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The Use of Artificial Intelligence in Businesses: A Comparison of the Private and Public Sectors

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Abstract: Technology is an indispensable factor for private sector and public enterprises operating in today's world. The most effective aspects of technology for businesses are digitalization and artificial intelligence. Private sector businesses operating in a changing and evolving world are struggling in a highly competitive environment. The primary goal of these businesses is to retain their existing customers and gain new customers by staying ahead of their competitors. The way for businesses to gain a competitive advantage over their rivals and ensure customer satisfaction at this point is through technology and artificial intelligence, one of its derivatives. Just as private sector businesses operate with the aim of ensuring customer satisfaction, public sector businesses also continue their activities with the aim of satisfying citizens. In today's world, where technology plays an active role in every aspect of our lives, not only private sector businesses but also public sector businesses benefit from technology in many ways. These businesses, whose primary goal is to meet the needs of citizens, actively use technology and artificial intelligence applications to meet those needs more quickly, efficiently, and effectively. It is anticipated that artificial intelligence applications will be used more actively and in more areas in both private sector businesses and public enterprises in the coming period. This study examines the areas of application of artificial intelligence in private sector businesses and public enterprises by comparing them.

Keywords: Artificial Intelligence, Artificial Intelligence Applications, Artificial Intelligence in the Public Sector, Artificial Intelligence in Businesses

1. Introduction

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Artificial intelligence, which we use in almost every area of our lives today, is the most current version of technological developments that began with the Industrial Revolution and continue to this day. Artificial intelligence, which is the most powerful key to survival and competitiveness, is widely used in many areas in both the public and private sectors (Chibunna et al., 2024).

Rapid changes and developments in technology have brought about a process of change and transformation not only in private sector businesses but also in public administration. The aim of the public sector (Fountain, 2001) is to be fair and equal to citizens, providing them with fast, accurate and efficient services. At this point, technology, along with the accompanying digitalisation and its latest derivative, artificial intelligence, provides public institutions with significant benefits in achieving these aims. Although processes in the public sector are less dynamic than those in the private sector, they tend to be uniform and static due to the requirements of measurability and accountability. In particular, the governance approach, which is the dominant paradigm of the new public administration, can be facilitated by intelligent automation through artificial intelligence in terms of stakeholder communication, transparency, and participation, thereby promoting its success, widespread adoption, and ownership (Efe & Özdemir, 2021). The ability to make rational decisions in public administration is crucial in terms of providing equal and fair services to citizens. Artificial intelligence is actively used in the collection, classification and conversion (Khan & Al-Badi, 2020) of data into usable information for decision-making. When correct and rational decisions are made, citizens' trust in public institutions will increase and satisfaction will be ensured. Another benefit of using artificial intelligence in public institutions is that it eliminates time and space constraints. In the days when public services were provided manually and physically,

citizens could only access these services during office hours by going to the relevant institutions. However, with digitalisation, many services have begun to be provided through artificial intelligence-supported applications. Citizens can now benefit from these services without any time or location constraints. This situation has saved time by reducing bureaucratic tasks and has also provided institutions with cost advantages in terms of resources such as paper and electricity consumption.

Private sector businesses must closely follow technological developments and adapt their operations accordingly to survive (Andries & Debackere, 2006). With the advent of technology and digitalisation into our lives, the survival of businesses has become dependent on these factors. It is expected that artificial intelligence will become a vital competitive tool for businesses in the future, causing disruptive changes in job roles and content, management style, organisational structure, and culture (Ünal and Kılınç, 2020: 51). The primary objective of business is to ensure customer satisfaction. The path to achieving customer satisfaction lies in the effective use of artificial intelligence. Businesses must, above all, be accessible. With AI-powered applications, customers can reach businesses anytime, anywhere. Furthermore, with AI support, customer information is stored in databases and can be utilised to provide more effective services to customers. When artificial intelligence is used correctly and effectively to ensure customer satisfaction, a competitive advantage for businesses is inevitable. Artificial intelligence is used in businesses not only in terms of providing customer service but also in many areas within business. Artificial intelligence technologies are utilised in the collection and processing of information and in determining alternative options in decision-making processes at the management level. Artificial intelligence is widely used in the manufacturing sector in the development and use of machines and in quality management activities (Gültaş, 2026). Artificial intelligence is utilised in human resources for personnel selection and placement, performance evaluation processes, and training. Accounting operations, which were previously performed manually, are now also carried out with artificial intelligence supported technologies. As can be seen, the use of artificial intelligence in businesses saves time, eliminates unnecessary tasks, provides cost advantages, and ultimately increases productivity. This results in customer loyalty and competitive advantage, which keep the business afloat and drives it forward.

