6. Drawing up a general technical report on the completion of this stage (Kafouros, M.I. & Forsans, N., 2012).

Stage 4: Improvement and support.

This phase lasts for the course of the integrated information system's operation in Jüdische Gemeinde and starts as soon as the system is put into operation and requires the following series of works (Figure 2.6)

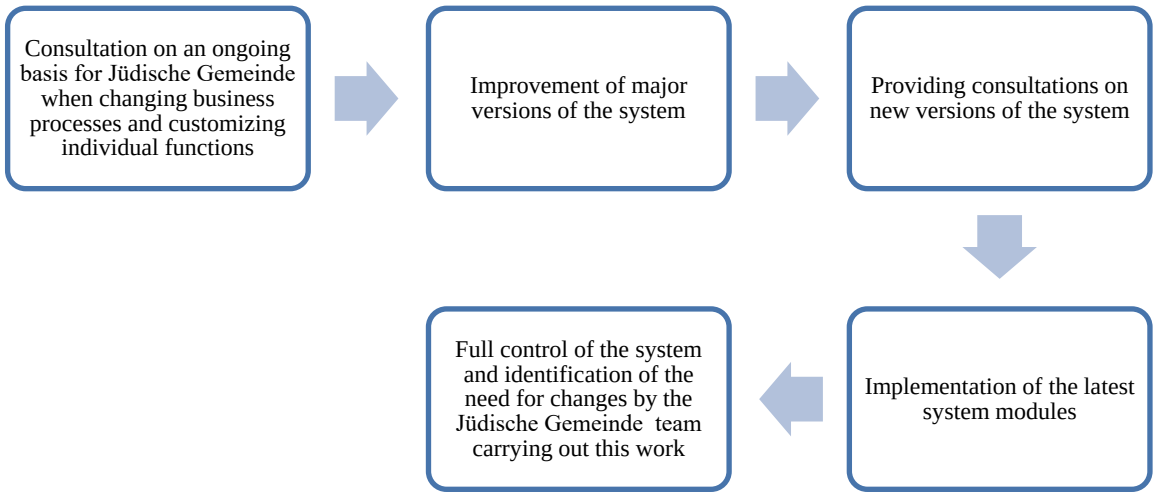

Figure 2.6 – Main works of stage 4

Source: Created by the author

Upon of the introduction of the integrated Digital Enterprise system, Jüdische Gemeinde will have the numerous competitive advantages in the following areas:

1. Decisions made by management will be made quickly and effectively, and they will cover the following topics:

– Total security of information from distortion.

– Daily surveillance of data processing and display of all transactions.

– Development of final indicators for assessing the efficiency of financial and economic activities of Jüdische Gemeinde.

– precise data for management decision-making and the creation of analytical tables with graphics for any time period.

– Timely identification of major problems in key areas of activity of Jüdische Gemeinde and timely limitation.

2. Strengthening present forecasting and planning techniques, because the accuracy of information for a given period of time provides great and broad opportunities for using methods of statistics, planning, forecasting, economic and mathematical modeling, and diagnostics of the financial and economic activities of Jüdische Gemeinde.

3. Management of services and purchases of essential items for the office of Jüdische Gemeinde:

– Using a system that enables data to be categorised according to orders and the customers who produced them.

– Determining the optimal level of purchase of office supplies and coordinating with important suppliers to maximise the needed prices.

– Identifying the stage during which the order is positioned.

– Analyzing rejected and sold services with order processing analytics

– Enhancing the sales system and the details of partner cooperation: clients and suppliers.

– formation of realistic deadlines for providing advice on tax matters.

– An analysis of the efficiency of departmental collaboration for the efficient sale of services..

4. Enhancing Jüdische Gemeinde's assortment policy:

– Introducing a classifier for the services the company sells and organizing them according to product range.

– Assessments of sales based on the variety of services offered.

– Analysis of the marginality of each product group based on an analysis of the main costs and profitability of selling a specific service from this particular category.

– Investigation and examination of the sales curve to determine the range and primary factors impacting sales.

– An examination of the primary potential of a variety of the service groups.

– Managing profits via making improvements for the the assortment product policy of the enterprise (Markides, C.C., 2013).

5. Effective management of profits and expenses of Jüdische Gemeinde:

– In managing expenses and income, use only the marginal approach.

