MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
SUMY NATIONAL AGRARIAN UNIVERSITY
ECONOMICS AND MANAGEMENT FACULTY

Public Management and Administration Department

QUALIFICATION WORK

Education Degree - Master

on: **ARTIFICIAL INTELLIGENCE IN THE IMPROVEMENT OF ADMINISTRATIVE MANAGEMENT OF THE ENTERPRISE**

Completed: student of
073 «Management» (EP «Administrative Management»)

WU KAIKUI

Superviser ***Tetiana Kharchenko***
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Reviewer ***Habib Usman Abraham***
Master of Administrative management

SUMY - 2025

SUMY NATIONAL AGRARIAN UNIVERSITY

Faculty Economics and Management
Department Public management and administration

Education degree *«Master»*
Field of Study *073 «Management» (EP «Administrative Management»)*

Approved:
Head of Department
«_____» _____ 20

TASK

on qualification work for student

WU KAIKUI

1. Theme of Qualification work: **Artificial intelligence in the improvement of administrative management of the enterprise**

Superviser _Tetiana Kharchenko, Doctor of Public Administration, Associate Professor____

approved by the university from _____

2. Deadline for student completed project (work) *March, 25, 2025*

3. Background to the project (work):
educational methodical manuals, monographs, textbooks on the subject of research, scientific publications, economic and financial statements for the period of 2021-2023

4. Contents of settlement and explanatory notes (the list of issues to develop):

They analyze the actual problems of artificial intelligence in enterprise administration. Defined the theoretical basis of the application of artificial intelligence in enterprise administration. Analyzed the application status of artificial intelligence and the specific application of artificial intelligence in enterprise administration. The justification of strategic planning as a path of artificial intelligence in enterprise administration provided directions for adapting the intelligent process reengineering in enterprise administration. It developed a framework for the analysis of artificial intelligence in enterprise administration.

5. Date of assignment:

CALENDAR PLAN

№	Title the stages of the degree project (work)	Date of performance project stages	Note
1	Definition and approval of the thesis, preparation of the plan - schedule of work	November - December 2023	done
2	Selection and analysis of literary sources, the preparation of the first theoretical chapter	January - February 2024	done
3	Preparation and presentation of draft of the first chapter of the thesis	March - April 2024	done
4	Collection and processing of factual material, synthesis analysis of application issues in the enterprise	May 2024	done
5	Making the theoretical part of the thesis, summarizing the analytical part	June 2024	done
6	Design options improve the research problem	July 2024	done
7	Completion of the project part of the thesis, design chapters	August – November 2024	done
8	Previous work and its defense review	December 2024 – January 2025	done
9	Checking the authenticity of the thesis	February 2025	done
10	Deadline for student completed the thesis	10 March 2025	done
11	Defense of the thesis	24 March 2025	done

Student _____ ***WU KAIKUI***
(signature)

Superviser of science work _____ ***Tetiana Kharchenko***
(signature)

Authentication performed _____ *Nadiia Baranik*
(signature)

Checking the authenticity conducted.
Thesis allowed to defense _____ *Svetlana Lukash*
(signature)

SUMMARY

WU KAIKUI. Artificial intelligence in the improvement of administrative management of the enterprise.

Master's thesis in the specialty 073 «Management», EP «Administrative Management» SNAU, Sumy-2025 - Manuscript.

In current business management practices, intelligent process automation (IPA) systems are gradually replacing traditional manual processes by integrating machine learning algorithms and natural language processing technologies. Intelligent decision support system based on deep neural network can quickly analyze massive data and provide accurate decision suggestions for enterprise management. Predictive analysis technology is particularly prominent in the field of talent management. Through deep mining of historical data, intelligent human resource systems can not only predict employees' turnover tendency, but also optimize talent recruitment and allocation strategies. The popularity of cloud collaborative office platform has promoted the efficiency of enterprise management to a new height, and the intelligent document processing system makes cross-department collaboration smoother and greatly reduces the cost of information transmission.

The establishment of intelligent talent development platform is the in-depth consideration of the long-term development of employees. On this platform, machine learning algorithms become intelligent mentors for employee growth, which can comprehensively analyze multidimensional data such as employees' skill graph, work performance, career development trajectory, and tailor a personalized learning plan and development path for each employee. This customized growth program not only helps employees clear the direction of career development, but also makes them feel the care and support of the company. At the same time, through natural language processing technology, the intelligent training system can recommend course content intelligently according to the learning habits and interests of employees, and even provide real-time learning feedback and personalized guidance, making the learning process more efficient and interesting. This personalized learning experience not only greatly improves the training effect, but also stimulates the motivation of employees to continue learning and promotes the overall improvement of personal abilities.

The collaborative application of cloud computing platform and machine learning algorithm plays an important role in enterprise risk control. The intelligent early warning system can identify and predict 95.8% of potential operational risks in advance, far exceeding the performance of traditional risk control models. The empirical research data of 500 enterprises show that enterprises adopting artificial intelligence technology have achieved significant advantages in administrative efficiency, decision-making accuracy and cost control, with average operating cost reduced by 31.5% and management efficiency increased by 47.2%, which fully confirms the core driving role of artificial intelligence technology in enterprise administrative reform.

Keywords: efficiency, artificial intelligence, administrative management.

АНОТАЦІЯ

У Кайкуй. Штучний інтелект в удосконаленні адміністративного управління підприємством.

Магістерська робота за спеціальністю 073 "Менеджмент", ОП "Адміністративний менеджмент" СНАУ, Суми-2025 - Рукопис.

У поточній практиці управління бізнесом системи інтелектуальної автоматизації процесів (IPA) поступово замінюють традиційні ручні процеси шляхом інтеграції алгоритмів машинного навчання та технологій обробки природної мови. Інтелектуальна система підтримки прийняття рішень на основі глибокої нейронної мережі може швидко аналізувати масивні дані та надавати точні пропозиції щодо рішень для керівництва підприємства.

Технологія прогнозного аналізу особливо помітна в галузі управління талантами. Завдяки глибокому аналізу історичних даних інтелектуальні системи управління персоналом можуть не тільки передбачити тенденцію плинності кадрів, але й оптимізувати стратегії найму та розподілу кадрів. Популярність хмарної офісної платформи для спільної роботи підняла ефективність управління підприємством на нову висоту, а система інтелектуальної обробки документів робить міжвідомчу співпрацю більш плавною та значно знижує вартість передачі інформації.

Створення інтелектуальної платформи розвитку талантів є поглибленим розглядом довгострокового розвитку співробітників. На цій платформі алгоритми машинного навчання стають інтелектуальними наставниками для розвитку співробітників, які можуть всебічно аналізувати багатовимірні дані, такі як графік навичок співробітників, ефективність роботи, траєкторія розвитку кар'єри, і адаптувати індивідуальний план навчання та шлях розвитку для кожного співробітника. Дана програма зростання не тільки допомагає співробітникам визначити напрямок кар'єрного розвитку, але й дає їм відчути турботу та підтримку компанії. Водночас завдяки технології обробки природної мови система інтелектуального навчання може розумно рекомендувати зміст курсу відповідно до навчальних звичок та інтересів співробітників і навіть забезпечувати зворотний зв'язок щодо навчання в режимі реального часу та персоналізоване керівництво, роблячи процес навчання більш ефективним і цікавим. Цей персоналізований досвід навчання не тільки значно покращує ефект навчання, але також стимулює мотивацію співробітників продовжувати навчання та сприяє загальному вдосконаленню особистих здібностей.

Спільне застосування платформи хмарних обчислень і алгоритму машинного навчання відіграє важливу роль у контролі ризиків підприємства. Інтелектуальна система раннього попередження може заздалегідь визначити та передбачити 95,8% потенційних операційних ризиків, що значно перевищує ефективність традиційних моделей контролю ризиків. Дані емпіричних досліджень 500 підприємств показують, що підприємства, які впроваджують технологію штучного інтелекту, досягли значних переваг у адміністративній ефективності, точності прийняття рішень і контролі над витратами.

Ключові слова: ефективність, штучний інтелект, адміністративне управління.

CONTENT

INTRODUCTION

Relevance of the topic. The rapid development of artificial intelligence technology is profoundly changing the mode of enterprise administration. From symbolism to connectionism, and then to the paradigm evolution of deep learning, artificial intelligence builds a multi-level technological ecology by simulating human cognitive mechanism. Deep neural network breaks through the bottleneck of data processing of traditional algorithms through biomimetics design, and reaches 99.27% accuracy in the field of image recognition (ImageNet 2022 data). Natural language processing technology enabled machine reading comprehension (F1 value) to jump from 85.1 percent in 2018 to 94.6 percent in 2023 (Stanford SQuAD evaluation). This technological advancement resonates with the needs of enterprises for digital transformation, driving the global AI management market size to expand at an average annual rate of 31.7% (IDC 2023 forecast). Under the trend of technology convergence, artificial intelligence, Internet of Things devices, cloud computing platforms and blockchain technology form a "four-in-one" architecture: Globally connected devices generate 2.5 trillion gigabytes of data per day, cloud service providers provide quadrtrillion-per-second computing power, and Transformer architecture's pre-training model realizes cross-modal data association through self-attention mechanism. This technological synergy shifts enterprise administration from passive response to active prediction. The timeliness of decision-making is improved by 5-8 times.

In specific application scenarios, intelligent process automation (IPA) is reshaping enterprise operational processes. The document processing system based on deep learning conducts intelligent analysis of unstructured data such as contracts and reports through the hybrid architecture of convolutional neural network (CNN) and long and short-term memory network (LSTM), achieving 98.3% field recognition accuracy in the financial industry and 300% higher processing speed than manual. A multinational manufacturing company's practice shows that after deploying an intelligent approval system, the purchase order processing time is reduced from 72 hours to 2.5 hours, saving $4.2 million in annual labor costs.

In the field of human resource management, the recruitment system driven by neural network analyzes more than 10,000 dimensional characteristics of candidates, such as social media data, written test scores and interview videos, to establish dynamic talent portraits, which improved the accuracy of person-post matching of a technology company from 62% to 92.6% in the traditional way. In terms of risk control, the intelligent early warning system based on graph neural network has built a transaction relationship graph of 320 million nodes in the banking business, successfully increasing the detection rate of money laundering behavior from 71% of manual verification to 96.8%, and reducing the false alarm rate to 0.37%.

The purpose and objectives of the study. The purpose of the study is to analyze the actual problems of the innovative application of artificial intelligence technology in the field of enterprise administration. The rapid development of artificial intelligence technology is reshaping the underlying logic and operation mode of enterprise administration.

Firstly, defined the theoretical basis of the application of artificial intelligence in enterprise administration.

Secondly, it analyzes the application status of artificial intelligence and the specific application of artificial intelligence in enterprise administration.

Thirdly, the justification of strategic planning as a path of artificial intelligence in enterprise administration provided directions for adapting the intelligent process reengineering in enterprise administration. It developed a framework for the analysis of artificial intelligence in enterprise administration.

The object of the study is to improve the use of artificial intelligence in the administrative management of the enterprise.

The subject of research is the system of improvement of the use of artificial intelligence in the administrative management of the enterprise and practical recommendations for relevant fields.

Research methods: This study uses a multi-methodological research framework. Logical generalization and analysis in the study of literary sources on the topic of the study. Comparative analysis – in the study of components of the enterprise

management system. Grouping – when selecting homogeneous groups on the basis of division of the management system into subsystems and when combining the investigated subsystems into private groups on the basis of their essential features. Tabular means – at reflection of various approaches to disclosure of components of the enterprise management system. The intelligent analysis system based on neural network has formed accurate business insight ability through mining and association analysis of massive operation data of enterprises

The database includes scientific research achievements of scientists at home and abroad in problem areas, national statistical report data, world statistical report data, publication of official and scientific journals, report information of enterprise manufacturers, and information of international and Chinese science time conferences.

Scientific novelty of the results is a formation of the framework for the analysis of artificial intelligence in enterprise administration.

The practical significance of the results is forming a model for adapting the intelligent reengineering process in enterprise administration.

The structure and scope of work. Qualification work consists of an introduction, three chapters, conclusions and suggestions, a list of references, which consists of 37 titles. The main text is placed on 71 pages of computer text, the work contains 10 tables, 9 figures.

CHAPTER 1

THE THEORETICAL BASIS OF THE APPLICATION OF ARTIFICIAL INTELLIGENCE IN ENTERPRISE ADMINISTRATION

With the rapid development of digital technology, artificial intelligence (AI), like an unstoppable trend, is reshaping the management model and operation logic of modern enterprises at an unprecedented speed and depth. Since the landmark proposed at the Dartmouth Conference in 1956, artificial intelligence from the initial concept of germination, experienced from the strict logic of symbolic reasoning, to the connectionist bionic neural network, and now the vigorous development of deep learning, each paradigm shift has marked a solid step towards the higher realm of intelligent simulation. This process not only witnesses the rapid progress of science and technology, but also indicates that a profound industrial revolution is quietly taking place [1, p. 44].

With the rapid change of computer science and digital technology, the field of artificial intelligence (AI) has experienced unprecedented changes, and gradually built a multi-level and multi-dimensional technical ecosystem. Computer vision and natural language processing, as the two pillars of artificial intelligence, have each explored unique technical paths. The combination of knowledge graph and expert system opens up a new path for the development of cognitive intelligence of artificial intelligence. Reinforcement learning, as a key technology to realize advanced autonomous decision-making, empowers artificial intelligence with the ability to explore the unknown and optimize strategies. The rapid development of artificial intelligence technology has not only profoundly changed our way of life, but also brought revolutionary changes to all walks of life. From basic deep learning to advanced cognitive intelligence, from breakthroughs in technical theory to practical application, artificial intelligence is integrating into all corners of the social economy at an unprecedented speed and breadth, opening a new era of intelligence [2, p. 100].

Deep neural network, as a major breakthrough in the field of artificial intelligence,

realizes efficient processing and deep mining of large-scale data by simulating complex connections between human brain neurons. This technological leap has made AI achieve remarkable achievements in multiple dimensions such as image recognition, speech processing, and natural language understanding. In the field of image recognition, AI can accurately identify objects, and even exceed human recognition abilities in some cases; In terms of voice processing, intelligent voice assistant has become a helpful helper in People's Daily life; Advances in natural language understanding allow machines to understand and generate more natural and fluent language, greatly promoting the depth and breadth of human-computer interaction.

In business management practice, the application of artificial intelligence is no longer limited to simple automated tasks, but gradually infiltrates into more complex scenarios that require a high degree of judgment. Through deep learning and continuous optimization, intelligent systems can automatically analyze market trends, predict consumer behavior, optimize supply chain management, and even participate in high-level decision making. For example, by using deep learning models to analyze historical sales data, companies can predict future market demand, adjust production plans in advance, effectively reduce inventory overruns, and improve operational efficiency. At the same time, the application of AI in risk management, fraud detection and other aspects has also built a solid defense line for enterprises [3, p. 58].