2. Artificial Intelligence Applications in Public Enterprises

In today's world, dominated by globalisation and technology, we continue our lives within a system that is evolving almost daily. Adapting to these developments has become a necessity not only for private sector businesses but also for public enterprises. Governments (as indicated in Table 1) have begun to develop new policies for the use of technology and its derivatives in the management of public enterprises. From the second half of the 20th century onwards, economic crises in Western countries (Tsiflikidou & Metaxas, 2023) accelerated the search for reforms in public administration and paved the way for the emergence of the 'New Public Management' (Lane, 2002) paradigm. The goal of reducing bureaucracy, one of the fundamental approaches of new public management, is supported today by the intensive use of information and communication technologies. Digitalisation in public administration both enables the state to achieve a more minimalist structure and allows public services to be delivered quickly and easily (Boyalı, 2025: 208-209). Countries are realising how important national artificial intelligence strategies are, and the number of states developing artificial intelligence strategies (Demaidi, 2025) is increasing every day. National objectives can generally be summarised as reducing costs and adding value. Specifically, each state developing an artificial intelligence strategy seeks to integrate artificial intelligence and its technology into its system in a manner appropriate to its own state structure and character (Ulaşan, 2020: 120).

Table 1. Use of Artificial Intelligence in Governments

AI Tasks	Government Activity	Opportunity Area
Recognition, Event detectio, Forecasting, Personalisation, Interaction support, Goal-driven optimisation, Content generation, Reasoning with knowledge structures	- Internal operations - Policymaking - Service delivery - Internal and external oversight	- Productivity (efficiency and effectiveness) - Responsiveness - Accountability

Source: OECD, 2024

The table highlights the four core functions of artificial intelligence. These are (OECD, 2024); efficiency (widely used to ensure internal operations in the public sector), effectiveness (used particularly to improve decision-making processes), responsiveness (used to improve service delivery), and accountability (used in risk detection).

The integration of technological developments into corporate processes is important for the purpose of carrying out work and operations more quickly within organisations. With the development of organisations' software and data storage infrastructure, there has been a significant increase in the amount of data they hold. Artificial intelligence technologies and business intelligence solutions (Bulusu, 2020), which are among the most widely used applications in this field, are intensively used to extract meaningful information and insights from raw data (Şimşek et al., 2019: 397). Making equal, fair and rational decisions in public institutions is crucial for public administration. Modelling the information gathering stage of decision-making with artificial intelligence (Leyer et al., 2020), which is an important example of rational decision-making in public administration, and developing expert systems based on artificial intelligence to gather as much accurate information as possible for public decision-makers to make rational and high-quality decisions in possible situations is a crucial step for public administration. (Önder and Saygılı, 2018: 647). In the domains of medicine and criminal justice, where stakes are high, the utilization of AI algorithms is currently most effectively constrained to aid humans in making informed decisions (Zax, 2026). Today, artificial intelligence is not yet at a level where it can replace human intelligence in decision-making. However, it can assist managers in making decisions that are fairer, faster and more accurate.

The fundamental purpose of the public sector is to effectively deliver the services it creates for its citizens (Obsborne, 2020). Many services, such as obtaining a criminal record, graduation certificate, identity card sample, paying taxes, voting, establishing a company, writing petitions to institutions, submitting applications, registering, and obtaining information from public institutions, are now carried out using artificial intelligence applications. These services are carried out quickly via computers, smartphones, and smartwatches, without any time or location constraints (Tanrıverdi, 2021: 298-299).

Artificial intelligence and artificial intelligence applications are emerging in many areas within public enterprises. They are used in general public services) such as healthcare, education, disaster management, public administration and policy implementation, urbanisation (Gesk & Layer, 2022, public relations, and employment processes; in defence services in areas such as intelligence, strategic planning, and threat detection; in public order and security services (Henman, 2020); in economic services such as development and growth, decision-making processes, identification of public investments, and elimination of cyclical imbalances; environmental protection services such as sustainability, externalities, biodiversity, climate change, waste management, marine clean-up, and environmental taxes (Konya & Nematzadeh, 2024); housing and social welfare services such as urbanisation, social welfare, safe housing, and urban transformation; public health services such as patient profiles, healthcare workers, and public health (Panahi, 2025); in leisure, culture and religion services such as librarianship, Islamic Finance applications, and culture; in public education services (Achanta, 2025) such as curriculum, learning processes, assessment, and distance learning; and in social security and social assistance services (Aydın, 2024: 175-176).

