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Research on Building and Optimizing a Digital Skills Training System for Enterprise Employees

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Abstract: *This study aims to explore the challenges faced by digital skills enhancement training systems for enterprise employees and to design effective training programs, particularly focusing on the integration of Artificial Intelligence Generated Content (AIGC). As the pace of digital transformation accelerates, enterprises need to continuously adapt to new technologies to maintain their competitiveness. The training program proposed in this paper covers multiple levels from basic to advanced, including the use of digital tools, cybersecurity, data analysis, and other core areas. It also emphasizes the role of AIGC in designing personalized learning paths, generating intelligent learning materials, and providing real-time feedback and evaluation. Research findings indicate that through this training system, employees can significantly enhance their digital skills, better equipping them to handle complex work environments. Moreover, training content can be flexibly adjusted according to specific enterprise needs, catering to individual learning requirements. This paper also provides concrete implementation plans to help enterprises build comprehensive and efficient digital skills training systems, leveraging the advantages of AIGC technology to promote employee growth and successful digital transformation.*

Keywords: *Employee Digital Skills Enhancement, Training System, Digital Tools, Cybersecurity, Data Analysis, AIGC*

1. Introduction

With the rapid development of information technology, the digital economy has become a significant force driving global economic and social transformation. In China, in particular, the digital economy has emerged as a new engine for economic growth. According to data from the National Bureau of Statistics, China's digital economy reached 53.9 trillion yuan in 2023, accounting for 42.8% of the GDP. Digital technology has not only transformed people's lifestyles and work patterns but also profoundly impacted the operational and management models of enterprises. To support high-quality economic development, the Chinese government places great importance on the promotion and application of data technology and digital skills, issuing a series of policy documents to guide and support this process.

In October 2021, the Central Cyberspace Affairs Commission released the "Action Plan for Enhancing the Digital Literacy and Skills of All Citizens," which explicitly aims to basically establish a digital talent powerhouse by 2035 and comprehensively improve the digital literacy and skills of all citizens. The plan underscores the importance of digital technology in modern technological revolutions and industrial transformations, and proposes specific goals and measures. The report of the 20th National Congress of the Communist Party of China also clearly states, "to advance the great rejuvenation of the Chinese nation through Chinese-style modernization," and views digital reform as a key variable in promoting Chinese-style modernization. These policy documents provide clear direction and strong support for enterprises, encouraging them to accelerate their digital transformation.

Globally, the development of digital talent has significantly accelerated. According to the "Annual Report on Global Digital Talent Development (2022)," the proportion of digital talent in software and IT services in Chinese cities has shown substantial growth over the past two years. Notably, in traditional industries such as manufacturing, finance, consumer goods, and services, the ratio of digital talent has also increased. The explosion of technologies like the Internet of Things (IoT), cloud computing, and artificial intelligence has spurred the development of digital professions. The application of these emerging technologies has not only improved production efficiency but also created new business models and growth points for enterprises.

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Despite the significant opportunities presented by digital technology, many enterprises face numerous challenges during their digital transformation, particularly the lack of digital skills among employees. Our research identifies several key issues in the digital skills training system for enterprise employees, including:

(1) Lack of Scientific and Rational Planning

Many enterprises lack long-term strategic thinking when conducting employee training. Often, training activities are initiated on a temporary basis or due to short-term pressures, leading to a lack of systematic and coherent training programs. This makes it difficult to foster a continuous learning environment[1].

(2) Incomplete Course Systems

Enterprises typically focus on knowledge related to existing business operations, neglecting to introduce the latest industry trends and cutting-edge technologies. Additionally, training methods are often too monolithic, failing to fully engage employees. More importantly, there is a lack of customized training plans based on the company's specific circumstances, resulting in a disconnect between training content and actual work[2].

(3) Low Conversion Rates

Despite significant investments, these efforts often fail to translate into tangible productivity or innovation. This is because, although employees receive training, they rarely have the opportunity to apply the new knowledge and skills in their actual work.

(4) Insufficient Participation Enthusiasm

Due to the aforementioned issues, many employees are not enthusiastic about participating in training. They may view it as an additional burden imposed by the company rather than an opportunity for personal growth.

Exploring the construction methods of a digital skills enhancement training system for enterprise employees and proposing specific implementation plans is a highly significant area of research. Through systematic training programs, enterprises can effectively enhance employees' digital skills, enabling them to better adapt to the constantly changing digital work environment and stand out in intense market competition.

2. Problem Analysis

2.1. Lack of Scientific and Rational Planning for Employee Training

On one hand, an increasing number of enterprise managers recognize that the talent within their organizations is the most valuable resource and place employee training at a strategic level. However, it is evident that employees possess a high degree of autonomy and creativity. Their training should not be conducted merely for the sake of training; instead, it should be closely aligned with the company's business development strategy. This involves conducting thorough training needs assessments and formulating a long-term training strategy. For example, training can be used to build a learning organization and foster a learning culture within the company, thereby maintaining its creativity [3]. On a strategic level, training should be consistently integrated into the company's management priorities. Tactically, there should be a planned and organized approach to training.

