

The Application Effect and Empirical Study of Intelligent Enterprise Management Accounting under the Background of Digital Transformation

Xiaoqin Liu

¹Department of Finance and Taxation, Shanxi Polytechnic College, Taiyuan, Shanxi, 030000, China

Corresponding author: Xiaoqin Liu (e-mail: ttt3023961@163.com).

ABSTRACT In the era of digital economy, new generation digital technologies such as big data, artificial intelligence, cloud computing, and blockchain have deeply penetrated the entire process of enterprise operation and management, completely subverting the accounting mode, decision-making logic, and value creation path of traditional management accounting, and promoting the transformation of management accounting from traditional post accounting to full process intelligence of pre forecasting, in-process control, and post optimization. To explore the practical application value and implementation effect of intelligent management accounting in the context of digital transformation, this article takes domestic A-share listed companies as research samples. Based on technology empowerment theory, business finance integration theory, and dynamic capability theory, literature research method, empirical analysis method, regression analysis method, and robustness test method are used to analyze the empowerment mechanism of intelligent management accounting from a theoretical level, and verify its impact on business performance, cost control efficiency, decision-making scientificity, and risk prevention and control ability from an empirical level.

INDEX TERMS Digital transformation; Management accounting; Intelligentization; Application effect; empirical research

I. INTRODUCTION

A. RESEARCH SIGNIFICANCE

With the large-scale implementation of digital technologies such as big data, artificial intelligence, RPA financial robots, cloud computing, and blockchain in the field of enterprise finance, management accounting is entering a critical window period of intelligent transformation. Digital technology has broken down the traditional boundary barriers between finance and business, realizing the interconnection, real-time collection, intelligent analysis, and dynamic warning of the entire chain data of enterprise procurement, production, sales, inventory, manpower, and finance. It has promoted the comprehensive upgrade of management accounting from “manual driven, post accounting, and experiential decision-making” to “data-driven, full process control, and intelligent decision-making”. The intelligentization of management accounting can effectively compensate for the shortcomings of traditional management accounting, enhance internal management efficiency and core competitiveness of enterprises by reconstructing the financial management process, optimizing resource allocation mode, innovating control tools and decision-making mechanisms.

B. RESEARCH SIGNIFICANCE

The existing academic research on digital transformation and management accounting mainly focuses on qualitative studies such as theoretical mechanisms, transformation paths, and case analysis. The empirical research system for the quantitative application effects, transmission mechanisms, and boundary conditions of intelligent management accounting is not yet perfect. This article is based on the theories of technology empowerment, dynamic capability, and business finance integration to construct a transmission mechanism model of “digital transformation management accounting intelligence enterprise performance”. The model introduces business finance integration and digital governance as intermediary variables, and digital investment and industry affiliation as moderating variables to systematically analyze the driving mechanism of digital transformation on management accounting intelligence, as well as the impact of management accounting intelligence on enterprise management efficiency and value creation.

This study enriches the research dimensions of management accounting theory in the digital economy era, fills the gap of existing research that focuses on qualitative

analysis and neglects quantitative analysis, quantitatively verifies the empowering value and role path of intelligent management accounting, refines the theoretical mechanism of digital transformation empowering internal management of enterprises, and provides a new research framework, variable design, and data support for empirical research in the fields of intelligent management accounting and financial digitization, further improving the theoretical system of intelligent management accounting. Meanwhile, this article defines the core dimensions and evaluation criteria of intelligent management accounting, providing a reference for the academic community to unify the research paradigm of intelligent management accounting.

II. LITERATURE REVIEW AND THEORETICAL BASIS

A. DEFINITION OF CORE CONCEPTS

Enterprise digital transformation refers to the transformation and upgrading process in which enterprises rely on new generation digital technologies such as big data, artificial intelligence, cloud computing, blockchain, and the Internet of Things to comprehensively, deeply, and systematically reconstruct their business processes, management models, organizational structures, and value creation systems. Different from traditional information construction, digital transformation is no longer limited to the digital transformation of a single tool or process. Instead, it takes data as the core production factor to achieve the collection, integration, analysis, application, and iteration of enterprise data throughout the entire chain, promote the deep integration of business, finance, management, and strategy, and achieve systematic changes in enterprise operation efficiency, management mode innovation, and value creation upgrading.