Another area where artificial intelligence is widely used in public enterprises is accessibility (Susar &Aquaro, 2019). Public enterprises have made communication and accessibility more active through AI-powered chatbots (Nze, 2024), which they use in many areas to enable customers to communicate their needs and find quick solutions to those needs.

Artificial intelligence applications in public enterprises are highly significant in terms of both time and paper savings. In this regard, public enterprises actively utilise artificial intelligence, particularly in archiving (Svärd et al, 2024). Article h-3/3 of the 2020-2024 Strategic Plan published by the Presidency of the State Archives, the regulatory body for archiving in Turkey, states that 'the necessary information systems will be established and maintained at both the institutional level and the level of archiving objectives.' The British National Archives' 2017-2019 Digital Strategy document emphasises the need to develop new e-discovery tools to assist with selection and evaluation in archives and mentions the exploration of machine learning applications. The New Zealand National Archives 2057 Strategy document mentions that the increasing use of computational analytics and machine learning for decision-making based on large data sets may be seen (Öztürk, 2022: 57).

There are numerous examples of artificial intelligence applications in the public sector around the world. Önder and Saygılı (2018) list these as follows: In 2015, the US Department of Homeland Security's Citizenship and Immigration Services created the 'EMMA' application (Villa-Nicholas &Sweenay, 2020), a virtual assistant designed to answer questions from large numbers of citizens. In the cities of Jacksonville in the US state of Florida and San Diego in the US state of California, 'smart street lamps,' an LED lighting technology product, are used to help collect a range of important data, from identifying free parking spaces for drivers to increasing traffic control and efficiency and alerting the public about hurricanes. The US Army website uses Sergeant STAR (SGT STAR), an interactive virtual assistant described as the army's virtual guide, to help visitors understand everything they want to know about the army when new recruits are about to start their service. It uses artificial intelligence to answer questions, check users' qualifications, and connect them with the authorities who hire them. After the US healthcare law came into effect in 2010, the US government created a programme called EnrollAmerica (Orzol & Hula, 2018) to identify Americans without health insurance and enrol them in the new healthcare plan. In 2007, the Hong Kong Immigration Department developed an algorithmic system to categorise passport applications into three main categories, due to the large number of customers each year and the large number of forms issued to these customers. In addition, the E-Government Applications used in Turkey and the Presidency's Digital Transformation Office are examples of the use of artificial intelligence. In addition, Ulaşan (2020) has outlined the areas in which governments use artificial intelligence as follows: South Korea has one of its main objectives as leading global artificial intelligence R&D investments. India aims to use artificial intelligence for inclusive growth, archive data related to artificial intelligence and make it accessible. The United States prioritises the use of artificial intelligence in the military and training the workforce of the next generation. The European Union wishes to use artificial intelligence for socio-economic change. China (Robeerts et al., 2021) attaches importance to information sharing and wishes to establish global technical standards related to artificial intelligence. The United Kingdom attaches importance to the diagnosis of diseases and the ethical dimension of artificial intelligence. The United Arab Emirates aims to reduce government costs and improve government performance through artificial intelligence. Singapore is in favour of creating artificial intelligence innovations that benefit people. Japan's goals (Dirksen & Talahashi, 2020) are to achieve success in robotics and revitalise efficiency with artificial intelligence. France aims to protect its own strategies through artificial intelligence investments. In addition, environmentally friendly artificial intelligence studies are being developed. Canada aims to attract global entrepreneurs and talented engineers to its country by leading artificial intelligence research. Germany (Sharbaf, 2021) is in favour of redesigning work in the age of artificial intelligence and enriching work-life balance. Denmark (Holm & Lorenz, 2022) evaluates artificial intelligence on an ethical and human-centred basis. Finland aims to be one of the best countries in the world in the application of artificial intelligence technologies.

Artificial intelligence has not yet developed as much in public administration as it has in the private sector. The reason for this is that public sector employees resist or oppose these innovations for fear of losing their jobs. Artificial intelligence in public administration can certainly simplify many tasks and increase reliability (Mishra et al., 2024). It may even lighten the decision-making burden on public administrators and prevent some managers from making decisions based on their own interests. However, a public administration system that does not require human involvement could also give rise to an entirely different debate (Avaner and Çelik, 2021: 5). Artificial intelligence applications have become an important tool in developing a faster, more efficient, effective and sustainable approach in public administration. However, this application can also lead to numerous problems, primarily concerning ethics, security, data security, infrastructure, and access issues. Therefore, while artificial intelligence applications offer many advantages in public administration, they also bring concerns (Erol, 2024: 23).