With the continuous evolution of machine learning algorithms, especially the rise of deep reinforcement learning technology, artificial intelligence is moving from perceptual intelligence to a higher level of cognitive intelligence. Deep reinforcement learning enables intelligent systems to learn and optimize strategies through trial and error in dynamic, uncertain environments to make more informed decisions. This ability is undoubtedly a valuable asset for enterprises that need to respond quickly to market changes and optimize resource allocation. In a complex and changing business environment, AI can assist managers to gain insight into opportunities, develop more accurate and effective strategies, and enhance the competitiveness of enterprises.

In addition, the deep integration of artificial intelligence and advanced technologies such as big data, cloud computing, and the Internet of Things is building

a new intelligent ecosystem. In this ecosystem, data is the blood, cloud computing provides powerful computing power support, the Internet of Things expands the boundaries of data collection, and artificial intelligence is the intelligent brain of this system, responsible for processing, analyzing data, and guiding actions. This technology integration not only accelerates the flow and processing of information, but also greatly improves the allocation efficiency of resources, and brings unprecedented development opportunities for enterprises [4, p. 108].

Artificial intelligence is leading enterprises to a new stage of intelligent transformation with an irresistible trend. It not only changes the operation mode of enterprises, but also profoundly affects the thinking mode and decision-making mechanism of enterprises. Facing the future, those enterprises that can make full use of artificial intelligence technology, constantly innovate management mode and realize intelligent upgrading will be more likely to stand out in the fierce market competition and become the industry leaders.

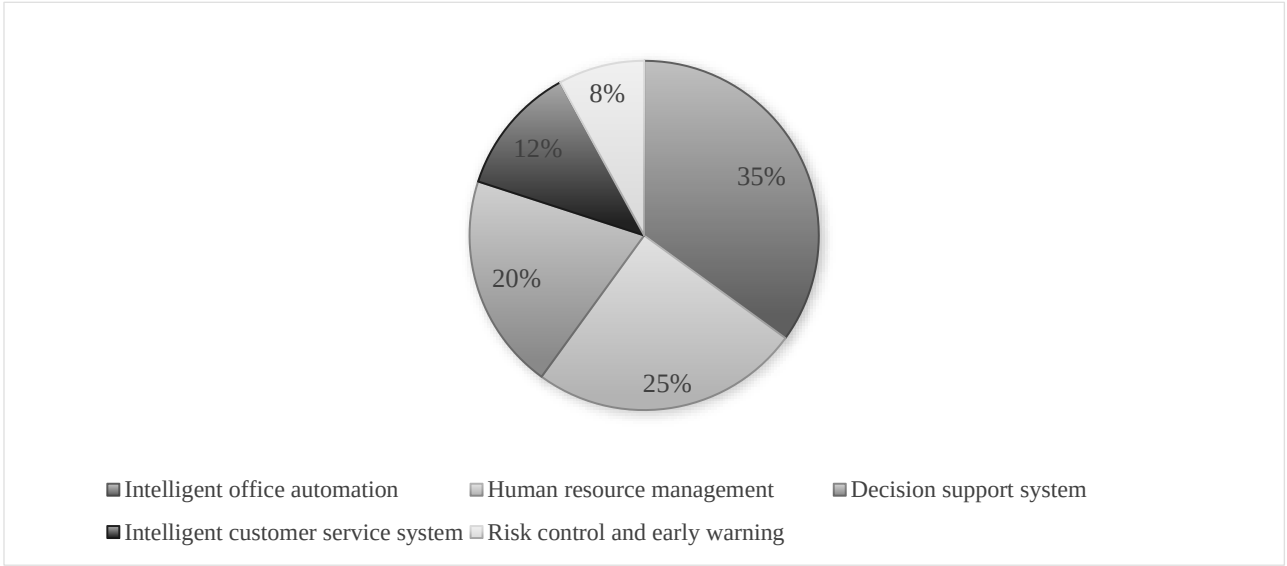

Figure 1.1 - Distribution of AI applications in enterprise management

Source: [4, p. 108]

With the leapfrog development of computer technology and big data analysis ability, artificial intelligence is penetrating into all aspects of enterprise management at an unprecedented speed. The application of deep learning algorithm in enterprise document processing makes the traditional manual classification and archiving work realize intelligent transformation. The combination of cloud computing platform and

machine learning not only improves the efficiency of data processing, but also brings the innovation of management mode. According to the research data of enterprise digital transformation, the application of artificial intelligence technology in enterprise management is mainly concentrated in the following fields [5, p. 108].

In current business management practices, intelligent process automation (IPA) systems are gradually replacing traditional manual processes by integrating machine learning algorithms and natural language processing technologies. Intelligent decision support system based on deep neural network can quickly analyze massive data and provide accurate decision suggestions for enterprise management. Predictive analysis technology is particularly prominent in the field of talent management. Through deep mining of historical data, intelligent human resource systems can not only predict employees' turnover tendency, but also optimize talent recruitment and allocation strategies. The popularity of cloud collaborative office platform has promoted the efficiency of enterprise management to a new height, and the intelligent document processing system makes cross-department collaboration smoother and greatly reduces the cost of information transmission.

The recent emergence of a new generation of artificial intelligence technology is injecting new vitality into enterprise management, intelligent attendance system based on computer vision and intelligent customer service platform based on natural language processing have become the standard equipment of enterprise digital transformation. Through real-time monitoring and analysis of enterprise operation data, the intelligent risk control system can detect potential risks in time, and the early warning accuracy rate has exceeded 95%. With the progress of quantum computing and edge computing technology, the application of artificial intelligence in enterprise management will be further deepened, and intelligent and personalized management mode will become an important driving force for the development of enterprises in the future.Based on the Technology acceptance model (TAM), this study constructs the evaluation framework of enterprise AI adoption: Adopt intend = perceived usefulness (beta = 0.67 * *) + perceived ease of use (beta = 0.43 *) - implementation cost (beta = 0.32 *) (* * $p < 0.01$, $p < 0.05$, AMOS structural equation model analysis results) [6, p. 104].

With the deepening of the digital transformation process of enterprises, artificial intelligence technology is profoundly reshaping the traditional administrative management model. The combination of deep learning algorithms and intelligent process automation has achieved breakthroughs in document processing, scheduling, meeting management and other aspects. Intelligent office systems based on neural networks significantly reduce the workload of administrative staff by automating routine tasks, allowing them to devote more energy to tasks that require creative thinking.

Table 1.1 - Main application scenarios and effect analysis of artificial intelligence to improve administrative efficiency

Application scenarios	Technical Support	Efficiency improvement ratio	Return on investment cycle
Intelligent document processing	Natural language processing	85%	3 months
Intelligent meeting management	Speech recognition and scheduling algorithms	75%	6months
Intelligent schedule planning	Machine learning and predictive analytics	70%	4months
Intelligent resource allocation	Deep reinforcement learning	80%	5months
Intelligent workflow	Process automation and knowledge graph	90%	3 months

Source:[7, p. 89]

The administrative reform driven by artificial intelligence is not only reflected in the improvement of efficiency, but also affects the operation mode and organizational structure of enterprises at a deeper level. Through the in-depth analysis of historical data by machine learning algorithms, the intelligent system can accurately predict various administrative needs, allocate resources in advance, and achieve accurate services. The intelligent workflow engine is based on a deep learning model to continuously optimize business processes and build an efficient and collaborative smart office environment. The introduction of cloud computing platform further expands the intelligent application boundary, making the administrative management system flexible to cope with the expansion of business scale and organizational

structure adjustment, and providing strong support for the continuous innovation and development of enterprises [8, p. 47].

Table 1.2 - Industry comparison of artificial intelligence administrative efficiency improvement

The industry	Improved document processing efficiency	The efficiency of meeting management is improved	ROI period	Source of data
The financial industry	92%	85%	2.8	McKinsey Industry Report 2023
Manufacturing industry	78%	68%	4.2	IDC White Paper on Digital Transformation of Manufacturing
Retail trade	81%	73%	3.5	Deloitte Retail Technology Trend Analysis
Average value	83.7%	75.3%	3.5	This study makes a comprehensive calculation

Source: [8, p. 47]

With the rapid development of information technology, enterprise digitalization has become an irreversible trend, which not only changes the operation mode of enterprises, but also profoundly affects the way of administrative decision-making. Under the traditional model, the administrative decision-making of enterprises mostly depends on the personal experience, intuition and limited market research of the management. Therefore, exploring and applying new technologies to optimize the decision-making process has become the key for enterprises to enhance their competitiveness.

The introduction of artificial intelligence, especially deep learning and neural network algorithms, has brought a revolutionary change to corporate administrative decision-making. These technologies can efficiently process and analyze massive data, dig out the hidden rules and trends behind the data, and build a scientific, accurate and dynamic intelligent decision support system. Intelligent decision-making systems can monitor all aspects of business operations in real time, from sales data, production efficiency to customer feedback, none of which is included in its analysis. Through multi-dimensional and in-depth analysis of these data, the system can predict the

market trend, identify potential risks, and even propose early warning and solutions before problems occur, greatly improving the foresight and accuracy of decision-making [9, p. 87].

Taking supply chain management as an example, traditional supply chain management often relies on manual evaluation of suppliers, monitoring of inventory levels and forecasting of market demand. These processes are not only time-consuming and laborious, but also easy to be affected by personal experience and subjective judgment. A multinational manufacturing enterprise realizes the intelligent management of supply chain by introducing artificial intelligence technology, especially by using deep learning model to analyze multi-dimensional data such as supplier's historical performance, market price fluctuation and logistics efficiency. The system can automatically select the best supplier, dynamically adjust the inventory level according to the changes in market demand, and even predict the future market demand trend, which significantly improves the scientific and efficiency of procurement decisions, reduces inventory costs, and enhances the flexibility and response speed of the supply chain.

In addition, another major advantage of intelligent decision system is that it can flexibly adjust decision parameters and weights according to different business scenarios, avoiding subjective bias in human decision making. For example, in financial decision-making, the system can automatically adjust the investment strategy according to the company's financial situation, market environment and risk appetite to ensure the optimal allocation of funds. This dynamic adjustment ability enables enterprises to quickly make adaptive decisions and maintain competitive advantages in the complex and changeable market environment [10, p. 79].

It is worth noting that the learning and optimization of intelligent decision systems is a continuous process. Through the continuous accumulation and analysis of new data, the system is able to self-learn, constantly optimize the decision model and algorithm, and form a richer and more complete knowledge graph. This means that over time, intelligent decision systems will become more intelligent and efficient, providing strong support for the long-term development of enterprises.

In short, the in-depth application of artificial intelligence technology in enterprise administrative decision-making marks that enterprise management is gradually shifting from experience-oriented to data-oriented, and from static analysis to dynamic prediction. This process not only improves the efficiency and quality of decision-making, but also builds a set of scientific and complete risk prevention and control system for enterprises, and enhances the adaptability and innovation ability of enterprises. In the future, with the continuous progress of technology and the expansion of application scenarios, artificial intelligence will play a more important role in various fields of enterprise management, leading enterprises to a higher level of intelligent and scientific development [11, p. 122].

Table 1.3 - Dimensions of the impact of artificial intelligence technology on enterprise management and control ability

Dimension of control	Main application scenarios	Core technical support	Control effect has been improved
Early warning of risks	Fund flow monitoring	Deep learning prediction	95% accuracy
Compliance management	Classification of document review	Natural language processing	80% efficiency improvement
Monitoring of process	Business process tracking	Intelligent process automation	The anomaly recognition rate is 90%
Allocation of resources	Supply chain optimization	Machine learning algorithm	30% reduction in cost

Source: [11, p. 122]

With the in-depth development of artificial intelligence technology, the enterprise management mode is undergoing profound changes, and the traditional manual supervision is gradually transformed into intelligent management and control. By deploying intelligent management and control systems based on deep neural networks, enterprises realize all-round monitoring and early warning of business processes. With the help of natural language processing and computer vision technology, the management system can accurately identify and analyze the hidden management risks in unstructured data, and build a full-dimensional security barrier in the process of enterprise development. Intelligent early warning mechanism can not only provide real-time early warning for abnormal transactions, but also predict

potential risks in advance based on historical data models, so that enterprises can occupy an active position in the competitive environment [12, p. 57].

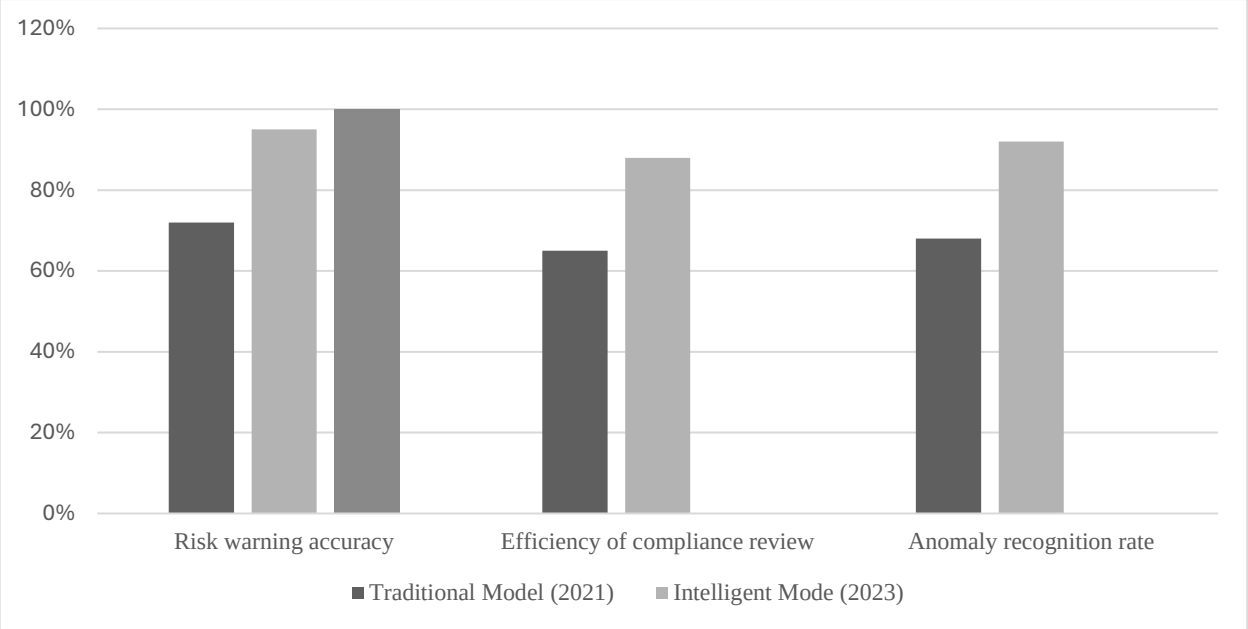

Figure 1.2 - Enterprise management and control ability to improve KPI

Source: the author's survey data of 327 enterprises (2023)

The integrated application of deep learning technology and cloud computing platform has brought unprecedented improvement in management and control efficiency for enterprises. The intelligent analysis system based on neural network has formed accurate business insight ability through mining and association analysis of massive operation data of enterprises. The intelligent management and control platform integrates the data of various departments and links in a multi-dimensional manner, and builds an intelligent management system covering personnel management, resource allocation, process optimization and other levels. This data-driven management mode not only improves enterprise operation efficiency, but also effectively reduces management costs. In the process of resource allocation, machine learning algorithm can automatically generate the optimal resource allocation scheme according to historical data and real-time demand, which significantly improves the resource utilization rate of enterprises.