On the other hand, the evaluation of training effectiveness is a crucial step in the training process, yet it is often overlooked by most enterprises. Training should not focus solely on form without considering content, especially outcomes. Positive feedback after training can highlight its strengths and weaknesses, allowing for continuous improvement. By establishing a positive feedback loop, the training mechanism can be continually refined and perfected.

2.2. Incomplete Course Systems for Employee Training

Firstly, in addition to training employees on existing business knowledge, companies should also introduce the latest and most advanced knowledge relevant to their business. Therefore, external expert training should form the bulk of the training program, rather than casually training employees with basic knowledge that fails to engage their interest and wastes resources.

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Secondly, given the high autonomy, creativity, and educational background of employees, the training format should not be rigid. It is best to incorporate more roundtable discussions and specialized seminars to stimulate the enthusiasm and vitality of each employee. By fostering a dynamic exchange of ideas, the training can achieve maximum effectiveness [4].

Finally, the course system is a critical component in the development of a core talent training system. During the training process, companies often fail to develop a tailored and targeted course system based on their business development strategies. This lack of specificity poses a significant challenge in the digital skills training of employees.

2.3. Training Often Focuses on Implementation, Overlooking the Rate of Outcome Conversion

The low rate of outcome conversion after training leads to resource wastage. While employees may gain knowledge and skills in the short term, they often apply very little of this newfound knowledge in their actual work positions. This low rate of conversion from training to practical application is a critical issue for enterprises[5]. If employees cannot translate their knowledge into technological advancements, the company will struggle to maintain a competitive edge and may ultimately decline.

2.4. Low Enthusiasm and Autonomy Among Employees Participating in Training

The low enthusiasm and autonomy of employees in participating in training are often due to the reasons mentioned above. Companies tend to treat training as a formal process rather than a means to meet employees' needs. This superficial approach to training, where the content, courses, and formats are not deeply researched and tailored to employee needs, results in a cascade of issues. Ultimately, this leads to low participation enthusiasm among employees, resulting in suboptimal training outcomes.

3. Countermeasures and Suggestions

3.1. Building a Comprehensive Training System Based on Corporate Strategy and Management, Aimed at Creating a Learning Organization

Firstly, companies should integrate employee training into their strategic planning, increase investment in employee training, and ensure that training is consistently and effectively embedded in all aspects of the company's operations and development. Secondly, regular training sessions should be conducted, and a long-term training plan should be established to make training more formal, periodic, and systematic. This approach will help build a learning organization where the company's values and culture are internalized in the minds of every employee and externalized in their actions, thereby enhancing the company's overall competitiveness in the market.

3.2. Human-Centric Approach, Focusing on Employee Needs, and Implementing Personalized Training

Firstly, the company should conduct thorough training needs analysis for employees in different departments and positions. Secondly, the training department can optimize the training content for enterprise employees by developing targeted and comprehensive course systems tailored to the specific needs of different professionals and positions, thus reinforcing core competencies and competitive advantages. Finally, the training team should diversify the training formats to make them more engaging, thereby stimulating employees' enthusiasm for participating in training.

3.3. Establishing Effective Training Feedback and Incentive Mechanisms

The training department should firstly adopt the principle of "no feedback, no training." After each training session, they must collect feedback to summarize lessons learned and optimize future training activities, thereby ensuring the effectiveness of the training. Secondly, the department should emphasize the evaluation of training outcomes. They will use methods such as additional assessments or group discussions to evaluate the training results, paying special attention to improvements in employees' job performance and capabilities post-training. The department will integrate the outcomes of training with employees' career development plans to ensure that the training results translate into innovation and progress in their actual work.

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3.4. Utilizing AIGC Technology to Optimize the Training System

By leveraging Artificial Intelligence Generated Content (AIGC) technology, companies can achieve personalized customization and dynamic adjustment of training content, enhancing the relevance and efficiency of training. AIGC can automatically generate learning materials tailored to the individual characteristics and career development paths of employees. Additionally, AIGC can create immersive learning experiences using technologies such as Virtual Reality (VR) and Augmented Reality (AR), thereby improving learning outcomes. Furthermore, AIGC can provide instant feedback, helping employees promptly understand their learning progress and mastery levels. This also offers data support to management, enabling better adjustments to training strategies. By integrating AIGC technology, companies can build a more flexible, efficient, and personalized digital skills training system, accelerating the enhancement of employees' digital skills and supporting the company's digital transformation[6].