Artificial intelligence is widely used in both the private and public sectors in almost every country in the world (Susar & Aquaro, 2019). Examples (Turkish Informatics Association, 2024) of the use of artificial intelligence in the public sector are summarized in Table 2.

Table 2. Examples of Artificial Intelligence Used in the Public Sector

Project	Country	Description
CitizenLab- Youth for Climate	Belgium	Through the CitizenLab platform, the "Youth for Climate" project used data analysis tools to collect thousands of ideas from citizens and turn them into meaningful actions. Natural Language Processing (NLP) technology was used to analyze contributions written in multiple languages and process the results more effectively. This made it possible to analyze contributions more quickly and turn them into action.
Flemish Infoline- Automatic classification of incoming phone calls	Belgium	In this project run by the Flanders Information Service, incoming phone calls are automatically classified using Natural Language Processing (NLP) technology. This system ensures that incoming questions are categorized more quickly and directed to the correct answer provider. Additionally, response suggestions are automatically provided.
Verontrustingen- Enabling accurate predictions to detect day-care services inspectioni	Belgium	This project is an artificial intelligence system that aims to make more accurate predictions to improve the quality of childcare services in Flanders. The system uses machine learning algorithms to determine which childcare centers should be inspected, thereby optimizing limited inspection capacity.
Mobile phone usage on vehicles	Belgium	This project, conducted by the Vias Traffic Institute, is testing AI-powered camera systems to detect drivers using cell phones while driving. The system identifies instances where drivers are distracted by their phones through photographs, and police can initiate legal action based on these images.
VDI- Protection of digital infrastructure	Norwegian	In this project conducted by the Norwegian National Security Authority, new AI-powered sensor technologies are being developed to protect digital infrastructure. Artificial intelligence automatically analyzes detected malware and shares the results.
EPISA- Entity and property inference for semantic archives	Portuguese	EPISA automatically analyzes documents and related assets in archives using natural language processing and machine learning methods. This creates a richer and more automatically manageable model than existing archiving processes.
CCM-SNS-Verification of medical prescriptions	Portuguese	This project, run by the Portuguese Public Health Service, uses artificial intelligence to detect fraud in prescriptions and improve the electronic prescription system. Artificial intelligence analyzes databases to detect fraud and irregularities.
REDOC- Digital Tutor to make easier learning the STEM subject	Italy	REDOC is a digital education platform designed to facilitate students' learning in STEM subjects. The platform offers students a gamified learning experience through interactive lessons and video tutorials.

MPAI Community-Moving Picture, Audio and Data Coding by Artificial Intelligence	Switzerland	MPAI is an international, non-profit organization that develops data, audio, and video coding standards using artificial intelligence. This project facilitates the integration of these technologies by creating AI-supported data coding standards.
AI to Process Veteran Feedback	USA	Veterans Affairs (VA) uses artificial intelligence to analyze feedback from veterans. Artificial intelligence categorizes free-text feedback, identifies key trends, and helps provide faster service based on this feedback.
AI for Patent Search	USA	The United States Patent and Trademark Office uses artificial intelligence to evaluate patent applications. AI technology speeds up the examination process by helping to find similar patents and prior art.
AI to Analyze Weather Hazards	USA	The National Oceanic and Atmospheric Administration (NOAA) uses artificial intelligence to analyze heat waves in cities and protect the public. This system analyzes high temperatures in advance and informs communities about extreme weather conditions.
AI-Powered Predictive Policing	USA	Some police departments in the US are using artificial intelligence systems to predict crime. AI analyzes crime trends and historical crime data to enable more effective planning of police patrols.
AI for Fraud Detection in Welfare Programs	USA	Various social service agencies in the United States use artificial intelligence to detect fraud in welfare programs. AI systems play an effective role in identifying fraudulent claims by detecting anomalies.
AI to Monitor Air Quality	USA	The Environmental Protection Agency (EPA) uses artificial intelligence to monitor and analyze air quality. AI systems help develop healthier environmental policies by predicting air pollution levels.
AI for Urban Planning	USA	Urban planners in the U.S. are using artificial intelligence for the planning and development of urban areas. AI enables the creation of more efficient city plans by analyzing population density and infrastructure needs.
AI for Personalized Learning	USA	Schools in the U.S. are using artificial intelligence to create customized education programs tailored to students' needs. AI analyzes students' performance and recommends personalized learning paths.
AI for Museum Curation	USA	Museums are using artificial intelligence systems to make the curation and exhibition of works more efficient. AI assists in categorizing artworks and planning exhibitions.
AI for Cybersecurity in Defense	USA	The U.S. Department of Defense uses artificial intelligence to protect against cybersecurity threats. AI automatically detects and analyzes threats, enabling rapid response.