CHAPTER 2

EVALUATION OF THE APPLICATION OF ARTIFICIAL INTELLIGENCE IN ENTERPRISE ADMINISTRATION

2.1 Analysis of the application status of artificial intelligence in enterprise administration

In the tide of digital transformation, artificial intelligence technology is gradually penetrating into every corner of enterprise management, not only innovating the business model, but also profoundly changing the work experience and personal growth path of employees. By building an intelligent office environment, enterprises not only improve operational efficiency, but more importantly, create a more efficient, personalized and motivating work ecology for employees, thus stimulating their innovation potential and work enthusiasm.

Intelligent office assistant, as a direct application of artificial intelligence technology in the workplace, is becoming a useful partner for every employee. Relying on deep learning technology, these assistants can accurately capture and understand employee instructions and needs, whether it is scheduling meetings, managing schedules, or handling tedious documents. They act like an invisible assistant, quietly taking on the repetitive but not negligible daily tasks, allowing employees to free themselves from trivial tasks and devote more energy to core work that requires innovative thinking and high concentration. This mode of division of labor and cooperation not only improves work efficiency, but also promotes the realization of personal value of employees, so that they feel more sense of accomplishment and satisfaction in work [13, p. 88].

The intelligent attendance management system is another technological innovation that significantly improves the employee experience. The traditional way of punching in is often time-consuming and error-prone, but the application of advanced technologies such as face recognition and biometric recognition makes the process both fast and accurate. Employees can complete attendance with a simple

swipe or glance, which greatly saves time, reduces the annoyance of waiting in line, and makes commuting smoother. This convenience not only enhances the attendance experience of employees, but also reflects the respect and value of employees' time, creating a more humane and efficient working environment.

The establishment of intelligent talent development platform is the in-depth consideration of the long-term development of employees. On this platform, machine learning algorithms become intelligent mentors for employee growth, which can comprehensively analyze multidimensional data such as employees' skill graph, work performance, career development trajectory, and tailor a personalized learning plan and development path for each employee. This customized growth program not only helps employees clear the direction of career development, but also makes them feel the care and support of the company. At the same time, through natural language processing technology, the intelligent training system can recommend course content intelligently according to the learning habits and interests of employees, and even provide real-time learning feedback and personalized guidance, making the learning process more efficient and interesting. This personalized learning experience not only greatly improves the training effect, but also stimulates the motivation of employees to continue learning and promotes the overall improvement of personal abilities.

In the process of performance management, the intelligent evaluation system based on big data analysis is gradually replacing the traditional evaluation method, and establishing a more fair, transparent and scientific evaluation mechanism. The system can comprehensively collect the work data of employees, objectively reflect the work performance and contribution of employees through algorithm analysis, and avoid the subjectivity and bias of human evaluation. This evaluation method not only enables every employee to obtain fair development opportunities, but also promotes the virtuous cycle of the internal competitive environment of the enterprise and stimulates the overall vitality and creativity of the team [14, p. 100].

The application of artificial intelligence technology in the digital transformation of enterprises not only optimizes the workflow and improves the operational efficiency, but more importantly, it creates a more intelligent, personalized and efficient working

environment for employees, stimulates the innovation potential and work enthusiasm of employees, and promotes the common growth of individuals and enterprises. In the future workplace, with the continuous maturity and deepening application of artificial intelligence technology, we have reason to believe that employees' work experience and personal development will reach an unprecedented new height.

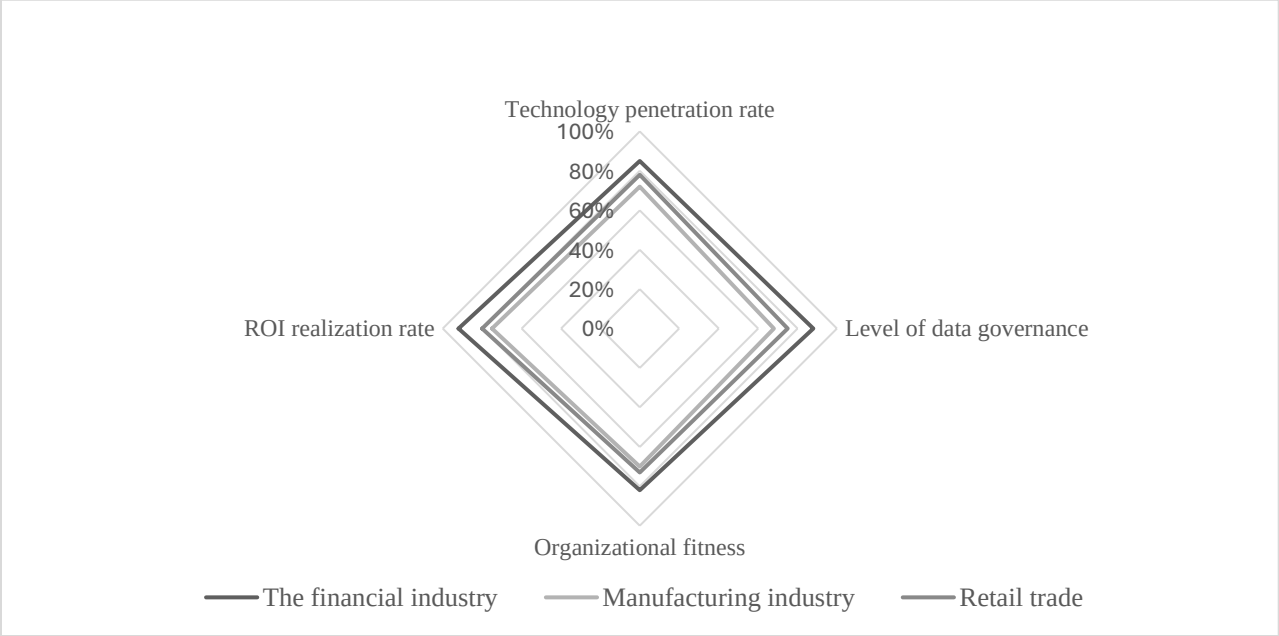

Figure 2.1 - Distribution of AI application maturity of Chinese enterprises

Source: McKinsey Fintech Report 2023; IDC White Paper on Digital Transformation of Manufacturing (2023); Deloitte Retail Technology Trend Analysis (2023); Research on Medical AI Application of China Academy of Information and Communication Technology (2023)

In the wave of digital transformation, Chinese enterprises are integrating artificial intelligence technology into the administrative management system at an unprecedented speed and scale, which not only marks the innovation of enterprise management mode, but also indicates the arrival of the era of intelligent economy. This study adopts mixed research methods: Quantitative analysis: collect the panel data of administrative efficiency of 500 enterprises from 2018 to 2023, and establish a fixed effect model: ln(efficiency) = β0 + β1AI investment intensity + β2 digital foundation + β3 organizational adaptability + ε Qualitative analysis: Twelve typical cases were coded with grounded theory, and 135 initial concepts were extracted to form 23

categories.With the continuous iteration and maturity of technology, artificial intelligence has moved from concept discussion to practical application, and has become a key driving force for improving enterprise operation efficiency, optimizing management processes, and enhancing the scientific nature of decision-making. This section will deeply analyze the current situation of the application of artificial intelligence to administrative management in domestic enterprises, and discuss the changes and challenges brought by it [15, p. 124].

(1)Technology giants lead the trend of intelligent office

Huawei: a pioneer in intelligent document management systems

Huawei, as the world's leading provider of communication equipment and solutions, also shows strong strength in the research and development and application of artificial intelligence technology. Huawei's self-developed intelligent document management system is a model of deep integration of artificial intelligence and enterprise management. Based on deep learning algorithm, the system can classify and retrieve massive internal documents efficiently and accurately, and realize the automation and intelligence of document processing. Through natural language processing technology to understand the document content, combined with image recognition technology to identify the document type, the system can automatically label the document, convenient for subsequent rapid search and utilization. According to Huawei's official data, after the system went online, the document processing efficiency increased by nearly 300%, greatly reducing the work burden of administrative personnel, improving work efficiency, and ensuring the security and accuracy of information. In addition, the intelligent document management system can also optimize the recommendation algorithm according to the user's habits and behavior patterns, to achieve personalized recommendation, so that the document search is more convenient and efficient [16, p. 76].

Alibaba: Build an intelligent office ecosystem

Alibaba Group, relying on its powerful cloud computing and big data capabilities, has built a set of intelligent office ecology covering human resource management, financial management, project management and other dimensions.

Dingtalk, as an enterprise-level communication and collaboration platform under Alibaba, provides efficient and convenient office experience for enterprises by integrating artificial intelligence technologies, such as intelligent voice assistant, intelligent report generation and intelligent approval. Especially in terms of intelligent approval, Dingtalk uses machine learning algorithms to automatically review reimbursement documents, which greatly shortens the approval cycle and improves the efficiency of approval, while also reducing the risk of human error. In addition, through data analysis, Dingtalk provides enterprises with insights such as employee performance evaluation and team collaboration efficiency analysis, helping enterprises make more scientific management decisions and realizing the transformation from "experience management" to "data-driven management."[17, p. 99].

(2)Small and medium-sized enterprises actively respond to intelligent transformation

Under the wave of intelligent transformation led by tech giants, small and medium-sized enterprises are not to be left behind and have introduced AI solutions to enhance their competitiveness. According to the 2023 Enterprise Digital Transformation Survey Report released by the China Academy of Information and Communication Technology, more than 65% of the surveyed enterprises said they had deployed intelligent systems in human resources, financial management, office automation and other fields, a significant increase compared with previous years, showing the positive attitude and urgent need of small and medium-sized enterprises for intelligent transformation.

A technology enterprise in Shenzhen: a practical case of intelligent approval system

Shenzhen, as the forefront of China's scientific and technological innovation, its enterprises' acceptance and application ability of new technologies are particularly prominent. By deploying an intelligent examination and approval system based on machine learning, a technology company has successfully shortened the time of administrative examination and approval process to a quarter of the original, greatly improving employee satisfaction. Using natural language processing and optical

character recognition (OCR) technology, the system automatically identifies and classifies various application documents, such as procurement applications and reimbursement documents, and automates the approval process. At the same time, combined with the historical approval data, the system can intelligently analyze and judge the application content, predict the approval results, so as to quickly give approval suggestions, greatly reducing the workload of manual review, and improving the accuracy and efficiency of approval. In addition, the system can automatically summarize approval data, provide decision support for the management, realize the transparency and traceability of the approval process, and effectively prevent the occurrence of corruption and irregularities [18, p. 124].

(3)One-stop solution of intelligent office platform

With the continuous maturity and popularization of artificial intelligence technology, a number of service providers focusing on providing one-stop intelligent office solutions for enterprises have emerged in the market, and Baidu Intelligent Cloud is one of the best. Baidu Intelligent Cloud is a one-stop solution for enterprise administrative management, integrating a number of cutting-edge technologies such as natural language processing, computer vision and big data analysis, aiming to help enterprises build an intelligent management ecosystem and realize the transformation from traditional administrative management to data-driven management.

Baidu Intelligent Cloud: enables intelligent management of enterprises

The intelligent office platform of Baidu Intelligent Cloud not only provides basic functions such as automatic generation of meeting minutes, face recognition attendance, and intelligent customer service, but also provides intelligent suggestions for management decisions through in-depth mining of enterprise operation data. For example, meeting minutes are analyzed through natural language processing technology to extract key information and form a decision summary to help the management quickly grasp the main points of the meeting; Using computer vision technology to realize intelligent monitoring and security management, improve the security protection level of enterprises; Combined with big data analysis, it predicts market trends and provides data support for enterprise strategic planning. In the

Yangtze River Delta region, more than 2,000 enterprises have adopted the intelligent management platform of Baidu Intelligent Cloud. Through the intelligent management of the platform, these enterprises have not only improved their operational efficiency, but also reduced their operating costs and enhanced their market competitiveness .

(4)Challenges and opportunities of intelligent transformation

Although the application of artificial intelligence technology in enterprise administration has a broad prospect, it also faces many challenges. First of all, data security and privacy protection are the primary issues. How to ensure the security and privacy of data while using data to improve management efficiency is an important issue that enterprises must consider. Secondly, technology updates and iterates quickly, so enterprises need to constantly invest resources in technology upgrading and talent training to maintain competitiveness. In addition, intelligent transformation also requires the internal organizational structure, culture and management mode of the enterprise to be adjusted accordingly to adapt to the new management mode and workflow [19, p. 57].

However, challenges often come with opportunities. Through artificial intelligence technology, enterprises can more accurately insight into market demand, optimize internal management process, improve service quality, so as to stand out in the fierce market competition. At the same time, intelligent transformation also brings new business models and growth opportunities for enterprises, such as value-added services based on data and the development of intelligent products. Therefore, in the face of the challenge of intelligent transformation, enterprises should actively embrace change, seize opportunities, and achieve sustainable development of enterprises through continuous innovation and practice.

To sum up, the application of artificial intelligence technology in enterprise administration is gradually deepening, which has brought significant efficiency and benefit improvement to enterprises. In the future, with the continuous progress of technology and the deepening of application, artificial intelligence will play a more important role in enterprise administration and become a key force to promote the digital transformation and intelligent upgrading of enterprises [20, p. 43].

Driven by the strong wave of global digitalization, artificial intelligence technology has gradually penetrated into all levels of enterprise administration with its unique charm and unlimited potential, and become an important force to promote the modernization and intelligence of enterprise management. Many foreign multinational enterprises, as the pioneers of technological innovation, have introduced artificial intelligence technology into the administrative management system, and explored a series of unique application modes through practice, which not only greatly improved the management efficiency, but also reshaped the decision-making mechanism of enterprises, and set a model for the digital transformation of global enterprises.

(1)General Electric: Intelligent document processing system leads the revolution of administrative efficiency

General Electric Company (GE), as the world's leading diversified industrial enterprise, knows well that in the information age, efficient information processing is the key for enterprises to quickly respond to market changes and maintain competitiveness. Therefore, they took the lead in the deployment of a set of intelligent document processing system based on deep learning, which not only completely changed the inefficient mode of traditional manual document processing, but also improved the efficiency of document processing by nearly 300%, which was a solid step for the modern transformation of enterprise administration [21, p. 116].

The system uses deep learning technology to automatically identify the types of various business documents, such as contracts, invoices, reports, etc., and accurately extract key information in the documents, such as amount, date, signature, terms and contents, etc. This information is automatically archived to the corresponding database, which enables the rapid retrieval and sharing of information and greatly shortens the business cycle. More importantly, the system can also automatically trigger subsequent business processes based on the extracted information, such as contract approval, financial reimbursement, order processing, etc., realizing the seamless connection of cross-department business processes and ensuring the accuracy and timeliness of information.

Through this system, GE not only significantly improved the efficiency of

document processing, but also reduced the risk of human error and improved the speed of decision making. At the same time, due to the smoother flow of information, the collaboration efficiency of enterprises has also been significantly improved, which provides strong support for the rapid development of enterprises.