– Data on the organization's fundamental and supplementary charges is updated on a regular basis.

– Evaluation of the true cost of a specific item.

– A marginal method is used to determine pricing.

– The process of managing profits involves gathering information on the real level of expenses incurred by the company.

6. A clearly defined database is convenient for departments of Jüdische Gemeinde, which are situated a fair distance apart. Departments that are physically separated from one another can transfer and process data more quickly when they use today's technology.

*7. Connecting the master data of Jüdische Gemeinde into a single whole (*Markides, C.C., Charitou, C.D., 2004*).*

Data gathering, processing, control, analysis and transmission in a single system; creation of centralized reporting for management inside the organization. Entering specific sets of information into a unified system by employees responsible for receiving primary information ensures control over both the data's accuracy, as well as the ability to process information at different

stages of the financial and economic activity process. Rapid provision of comprehensive information regarding the operations of Jüdische Gemeinde for management purposes.

Chapter 3. Strategies for successful ai implementation into business (Jüdische Gemeinde case)

3.1 Planning and executing ai projects

In order to improve the implementation of artificial intelligence technologies in Jüdische Gemeinde, we propose to introduce the Salesforce CRM system, which will optimize procurement from the organization and allow for effective work with suppliers.

It is suggested to use the Salesforce CRM system and consider its functionality (Figure 3.1).

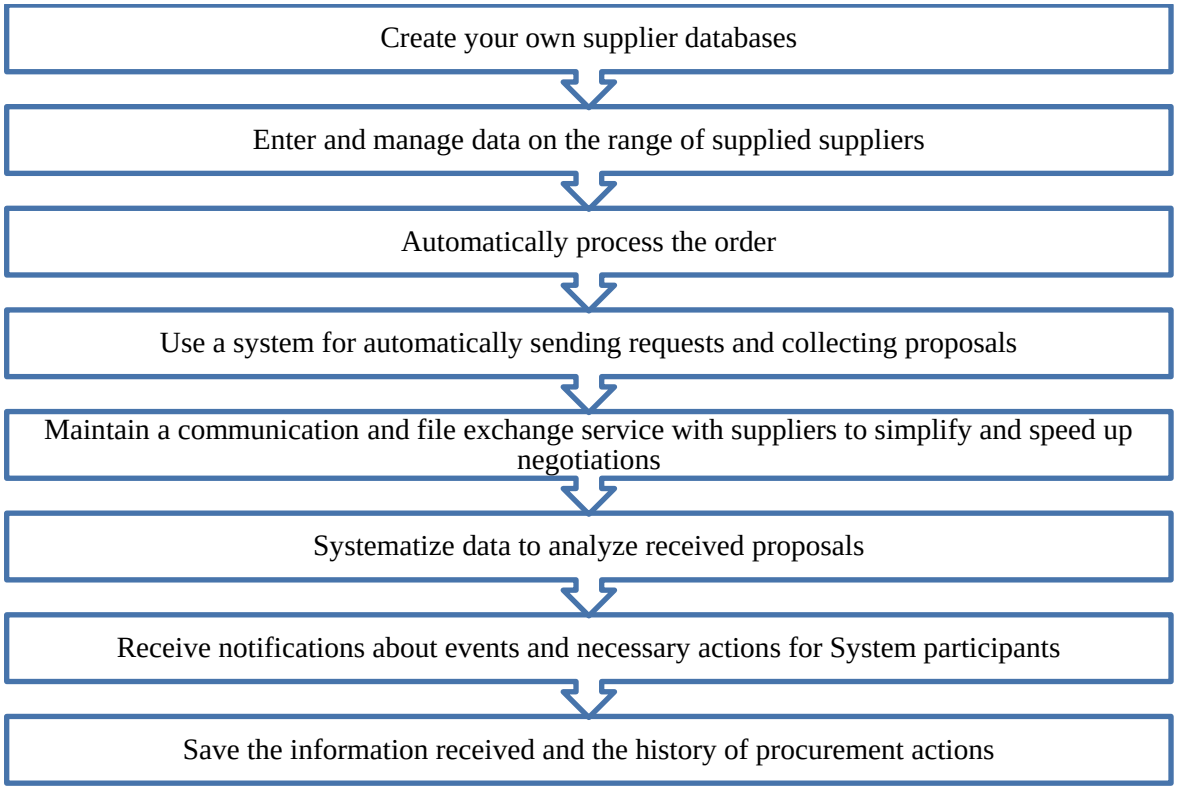

Figure 3.1. The main functionality of the Salesforce CRM system

Source: created by the author according to the Salesforce

So, we propose to describe the functionality of the program in more detail:

– Create your own supplier databases, that is, information about suppliers is entered into the program and their history is maintained.