Source: Turkish Informatics Association, 2024

When examining the projects in the table, it is seen that governments utilize artificial intelligence in public services, economy, health, environmental protection, community contribution, education, culture, religion, defense, and social areas. These studies demonstrate the diversity of artificial intelligence applications in the public sector.

Although the use of artificial intelligence applications in the public sector is becoming increasingly widespread, citizens may resist these applications for security reasons. This is where the concept of artificial intelligence governance comes into play. AI governance refers to systems that help ensure AI systems, tools, and applications are more secure and ethical (https://www.ibm.com, 2026). AI governance specifically addresses security-related risks and works to mitigate them. By eliminating existing risks, it ensures that AI services provided in the public sector meet citizens' expectations.

3. Artificial Intelligence Applications in Private Sector Businesses

Competition in today's job market has reached very serious levels. Businesses are struggling to survive by adapting to constantly changing environmental conditions. Undoubtedly, the environmental factor (Andires & Debackere, 2006) that has undergone the most change in this competitive environment is technology. As it is in every area of our lives, technology plays an important role in the continuity of business activities. Artificial intelligence, one of the most current forces of technology and digitalisation, is used in many areas within businesses. In their study, Sarnıç & Acar (2024) found that businesses use artificial intelligence to increase customer satisfaction, enable them to respond to rapidly changing demands, allow them to continuously monitor consumer preferences, contributing to time management, offering a human-centred approach, increasing productivity, improving decision-making processes, providing a competitive advantage, contributing to environmental sustainability, helping to control resource usage, and reducing costs (Sarnıç & Acar, 2024: 174).

The use of artificial intelligence in businesses (as indicated in Table 3) aims to make operations more efficient and effective. Costs (Butcher & Robert, 2004) are also an important factor that businesses need to focus on in terms of efficiency and effectiveness. With the widespread design and implementation of AI-supported quality management systems in industries, quality costs can be reduced by improving quality-related activities and detecting and eliminating errors early on (Ever & Demircioğlu, 2022: 59). In addition (Ojika et al., 2022), the use of AI technologies will eliminate unnecessary activities in businesses, providing a cost advantage to the business. Although investments in artificial intelligence may scare shareholders, the cost advantages they provide to the business far outweigh the costs incurred.

Table 3. Areas of Application for Artificial Intelligence in the Business World

Area of Use	Explanation
IT operations	AIOps (Artificial Intelligence for IT Operations) is an application that involves the use of artificial intelligence, machine learning, and natural language processing models to simplify IT operations and service management.
Marketing and sales	Customer data helps marketing teams develop marketing strategies by identifying trends and spending patterns.
Customer service	Artificial intelligence helps improve the customer experience by enabling businesses to provide 24/7 customer service and deliver faster response times.
Content creation	Generative Artificial Intelligence (GenAI) is a rapidly growing field that helps organizations optimize content creation.
Cybersecurity	Artificial intelligence tools can be used to improve network security, detect anomalies, identify fraud, and help prevent data breaches.
Supply chain management	The application of artificial intelligence in supply chain management takes the form of predictive analytics, which helps price future shipping and material costs. Predictive analytics also helps organizations maintain appropriate inventory levels.

Source: https://www.ibm.com, 2026

As shown in the table, artificial intelligence has a wide variety of uses in the business world. If the private sector aims for efficiency and success, artificial intelligence technology must be integrated with the workforce. Using artificial intelligence will minimize errors in IT systems, which will increase performance.