Intelligent management accounting is an advanced form of management accounting development in the digital economy era, which relies on digital technology to comprehensively upgrade the functions of traditional management accounting, control, decision-making, and evaluation. Specifically, it is a new management accounting model that uses big data technology as data support, artificial intelligence technology as analysis core, cloud computing technology as carrier, and RPA robots as execution tools to reconstruct the workflow of management accounting, achieve intelligent budget preparation, refined cost control, dynamic business analysis, real-time risk warning, scientific performance evaluation, and data-driven strategic decision-making. The core features of intelligent management accounting are data-driven, controllable throughout the entire chain, intelligent analysis, dynamic iteration, and precise empowerment. It completely eliminates the dependence on manual experience and realizes the full process value empowerment of management accounting from “post summary” to “pre prediction, in-process control, and post optimization”, as shown in Table 1 below.

TABLE 1. Variable Definition

Type	Var	Symbol
Explained	Firm Performance	ROA
Independent	Digital Transformation	Digital
Mediator	Intelligent Management Accounting	IMA
Mediator	Business-Finance Integration	BF
Mediator	Digital Governance	DG
Moderator	Digital Investment	Input
Moderator	Industry	Ind
Control	Firm Size	Size
Control	Leverage	Lev

B. THEORETICAL BASIS

The theory of technological empowerment is the core theory that explains the driving force of technological change in enterprise management innovation in the digital economy era. The core connotation is that the new generation of digital technology, as an external empowerment tool, can break through the boundary constraints of traditional management models, make up for the shortcomings of traditional management systems, and empower enterprise management efficiency and value enhancement through technological penetration, process reconstruction, mode innovation, and resource integration. In the research scenario of this article, big data, artificial intelligence RPA \ Cloud computing and other digital technologies can empower traditional management accounting to upgrade the entire process of data collection, analysis, control, and decision-making, solving problems such as outdated data, one-sided analysis, passive control, and inefficient decision-making. This provides technical support for the intelligent transformation of management accounting, and is the core theoretical basis for explaining how digital transformation drives the intelligent upgrading of management accounting in this article.

The theory of business finance integration emphasizes the deep integration and collaborative linkage between enterprise business operation and financial management, breaking the management pattern of business and finance being separated from each other, and realizing the interconnection, resource sharing, and collaborative control of business data and financial data. The core reason for the limited effectiveness of traditional management accounting is the separation of business and finance, where financial data cannot truly and real-time reflect business status, and business operations lack precise support from financial data. Digital transformation, by building an integrated data platform, connects the entire chain of enterprise procurement, production, sales, inventory, manpower, and finance data, achieving deep integration of business and financial data, providing comprehensive, real-time, and accurate data support for intelligent management accounting. It is the core prerequisite for the implementation of intelligent management accounting and an important transmission path for digital empowerment of enterprise performance improvement, as shown in Table 2 below.

TABLE 2. Descriptive Statistics

Variable	Obs	Mean	Std.Dev	Min	Max
Digital	14208	0.326	0.185	0.031	0.892
IMA	14208	0.298	0.163	0.025	0.847
ROA	14208	0.045	0.062	-0.183	0.276
BF	14208	0.312	0.171	0.029	0.861
DG	14208	0.287	0.156	0.018	0.823

The dynamic capability theory holds that the core competitiveness of an enterprise comes from its dynamic ability to adapt to changes in the external environment, integrate internal and external resources, restructure its operational system, and achieve continuous iteration and upgrading. In the era of digital economy, the market environment is constantly changing, and enterprises must have the ability to dynamically adjust their management in order to maintain their competitive advantage. The intelligentization of management accounting is not a static technological upgrade, but a systematic improvement of the dynamic management capabilities of enterprises. Through digital technology, dynamic monitoring of enterprise operating status, dynamic warning of risks, dynamic allocation of resources, and dynamic adjustment of strategies can be achieved, helping enterprises quickly adapt to market changes, optimize business decisions, and continuously enhance their core competitiveness. This provides theoretical support for the long-term value empowerment effect of intelligent management accounting research in this article.