– Enter and manage data on the range of supplied suppliers, that is, the company manager adds information about the arrival of goods from suppliers and enters the information into the system.

– Automatically process orders - the program automatically sends orders if it sees that there is some lacking of a certain product in the company's office.

– Use a system for automatically sending requests and collecting proposals - allows you to minimize the influence of managers and eliminate the human factor.

– Maintain a communication and file exchange service with suppliers to simplify and speed up negotiations.

– Systematize data to analyze received offers - the data in the program is all systematized in accordance with the product and supplier.

– Save the information received and the history of procurement actions - the program stores all information about suppliers from the moment it was entered.

Let's define the main capabilities of the Salesforce CRM system, which can allow Jüdische Gemeinde to automate the process of purchasing goods for an office (Figure 3.2).

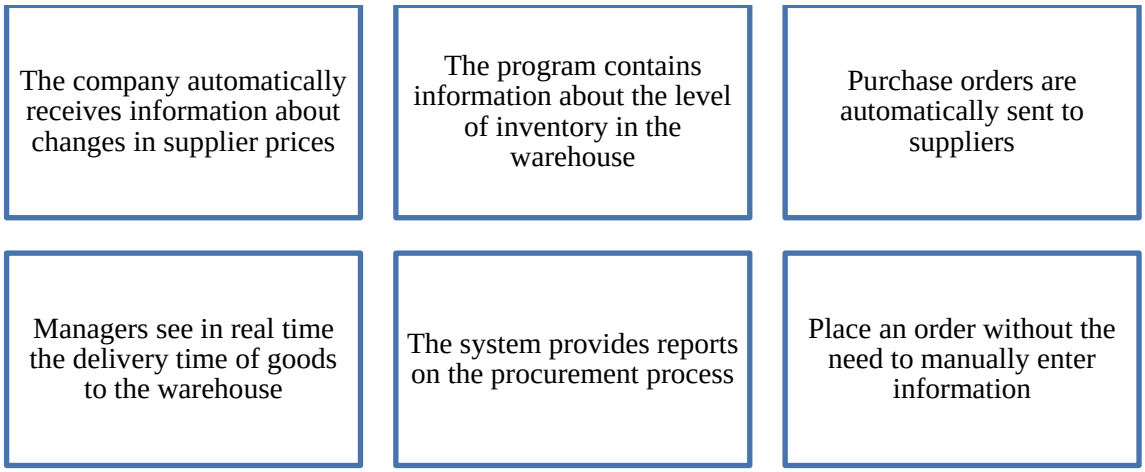

Figure 3.2. Benefits of Salesforce for automating the purchasing process Jüdische Gemeinde

Source: created by the author based on the Salesforce CRM

Having received the above-described advantages of implementing the Salesforce CRM system, Jüdische Gemeinde received full automation of the process of purchasing goods for the office.

Therefore, implementing a purchasing module in the CRM system for Jüdische Gemeinde will ensure an efficient and controlled purchasing process. Jüdische Gemeinde will receive a convenient tool for managing relationships with suppliers, creating and tracking orders, as well as analyzing purchasing processes for optimization and improvement. This approach contributes to the efficiency of the Jüdische Gemeinde.

3.2 Analysis of implementation challenges for Jüdische Gemeinde

To measure the length of procurement procedures, three procurement requisitions for confectionery, cheese and dairy products for the Jüdische Gemeinde were randomly selected. Table 3.1. presents a measurement of the time it took for each process from analyzing the estimate to concluding an

agreement with the supplier, as well as the process of preparing final documents after delivery of the cargo, that is, processes that are supposed to be automated using a CRM system.

Table 3.1.