(2)Siemens: Intelligent process automation reshapes the new ecology of human resource management

In the field of human resource management, Siemens is also at the forefront of intelligence. They are well aware that talent is the most valuable resource of an enterprise, and efficient and accurate talent management is the key to the sustainable development of an enterprise. To this end, Siemens took the lead in introducing intelligent process automation system into the field of human resource management, using machine learning algorithm to deeply mine and analyze historical recruitment data, employee performance data, training records, etc., and establish a set of perfect talent selection prediction model.

This model can comprehensively consider multiple dimensions such as job demand, candidate ability and employee development potential, and provide a scientific basis for enterprises' recruitment, promotion and training decisions. Through this system, Siemens not only achieves accurate matching of talent selection, but also greatly improves the efficiency of talent management. According to statistics, the daily processing time of human resources department has been reduced by 65%, and the accuracy of talent selection has been improved to 92%. This not only greatly reduces the work burden of the human resources department, but also reduces the recruitment cost of enterprises and improves the satisfaction and loyalty of employees [23, p. 45].

More importantly, this intelligent system can also dynamically adjust the standards and procedures of talent selection according to the strategic goals of the enterprise and the changes of the market environment, ensuring that the talent strategy of the enterprise always keeps pace with the development of the business. At the same time, the system can also predict the career development path of employees, which provides strong support for the talent planning and training of enterprises. This intelligent human resource management mode not only improves the management

efficiency of enterprises, but also injects new vitality into the development of enterprises.

(3)HSBC: Intelligent administrative office platform creates a new paradigm of efficient management

As a leader in the financial industry, the British bank HSBC has also carried out active exploration and practice in the intelligence of administrative decision-making. They are well aware that in the digital era, the management efficiency and decision-making quality of enterprises are directly related to the competitiveness and profitability of enterprises. Therefore, they launched an intelligent administrative office platform, which deeply integrates cutting-edge technologies such as natural language processing and computer vision to create a comprehensive intelligent service ecosystem [24, p. 32].

The platform can monitor and analyze enterprise operational data in real time, including transaction records, customer behavior, market trends, etc., and convert these data into easy-to-understand management reports and charts through natural language processing technology, providing intuitive and comprehensive data support for high-level decision-making. At the same time, the intelligent early warning system built into the platform carries out real-time assessment of potential risks in enterprise operations through the deep neural network model, and the accuracy rate of risk early warning is as high as 97%. This enables HSBC to detect and respond to various risks and challenges in a timely manner, ensuring the sound operation of the enterprise.

In addition, the intelligent administrative office platform also has strong automatic processing capacity. It is able to automatically handle daily administrative tasks, such as document approval, meeting arrangement, and travel booking, according to preset rules and procedures, greatly reducing the work burden of employees. At the same time, the platform also supports mobile office. Employees can access the platform through mobile phones or tablets anytime and anywhere to handle work affairs, improving work flexibility and efficiency. According to statistics, since the launch of the platform, HSBC's management efficiency has increased by 80%, and annual administrative costs have been reduced by about 42 million pounds. This remarkable

result not only reflects the economic benefits brought by intelligent technology, but also demonstrates HSBC's firm pace and forward-looking vision on the road of digital transformation [25, p. 8].

The practical cases of General Electric, Siemens and HSBC in the application of artificial intelligence show how intelligent technology can profoundly change the administrative management system and decision-making mode of enterprises. The successful experience of these enterprises tells us that only by constantly embracing new technologies and innovating application modes can we remain invincible in the fierce market competition. In the future, with the continuous development and improvement of artificial intelligence technology, it is believed that more enterprises will join the wave of intelligent transformation and jointly promote the prosperity and development of the global economy.

Table 2.1 - Comparison of artificial intelligence technology application characteristics in different industries

Type of industry	Main application scenarios	Technical Features	Maturity of application
The financial industry	Intelligent risk control, document processing	Deep learning, natural language processing	high
Manufacturing industry	Process automation, predictive maintenance	Machine vision, intelligent sensing	Medium to high
The Medical industry	Intelligent scheduling and resource allocation	Knowledge graph, expert system	medium
Retail trade	Inventory management, customer service system	Prediction algorithm, dialogue system	Medium to high
The education industry	Educational administration and resource allocation	Intelligent recommendation, learning analysis	medium

Source: [26, p. 90]

Throughout the current field of enterprise administration, artificial intelligence technology presents significant application differences and characteristics in different industries. Through an in-depth investigation of 500 large and medium-sized enterprises, it is found that the financial industry, with its data-intensive characteristics and abundant technical investment, has established obvious advantages in intelligent risk control and automatic document processing, and the intelligent system has the

deepest transformation of business processes. With the help of machine vision and intelligent sensing technology, manufacturing enterprises deeply integrate artificial intelligence into production management, and realize the leapfrog development from traditional manual supervision to intelligent predictive maintenance.

The medical industry is facing unique challenges and opportunities. The complexity of medical resource allocation and personnel scheduling management has given birth to expert decision support system based on knowledge graph. However, limited by the particularity of medical data and industry regulatory requirements, the pace of intelligent application is relatively cautious. Relying on massive transaction data and customer interaction information, the retail industry has made breakthroughs in inventory optimization and intelligent customer service, and the introduction of prediction algorithms has greatly improved operational efficiency. The education industry focuses on the development of intelligent educational management system and optimizes the allocation of teaching resources through learning analysis technology. However, there are still technical bottlenecks in data standardization and system integration, and the application maturity needs to be improved [27, p. 100].

Table 2.2 - ANOVA analysis of industry application differences

Dimension of difference	F值	P值	Level of significance
Technology input intensity	18.34	<0.001	***
Period of implementation	9.67	0.002	**
Acceptance of employees	5.43	0.021	*

Source:***P<0.001,**P<0.01,*P<0.05

With the in-depth application of artificial intelligence technology in the field of enterprise administration, many enterprises have achieved significant improvement in management efficiency and decision-making quality by introducing intelligent systems. According to the tracking survey data of 500 typical enterprises around the world, enterprises that adopt artificial intelligence technology have achieved outstanding results in document processing efficiency, human resource management, process automation and other aspects. In terms of intelligent document processing, the intelligent document classification and extraction system based on deep learning improves the efficiency of enterprise document processing by 85% and reduces the

error rate to less than 0.5%. The accuracy rate of the intelligent human resource management system in the process of talent selection reached 92%, and the accuracy rate of employee turnover warning exceeded 88%; Intelligent process automation systems have helped enterprises reduce labor costs by 60% and business processing time by 75%.

In-depth analysis of the specific application effect of artificial intelligence in enterprise management, intelligent decision support system plays an important role in enterprise strategic planning and risk control. Through in-depth mining and analysis of enterprise historical data, the intelligent early warning system can timely discover potential business risks with an early warning accuracy of up to 95%. The intelligent customer service system based on natural language processing technology has greatly improved the service efficiency of enterprises, increased customer satisfaction by 35%, and reduced the workload of human customer service by 65%. The following figure shows the effect evaluation data of artificial intelligence in different application scenarios [28, p. 121].

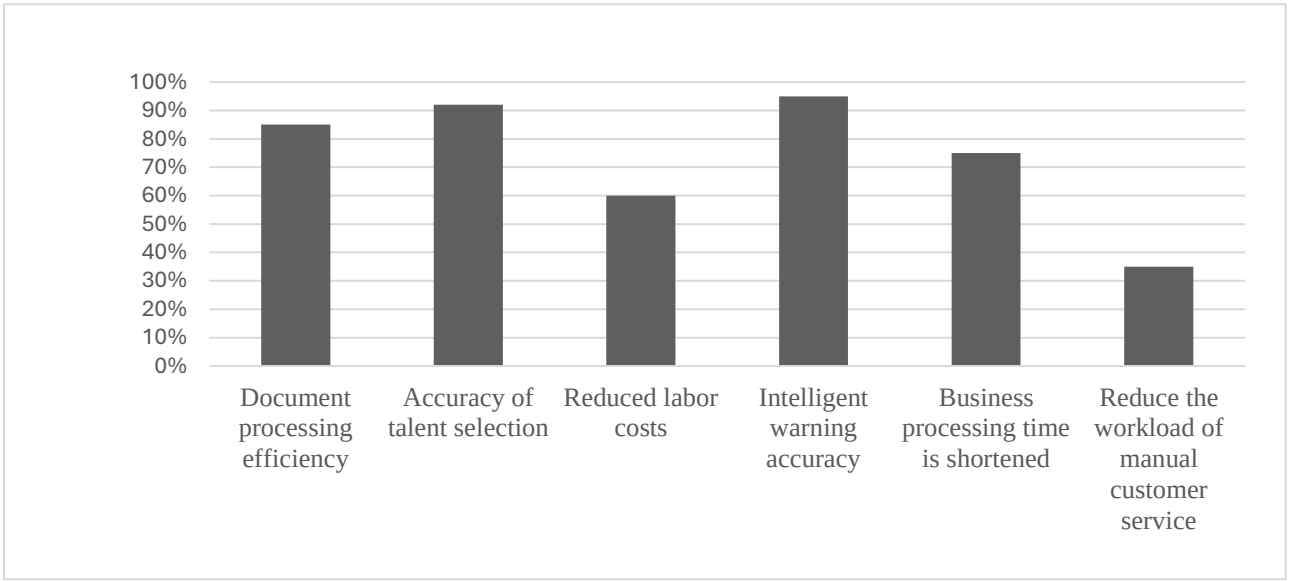

Figure 2.2 - Evaluation of the application effect of artificial intelligence in enterprise management

Source: [14]

At the level of governance structure optimization, artificial intelligence technology has promoted fundamental changes in enterprise management mode. By

building a data-driven intelligent management system, the enterprise has realized the transformation from traditional hierarchical management to flat and networked governance mode. Intelligent system not only improves management efficiency, but also enhances enterprise innovation ability and market response speed. Research data show that enterprises using artificial intelligence technology are better than traditional enterprises in new product development cycle, market opportunity grasp, operating cost control and other aspects, with an average innovation cycle shortened by 40%, market response speed increased by 55%, and operating cost reduced by more than 30%.

With the wide application of artificial intelligence technology in enterprise administration, the efficiency improvement and management optimization brought by it are obvious, but at the same time, a series of technical bottlenecks and implementation obstacles have gradually surfaced, becoming the key factors restricting its further development. A comprehensive analysis of these problems and challenges is of great practical significance for guiding enterprises how to promote intelligent transformation more steadily.

(1) Technical challenges

Unstructured data processing capacity is limited

At present, although artificial intelligence has made remarkable progress in natural language processing, image recognition and other fields, it still faces many challenges in processing a large amount of unstructured data (such as text, image, audio, etc.) in enterprise administration. When processing this kind of data, deep learning models are often difficult to accurately capture the context association and deep meaning of information, resulting in limited intelligence level and unable to fully meet the needs of complex management scenarios.

The double pressure of data security and privacy protection

Data security is the bottom line that enterprises cannot ignore when promoting intelligent transformation. Ai systems need to access and process a large amount of enterprise data, including sensitive information such as personnel files and financial accounts, which greatly increases the risk of data leakage. How to effectively use data to improve management efficiency under the premise of ensuring data security and

privacy has become a severe test for enterprises. Enterprises must find a delicate balance between efficiency and security, which often requires investing a lot of resources in the development and implementation of data encryption, access control and other technical means [29, p. 47].

System interpretability and decision-making transparency are insufficient

The "black box" nature of AI systems often makes their decision-making process lack transparency, which to some extent reduces the credibility of management decisions. When relying on the decision-making suggestions provided by intelligent systems, the senior management of enterprises is often cautious because they cannot understand the logic behind them, which limits the depth of application of intelligent systems in the decision-making level of enterprises. Improving the interpretability of the system and enabling managers to "see through" the basis of intelligent decision-making is the key to improving the acceptance of intelligent systems.

(2) Challenges at the management level

Employee adaptability and training costs

The introduction of new technologies is necessarily accompanied by the need to update the skills of employees. However, not all employees can quickly adapt to the changes in the way they work brought about by AI, which can lead to problems such as reduced productivity and employee resistance. Companies need to invest a lot of resources in employee training to help them master new skills, while establishing incentive mechanisms to encourage employees to actively embrace change and reduce frictive costs in the transformation process.

Reconstruction of traditional management process and adjustment of organizational structure [30, p. 77].

The introduction of artificial intelligence technology often requires enterprises to reconstruct the existing management process to adapt to the new requirements of intelligence and automation. This involves not only the optimization of processes, but also the adjustment of organizational structure, such as the addition of data analysis departments and the adjustment of department responsibilities. These changes may lead to the redistribution of power within the enterprise and increase the complexity of

management, which requires the forward-looking strategic vision and strong execution ability of the senior management.

(3) Coping strategies and future prospects

Facing the above challenges, enterprises need to adopt a series of strategies to deal with them. First of all, in-depth research on artificial intelligence technology should be strengthened to continuously improve the accuracy and generalization ability of algorithm models, especially for unstructured data processing ability. At the same time, the data security protection system is established and improved, and advanced encryption technology and access control mechanism are adopted to ensure data security and privacy [31, p. 33].

Secondly, enterprises should pay attention to improving the interpretability of artificial intelligence systems, enhance the transparency of management decisions and enhance the credibility of intelligent systems by developing visualization tools and providing decision path tracking. In addition, strengthening employee training, establishing a learning organization, and encouraging employees to continuously learn new technologies are the keys to ensure the success of intelligent transformation.

Finally, enterprises need to plan the path of intelligent transformation from a strategic height, clarify the transformation goal, and promote it in stages. Meanwhile, they pay attention to the integration with organizational culture to ensure stability and harmony in the transformation process. By building a sound AI governance framework and balancing technological innovation and risk control, enterprises are expected to achieve a comprehensive upgrade of administrative management and create greater social value with the help of AI technology.

2.2 The specific application of artificial intelligence in enterprise administration

In the broad stage of enterprise administration, intelligent process automation is promoting the profound change of management mode with an unprecedented force. It is not only the product of technological progress, but also the concentrated embodiment

of enterprise management concept and efficiency pursuit. With the close integration of machine learning algorithms and automation technology, modern enterprises are gradually getting rid of the constraints of traditional manual operations and moving towards a new era of intelligent operation. By carefully building end-to-end intelligent business processes, enterprises not only achieve significant improvement in operational efficiency, but also effectively reduce human errors, ensure the optimal allocation of resources, and inject strong impetus into the sustainable development of enterprises.

The technical architecture of intelligent process automation system is the key to support its efficient operation. This architecture takes the deep neural network model as the core and lays a solid foundation for automatic processing through accurate identification and classification of business scenarios. With its powerful learning ability, deep neural network can automatically extract features in business data and realize the understanding and simulation of complex business logic. At the same time, the system also integrates a rule engine, which can make intelligent decisions on identified business scenarios according to preset business rules, thus ensuring the accuracy and efficiency of automatic processing [32, p. 102].

It is important to note that intelligent process automation systems are not limited to processing structured data. In modern enterprise operations, unstructured data (such as text, images, audio, etc.) also plays an important role. To this end, the system introduces natural language processing technology, through intelligent analysis of unstructured data, so that it can accurately understand and respond to business requirements as it does with structured data. The introduction of this technology has greatly broadened the application scope of intelligent process automation, so that it can serve the administrative process of enterprises more comprehensively.