The theory of value creation points out that the core goal of enterprise management is to achieve value appreciation, and the essence of financial management is to help maximize enterprise value through resource optimization, cost control, and risk prevention. Traditional management accounting focuses on accounting as its core and has weak value creation capabilities, while intelligent management accounting focuses on data as its core and focuses on the full process value management of enterprises. By reducing costs and increasing efficiency, optimizing resource allocation, avoiding operational risks, and supporting strategic implementation, it comprehensively helps enterprises improve their value. This theory provides core theoretical support for quantitatively analyzing the economic application effects of intelligent management accounting and constructing research models in this article.

III. THE CURRENT SITUATION AND APPLICATION MODE OF INTELLIGENT DEVELOPMENT OF ENTERPRISE MANAGEMENT ACCOUNTING UNDER DIGITAL TRANSFORMATION

A. OVERALL DEVELOPMENT STATUS OF ENTERPRISE DIGITAL TRANSFORMATION

From a macro perspective, the country continues to introduce digital support policies, and local governments increase funding support, technical guidance, and policy subsidies for enterprise digital transformation, creating a favorable policy environment for enterprise digital transformation.

From the perspective of enterprises, top listed companies have completed the construction of digital infrastructure and integrated data platforms, leveraging their advantages in capital, technology, and talent to achieve intelligent upgrades in financial management and business operations; The investment in digital transformation of small and medium-sized enterprises is insufficient, mostly staying in the basic informationization stage, and has not yet achieved systematic and deep level digital transformation, as shown in Table 3.

TABLE 3. Correlation Matrix

	Digital	IMA	ROA	BF	DG
Digital	1				
IMA	0.512***	1			
ROA	0.285***	0.374***	1		
BF	0.469***	0.531***	0.306***	1	
DG	0.437***	0.495***	0.291***	0.562***	1

B. MAINSTREAM APPLICATION MODE OF INTELLIGENT MANAGEMENT ACCOUNTING

This model is currently the most mainstream application model for top listed companies. Enterprises rely on financial shared service centers to achieve centralized, standardized, and automated processing of financial basic accounting work, and unify enterprise financial data standards and business process standards. On the basis of financial sharing, big data and artificial intelligence technologies are combined to build an intelligent management accounting platform, integrate shared center data resources, and extend intelligent management accounting functions such as budget management, cost control, risk warning, and business analysis. The core advantages of this model are high data concentration, high standardization, strong system collaboration, and the ability to achieve unified control of enterprise groups, cross regions, and multiple business sectors. It is suitable for large-scale and group enterprises, and has been adopted by companies such as Midea Group, Haier Biotech, and Baosteel Group, achieving significant results.

Focusing on core operational pain points, targeted intelligent transformation can be implemented for single or multiple vertical scenarios, such as only building intelligent cost control systems, intelligent accounts receivable management systems, or intelligent budgeting systems. This model has low investment cost, fast implementation speed, strong adaptability, and can solve core management problems of enterprises in a targeted manner, quickly achieve cost reduction and efficiency improvement. It is currently the mainstream implementation mode of intelligent management accounting for small and medium-sized enterprises. However, there are shortcomings such as fragmented application and insufficient overall empowerment, as shown in Table 4 below.

TABLE 4. Baseline Regression Results

Dependent Variable	IMA (Model1)	ROA (Model2)
Digital	0.426***	0.179***
IMA	-	0.318***
Size	0.082**	0.065**
Lev	-0.053*	-0.127***
Constant	0.114***	0.028**
N	14208	14208
R ²	0.316	0.283

C. CORE ISSUES OF INTELLIGENT MANAGEMENT ACCOUNTING IN CURRENT ENTERPRISES

Some enterprises blindly carry out digital transformation and purchase a large number of intelligent financial and management systems, but lack overall planning. Each system operates independently and is incompatible with each other, and data cannot be exchanged and functions cannot be coordinated between systems, forming a “system island”. At the same time, most intelligent systems are universal standardized products that have not been personalized according to the industry attributes, business characteristics, and management pain points of the enterprise, resulting in low adaptability to the actual business scenarios of the enterprise and the problem of “technology landing and business disconnection”. The system only implements basic automation operations and cannot deeply adapt to the personalized needs of enterprise cost control, budget management, and risk prevention. The utilization rate of intelligent functions is low, making it difficult to exert substantial empowerment value, resulting in a mismatch between enterprise digital input and output.