The journey of artificial intelligence, which began with a question posed at the 1956 "Dartmouth College Workshop (McCarthy et al., 1955)" , started with processing data provided initially. Later, with its artificial neural networks, it reached the point of being able to learn by itself, either using specific variables or through its own algorithms. (İnce et al., 2021:52). Artificial intelligence has recently emerged as a method used in management levels of businesses, particularly in deci

sion-making processes. However, the use of artificial intelligence in management levels brings with it a number of problems. Some of these issues include (Voronin & Savchenko, 2024) how to manage artificial intelligence, the potential downsides of being controlled by artificial intelligence, the possibility that artificial intelligence may be more ruthless when not complying with management regulations, the difficulty of finding people with the appropriate skills to manage artificial intelligence, how to develop and update artificial intelligence systems and how to solve problems, as well as ethical and security issues (Berberoğlugil, 2023: 94). Another issue encountered is the concern that artificial intelligence will replace humans, particularly in decision making processes. However, Jarrahi (2018) states that artificial intelligence will not be used to replace humans, but rather to offer a holistic and intuitive approach that will enhance human cognitive abilities and help them cope with uncertainty through higher computational power, greater information processing capacity, and a more analytical approach (Jarrahi, 2018:1).

The area where artificial intelligence technologies are most widely used in business is production systems. Artificial intelligence technologies in production are effectively used in many areas,

such as (Chryssolouris, 2023) improving the quality management process, facilitating quality control activities, ensuring efficiency in the production process, increasing competitiveness, and ensuring sustainable development (Ever and Demircioğlu, 2022: 67-68). Robots and artificial intelligence used in production will be much more disruptive than anything we have seen before. The most effective artificial intelligence systems will be designed around the concept of intelligent augmentation. By handling mathematics and fundamental analyses, they will lighten the tedious load of skilled operators, absorb data, classify and prioritise information, perform simulations, and ultimately leave the decision on the action plan to the human operator (Buchmeister et al., 2019).

With customer satisfaction becoming a fundamental goal, the retail sector, which interacts directly with customers, has also begun to gain increasing importance. Gülşen (2019), stating that artificial intelligence will contribute significantly to the transformational change in retail, has indicated that the use of artificial intelligence in the retail sector will provide the following benefits to businesses: it can automate processes, increase efficiency and reduce costs, increase sales, provide a competitive advantage, improve customer satisfaction, loyalty and shopping experience, enable supply chain and logistics optimisation, enable improved sales and inventory management, enable faster and more effective decisions based on collected big data, enable digital marketing optimisation, create an integrated channel experience, enables realistic retailing in the virtual environment, identifies customers entering physical stores through facial recognition and mobile technologies, enables personalised marketing activities in physical and electronic store environments, provides faster service and reduces customer waiting times in stores, and enables more efficient and improved workforce allocation (Gülşen, 2019: 425). Today, e-commerce websites and mobile applications have taken the place of the retail sector. Artificial intelligence technology provides significant advantages to mobile applications in areas such as (Rouky, 2025) personalising the user experience, data analysis, demand forecasting and inventory management. Thanks to personalised recommendations, users can easily find the products they want and receive services tailored to their needs. Data analysis assists businesses in reaching the right target audience with the right product. As a result of this analysis, customer demand can be predicted in advance and inventory management can be carried out more effectively (Karakulle and Aktepe: 2023:44-45).

With digitalisation, many accounting activities that were previously performed manually have begun to be carried out using computer-supported systems. In his study, Varol (2023) designed a model of how accounting, auditing and tax practices will be fully automated in the near future using artificial intelligence-based systems. In this model: The Tax Administration, KGK, banks, the Internet of Things, big data and all information systems (Huerta & Jensen, 2017) within the company will be able to exchange data in real time; Accounting transactions and internal control activities will be automatically performed by the system, and identified issues will be forwarded to predefined individuals and units; The KGK's system will automatically access all data necessary for independent auditing, and the audit and reporting of financial statements will be performed automatically; As the company's accounting records will be transferred to the Tax Administration's system in real time, e-ledgers and declarations will not be sent, and the system will be able to perform tax audits automatically and alert the relevant units when irregularities are detected; It is assumed that the accounting and auditing professions will inevitably disappear in their current form and be replaced by IT specialists knowledgeable in the fields of accounting and auditing. The job descriptions of these specialists could include financial consultancy and system auditing. The damage that attacks on information systems will cause to software and hardware will also occur in the envisaged system. However, it is expected that cybersecurity measures will develop in parallel with this (Varol, 2023: 179).

Another function where artificial intelligence applications are used is human resources (Afzal et al, 2023). With the increasing importance given to employees, who are the internal customers of businesses, the human resources function, which previously operated within different departments, now operates independently in many businesses. As with every function in the business, digitalisation has brought about changes in the human resources function. Thanks to artificial intelligence applications, many processes (Madanchian et al., 2023) that were previously done manually are now easier and faster. In the human resources function, artificial intelligence is increasingly influencing many areas, from job design and analysis to recruitment and placement, performance and training. The information of employees working with artificial intelligence tools can be displayed and updated. Artificial intelligence and machine language can be used in human resources function components that have an integrated function in terms of recruitment, personnel selection, performance analysis, personnel data collection, real-time information provision, and accurate infor-

mation provision. On the other hand, conversational artificial intelligence can also provide analytical and key performance indicator information, such as identifying the best-performing employees and pending task requests (Tiftik, 2021: 386-387).