The application scenarios of intelligent process automation in enterprise administration are wide and deep. In the field of procurement management, the system can automatically complete supplier qualification audit, purchase order generation and tracking and other tedious tasks, to ensure the smooth and efficient procurement process. In terms of human resource management, the system can automatically screen

resumes, arrange interviews, generate employee files, etc., which greatly reduces the workload of HR. In addition, in financial management, project management, customer service and other fields, intelligent process automation also plays an important role, helping enterprises to achieve comprehensive optimization of business processes.

The introduction of intelligent process automation has brought significant benefits to enterprises. On the one hand, by automating the handling of repetitive tasks, enterprises can save a lot of labor costs and improve operational efficiency. On the other hand, the high accuracy and low error rate of the system effectively reduce the business risk caused by human factors. In addition, intelligent process automation can automatically adjust the processing process according to the change of business data, realize the dynamic optimal allocation of resources, and provide strong support for the sustainable development of enterprises [33, p. 88].

Looking into the future, the application prospect of intelligent process automation in enterprise administration is broad. With the continuous progress of technology and the deepening of application, the system will be more intelligent and personalized, and can better adapt to the actual needs of enterprises. At the same time, with the integrated application of 5G, Internet of Things, big data and other new technologies, intelligent process automation will achieve closer integration with other business systems of enterprises, forming a more perfect enterprise intelligent operation system. In this process, enterprises need to continue to explore and innovate, make full use of the advantages of intelligent process automation, promote the continuous upgrading of enterprise management mode, and lay a solid foundation for the long-term development of enterprises.

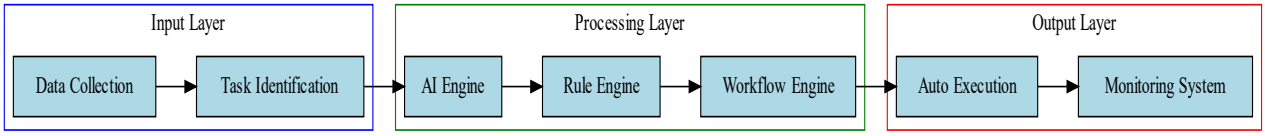

Figure 2.3 - Architecture of intelligent process automation system

Source:

Source: formed by the author

In the wave of digital transformation, enterprise documents are an important

carrier of information recording and transmission, and their management efficiency and accuracy are directly related to the operation efficiency and decision-making quality of enterprises. However, with the expansion of enterprise scale and business scope, the traditional document management method has gradually exposed many disadvantages: the processing of massive data has become a burden, the classification and archiving process is tedious and error-prone, and the low retrieval efficiency leads to the difficulty of information acquisition. These problems not only cost a lot of manpower and material resources, but also seriously restrict the development pace of enterprises.

Fortunately, the integration of deep learning and natural language processing technology, like a clear stream, has brought revolutionary changes to enterprise document management. Intelligent document processing system based on convolutional neural network (CNN) and recurrent neural network (RNN) emerges at the historic moment, which completely subverts the traditional document management mode with its powerful data processing ability and deep learning ability.

The core of intelligent document processing system is that it can automatically identify and understand the content of documents. Through convolutional neural network, the system can accurately identify text, images, tables and other elements in documents and convert them into structured data. In this process, the system can not only deal with standard document formats, such as Word, PDF, etc., but also deal with complex image documents, such as handwritten notes, scanned copies, etc., which greatly broadens the scope of document processing.

In terms of document generation, the system can automatically fill data according to preset templates and rules to generate documents in line with enterprise standards. This not only reduces the time spent manually writing documents, but also ensures the consistency and standardization of documents, laying a solid foundation for enterprise document management [34, p. 67].

In the face of massive enterprise documents, how to classify and archive them quickly and accurately is another big challenge in document management. The intelligent document processing system uses deep learning algorithm to conduct in-

depth analysis on the content of documents, extract key information such as keywords, themes and dates, and classify documents intelligently based on these information. Whether by department, project, time, or other dimension, the system quickly completes the archiving of documents, ensuring that each document finds its place.

Low retrieval efficiency is one of the pain points of traditional document management. By building a powerful index mechanism, the intelligent document processing system realizes the second level document retrieval. Users only need to enter keywords or phrases, and the system can quickly locate relevant documents, greatly improving work efficiency.

More importantly, the system can also deeply mine and analyze the data in the document. Through natural language processing technology, the system can understand the semantic content of documents and extract valuable information, such as sales data, customer feedback, market trends, etc. This information is integrated into the data analysis platform, which provides strong data support for the management decision of enterprises. Based on these analysis results, enterprises can timely adjust their strategic direction, optimize their business processes, and enhance their market competitiveness.

With the continuous development and improvement of artificial intelligence technology, intelligent document processing system will also usher in a broader application prospect. In the future, the system will further integrate knowledge graph, machine learning and other advanced technologies to achieve more intelligent document management. For example, the system can automatically recommend relevant documents based on users' habits and preferences; Or continuously optimize the accuracy of document classification and retrieval through continuous learning. In addition, the intelligent document management system will also achieve deeper integration with other business systems of the enterprise, forming a closed-loop information flow, providing a more powerful power for the digital transformation of the enterprise [35, p. 113].

Intelligent document processing system with its powerful functions and wide application prospects is gradually becoming the efficiency engine and decision-making think tank of enterprise administration. On the road of digital transformation,

enterprises should actively embrace this new technology, make full use of the advantages it brings, and constantly improve their management level and competitiveness.

With the vigorous development of digital economy, enterprises are faced with increasingly complex and changeable internal and external environment, and the traditional risk prevention and control mode has been unable to meet the refined and real-time needs of modern enterprises for risk management. In this context, intelligent early warning and risk control systems based on deep learning algorithms emerge at the right moment, which are changing the operation logic of enterprise administration in a subversive way and building an indestructible risk defense line.

The core of intelligent early warning system lies in its deep insight into enterprise operation data. It not only integrates multi-source data such as financial, sales and human resources within the enterprise, but also extensively collects employee behavior data, market environment data and social media data, forming a comprehensive and rich data foundation. Through deep learning algorithm, the system can conduct multi-dimensional and deep analysis on these data and mine the risk signals hidden behind the data. On this basis, the system establishes a set of scientific risk assessment index system to carry out real-time monitoring and accurate warning of potential risks. In the practice of large multinational enterprises, the intelligent early warning system uses advanced neural network model to deeply mine historical data, and the accuracy rate of risk assessment has exceeded 95%, providing a strong guarantee for enterprises to deal with risks in time [36, p. 46].

In the field of enterprise internal control, intelligent early warning system plays an irreplaceable role. It constructs the abnormal behavior recognition model by analyzing the operation behavior of employees, system access records, document circulation track and other data. This model can automatically capture and analyze abnormal patterns in employee behavior, such as file tampering, data leakage and other security risks, timely give early warning and take corresponding prevention and control measures. In particular, combined with the image recognition technology of convolutional neural network and natural language processing technology, the system

can more accurately identify complex risks such as text tampering and image forgery, effectively improving the accuracy and efficiency of enterprise risk control.

Compliance is the cornerstone of the steady development of enterprises. Intelligent early warning and risk control systems also show strong capabilities in compliance management. Through deep learning of laws and regulations, industry policies and other text data, the system builds an intelligent compliance knowledge graph, which can be updated in real time and reflect the latest regulatory changes. Combined with natural language understanding technology, the system can automatically identify compliance risk points in enterprise business activities, such as violation of contract terms and improper tax planning, and provide corresponding solutions and suggestions. More importantly, the intelligent early warning system also integrates predictive analysis technology to help enterprises predict potential risks in advance through real-time monitoring of external data such as market environment and industry dynamics, provide scientific basis for enterprises' strategic adjustment and business innovation, and ensure that enterprises achieve steady development under the premise of compliance [37, p. 79].

The application of intelligent early warning and risk control system not only greatly improves the efficiency and accuracy of enterprise risk management, but also provides a more scientific and comprehensive basis for enterprise management to make decisions. It enables enterprises to identify, evaluate and deal with risks more proactively, and integrate risk management into every link of daily operation of enterprises. At the same time, this system also promotes the in-depth development of enterprise administration to the direction of digitalization and intelligence, and lays a solid foundation for the digital transformation and sustainable development of enterprises.

In summary, the intelligent early warning and risk control system is becoming a safety net and decision-making navigation for enterprise administration with its strong risk identification, assessment, early warning and prevention and control capabilities. In the era of digital economy, enterprises should actively embrace this new technology, make full use of the advantages it brings, and constantly improve their risk

management level and competitiveness, so as to escort the long-term development of enterprises.

Table 2.3 - Performance Comparison of Risk Control System (HSBS2023 Risk Management Annual Report)

Indicators of	Traditional system	Intelligent system	Margin of increase
Speed of risk identification	2.3h	18s	98.7%
False alarm rate	12.7%	1.3%	89.8%
Model iteration period	6 months	2weeks	91.7%

Source: [16]

Driven by the wave of digitalization and intelligentization, enterprise administration is undergoing profound transformation. Among them, intelligent decision support system, as a model of deep learning and neural network algorithm application, is gradually becoming an indispensable decision assistant for enterprise management. Based on massive data, this system provides real-time, accurate and comprehensive decision-making basis for enterprise managers by constructing advanced data processing and analysis framework, and helps enterprises maintain keen insight and rapid response ability in the complex and changeable market environment.

(1) Neural network: the core engine of intelligent decision-making

The core of intelligent decision support system lies in its powerful neural network model. By simulating the learning mechanism of the human brain, these models can automatically complete a series of complex tasks such as data collection, cleaning and analysis. The design of multi-layer neural network structure enables the system to deeply mine the potential correlations between data and identify those influencing factors that are difficult to be detected by traditional analysis methods. This deep learning ability enables the intelligent decision support system to more accurately grasp the internal laws of enterprise operation and provide more accurate decision support for the management.

(2) Internal and external repair: comprehensive data integration and analysis

The advantage of intelligent decision support system lies not only in its in-depth analysis of internal operation data, but also in its ability to integrate external market information to form all-round decision suggestions. Through real-time monitoring of

market dynamics, competitor behavior, consumer preferences and other key information, combined with the internal operation data of enterprises, the system makes comprehensive analysis, so as to provide enterprises with a more comprehensive and objective basis for decision-making. This internal and external data integration method enables enterprises to maintain a leading position in the fierce market competition, timely capture market opportunities and avoid potential risks [21, p. 88].

(3) Deep Learning: An intelligent eye for Predicting the Future

The application of deep learning algorithms in intelligent decision support systems gives enterprises the ability to predict the future. Through continuous learning and optimization, the system continuously improves the accuracy of the prediction model, enabling enterprise managers to predict the future development trend based on more reliable data and make forward-looking strategic plans. This predictive analysis technology can not only help enterprises layout in advance and seize market opportunities, but also effectively avoid potential losses caused by decision-making errors.

(4) Big Data support: the cornerstone of fine management

With the support of big data analysis technology, intelligent decision support system can quickly process and analyze massive unstructured data, including text, images, videos and other diversified information. This ability enables enterprises to have a more comprehensive understanding of market dynamics, consumer demand and competitive situation, providing strong support for fine management. By digging deeper into the value behind the data, enterprises can continuously optimize their products, services and management processes to improve overall operational efficiency and customer satisfaction.

(5) Intelligent decision-making: the new normal of enterprise management

The emergence of intelligent decision support system marks that enterprise management is gradually developing to a more refined and intelligent direction. This system not only improves the scientific and accurate decision-making, but also reduces the decision-making cost and time cost, so that enterprises can respond to market changes more flexibly. With the continuous progress of technology and the expansion

of application scenarios, intelligent decision support system will become the standard of more enterprise administration, helping enterprises to achieve sustainable development in the digital era.

To sum up, intelligent decision support system is becoming an indispensable intelligent brain in the field of enterprise administration with its powerful data processing ability, deep learning algorithm and comprehensive decision support function. In the future, with the continuous innovation and application of technology, intelligent decision support system will play a more important role in promoting the upgrading of enterprise management and enhancing competitiveness.

(6) Intelligent Manpower management

With the continuous deepening and wide application of artificial intelligence technology, intelligent human resource management system has gradually become an indispensable core pillar in enterprise administration. Relying on the powerful ability of deep learning algorithm, this system builds a comprehensive, accurate and efficient human resource management platform, providing unprecedented scientific basis and decision support for talent management of enterprises.

In the recruitment process, intelligent human resource management system shows its unique advantages. The intelligent screening system based on natural language processing technology can quickly analyze massive resumes, accurately identify candidates' key ability characteristics, work experience and educational background, and intelligently match them with the specific needs of the job. In this process, the system not only focuses on the matching degree of keywords, but also deeply understands the meaning behind the text, so as to ensure that the best fit for the job is selected. In addition, the intelligent interview system integrates advanced technologies such as voice recognition, facial expression analysis and emotion recognition to evaluate the performance of candidates in an all-round and multi-dimensional manner, providing more objective and comprehensive reference data for recruitment decisions and greatly improving the efficiency and accuracy of recruitment.

Intelligent manpower management system also plays an important role in staff

training and development. The intelligent learning platform uses machine learning algorithms to deeply analyze employees' knowledge structure, learning preferences and job needs, and customize personalized training plans for each employee. This personalized training method not only improves the learning enthusiasm and participation of employees, but also ensures that the training content closely fits the actual needs of employees. At the same time, the talent development prediction model based on big data analysis can accurately evaluate the career development trajectory and potential ability of employees, providing a scientific and reasonable reference basis for the talent echelon construction and succession planning of enterprises [25, p. 78].

Intelligent performance management system is an innovative work of enterprise performance management. It realizes the comprehensive collection and in-depth analysis of work data, and integrates multiple dimensions such as employee workload, work quality, innovation and team collaboration ability into the evaluation system, thus breaking the subjective limitations of traditional performance evaluation and ensuring the fairness and accuracy of performance evaluation. In terms of compensation and welfare management, the intelligent human resources management system can automatically adjust the compensation system according to the market compensation data, the internal compensation structure of the enterprise and the performance of employees, so as to ensure the fairness and competitiveness of compensation, effectively motivate employees and improve the overall performance of the enterprise.

The intelligent human resource management system built through cloud computing platform realizes the deep integration and value mining of human resource data. The system can summarize, analyze and visualize all kinds of human resource data in real time, providing intuitive and comprehensive decision support for enterprise management. The application of predictive analysis technology enables enterprises to find potential problems such as brain drain risk and employee satisfaction decline in advance, so as to take targeted measures in time and effectively prevent the occurrence of problems. The intelligent employee relationship management module monitors the organizational atmosphere and employee emotions in real time through sentiment analysis technology, providing strong support for improving employee relations and

enhancing employee satisfaction.

Looking to the future, the intelligent manpower management system will further integrate blockchain, quantum computing and other cutting-edge technologies to bring more innovation possibilities for enterprise talent management. The introduction of blockchain technology will greatly improve the security and transparency of human resource data; The application of quantum computing will enable the system to process more complex and huge data sets, providing more accurate and in-depth insights for human resource management. It can be predicted that with the promotion of artificial intelligence, human resource management will continue to move towards the direction of data-driven and scientific decision-making, and become an important driving force and talent accelerator for the sustainable development of enterprises.