The intelligent transformation of management accounting requires a large number of composite talents who possess financial professional knowledge, digital technology capabilities, and business cognitive abilities. The current structure of financial personnel in enterprises generally has a problem of discontinuity. Traditional financial personnel are proficient in financial accounting knowledge, but lack big data analysis, intelligent system operation, data modeling, and digital management capabilities, which cannot adapt to the needs of intelligent management accounting work; Information technology professionals are familiar with digital technology, but lack professional knowledge in finance, making it difficult to accurately connect with management accounting business scenarios. At the same time, the talent cultivation system in universities is disconnected from the digital needs of enterprises, resulting in insufficient output of composite talents, imperfect internal talent training mechanisms within enterprises, and difficulty in transforming existing personnel. Talent shortage has become a core bottleneck restricting the deep implementation of intelligent management accounting.

A sound institutional system is the guarantee for the long-term implementation of intelligent management accounting. Currently, most enterprises focus on technology investment and neglect institutional construction, and have not estab-

lished management systems, assessment mechanisms, and control processes that are suitable for intelligent transformation. The lack of digital data management system, system operation management system, intelligent work norms, and risk control system in enterprises leads to the lack of rules and regulations for the implementation of intelligent work, chaotic data management, inefficient system operation, and vague division of rights and responsibilities. At the same time, without establishing a supporting performance evaluation mechanism, employees' enthusiasm for intelligent application is insufficient, and digital transformation lacks organizational and institutional support, making it difficult to achieve sustained and deepening implementation.

IV. RESEARCH HYPOTHESIS AND MODEL DESIGN

A. MECHANISM OF ACTION AND RESEARCH HYPOTHESES

Digital transformation comprehensively empowers the intelligent upgrading of management accounting from four dimensions: technology, data, processes, and organization. Firstly, digital transformation provides core technological support such as big data, artificial intelligence, and RPA for management accounting, realizing the automation and intelligent replacement of traditional manual work in management accounting and improving work efficiency; Secondly, digital transformation breaks down the data barriers of the entire enterprise chain, builds an integrated data system, and provides comprehensive data support for intelligent analysis and accurate judgment of management accounting; Once again, digital transformation reconstructs the business and financial processes of enterprises, achieving deep collaboration between business and finance, and optimizing management accounting work scenarios; Finally, digital transformation drives the upgrading of enterprise organizational structure and management concepts, providing organizational support for the intelligent implementation of management accounting. Based on this, this article proposes hypothesis H1: Digital transformation significantly positively affects the level of intelligent management accounting in enterprises. The higher the degree of digital transformation in enterprises, the higher the level of intelligent management accounting, as shown in Table 5.

TABLE 5. Heterogeneity Test by Industry

Group	Coefficient of IMA	N	R ²
High-digital Industry (Ind=1)	0.392***	8645	0.307
Traditional Industry (Ind=0)	0.205***	5563	0.261

The intelligentization of management accounting improves the overall operational performance of enterprises by optimizing internal management, reducing operating costs, enhancing resource efficiency, strengthening risk prevention and control, and supporting scientific decision-making. At

the management level, intelligent systems can optimize budget control, compress ineffective costs, reduce risk occurrence rates, and improve resource allocation efficiency; At the economic level, it can effectively improve the profitability, asset operation efficiency, and market value of enterprises. Based on this, this article proposes hypothesis H2: Intelligent management accounting significantly positively improves business performance, that is, the better the application effect of intelligent management accounting, the higher the business performance of the enterprise.

The core value of digital transformation is to break down the barriers between business and finance data and processes, and promote deep integration of business and finance. Business and finance integration is the core prerequisite for the implementation of intelligent management accounting. The higher the degree of digital transformation, the stronger the interoperability of enterprise financial data, and the higher the efficiency of business and financial collaboration. This can provide more accurate, comprehensive, and real-time business and financial data for intelligent management accounting, greatly improving the application accuracy and implementation effect of intelligent management accounting, and empowering enterprise performance improvement. Digital transformation can indirectly promote the intelligent upgrading of management accounting and optimize business performance by enhancing the level of business finance integration.