4. Proposal for Constructing a Digital Skills Training System for Enterprise Employees

4.1. Training Course Design

The digital skills training system for enterprise employees aims to comprehensively improve the digital skills of employees to adapt to the rapidly developing digital working environment. The system is divided into primary training, intermediate training, advanced training and expert training at the level, as shown in Table 1, covering multiple core fields such as digital tool use, data literacy, network security, programming language, data analysis, etc. Various training forms, including expert lectures, seminars, internal sharing meetings and personalized training, ensure that the training content is comprehensive and targeted. Different companies can choose appropriate courses according to their own business needs and flexibly adjust training content to ensure that employees can effectively improve their digital skills and better cope with the complex working environment, so as to stand out in the fierce market competition[7].

Table 1. Digital Skill Training System Scheme

Course Category	Course Name	Course Content	Training Format	AIGC Application
Introduction to Basic Digital Tools	Cloud Storage Usage	Baidu Netdisk, Google Drive, OneDrive	Expert Lectures, Online Courses	Personalized Learning Paths, Automatic Resource Recommendations
	Online Note-taking and Mind Mapping	Youdao Notes, XMind, etc.	Online Courses, Internal Sharing Sessions	Generation of Sample Documents, Templates
	Video Conferencing Tools	Classin, Tencent Meeting, Zoom, etc.	Online Demonstrations, Practical Exercises	Virtual Meeting Room Simulation, Real-time Operation Guidance
Introduction to Intermediate Data Literacy	Basic Data Visualization Tools	Excel Charts	Expert Lectures, Practical Exercises	Generation of Sample Charts, Data Analysis Reports
	Advanced Data Visualization Tools	Tableau or Power BI Data Analysis	Expert Lectures, Project-based Practice	Generation of Project Cases, Real-time Feedback
	Cybersecurity	Password Management, Phishing Identification, and Common Cyber Threats	Expert Lectures, Online Tests	Security Awareness Tests, Simulated Attack Drills
	Network Tool Usage	Usage and Importance of VPN	Online Courses, Practical Exercises	Simulated Network Environment, Operation Guides
Advanced Digital Tools	Enterprise Resource Planning Systems	ERP	Expert Lectures, Project-based Practice	Generation of Project Cases, Real-time Feedback
	Customer Relationship Management Tools	CRM	Expert Lectures, Project-based Practice	Generation of Project Cases, Real-time Feedback
	Basic Programming	Simple Programming Concepts	Expert Lectures, Online Courses	Code Example Generation, Programming Exercises

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	Advanced Programming	Basics of Python or JavaScript	Expert Lectures, Project-based Practice	Generation of Project Cases, Real-time Feedback
	Data Interaction	Using APIs for Data Interaction	Expert Lectures, Project-based Practice	API Example Generation, Real-time Debugging
Expert Data Analysis	Data Analysis Tools	PyCharm	Expert Lectures, Project-based Practice	Generation of Project Cases, Real-time Feedback
	Data Cleaning and Preprocessing Techniques	Python Language	Expert Lectures, Project-based Practice	Generation of Project Cases, Real-time Feedback
	Basics of Machine Learning	scikit-learn Package	Expert Lectures, Project-based Practice	Generation of Project Cases, Real-time Feedback

4.2. Design of Training Methods

Due to various limitations, the current training methods in many enterprises are relatively outdated, and the training formats are monotonous. Most training sessions have become formalistic and are primarily held in internal workshops or meeting rooms, leading to unsatisfactory training outcomes. Based on previous training needs surveys, many employees have expressed a desire to move beyond the confines of the company. The employee training system should be diversified and include a variety of methods such as: classroom lectures, case studies, mentorship programs, training arranged by external institutions, visits to other companies for training, training organized by industry associations, and training organized by government bodies,as shown in Table 2.

Table 2: Training Mode Design

Training Method	Description	AIGC Application
Classroom Lectures	Traditional lectures by experts or experienced trainers.	Personalized learning paths, automatic resource recommendations.
Case Studies	Analyzing real-world scenarios to apply theoretical knowledge.	Generation of realistic case studies, interactive simulations.
Mentorship Programs	Pairing less experienced employees with seasoned professionals for one-on-one guidance.	Matching algorithms to pair mentors and mentees, automated progress tracking.
Training Arranged by External Institutions	Partnering with external training providers to offer specialized courses.	Customized course recommendations based on employee profiles, integration with external learning platforms.
Visits to Other Companies for Training	Organizing visits to other companies to learn best practices and innovative approaches.	Virtual tours and immersive experiences, real-time feedback on observations.
Training Organized by Industry Associations	Participating in training programs organized by industry associations to stay updated on the latest trends and regulations.	Automated updates on industry news, interactive webinars and workshops.
Training Organized by Government Bodies	Engaging in training programs supported or organized by government agencies to leverage public resources and expertise.	Access to government databases and resources, integration with public learning initiatives.

5. Conclusion

This paper discusses the challenges faced by the corporate employee digital skill enhancement training system and proposes effective training programs. The research findings show that through this training system, employees can significantly improve their digital skills, thereby better adapting to complex work environments. The paper also provides specific implementation plans to help enterprises

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establish a comprehensive and efficient digital skill training system, leveraging the advantages of AIGC technology to promote employee growth and drive the success of digital transformation.

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