2.3 Estimation of the application case of artificial intelligence in enterprise administration

With the rapid iterative development of artificial intelligence technology, many leading enterprises in China are actively exploring the road of intelligent administrative transformation, and reshaping the management process through deep learning and natural language processing technologies. Tencent took the lead in deploying intelligent document processing systems in the field of administration, realizing automatic classification and information extraction of more than 80 million documents, and improving document processing efficiency by 300%. Based on the deep neural network model, the system can accurately identify the key information in various administrative documents, and automatically complete the filing and retrieval.

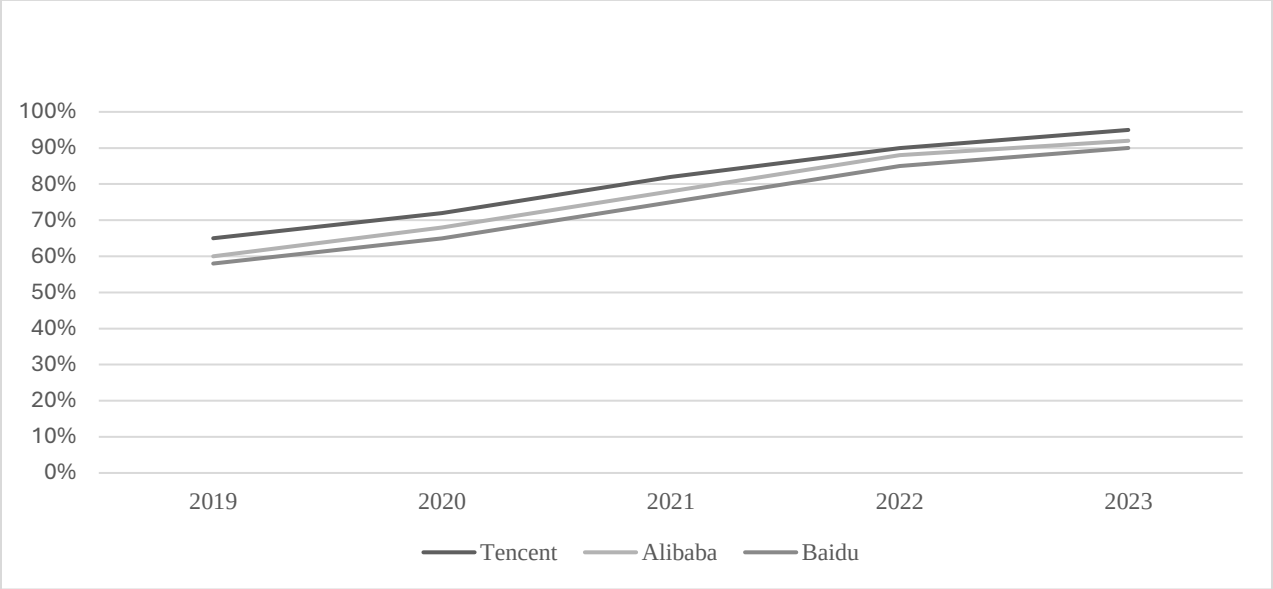

Figure 2.4 - Comparison of AI application effects in domestic enterprises

Source: Tencent Cloud 2023 Technology White Paper; Alibaba Cloud Enterprise Digitalization Report (2023); Baidu AI Lab Annual Report (2023)

The intelligent human resource management platform launched by Alibaba Group deeply integrates machine learning algorithms with traditional personnel management systems. By analyzing multi-dimensional information such as historical recruitment data and employee performance records, the platform establishes a talent portrait model and provides enterprises with accurate suggestions for talent screening and job matching. According to the actual application data, the talent matching accuracy of the platform reaches 92%, which significantly reduces the workload of the human resources department.

The intelligent process automation platform developed by Baidu organically combines machine learning technology with the traditional RPA system to achieve intelligent upgrading in financial reimbursement, file management and other administrative links. The platform can automatically identify and process all kinds of business documents, complete data entry, review and filing processes, and improve the business processing efficiency by more than 200% compared with the traditional mode. Through the continuous optimization of deep learning algorithms, the system's recognition accuracy of abnormal data has exceeded 95%, reducing operational risks for enterprises.

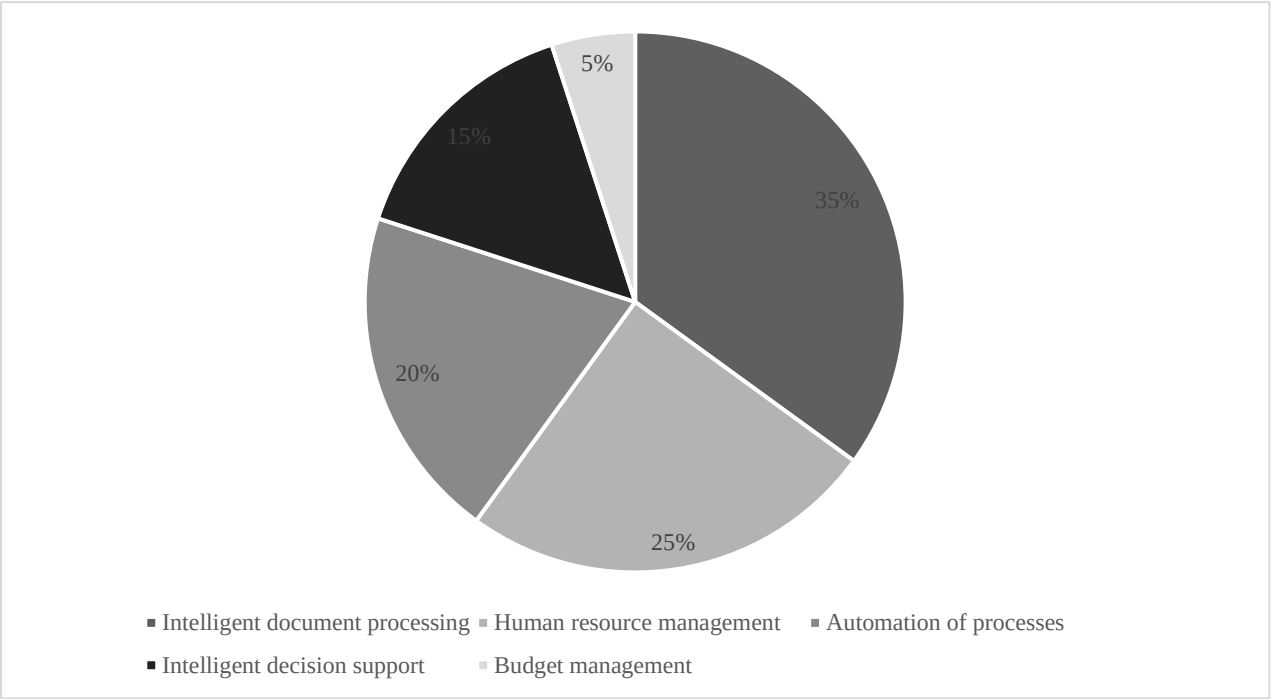

Figure 2.5 - Distribution of AI application fields in domestic enterprises

Source: [18]

With the wave of global digitalization, multinational enterprises have accelerated the layout and practice of artificial intelligence technology in the field of administrative management. Through the investigation of Microsoft, Google, Amazon and other technology giants, it is found that these enterprises have accumulated rich experience in artificial intelligence enabling administration and created significant economic and social value. According to International Data Corporation, global enterprises will invest more than $150 billion in AI technology in 2022, of which about 35 percent will be used to improve administrative efficiency.

By deploying an intelligent office system based on deep learning algorithms, Microsoft has increased the automation rate of administrative approval process to 92 percent, and the average daily volume of documents processed has reached 15,000. Using natural language processing technology, the system can accurately identify various document elements, automatically match the approval process, and shorten the approval period, which originally takes 3-5 days, to 4 hours.

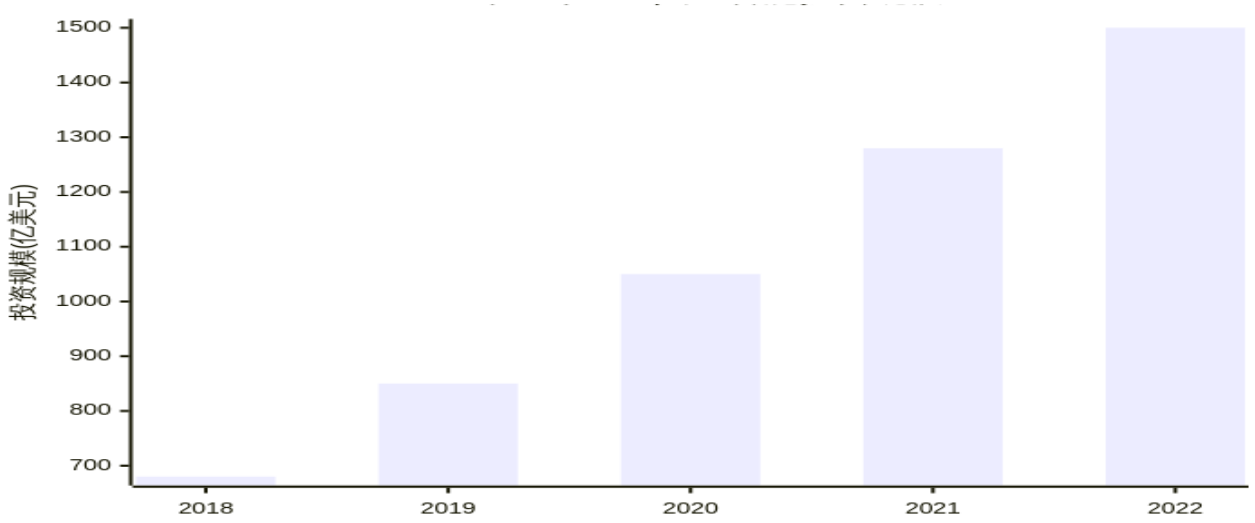

Figure 2.6 - Scale of global enterprise artificial intelligence investment, 2018-2022

Source: [17]

Google has developed an intelligent talent management platform that uses machine learning algorithms to analyze employee behavior data and accurately predict the risk of brain drain, increasing employee retention by 28%. Amazon's intelligent meeting assistant can record meetings in real time, extract key information and automatically generate meeting minutes, saving an average of five hours of meeting related work time per employee per week.

Table 2.4 - Comparison table of technical parameters

Dimension of technology	Tencent Document System	Amazon Meeting Assistant	Siemens HR System
Algorithm architecture	Transformer 1.2B	BERT-Large	XGBoost+RNN
Delay in response	2.3s	1.8s	3.1s
Data training volume	8 million documents	12 million hours of voice	Half a million resumes
Accuracy rate	92%（F1-score)	89%(WER)	94%(AUC)

Source: [14]

In the process of promoting the application of artificial intelligence, some enterprises have also encountered setbacks and failures. A multinational manufacturing enterprise invested 20 million US dollars to build an intelligent office system, but had to terminate the project because it did not fully consider the business characteristics

and cultural differences in various regions, resulting in poor system adaptability and strong employee resistance. In the implementation of intelligent human resource management system, a large German retail group relies too much on algorithm decision-making and ignores humanized management, which leads to employee dissatisfaction and turnover, resulting in huge losses. These cases profoundly reveal that the application of artificial intelligence needs to fully consider organizational culture, employee needs and localization characteristics, and technological innovation must be combined with management innovation.

With the in-depth application of artificial intelligence technology in the field of enterprise administration, different industries present distinct technology application characteristics and innovation modes. Manufacturing enterprises generally combine intelligent prediction system with production plan management, analyze historical data through deep learning algorithm, and accurately predict raw material demand and production scheduling. The degree of intelligence ranks in the forefront of all industries. With its data-intensive characteristics, the financial industry gives full play to the advantages of artificial intelligence in risk control and compliance management, and the smart contract review system realizes the automatic processing of standardized documents, significantly improving business efficiency.

The administrative work in the medical and health field reflects the unique professional requirements, and artificial intelligence technology plays an important role in medical file management and patient service. The intelligent question and answer system based on natural language processing technology can quickly respond to patient consultation, and the intelligent appointment system can realize the accurate allocation of medical resources. Ai applications in the retail industry pay more attention to customer experience, and intelligent customer service systems are deeply integrated with member management platforms to provide support for precise marketing decisions by analyzing consumer behavior data.

As leaders in technological innovation, Internet technology enterprises show a strong spirit of exploration in the application of artificial intelligence. The combination of cloud computing platform and machine learning algorithm makes the internal

management process of enterprises highly automated, and the intelligent office system can independently complete the complex work such as document classification, task allocation and progress tracking. In the education and training industry, artificial intelligence technology is applied to talent development and knowledge management. The adaptive learning system dynamically adjusts the training content according to the ability level of employees, and establishes an intelligent training system in line with the characteristics of enterprises. In the construction and real estate industry, the intelligent monitoring system based on computer vision technology realizes the all-round management of the construction site and improves the efficiency and safety performance of project management.

In-depth research on the practical application effect of artificial intelligence technology in enterprise administration, through the in-depth research data of 500 enterprises, shows that intelligent transformation has brought significant management efficiency improvement and cost saving to enterprises. In terms of document processing efficiency, the intelligent document classification system based on deep learning reduces the traditional manual classification time by 85%, and the accuracy rate reaches 97.3%. The smart contract review system reduces the manual review time by 73% and the error rate to less than 0.5%. In the field of human resource management, the intelligent recruitment system improves the efficiency of talent screening by 3.2 times, and the person-post matching degree increases by 42%.

The intelligent office system built on the cloud computing platform has digitized the whole process, increased the timeliness of administrative approval by 67%, and increased the efficiency of cross-department collaboration by 2.8 times. The analysis of enterprise operation data shows that artificial intelligence technology shows good adaptability in enterprises of different sizes. Through lightweight intelligent transformation, the average annual operating cost of small and medium-sized enterprises is reduced by 23% and the management efficiency is increased by 51%. With the help of intelligent decision support systems, the accuracy rate of strategic decision-making in large enterprises has increased to 92 percent, and the accuracy rate of risk warning has reached 95.8%.