Digital transformation is not only an upgrade of technological tools, but also a reconstruction of the governance system. Digital transformation can promote enterprises to improve their data governance, system governance, and organizational governance systems, and enhance the overall level of digital governance. A sound digital governance system can standardize data standards, optimize system operations, clarify responsibility mechanisms, provide institutional and systematic guarantees for the long-term implementation of intelligent management accounting, and ensure the sustained release of intelligent application effects. Based on this, this article proposes hypothesis H4: Digital governance plays a significant mediating effect between digital transformation, intelligent management accounting, and corporate performance.

The scale of digital investment in enterprises directly determines the level of digital infrastructure construction, technological iteration, and talent allocation. The higher the digital investment, the stronger the enterprise's technological empowerment and data integration capabilities, and the more significant the empowering effect of digital transformation on the intelligence of management accounting. At the same time, there are significant differences in business characteristics, digital foundations, and management needs among different industries. Industries with strong digital adaptability such as manufacturing and information technology have more prominent effects of intelligent management accounting applications, while traditional industries have relatively weaker empowerment effects. Based on this, this

article proposes hypothesis H5: digital investment positively regulates the relationship between digital transformation and intelligent management accounting; Assuming H6: Industry attributes significantly regulate the application effect of intelligent management accounting.

B. SAMPLE SELECTION AND DATA SOURCES

To ensure the validity of the data and the rigor of the research, the sample is screened as follows: firstly, financial and insurance listed companies are excluded, as their financial systems are special and not universal; Secondly, exclude samples from ST, * ST, and delisted companies to avoid interference from financial abnormal samples; Thirdly, exclude enterprise samples with severe data gaps and incomplete disclosure; Fourth, exclude the sample of companies that have been listed for less than a year. After screening, 2368 listed companies were finally obtained, with a total of 14208 annual observations, forming the balanced panel data.

The core data sources of this article are as follows: enterprise digital transformation and digital investment data are obtained through text mining of enterprise annual reports, social responsibility reports, and digital transformation special reports; The intelligent level of management accounting, the integration level of business and finance, and the level of digital governance are synthesized using the indicator synthesis method based on the CSMAR database and Wind database of Guotai An; The data related to business performance and control variables are all from the CSMAR database and Wind database. To avoid the interference of extreme values on the empirical results, this paper conducted tail reduction on all continuous variables at the 1% and 99% percentiles, and data processing and empirical analysis were completed using Stata17.0 software.

C. VARIABLE DEFINITION AND MEASUREMENT

(1) Digital Transformation: Using mainstream text mining methods in academia, Python software is used to conduct frequency statistics on keywords related to digital transformation in enterprise annual reports, covering big data, artificial intelligence, cloud computing, blockchain RPA. The vocabulary related to intelligent finance, digitization, and intelligence is standardized on the frequency data to obtain the enterprise digital transformation index. The larger the value, the higher the degree of digital transformation of the enterprise.

(2) Intelligent Management Accounting (IMA): Construct a multidimensional indicator system to synthesize a comprehensive index, covering five dimensions: intelligent budget, intelligent cost, intelligent risk, intelligent performance, and intelligent decision-making. Select 12 sub indicators and use the entropy method to weight and synthesize the comprehensive index of intelligent management accounting, comprehensively quantifying the level of intelligent application of enterprise management accounting.

(1) Business Finance Integration (BF): Based on three dimensions of enterprise business and financial data collaboration, process collaboration, and personnel collaboration, select sub indicators such as business and financial data sharing degree, process integration level, and financial personnel business participation degree, and use entropy method to synthesize the comprehensive index of business finance integration.

(2) Digital Governance (DG): From four dimensions of data governance, system governance, institutional governance, and organizational governance, select indicators such as data standardization degree, system integration degree, digital institutional perfection, and digital organizational structure perfection to synthesize a comprehensive index of digital governance.

(1) Digital Input: Measured by the proportion of the total annual investment in digital technology research and development, digital equipment procurement, and digital talent compensation to the company's operating revenue.

(2) Industry attribute (Ind): Set virtual variables to assign 1 to digital high adaptation industries such as information technology and manufacturing, and 0 to low adaptation industries such as traditional service industries and agriculture.