Duration of internal procurement processes at Jüdische Gemeinde

Precces	Timing		
	Order 1 (Confectionery products)	Order 2 (Dairy products)	Order 3 (Cheeses)
1. Analysis of cost estimates and delivery schedule, comparison of product range	0,5	0,5	1
2. Collection of information about suppliers	2	2	3
3. Evaluation of suppliers, preparation of a supplier card	1	1	1,5
4. Approval of the supplier card	0,5	0,5	0,5
5. Formation of a purchase request	0,5	0,5	0,5
6. Review and approval of the application	0,5	0,5	0,5
7. Receiving invoices from suppliers	1	1,5	1,5
8. Approval of invoices	0,25	0,25	0,25
9. Initiating a contract with a supplier	1	1,5	1
12. Registration of a consignment note	0,25	0,25	0,25
13. Registration of documents in the payment register	0,5	0,5	0,5
Total	8	9	10,5

Source: created by the author according to the Jüdische Gemeinde

It turns out that the average workload of one employee to create and approve one purchase is on average 9 hours before implementing CRM. With the introduction of CRM, the time for coordination and approval of documents will be significantly reduced (points 4,6,8), since this process will be automated. The system provides a notification about the need for urgent approval of an application or invoice, that is, the manager will only need to log into the server and do everything online.

The human factor also affects the duration of many routine procedures. For example, purchasing managers at Jüdische Gemeinde are periodically forced to contact old suppliers to find out new supply conditions and fill out the same supplier cards, which naturally significantly reduces the motivation of employees to work productively. CRM has a database of suppliers, which contains basic information about them, terms and costs of delivery, which simplifies the activities of suppliers and reduces the duration of processes 2 and 3.

The system allows you to automate the document flow of the Jüdische Gemeinde, that is, points 5, 12 and 13 can be reduced in time, except for making errors due to the possible inattention of employees.

The process of receiving invoices from the supplier cannot be accelerated, since this is the competence of the supplier itself, but the convenience of the System is achieved by the fact that invoices will be automatically displayed in the System and department employees will be informed about this in a timely manner.

Therefore, it is further calculated that after the implementation of the CRM system, the process of creating and processing a purchase (excluding cargo delivery) will take 5.45 hours. It follows from this that the reduction in the duration of the procedure is about 40%.

Taking into account the fact that the standard working time fund in 2022 was taken as 1970 working hours or 247 working days, we determine that for

one employee of the procurement department of Jüdische Gemeinde there are 219 applications per year, and 1532 for the entire department. In fact, in 2022 year, about 1,600 applications for the supply of goods were issued.

Let's assume that the number of applications does not change in 2023, that is, calculating the number of employees who can cope with the same amount of work in fewer hours, we get 5, which will reduce the number of full-time employees by 2 people.

3.3 Maximising the benefits of AI integration

Next, to understand the cost-effectiveness of the results obtained, it is necessary to calculate personnel costs before and after the changes. Let’s assume the average salary of a Jüdische Gemeinde purchasing department employee is now on average about 1750 EUR per month.

Table 3.2 calculates indicators for monitoring the effectiveness of the procurement service and indicators characterizing the reliability of Jüdische Gemeinde’s supply of materials and components before and after the implementation of the CRM system.

Table 3.2

Performance indicators of the Salesforce CRM system in Jüdische Gemeinde

Indicator	Before the implementation of Salesforce	After the implementation of Salesforce	Change
Procurement processing time	9 hours	5,45 hours	-36.1%
Personnel costs	19250 EUR	15750 EUR	-9.2%
Employee performance	228	320	+40.3%
Shortage quota	8,40%	1,70%	-6,7%

Source: created by the author

Calculating the amount of payment for 11 and 9 employees, we find that savings when optimizing staff is equal to to relative terms – 9.2%, in absolute terms - 3,500 EUR. The indicator is then calculated taking into account management's obligation to pay wages to laid-off employees within three months after dismissal.

The efficiency of the purchasing department employees increased by 40.3%, based on the calculation that an average of 6-7 orders (completed and approved applications) are completed per day, and after the implementation of CRM, their number will not change, but the number of department employees will be reduced by 2.

Since a proven supplier base has been selected in the system, the degree of fulfillment of the supply plan will increase, the processing of applications will be much faster, which means that the share of orders received on time will be greater, and with an increase in the reliability of suppliers, a reduction in the number of shortfalls by 80% has been announced, that is, a quota of shortfalls will decrease by 6.7%.