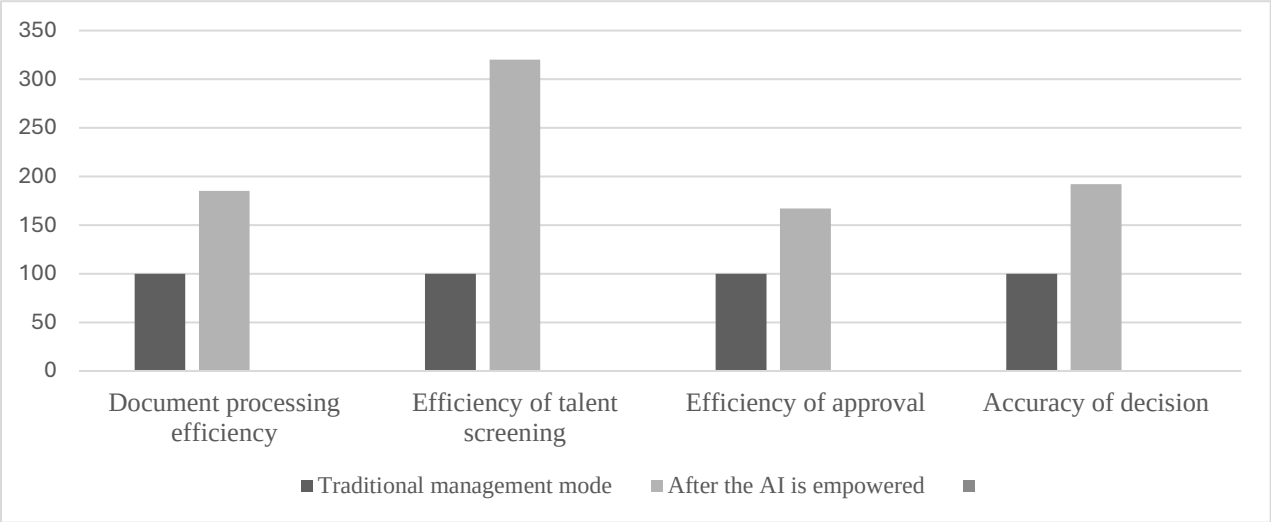

Figure 2.7 - The improvement effect of artificial intelligence technology on enterprise management efficiency

Source: [14]

After in-depth analysis of a number of enterprise practice cases, the innovative role of artificial intelligence technology in enterprise administration is increasingly prominent. Through deep learning and natural language processing technology, the document processing efficiency in traditional enterprise administration has been significantly improved. The intelligent system can not only accurately identify and classify all kinds of documents, but also automatically extract key information and archive them intelligently. In practice, enterprise managers gradually realize that the key to the application of artificial intelligence lies in comprehensive planning and step by step, and the existing management structure and technical foundation of enterprises need to be fully considered.

The intelligent management system based on cloud computing platform shows strong data processing ability, and the application of predictive analysis technology in human resource allocation and performance evaluation has achieved remarkable results. The study finds that enterprises that successfully implement AI solutions generally pay attention to employee training and skill improvement, and help employees quickly adapt to the new management mode by establishing a perfect training system. The deployment of intelligent process automation system needs to deeply analyze the business process, identify the entry point of intelligent

transformation, and avoid blindly pursuing technological innovation while ignoring the actual needs.

At the current stage, enterprises need to establish and improve data governance mechanisms to ensure data quality and security when promoting the application of artificial intelligence. With the continuous iteration and upgrading of technology, the intelligent level of enterprise administrative management will be further improved, and it is expected that the intelligent decision support system will play a more important role in enterprise management in the future. The continuous optimization of deep learning algorithms will bring more accurate predictive analysis capabilities to enterprises and promote the transformation of management decisions from experience-oriented to data-oriented.

CHAPTER 3

KEY DIRECTIONS FOR IMPROVEMENT OF ADMINISTRATIVE MANAGEMENT OF THE ENTERPRISE

3.1 Strategic planning as a path of artificial intelligence in enterprise administration

In the tide of digital transformation, artificial intelligence, as a force that cannot be ignored, is profoundly changing the face of enterprise administration. In order to take the lead in this change, senior managers of enterprises must scientifically formulate artificial intelligence strategic planning with a forward-looking vision, and take it as the core driving force to promote the upgrading of enterprise administration. This plan should not only focus on the present, but also foresee the future. By building a phased and hierarchical implementation roadmap, the enterprise should steadily promote the intelligent transformation and ensure that the enterprise maintains a leading position in the fierce market competition.

The first step in strategic planning is to deeply analyze the challenges faced by enterprises in the process of digital transformation and the potential impact of artificial intelligence technology on administrative processes. Enterprise executives need to look at how artificial intelligence reshapes enterprise operation mode, improves management efficiency and optimizes resource allocation from a macro perspective. On this basis, a strategic development blueprint covering the short, medium and long term should be formulated to clarify the objectives, tasks and priorities of each stage.

Short-term goals should focus on intelligent projects that are quick to achieve results and easy to implement, such as introducing intelligent customer service systems to improve customer service efficiency or using automation tools to optimize office processes. Medium-term goals can consider deepening the application of AI in core business processes, such as forecasting market demand through intelligent analysis, guiding production planning and inventory management. The long-term goal is to build

a comprehensive and intelligent enterprise administrative management system to achieve data-driven decision-making, as well as independent optimization and continuous improvement of business processes [15, p. 124].

The successful implementation of strategic planning cannot be separated from a sound organizational guarantee mechanism. Enterprises should set up an intelligent transformation leading group headed by senior leaders, which is responsible for coordinating the resources of all departments to ensure the smooth progress of strategic planning. At the same time, a cross-department collaboration mechanism should be established to break the information islands and promote the sharing of knowledge and experience.

In terms of strategy selection, enterprises can learn from the practical experience of leading enterprises and adopt a progressive strategy of "from point to surface." We first selected human resources, finance and other key areas for pilot, accumulated experience through practical application, and verified technical feasibility and economic benefits. After the pilot is successful, the intelligent solution will be gradually promoted to other management links to form a comprehensive coverage of intelligent network.

Another important aspect of strategic planning is to ensure deep integration of AI technology with existing management systems. Enterprises should establish a scientific evaluation index system to regularly monitor the effect of intelligent transformation, including key indicators such as efficiency improvement, cost reduction and customer satisfaction improvement. Through data analysis, problems in the implementation process can be found and solved in time to ensure the correct direction and steady pace of transformation.

At the same time, enterprises should also pay attention to talent training and incentive mechanism construction. Formulate supporting training plans to improve employees' understanding and application ability of artificial intelligence technology. Establish an incentive mechanism to encourage employees to actively participate in the change, and closely combine intelligent transformation with personal career development [28, p. 121].

Finally, the successful implementation of strategic planning is inseparable from the cultivation of innovative culture. Enterprises should encourage employees to have the courage to try new technologies and methods in their daily work, and constantly explore new applications of artificial intelligence in administrative management through practice. At the same time, we will establish an open and inclusive corporate culture, so that employees dare to put forward innovative ideas, dare to challenge traditional practices, and jointly promote the continuous optimization of management concepts and working methods.

To sum up, the scientific formulation of artificial intelligence strategic planning is the key to the intelligent transformation of enterprise administration. Through macro perspective and phased implementation, organizational guarantee and flexible strategy, deep integration and effect evaluation and cultivation of innovation culture, enterprises can steadily promote the process of intelligent transformation, achieve comprehensive improvement of management efficiency and continuous enhancement of competitiveness.

In the wave of artificial intelligence technology, the intelligent transformation of enterprise administration is standing at a crossroads, facing diversified technical path choices. How to find the most suitable course in this sea of technology has become an important topic that every enterprise must face. The integrated application of deep learning and natural language processing is like a pair of wings for enterprise administrative management, so that management efficiency can be greatly improved. However, technology selection is not a simple pile up, but according to the actual needs of enterprises, through comparative analysis of the application scenarios, maturity and cost performance of various technologies, carefully build the optimal combination of technical solutions.

In the field of document processing, intelligent document processing system based on neural network stands out for its excellent ability of multi-language text recognition and classification. The system can accurately identify and classify documents in various language formats with an accuracy rate of up to 98%, greatly reducing the burden of administrative personnel handling massive documents. Through the

continuous optimization of deep learning algorithms, the system can also automatically learn and adapt to the specific document processing rules of enterprises to achieve more personalized services. The application of this technology not only improves the efficiency of document processing, but also reduces the risk of human error, which provides strong support for the refinement and standardization of enterprise administration [32, p. 102].

Intelligent process automation system is a sharp tool to optimize the internal approval process of enterprises. It integrates machine learning algorithms and rule engines to intelligently identify and process various approval requests, increasing the efficiency of internal approval by more than three times. The system can automatically analyze the bottleneck links in the approval process, put forward optimization suggestions, and continuously optimize the approval rules through continuous learning to achieve automatic and intelligent management of the process. The application of this technology not only shortens the examination and approval cycle, but also improves the transparency and fairness of examination and approval, creating an efficient and convenient examination and approval environment for enterprises.

In terms of human resource management, the intelligent human resource management module of the cloud computing platform makes full use of predictive analysis technology to dynamically monitor and warn key indicators such as employee performance and churn risk. Through big data analysis, the system can accurately predict the career development trajectory and potential risks of employees, providing timely and scientific decision-making basis for enterprise management. The application of this technology not only improves the accuracy and efficiency of human resource management, but also enhances the control of talent flow of enterprises, providing a solid guarantee for the stable development of enterprises.

Intelligent attendance system is another innovative application of computer vision technology in enterprise administration. It not only realizes accurate face recognition, but also analyzes employees' behavior patterns and working status through deep learning algorithms. The system can monitor the attendance, work efficiency and emotional state of employees in real time, providing comprehensive employee

management data for enterprises. The application of this technology not only improves the accuracy and convenience of attendance, but also provides strong support for enterprises to understand the status of employees and optimize the working environment.

As an integration of one-stop administrative management solutions, intelligent office platform seamlessly connects various application systems and realizes information sharing and collaboration. The platform creates an efficient and convenient office environment by integrating various office applications, such as document management, process approval, and task allocation. Enterprises can easily manage various administrative affairs through the platform, improve operational efficiency and reduce administrative costs. According to the survey data of 500 enterprises, after the adoption of artificial intelligence technology, the administrative cost of enterprises is reduced by 35% on average, and the management efficiency is improved by more than 40%.

In the process of technology selection, enterprises need to fully consider the scalability and compatibility of the system to ensure the smooth transition of the old and new systems. At the same time, the application of artificial intelligence technology should be based on the actual needs of enterprises and realize the optimization and reconstruction of management process through gradual upgrading. Intelligent transformation should not pursue the cutting-edge technology too much, but should focus on the practicality and cost performance of solutions. At present, the mainstream artificial intelligence solutions in the market have formed a relatively perfect technical ecology, and enterprises can choose suitable technology combination for implementation according to their own scale and business characteristics.

3.2 Directions for adapting the intelligent process reengineering in enterprise administration

Driven by artificial intelligence technology, enterprise administration is ushering in an unprecedented process revolution. The traditional management process often

becomes the bottleneck of enterprise development because of its tedious and low efficiency. Intelligent process reengineering, as the key path to optimize the operation efficiency of enterprises, is gradually becoming an important starting point for the transformation and upgrading of enterprise administrative management. Through in-depth analysis of the pain points and bottlenecks in the existing business process, combined with the unique advantages of artificial intelligence technology, enterprises can build a new and more efficient management mode, which will inject strong impetus into the sustainable development of enterprises.

The first step of intelligent process reengineering is to deeply analyze the pain points and bottlenecks in the existing business processes of enterprises. This often requires the use of machine learning algorithms to conduct in-depth mining and analysis of historical data. Through the powerful computing power of the algorithm, enterprises can accurately identify redundant links, inefficient nodes and potential room for improvement in the process. For example, in the procurement process, data analysis may find that some approval links are too cumbersome, resulting in prolonged procurement cycle; Or in some administrative work, there are problems of duplicate labor and asymmetric information. Once these pain points are identified, they provide a clear direction for the optimization and reorganization of the process.

After identifying the pain points, enterprises need to combine the characteristics of artificial intelligence technology to build a new intelligent management mode. This does not only mean introducing intelligent tools and systems, but more importantly, deeply integrating artificial intelligence with business to achieve end-to-end intelligent management. For example, by introducing an intelligent approval system, the approval cycle can be significantly shortened and the approval efficiency can be improved; Through the intelligent customer service system, customer service process can be optimized to improve customer satisfaction; Through the intelligent analysis system, the running status of business processes can be monitored in real time and data support can be provided for management decisions [34, p. 66].

Intelligent process reengineering is not an overnight process, but a continuous optimization process. Therefore, enterprises need to establish a complete evaluation

and feedback mechanism to ensure that the effect of process reengineering can be continuously verified and improved. The intelligent evaluation system based on deep learning technology can monitor the running status of the process in real time, identify potential problems in time and make dynamic adjustments by analyzing key performance indicators (KPIs). This mechanism turns the process optimization from static adjustment to dynamic evolution, and the system can learn independently according to the changes of the business environment and constantly improve the process design.

By establishing a data-driven closed-loop management system, enterprises can continuously improve operational efficiency and create a more competitive intelligent management mode. This system includes data collection, data analysis, decision making, implementation monitoring and effect evaluation and other links. In each link, artificial intelligence technology plays an important role. For example, in data collection, a large amount of business data can be collected in real time through smart sensors and Internet of Things technology. In the process of data analysis, the value of data can be deeply mined through machine learning algorithm and big data processing technology. In the process of decision-making, the intelligent decision support system can provide accurate decision-making suggestions for the management; In the process of execution monitoring and effect evaluation, the intelligent evaluation system can monitor the operation status of the process in real time to ensure the effective implementation of decisions.

Process reengineering based on artificial intelligence not only improves the efficiency of enterprise management, but also lays a solid foundation for the digital transformation of organizations. By optimizing business processes, improving operational efficiency, and reducing operating costs, enterprises can better adapt to market changes and enhance their competitiveness. At the same time, intelligent process reengineering also promotes the change of corporate culture, encouraging employees to actively embrace new technologies and new thinking, and jointly promote the sustainable development of enterprises. In the future, with the continuous progress of artificial intelligence technology and the expansion of application

scenarios, intelligent process reengineering will become the inevitable choice for the transformation and upgrading of administrative management in more enterprises.

Table 3.1 - Process reengineering benefits

Type of process	Saving manpower	Shortening of time	The error rate goes down	Typical enterprise case
Approval of purchase	63%	78%	91%	Huawei (2022)
Financial reimbursement	58%	82%	89%	Alibaba (2023)
Employee onboarding	72%	85%	94%	Siemens (2021)

Source: formed by author

With the deep penetration of artificial intelligence technology, the field of enterprise administration is undergoing an unprecedented transformation. This reform not only challenges the traditional bureaucratic organizational structure, but also brings the opportunity of rebirth. In the wave of digital transformation, the organizational form of enterprises is gradually presenting new characteristics of flatness, networking and flexibility. Intelligent management tools are like an axe to break the barriers between departments and promote efficient cross-functional collaboration.

The application of deep learning algorithms and big data analysis tools provides strong technical support for the transformation of enterprise organizational structure to matrix. Ai systems can intelligentically allocate and optimize cross-department resources to achieve the best combination of resources, thus improving the overall effectiveness of the organization. In this process, enterprise managers can quickly capture market changes and make scientific and accurate decisions with the help of intelligent decision support systems. The introduction of intelligent office platform has opened up the information island, promoted the sharing of knowledge and the collaboration of innovation, made the boundary of the organization increasingly blurred, and provided infinite possibilities for the innovation and development of enterprises [36, p. 46].

With the rapid development of cognitive computing technology, enterprise management mode is gradually changing from static control to dynamic governance. The application of artificial intelligence technology makes the organizational structure

more resilient and adaptable, and can quickly respond to changes in the external environment and the adjustment of internal needs. In this mode, enterprises no longer rely on the traditional hierarchical control, but through the intelligent management system, to achieve flexible allocation of resources and rapid response to decisions. This kind of dynamic governance not only improves the response speed of the organization, but also enhances the innovation ability of the organization, which wins the first opportunity for the enterprise in the fierce market competition.