To avoid interference from other variables, this article selects enterprise size (Size), enterprise age (Age), asset liability ratio (Lev), revenue growth rate (Growth), equity concentration (Top1), board size (Board), and independent director ratio (Indep) as control variables to comprehensively control the interference of micro characteristics of the enterprise on the research results.

V. EMPIRICAL RESULTS AND ANALYSIS

A. DESCRIPTIVE STATISTICS

Descriptive statistics were conducted on all core and control variables in this article, and the results showed that the mean of digital transformation was 0.326, the standard deviation was 0.185, the maximum value was 0.892, and the minimum value was 0.031. This indicates that the overall level of digital transformation in the sample enterprises is low, and there are significant differences in the degree of transformation between enterprises, resulting in uneven development; The average value of Intelligent Management Accounting (IMA) is 0.298, with a standard deviation of 0.163. The overall level of intelligence is in its early stages, and the application of intelligence in most enterprises is insufficient; The mean operating performance (ROA) of the enterprise is 0.045, with a standard deviation of 0.062, which meets the basic characteristics of the profitability level of A-share listed companies; The average values of business finance integration and digital governance index are 0.312 and 0.287, respectively, indicating a relatively low overall level, which is an important factor restricting the intelligent transformation. The distribution of each control variable is within a reasonable range, with no extreme outliers, and the overall quality of the sample data is good, meeting the requirements of empirical analysis.

B. CORRELATION ANALYSIS

According to the Pearson correlation test results, there is a significant positive correlation between digital transformation and management accounting intelligence at the 1% level, which preliminarily confirms the validity of H1; The intelligence of management accounting is significantly positively correlated with business performance at the 1% level, preliminarily verifying the validity of H2. Meanwhile, the absolute values of the correlation coefficients between the variables are all less than 0.7, indicating no serious multicollinearity issues. The model settings are reasonable, and regression analysis can continue.

C. ANALYSIS OF BENCHMARK REGRESSION RESULTS

The regression results of model (1) show that the regression coefficient of digital transformation is 0.426, which is significantly positive at the 1% statistical level. This indicates that digital transformation can significantly and positively drive the improvement of management accounting intelligence level in enterprises. For every unit increase in the degree of digital transformation in enterprises, the level of management accounting intelligence level increases by 0.426 units. Hypothesis H1 in this article is valid. The reason behind this is that digital transformation, through technological empowerment, data integration, process restructuring, and organizational optimization, comprehensively solves the problems of data lag, one-sided analysis, and inefficient control in traditional management accounting, effectively promoting the upgrade of management accounting from traditional models to intelligent models. The direct effect of technological empowerment is significant.

The regression results of Model (2) show that the regression coefficient of Intelligent Management Accounting (IMA) is 0.318, which is significantly positive at the 1% level. This indicates that intelligent management accounting can significantly improve business performance and optimize business outcomes. Hypothesis H2 in this article holds true. This result validates the core application value of intelligent management accounting. The intelligent system effectively reduces enterprise operating costs, improves profitability, avoids operational risks, and empowers high-quality development of enterprises in all aspects through precise budget control, refined cost compression, comprehensive risk prevention and control, efficient resource allocation, and scientific decision support. It quantitatively confirms the core research conclusion of this article.

VI. INTELLIGENT OPTIMIZATION STRATEGIES FOR ENTERPRISE MANAGEMENT ACCOUNTING UNDER DIGITAL TRANSFORMATION

A. IMPROVE THE DATA GOVERNANCE SYSTEM AND CONSOLIDATE THE CORE FOUNDATION OF INTELLIGENCE

Data is the core foundation of intelligent management accounting. In response to the current problems of inconsistent data standards, poor data quality, and prominent data silos

in enterprises, enterprises need to establish a full process, standardized, and normalized data governance system. Firstly, a unified data standard system should be established, taking into account the industry attributes and business characteristics of the enterprise, to develop unified financial and business data collection standards, statistical calibers, and storage specifications. This will enable standardized and regulated management of data across all departments and business segments of the enterprise, and solve the problems of data confusion and inability to communicate from the source. Secondly, build an integrated data platform to integrate data resources from the entire chain of enterprise procurement, production, sales, finance, manpower, and inventory, break down data barriers between various business and financial systems, achieve centralized data storage, real-time sharing, and linked calling, and completely eliminate data silos. Thirdly, establish a normalized data control mechanism, set up dedicated data management positions, responsible for data collection, cleaning, auditing, updating, and archiving work, regularly check for distorted, missing, and lagging data, and ensure real-time, accurate, and complete data. Fourth, improve the data security management system, establish a system for data encryption, permission control, and risk tracing, prevent data leakage, tampering, and loss risks, ensure data security and compliance, and provide high-quality data support for intelligent analysis and precise control of management accounting.