By increasing the efficiency of operational planning of wholesale purchases at Jüdische Gemeinde, inventory levels are reduced by approximately 10%, since they are formed due to factors such as:

- Probability of delays in delivery;
- Discounts for the purchase of large quantities of goods;
- Seasonal fluctuations;
- An attempt to protect against increases in purchase prices.

When implementing a CRM system, a company has the opportunity to build a trusting relationship with a supplier, since they are motivated to long-term partnerships and it will be in their interests to avoid violations of delivery times and product quality. In turn, Jüdische Gemeinde needs to find a balance

between purchasing enough goods to ensure uninterrupted supply to its projects (summer camp for children).

Also, with the help of CRM, you can reduce the cost of purchasing goods by 3% by consolidating the needs of departments, reducing one-time purchases and optimizing prices as a result of tenders and auctions. In this way, the Jüdische Gemeinde's ability to generate sufficient profit in relation to the working capital used is increased by increasing the return on assets and the implementation of the CRM system Salesforce should be put into practice.

During the analysis phase of work with suppliers of Jüdische Gemeinde, the main gaps were identified that arise in the planning, procurement and control process. Let's look at how the Salesforce CRM system will help optimize each of the stages.

The procurement planning module will be responsible for registration, coordination, consolidation of orders, analysis and forecasting of needs, and formation of a procurement schedule plan.

The main skipping stage of the pricing policy itself is the search for suppliers, the best conditions and favourable prices. The system will allow communication between the customer and the supplier, allowing you to quickly receive important information. Below is a comparative analysis of procurement methods (Table 3.3) and clearly presents the benefits of automating this process using a CRM system.

Table 3.3

Comparative analysis of procurement methods

Through direct contacts	Using a CRM system
Description	
Standard supplier sourcing process, requesting quotes via phone, email and other personal contact methods.	Placement of procurement tenders on our own electronic trading platform, fully controlled by company employees.
Labor intensity	

Maximum	Minimum
Cost of participation for suppliers	
For free	For free
Search for new suppliers	
The quality of searching for new suppliers depends on the desire and motivation of the company's employees	It is possible to automate the attraction of suppliers with a clear understanding of the benefits of working with each one.
Convenience for old suppliers	
Quite convenient, but direct negotiations take time.	Legacy suppliers start working through the company's CRM system, which saves them a lot of time and is completely free for them.
Data security	
Safely	The system is installed on the company's server. The data on the server is stored in encrypted form and is accessible only to company employees using a special code.
Cost for the company	
High costs of human resources for searching, obtaining prices and agreeing on conditions with suppliers.	Only one-time costs for implementation are free.

Source: created by the author

The main economic indicators that are affected by the implementation of the Salesforce CRM system in Jüdische Gemeinde are shown in Figure 3.3.

Some indicators are also characterized by the time spent on their competent implementation. The external environment requires making objective and correct decisions on all urgent, daily and long-term positions. Decision-making time is of utmost importance, after which the need for a decision disappears or negative consequences occur; this is because the speed of decision-making is an essential factor in maintaining the competitiveness of the Jüdische Gemeinde.