Global studies confirm the rapid increase in the corporate adoption of artificial intelligence. According to McKinsey & Company (2025) data, 92% of executives plan to increase their investment in artificial intelligence over the next three years, while the Stanford AI Index (2025) report shows that 78% of companies are actively using artificial intelligence applications as of 2024. These figures clearly demonstrate that artificial intelligence is at the heart of digital transformation strategies on a global scale (Şahinbaş, 2025: 186). Studies predict that artificial intelligence will remain a central factor in corporate life in the coming years.

Looking at the world's leading companies, it is evident that artificial intelligence is actively used in many sectors. In the financial sector, which is undergoing a digital transformation in its activities (Bredt, 2019), companies such as In-Data Laboratories, Mastercard, Morgan Stanley, Goldman Sachs, and Klarna actively use artificial intelligence. In the software and technology sector, perhaps the sector where artificial intelligence is most active (Mohammad, 2020), companies such as Microsoft, Adobe, Salesforce, ClickUp, Intel, IBM, and Apple are successfully utilizing artificial intelligence. In addition, BMW and Toyota in the automotive sector, Under Armour and Zara in the clothing sector, Bentley in the construction sector, and EasyJet in the airline industry are effectively utilizing artificial intelligence. As a result of digitalization and globalization, the effects of artificial intelligence are also seen in e-commerce, which is becoming widespread around the world (Fedorko et al., 2022; Bawack et al., 2022) Companies such as Amazon, Wayfair, Alibaba, and Shopify are successfully using artificial intelligence.

4. Comparison of the Private Sector and the Public Sector

Technology, which is present in every aspect of our lives, is changing, renewing and developing every day. This change, innovation and development are quite important in terms of making life easier for both people and organisations. Technology, digitalisation and its most powerful key today, artificial intelligence (Newman et al, 2022), are used in many areas in both the private and public sectors.

The aim of public institutions is to find solutions to citizens' problems and meet their needs. In the private sector, the aim is to ensure customer satisfaction. Both sectors have a specific target audience, which they serve, utilising artificial intelligence applications at this service point (Black et al,2001). Today, artificial intelligence related applications are used extensively in education, healthcare and public services (Wirtz et al, 2019). This eliminates problems such as waiting times and congestion in public institutions and saves citizens time. Furthermore, these applications make it possible to carry out work and transactions not only during office hours but also at any desired time. In the private sector, there are also applications that meet customer needs in a short time. Thanks to these applications, customers can reach businesses more quickly and easily, wherever and whenever they want. This ensures customer satisfaction and, consequently, a competitive advantage. Today, technology is the key to competition. Technology, digitalisation and its derivatives (Boikova et al., 2021) are crucial in competition between private sector businesses and between countries. For this reason, technology and its most recent derivative, artificial intelligence, are used intensively in both the private and public sectors.

Artificial intelligence applications are used in both the private and public sectors, particularly at the management level in decision-making (Wirtz et al., 2019). Artificial intelligence applications are used in public and business management to make rational decisions. Artificial intelligence is utilised in the collection and classification of data and the creation of options prior to managerial decisions. However, the use of artificial intelligence in management activities also brings with it debates about artificial intelligence replacing human intelligence. Although this is not currently the case, people working in these institutions may show resistance to artificial intelligence for this reason. Furthermore, the issue of how artificial intelligence should be managed is also an uncertain topic in business and public administration (Almada,2023). Advances in technology and, consequently, in artificial intelligence will provide answers to these questions over time.

Sustainability and streamlining are concepts that are becoming increasingly important and widespread today. Issues such as causing less harm to nature and using resources more efficiently are among the objectives of both public institutions and the private sector. With technology and

artificial intelligence applications, paper usage and waste have been significantly reduced, particularly in businesses (Yaşar, 2025).. Significant developments have occurred in this area, especially with the use of technology instead of paper for archiving. Reducing paper usage has both minimised the damage to the environment and reduced costs. With many processes being carried out using artificial intelligence-supported applications, public institutions and private sector businesses no longer require as much space as before. This has also resulted in savings in many energy sources (Göde et al., 2023). The reduced use of resources such as electricity, water and natural gas has had a positive impact on both the environment and costs.