B. BUILDING A COMPOSITE TALENT TRAINING SYSTEM TO OVERCOME THE BOTTLENECK OF TALENT SHORTAGE

Talents are the core support for the implementation of intelligent management accounting. In response to the core pain point of the shortage of composite talents, enterprises need to establish a three in one talent system of "introduction+training+motivation". Firstly, we will accurately introduce high-end composite talents, with a focus on introducing high-end management accounting talents who possess financial expertise, big data analysis ability, intelligent system operation ability, and business management ability. We will optimize the structure of enterprise financial talents and lead the implementation of intelligent transformation of enterprises. Secondly, improve the internal talent stratification training mechanism, carry out specialized training on digital skills, intelligent system operation, big data analysis, and business finance integration knowledge for existing traditional financial personnel, and promote the transformation of traditional accounting financial personnel into management analysis, intelligent control, and strategic decision-making talents; Conduct financial professional knowledge training for technical personnel, enhance their cognitive ability in managing accounting business scenarios, and ensure that technology research and development are adapted to business needs. Thirdly, establish a mechanism for cultivating talents through school enterprise cooperation, establish long-term cooperation with accounting, big data, and financial

management majors in universities, and target the cultivation of compound talents that meet the needs of enterprises. Establish a talent reserve pool to solve the problem of talent shortage from the source. Fourth, improve the talent incentive and promotion mechanism, incorporate intelligent application ability, data analysis ability, and management innovation achievements into the performance evaluation and promotion system, and stimulate employees' enthusiasm and initiative to learn new technologies, apply new systems, and participate in intelligent transformation.

VII. CONCLUSION

The digital transformation has a significant positive driving effect on the intelligent upgrading of enterprise management accounting. The higher the level of digital infrastructure construction, digital technology application, and digital resource investment in enterprises, the higher the overall application level of intelligent management accounting. Digital technology is the core driving force for promoting the transformation of traditional management accounting to intelligent management accounting.

The intelligentization of management accounting has significant positive application effects, which can effectively optimize enterprise cost control, budget management, risk prevention and control, resource allocation, decision support capabilities, significantly improve enterprise performance and value creation capabilities, and is an important lever for promoting refined management and high-quality development of enterprises.

ACKNOWLEDGMENT

The preferred spelling of the word "acknowledgment" in American English is without an "e" after the "g." Use the singular heading even if you have many acknowledgments. Avoid expressions such as "One of us (S.B.A.) would like to thank" Instead, write "F. A. Author thanks" In most cases, sponsor and financial support acknowledgments are placed in the unnumbered footnote on the first page, not here.

FUNDING

Project: Research on Teaching Innovation Path of AI-Driven Digital-Intelligent Sand Table Course

REFERENCES

- [1] L. Tianyang, "Integrating Chinese Operatic Vocal"; Huang; M. Hu, "Analysis of enterprise management accounting transformation strategy under the integration of industry and finance," *International Journal of Mathematics and Systems Science*, vol. 7, no. 10, 2024, doi: 10.18686/IJMSS.V7I10.10144.
- [2] T. Dai, "Research on Current Situation and Innovation Suggestions of Enterprise Management Accounting under Big Data," *International Journal of Mathematics and Systems Science*, vol. 7, no. 10, 2024, doi: 10.18686/IJMSS.V7I10.10148.
- [3] S. Li, "Development and Innovation and Exploration of Enterprise Management Accounting in the Era of Big Data," *Forum on Research and Innovation Management*, vol. 2, no. 8, 2024, doi: 10.70711/FRIM.V2I8.5178.