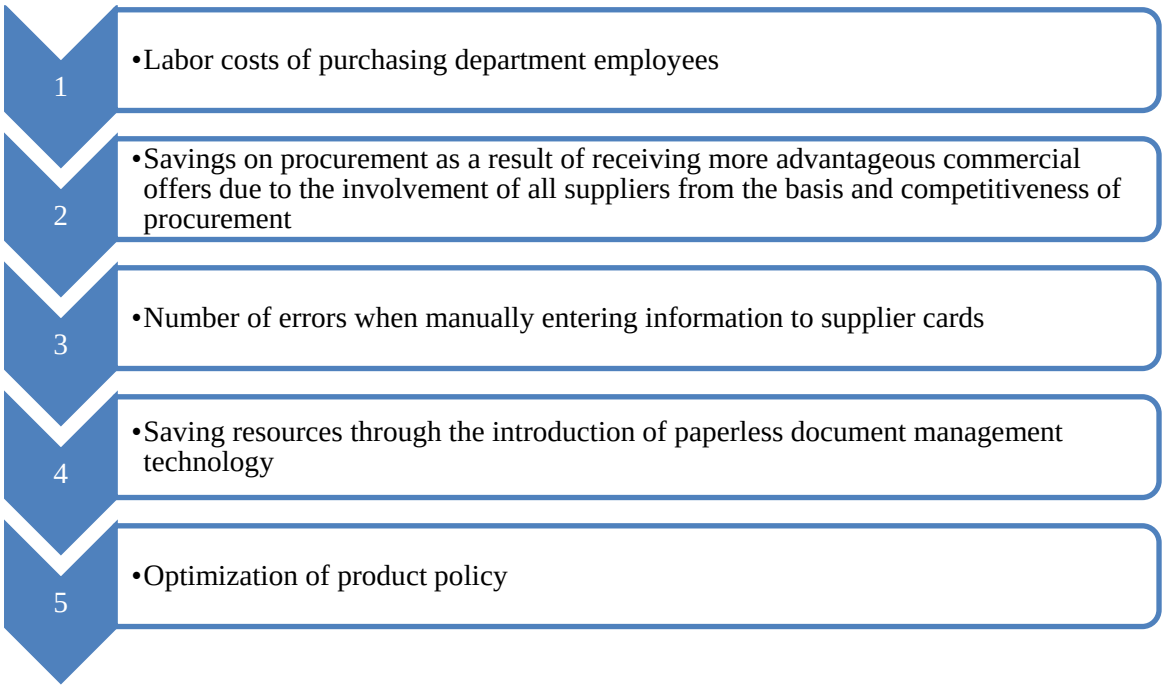

Figure 3.3. Main economic indicators affected by the implementation of the Salesforce CRM system in the Jüdische Gemeinde

Source: created by the author

So, the implementation of effective will affect not only the decoration of wholesale purchasing planning, but also the overall result of the Jüdische Gemeinde.

Conclusion

In this diploma work, we investigated the impact of artificial intelligence technologies on business processes and identified the main measures for the implementation of technologies in the activities of the researched organization.

In modern conditions, the basis of key concepts and models for managing the activities of a modern organization is formed by the concepts of a business system and business processes, which determines their significance in the context of this study. Thus, in the scientific literature, business is usually understood as organized efforts and activities carried out regularly and characterized by novelty, risk, initiative, and ingenuity of individuals in the creation and distribution of products and services with the intention of generating a profit.

It should be especially noted the swift advancement of AI systems and technologies is not merely another technological accomplishment, but rather the technical basis of the fourth industrial revolution, This is linked to expectations of speeding up worldwide economic growth and improving national and business competitiveness.

Experts in the field of information technology and the widespread introduction of digital tools into production and economic processes note that this will lead to the release of a large number of employed able-bodied population. It is no coincidence that the idea of establishing a 4-day working week is being expressed today. In addition, it is necessary to note the potential negative impact on raising the retirement age. In this regard, the problem of adapting human capital to the rapidly changing conditions of the outside world to accept the challenges and threats of uncertainty and risk that accompany a person throughout his life becomes even more relevant in a digitized environment.

Jüdische Gemeinde is a Jewish community whose office is located in Halle, Germany. This community is engaged in the religious enlightenment of its believers and organizes various religious tours for its believers. One of the most important marketing communication channels of the Jüdische Gemeinde is communication through the World Wide Web, and the most important tool for this communication for the company, in turn, is social networks and email.

In my opinion, company management should monitor all processes, and not just the final results. To do this, I propose to introduce a “Digital Enterprise”, which, in my opinion, will significantly increase the use of CIS in Jüdische Gemeinde. The management of Jüdische Gemeinde will be able to identify bottlenecks and take the necessary actions to reduce them.

Therefore, implementing a purchasing module in the CRM system for Jüdische Gemeinde will ensure an efficient and controlled purchasing process. Jüdische Gemeinde will receive a convenient tool for managing relationships with suppliers, creating and tracking orders, as well as analyzing purchasing processes for optimization and improvement. This approach contributes to the efficiency and competitiveness of the Jüdische Gemeinde. So, the implementation of effective will affect not only the decoration of wholesale purchasing planning, but also the overall result of the Jüdische Gemeinde.

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