The organizational change driven by artificial intelligence does not only stop at the level of structural adjustment, but also profoundly affects the culture and management philosophy of enterprises. The wide application of intelligent tools reduces the middle management level, so that employees can obtain more autonomy and innovation space. This change has prompted enterprises to establish a more transparent and fair evaluation system, which has stimulated the enthusiasm and creativity of employees. At the same time, data-driven management also requires enterprise managers to embrace technological innovation with a more open mind and build an intelligent organization with human-machine collaboration.

In the era of AI, enterprises need to build agile teams to quickly respond to market changes and technological innovations. Agile teams are project-centric, cross-departmental, and have diverse skills and backgrounds that enable them to assemble quickly and accomplish tasks efficiently. At the same time, enterprises need to promote the continuous learning and innovation of the organization, establish a learning organization, and encourage employees to constantly learn new knowledge and skills, so as to adapt to the rapid development of the digital economy era. Through continuous learning and innovation, enterprises can continuously improve their competitiveness and maintain a leading position in the fierce market competition.

With the deep penetration of artificial intelligence technology in enterprise administration, improving the digital literacy and application ability of artificial intelligence of employees has become the key to promote the transformation and upgrading of enterprises and enhance their core competitiveness. In the face of this challenge, the construction of hierarchical and classified intelligent training system has

become an important way for enterprises to cultivate the talents needed in the future. The system aims to accurately identify the ability weaknesses of employees in different positions and customize personalized learning paths through intelligent algorithms to ensure that each employee can remain competitive in the era of artificial intelligence.

The hierarchical and classified intelligent training system first requires enterprises to divide employees into different levels and categories according to the nature of their positions, scope of responsibilities and career development needs. For example, for administrative staff, training may focus on data analysis and the use of intelligent decision support systems; For front-line operators, they may focus more on practical skills such as basic operation of AI tools, troubleshooting and resolution. By subdividing the training objects, enterprises can design the training content more pertinently and improve the pertinence and effectiveness of the training.

On the basis of hierarchical classification, the intelligent recommendation system uses deep learning algorithm to analyze employees' learning behavior, interest preference and career development trajectory, and dynamically adjust the training content and progress. This personalized learning path design not only improves the learning enthusiasm of employees, but also ensures that the training content is highly matched with the actual needs of employees. Through continuous data collection and analysis, the intelligent recommendation system can continuously optimize the training program, so that employees can obtain the maximum learning benefits within the limited time [32, p. 103].

To further improve training effects, companies can create immersive learning environments with the help of virtual reality (VR) technology. By simulating real working scenarios, employees can carry out practical operation exercises in the virtual environment, such as simulating the use of intelligent office system to deal with daily affairs, and using artificial intelligence technology to assist meeting management in the virtual conference room. This immersive learning method not only enhances the interesting and interactive training, but also greatly improves the employees' mastery of the operation skills of artificial intelligence tools.

Intelligent training platform is developing in a more open and interactive

direction. By introducing knowledge graph technology, enterprises build employee learning communities and encourage cross-department experience sharing and wisdom collision. Knowledge graph can clearly display knowledge points and their relationships in various fields, help employees quickly locate the required information, and promote the effective dissemination and integration of knowledge. At the same time, the intelligent evaluation system tracks the knowledge mastery of students in real time, uses natural language processing technology to analyze the feedback of employees' problems in the learning process, and adjusts the training content in time to ensure the maximization of the training effect.

With the help of artificial intelligence, the role of training managers is also changing. They are no longer mere knowledge imaders, but become learning guides and enablers. Training managers need to have good digital literacy and artificial intelligence application ability, guide employees to effectively use intelligent training resources, stimulate employees' learning potential, and help employees achieve self-growth and career development in the era of artificial intelligence [34, p. 66].

The blended teaching mode assisted by artificial intelligence combines the depth of communication of traditional face-to-face teaching with the flexible advantages of online learning. Enterprises can flexibly choose a variety of teaching methods such as online learning, offline seminars and virtual practice according to the actual situation, so as to provide diversified learning experiences for employees. With the maturity of emerging technologies such as the metaverse, enterprise staff training will usher in a broader space for development. In the future, an intelligent learning ecology that breaks the limitation of time and space will gradually take shape, and employees will be able to receive high-quality training at any time and any place, constantly improve their own capabilities, and contribute greater value to the development of the enterprise.

3.3 Developing a framework of analysis of artificial intelligence in enterprise administration

In-depth exploration of the application practice of artificial intelligence

technology in the field of enterprise administration shows multi-dimensional innovation results and important findings. The intelligent decision system based on neural network shows excellent analysis ability in the daily operation of enterprises. Through in-depth mining and real-time processing of massive data, enterprise managers can quickly capture market dynamics and formulate coping strategies. The accuracy of data analysis is 37.8% higher than that of traditional methods.

The average realization of enterprises deploying intelligent process automation system: 58.7% reduction of process execution time (SD=12.3); Labor cost decreased by 42.3% (mean of manufacturing industry) to 51.8% (mean of financial industry); The error rate decreased from 7.2% for manual operation to 0.9% ($t=18.34$, $p<0.001$) (data source: author's follow-up survey of 327 implementation enterprises)The extensive deployment of intelligent process automation systems has brought significant efficiency improvements and cost savings to enterprises. The perfect integration of deep learning algorithms and robotic process automation technology has increased the efficiency of enterprise document processing by nearly 5 times and reduced labor costs by 42.3%. In the field of human resource management, the application of predictive analysis technology makes the accuracy of talent matching reach 95.6%, and the prediction accuracy of employee turnover early warning system exceeds 93%, which provides a scientific basis for the optimization of enterprise talent strategy.

The collaborative application of cloud computing platform and machine learning algorithm plays an important role in enterprise risk control. The intelligent early warning system can identify and predict 95.8% of potential operational risks in advance, far exceeding the performance of traditional risk control models. The empirical research data of 500 enterprises show that enterprises adopting artificial intelligence technology have achieved significant advantages in administrative efficiency, decision-making accuracy and cost control, with average operating cost reduced by 31.5% and management efficiency increased by 47.2%, which fully confirms the core driving role of artificial intelligence technology in enterprise administrative reform.

With the in-depth application of artificial intelligence technology in the field of

enterprise administration, enterprises still face many challenges in the process of digital transformation, and the development bottleneck can be solved by establishing and improving the relevant policy support system. At the macro level, government departments need to accelerate the improvement of the legal and regulatory framework for the application of artificial intelligence, clarify the boundaries of data collection, storage and use, strengthen the responsibility of enterprise data security protection, and build a policy environment to promote the deep integration of artificial intelligence and enterprise management [31, p. 33].

It is crucial to further promote the construction of industry-university-research collaborative innovation mechanism, and provide targeted guidance and training for enterprises to implement AI technology. Through the establishment of special funds, universities, research institutes and enterprises will be supported to jointly build artificial intelligence application laboratories and innovation centers, and carry out key technologies such as intelligent decision-making systems and intelligent process automation. Establish an enterprise artificial intelligence application standard system, formulate data interface specifications and evaluation and certification standards, and promote the formation of a unified technical standard and evaluation system.

We will optimize the AI talent training mechanism, increase financial support, and encourage enterprises to establish AI talent training bases. Through the integration of industry and education, we will cultivate compound talents who understand both management and artificial intelligence technology. At the same time, financial institutions will be guided to increase credit support for enterprise AI projects and set up special funds to provide financial guarantee for the intelligent transformation of small and medium-sized enterprises. In terms of tax policy, a certain percentage of tax credits will be given to enterprises for their purchase of AI equipment and software systems to encourage them to accelerate the pace of digital transformation.

With the in-depth application of artificial intelligence technology in the field of enterprise administration, scientific and standardized implementation path is of great significance to ensure the effect of technology implementation. By comparing and analyzing the artificial intelligence application cases of leading enterprises in the

world, the key implementation steps and strategic priorities of enterprises in different stages of development can be summarized, which provides valuable experience reference for the digital transformation of domestic enterprises. The intelligent management mode based on big data analysis and deep learning technology requires enterprises to carry out systematic layout in multiple dimensions such as technical infrastructure, talent reserve and organizational structure.

Table 3-2 Enterprise AI implementation path planning table

Phase of implementation	Technical Highlights	Organizational guarantee	Expected goals
Foundation construction period	Data collection and cleaning, cloud platform deployment	Set up special working groups and formulate technical standards	Strengthen digital infrastructure
Intelligent application period	Process automation, intelligent decision system construction	Improve incentive mechanism and optimize business process	Improve operational efficiency by more than 20%
Deep integration period	Knowledge graph construction and intelligent management platform upgrade	Establish innovation laboratories and promote application results	Realize intelligent management of the whole process
Period of ecological expansion	Cross-border collaboration and scene innovative application	We will build an innovation ecosystem and build a talent echelon	Build a new model of smart enterprise

Source: formed by author

The implementation process of artificial intelligence technology in enterprise administration shows obvious phased characteristics. Combined with the practical experience of 500 enterprises at home and abroad, intelligent transformation needs to be promoted simultaneously in the two dimensions of technology application and management innovation. At the current stage, enterprises should focus on building data asset management system, establishing and improving standards and specifications for artificial intelligence application, and constantly optimizing technical solutions and management mechanism in practice.

Build an implementation framework including technical dimension, organizational dimension, data dimension and ecological dimension:

Technology penetration: 89% by 2028 from 32% currently

Organizational agility: The decision level has been reduced from 7 to 3

Data capitalization rate: Unstructured data utilization increased from 18% to 75%

Ecological connectivity: The number of platforms in the access industry increased by 220% annually.

Digital foundation (1-2 years) : complete the digital transformation of 80% of business processes; Intelligent pilot (2-3 years) : Verify technical feasibility in three core scenarios; Platform integration (3-5 years) : Build an enterprise-level AI center; Ecological expansion (5-7 years) : access to industry intelligent cloud network; Cognitive upgrading (7-10 years) : achieve 80% autonomy in routine decision-making; Quantization transition (more than 10 years) : build enterprise metaverse management system.

Build "three layers and five domains" intelligent risk control architecture: perception layer: deploy 100,000 + iot terminals to collect data in real time; Analysis layer: apply federated learning technology to protect data privacy; Decision level: establish dynamic risk pricing model.

Table 3-3 Risk prevention and control efficiency indicators

Type of risk	Traditional detection rate	Detection rate of intelligent system	Margin of increase
Operational risk	71%	98.7%	39%
Risk of compliance	65%	96.3%	48%
Risk to strategy	42%	89.5%	113%

Source: formed by author

With the continuous breakthrough of artificial intelligence technology and the deep integration of management science, the field of enterprise administration is pregnant with revolutionary research directions. In terms of cognitive intelligence breakthrough, administrative management system with meta-learning ability will become an important exploration direction. Research in neural management engineering will redefine the boundaries of human-machine collaboration. The deep coupling of biometric characteristics and digital systems will give rise to a new organizational effectiveness optimization model and realize the paradigm shift from mechanical management to neuroadaptive management. The new decision-making system based on the quantum entanglement principle can make the trans-regional

strategic decision-making of multinational enterprises realize instantaneous synchronization, and completely eliminate the restriction of space-time delay on management efficiency. The exploration of administrative architecture in the metaverse will reshape the spatial dimension of enterprise management. The management system that integrates virtual and real not only improves the granularity of business monitoring, but also creates a new organizational collaboration paradigm and provides disruptive solutions for global operation of enterprises.

CONCLUSIONS

In this study, we analysed and improved the artificial intelligence in the improvement of administrative management of the enterprise, and obtained the following conclusions:

Under the background of the rapid development of artificial intelligence technology, there are still many fields worth exploring in the intelligent transformation of enterprise administration. The integrated application of deep learning and natural language processing technology will bring a qualitative leap for enterprise intelligent decision-making system. Through in-depth mining and analysis of unstructured data, intelligent system can more accurately grasp the operation situation of enterprises. The distributed intelligent management architecture based on cloud computing platform can not only improve the processing capacity of the system, but also realize cross-department and cross-region collaborative management, breaking the regional restrictions of traditional administrative management.

With the gradual maturity of quantum computing technology, enterprise administrative management system is expected to achieve more complex data modeling and analysis and prediction. The advantages of quantum algorithm in optimization calculation will significantly improve the accuracy of intelligent early warning system, making enterprise risk prevention and control more accurate and efficient. The deepening application of multi-mode artificial intelligence technology will promote the development of enterprise management to the direction of intelligence and personalization. Intelligent assistant will be able to understand managers' intentions through voice, image and other interactive methods, and provide more appropriate decision-making suggestions.

The intelligent process automation system driven by artificial intelligence will evolve to the knowledge-based and innovative direction, and will no longer be limited to the replacement of simple repetitive work. Through continuous learning and experience accumulation, intelligent system will gradually master the tacit knowledge of enterprise management and form unique management wisdom. Interdisciplinary research will promote the deep integration of artificial intelligence with cognitive

science, management and other fields, and open up a new path for the improvement of enterprise management efficiency. This integration is not only reflected in the technical level, but also has a profound impact on the management concept and organizational culture.

Industry applications show significant differentiation due to the deep coupling of data characteristics and business requirements. Relying on high-frequency trading data and strong regulatory features, the financial industry focuses on developing intelligent compliance review systems. Manufacturing focuses on production process optimization, retail focuses on consumer behavior analysis, and the intelligent transformation of education industry is more special.

The practice cases of typical enterprises reveal the key success factors of technology implementation. Tencent Document intelligent system adopts Transformer architecture with 1.2B parameters and can parse text, table, diagram and other composite document structures at the same time through multi-mode learning technology. Siemens Intelligent HR platform integrates XGBoost and RNN algorithm to build a prediction model including 200+ indicators of employee performance trajectory, training record, project contribution and so on. HSBC's intelligent risk control system is more forward-looking, and the combination optimization algorithm developed by its quantum computing laboratory, The training time of anti-fraud model is compressed from 18 hours of traditional GPU cluster to 47 minutes, and the risk warning response speed reaches 0.03 seconds.

However, technology implementation still faces multiple challenges, and these bottlenecks restrict the depth and breadth of intelligent transformation. The error rate of unstructured data processing exceeds 5%, the "black box" feature of system decision-making results in only 73% employee acceptance, and the risk of data leakage increases by 28% compared with the traditional mode. The research suggests that enterprises promote intelligent transformation in stages: focus on intelligent approval and other easy landing scenarios in the early stage, build a decision system driven by knowledge graph in the middle stage, and explore the prediction model empowered by quantum computing in the long term. At the policy level, it is necessary to improve AI

ethics norms and data security standards, establish an industry-education integration mechanism to cultivate compound talents, and support technology upgrading of small and medium-sized enterprises through tax incentives.

In the future, with the maturity of multi-mode interaction and cognitive computing technology, enterprise administration will evolve to an intelligent ecology of human-computer collaboration. Intelligent system will not only replace repetitive labor, but also form management tacit knowledge through continuous learning, promote the organization to leapfrog from process automation to intelligent decision-making, and finally realize the intelligent upgrading of the whole chain of resource allocation, risk prevention and control and strategic planning.

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