In terms of artificial intelligence, it is crucial for the public and private sectors to act to-gether and collaborate in order to ensure the efficiency of the applications that will be used. The US government's 'Manhattan Project (https://www.reuters.com, 2026)' in this regard has facili-tated co-operation between the private and public sectors (https://www.ibm.com, 2026).

Artificial intelligence is a technological innovation that is widely used by both public institutions and private sector businesses, and its use is anticipated to continue in the future. Alongside all the benefits announced in both public institutions and the private sector, there are also a number of drawbacks. The perception that artificial intelligence will replace human intelligence causes employees to resist this innovation. Although this is not yet the case, organisations can eliminate this perception by providing training to their employees and involving them in the process. Another problem encountered with artificial intelligence is security concerns. Fears about potential security breaches may make citizens or customers hesitant to use these applications. Similarly, access issues that may occur in the system can also reduce the usage rates of the applications. As artificial intelligence is a new concept in our lives, these drawbacks will be resolved in the coming period with developments in this field.

5. Conclusions and Recommendations

In recent years, technology has been the fastest and most rapidly developing environmental factor worldwide. Keeping up with technological changes and adapting to them has become not just a necessity but an imperative for individuals, businesses operating in the private sector, and governments alike. Over the years, numerous derivatives of technology and, consequently, digitalisation have entered our lives. The most recent and up-to-date of these is artificial intelligence and its applications. Artificial intelligence is widely used in both the private and public sectors in today's world and is developing further every day.

The aim of public institutions is to provide services to citizens in line with their needs and problems. Countries such as South Korea, India, America, China, the United Kingdom, the United Arab Emirates, Singapore, Japan, France, Turkey, Canada, Germany and Denmark actively use artificial intelligence in public services and public affairs. Governments benefit from artificial intelligence in many areas, from healthcare to education, security to military services. The fundamental purpose of using artificial intelligence in the public sector is rationality and fairness. Artificial intelligence is particularly useful in the collection and processing stages of decision-making in public administration. Another purpose of using artificial intelligence is to ensure efficiency. Thanks to artificial intelligence, many activities that were previously carried out manually in physical environments within organisations are now performed using AI-supported applications. This results in both cost and time savings. The archiving process, which previously involved storing files in a specific area, is now carried out in AI-supported virtual environments. This also provides cost advantages to organisations and minimises the damage caused to the environment. Artificial intelligence has also increased accessibility to public institutions. Activities that were previously only possible during working hours can now be carried out at any time of the day, without any location or time constraints. This has solved problems such as work backlogs in institutions and citizens having to wait.

Digitalisation and its latest derivative, artificial intelligence, have taken centre stage in the business world. In the competitive environment where businesses compete in international markets, artificial intelligence applications have become the key to competitive advantage and customer satisfaction. Artificial intelligence applications are encountered in almost every function, from management to production, marketing to human resources, quality to accounting. Today is the age of speed, and it is highly unlikely for businesses to keep up with this pace without technology. Customers want their needs to be met as quickly as possible and expect businesses to be accessible whenever needed. As these demands cannot be met physically or manually, artificial intelligence applications come to the rescue of businesses at this point. Of course, artificial intelligence is not

only used for customer satisfaction in businesses. Artificial intelligence and AI-supported applications are utilised in virtually every aspect of business operations, including determining the right options in management decision-making processes, mechanisation in production, recruitment in human resources, training, performance evaluation, keeping records more accurately and easily in accounting, quality control processes, marketing processes, and R&D activities. By using artificial intelligence, businesses eliminate unnecessary tasks and costs, resulting in leaner operations and increased efficiency. It is clear that artificial intelligence will continue to be a concept that guides all business activities in the future. Businesses that can keep up with the changes in artificial intelligence and adapt to them will gain a competitive advantage, while those that cannot adapt will fall behind in this competition.

Artificial intelligence is a concept that continues to renew and develop itself every day, and it will become essential for institutions to continue their operations in the coming periods. This study addresses the fundamental aspects of artificial intelligence usage in public administration and the private sector. Future studies should focus on examining the use of artificial intelligence in the private sector in greater detail, either on a sectoral or functional basis. Research conducted on a functional basis, in particular, will be able to explain more clearly which artificial intelligence applications are more commonly used in the relevant functions of a business. In addition, research examining the impact of artificial intelligence applications used in the public sector on citizens will enable the observation of the advantages and disadvantages of such applications.

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