- [4] H. Zhu and C. Liu, "RETRACTED ARTICLE: Application of 5G internet of things in the construction of enterprise management accounting information system," *Soft Computing*, vol. 28, suppl. 2, pp. 1–1, 2023, doi: 10.1007/S00500-023-09094-9.
- [5] N. Duan, "Integration and Development of Enterprise Management Accounting and Financial Accounting under the New Situation," *Academic Journal of Business & Management*, vol. 5, no. 12, 2023, doi: 10.25236/AJBM.2023.051215.
- [6] L. Yibin, Y. Huabo, L. Haojie, et al., "Financial Risk Assessment of Enterprise Management Accounting Based on Association Rule Algorithm under the Background of Big Data," *Journal of Sensors*, vol. 2022, 2022, doi: 10.1155/2022/8041623.
- [7] L. Quan, "RESEARCH ON THE INFLUENCE OF ECONOMIC ENVIRONMENT CHANGE ON BUSINESS MANAGEMENT ACCOUNTING FROM THE PERSPECTIVE OF SOCIAL PSYCHOLOGY," *Psychiatria Danubina*, vol. 33, no. S8, pp. 161–162, 2021.
- [8] Z. Ságová, "Management Accounting Model for Small Industrial Enterprises," *Multidisciplinary Aspects of Production Engineering*, vol. 3, no. 1, pp. 694–706, 2020, doi: 10.2478/mape-2020-0058.
- [9] B. Mann, "Awards at International conference on Business Management Accounting and Marketing," *Global Journal of Commerce & Management Perspective*, vol. 9, no. 1, 2020.
- [10] B. Mann, "2020 Conference Announcement Business management on International conference on Business Management Accounting and Marketing," *Global Journal of Commerce & Management Perspective*, vol. 9, no. 1, 2020.
- [11] "Science - Management Science; Research Conducted at University of Siegen Has Provided New Information about Management Science (Professionalization of management accounting in family firms: the impact of family members)," *Science Letter*, 2019.
- [12] S. Demiröz, "State-of-the-art Management Accounting for SMEs," *Controlling & Management Review*, vol. 63, no. 8, pp. 56–61, 2019, doi: 10.1007/s12176-019-0061-2.
- [13] H. Luyang, K. E. Ghani, and M. M. Ali, "Management Accounting Practices Among Chinese Enterprises," *International Journal of Recent Technology and Engineering (IJRTE)*, vol. 8, no. 4, pp. 2243–2251, 2019.
- [14] P. T. D. Nguyen, H. T. L. Nguyen, P. D. Dao, et al., "The Determinants Influencing Managerial Accounting in Vietnamese Manufacturing and Trading Enterprises," *Academy of Accounting and Financial Studies Journal*, vol. 23, no. 5, 2019.
- [15] Z. Wang, "Research on Enterprise Management Accounting," *International Journal of New Developments in Engineering and Society*, vol. 3, no. 1, 2019.
- [16] Z. Mohamad and A. K. Wahab, "The Relationship between Management Accounting Practices and Performance of the Small and Medium Enterprises in Libya: A Proposed Conceptual Framework," *European Journal of Business and Management*, vol. 9, no. 26, pp. 108–115, 2017.
- [17] D. D. Dacian, "The Use of Management Accounting Practices by Romanian Small and Medium-Sized Enterprises: A Field Study," *Journal of Accounting and Management Information Systems*, vol. 16, no. 2, pp. 291–312, 2017, doi: 10.24818/jamis.2017.02004.
- [18] I. Nina, K. Elena, and B. Irina, "Information and Analytical Support for Risk Assessment in the Management Accounting System of an Enterprise," *Mediterranean Journal of Social Sciences*, 2015, doi: 10.5901/mjss.2015.v6n5s4p348.
- [19] S. Chiucchi, M. Gatti, M. Marasca, et al., "The Relationship between Management Accounting Systems and ERP Systems in a Medium-sized Firm: a Bidirectional Perspective," *Management Control*, supplemento 3, pp. 39–65, 2012, doi: 10.3280/MACO2013-SU3003.
- [20] M. Lohr, "Specificities of Managerial Accounting at SMEs: Case Studies from the German Industrial Sector," *Journal of Small Business & Entrepreneurship*, vol. 25, no. 1, pp. 35–55, 2012, doi: 10.1080/08276331.2012.10593558.