THE QUEST Journal of Multidisciplinary Research and Development
ISSN 1908-3211 (Online) | ISSN 1908-322X (Print)
P-ISSN: 1908-322X and E-ISSN: 1908-3211
Vol.3 No.1 (2024)
Received: 04-20/ Revised: 06-20/ Accepted:06-30-2024
https://neust.journalintellect.com/quest

Promoting Traditional Enterprise Management Innovation Through Informatization

Xiaolin Shi, Ma. Florisa T. Quijano
Nueva Ecija University of Science and Technology
quijanomaflorisa@gmail.com

Abstract. This study explores the benefits and challenges of traditional enterprises in China in adopting informatization. The findings reveal that traditional enterprises face a variety of challenges, including resistance to change, lack of digital skills, outdated IT infrastructure, and limited government funding. However, informatization has led to significant improvements in product and service quality, productivity, cost savings, and innovation for the respondent enterprises. Strategies to overcome these challenges include developing a change management program, establishing a dedicated committee for budget allocation, fostering a culture of collaboration and communication among stakeholders, conducting a thorough assessment of current systems, developing a talent management strategy, collaborating with industry associations and government agencies, building a network of regulatory experts, and developing a proactive approach to engagement with regulatory agencies. Leadership commitment and financial resources are critical to the success of informatization initiatives. Technological infrastructure is crucial for information security and reliability. Government policies have mixed views on their impact on digital transformation efforts. Recommendations include addressing resistance to change, developing digital skills, overcoming hierarchical structures, communicating benefits, investing in technology, improving technological infrastructure, enhancing cybersecurity measures, and advocating for supportive policies.

Keywords: *Informatization, traditional enterprises, productivity, technological infrastructure*

1. Introduction

In recent years, with the rapid development of information technology, Chinese enterprises have gradually attached importance to the role of informatization in enterprise management innovation. The research dynamics of information management innovation in Chinese enterprises are still constantly being explored and developed. In the future, it is necessary to strengthen

THE QUEST Journal of Multidisciplinary Research and Development
ISSN 1908-3211 (Online) | ISSN 1908-322X (Print)
P-ISSN: 1908-322X and E-ISSN: 1908-3211
Vol.3 No.1 (2024)
Received: 04-20/ Revised: 06-20/ Accepted:06-30-2024
https://neust.journalintellect.com/quest

research and practice to improve the application ability and management innovation level of enterprise information technology. As important developed regions of the world economy, Europe and America have always been in a leading position in the innovation of enterprise information management and have achieved rich results. European and American enterprises have rich research experience and practical achievements in informatization innovation, especially in technological innovation, management innovation, marketing innovation, and cultural innovation.

This paper explores and studies the innovation of enterprise management in traditional Chinese enterprises under informatization. At present, traditional enterprise management methods and models in China are gradually unable to meet the needs of the market and customers. Enterprises need to constantly innovate and improve management methods to improve their competitiveness and operational efficiency. Enterprise informatization has become an important driving force for enterprise management innovation. In the context of informatization, traditional enterprises are facing new challenges and opportunities. How to innovate enterprise management in an information-based environment has become a common concern for both enterprises and academia.

Firstly, the gradual failure of traditional enterprise management models. In traditional enterprise management models, managers rely on manual processing of a large amount of data and information, making the management process cumbersome and difficult to quickly adapt to market changes. The asymmetry of information often leads to blind spots in decision-making, making it difficult for enterprises to achieve accurate prediction and decision-making. At the same time, management efficiency is low, Human error is easy to occur, and timely feedback is not possible. Customer behavior relies on speculation to promote their products, making it difficult to achieve precise marketing. With the development of information technology, enterprises can automate management processes through information systems, achieve data sharing and information exchange, and improve management efficiency and accuracy. Accurately predict and make decisions on corporate strategy through big data analysis. Conduct precise marketing for customers.

Secondly, enterprises are facing increasing competitive pressure. Traditional enterprises need to address the challenges of emerging enterprises in the context of informatization, as well as the fierce competition in domestic and

THE QUEST Journal of Multidisciplinary Research and Development
ISSN 1908-3211 (Online) | ISSN 1908-322X (Print)
P-ISSN: 1908-322X and E-ISSN: 1908-3211
Vol.3 No.1 (2024)
Received: 04-20/ Revised: 06-20/ Accepted:06-30-2024
https://neust.journalintellect.com/quest

foreign markets. By utilizing information technology, enterprises can better understand the market and customer needs, adjust their product and service strategies promptly, and improve their market share and competitiveness.

In addition, the management issues faced by traditional enterprises are becoming increasingly complex. Traditional enterprises need to face various management issues, such as human resource management, supply chain management, financial management, etc. At the same time, traditional enterprise management is too complex, the management process is not transparent, and it is prone to information lag and loss of control. Through information technology, enterprises can achieve digitalization, networking, and intelligence of management processes, improve management efficiency and accuracy, while also reducing management costs and manpower investment.

Finally, the security and privacy issues faced by enterprises in the context of informatization. The development of information technology has also brought security issues to enterprise data and information. Enterprises need to establish a comprehensive information security guarantee system to protect their data and information from malicious attacks and infringement.

Through in-depth research on the impact and mechanism of informatization on enterprise management innovation, exploring new models and paths of enterprise management under the background of informatization, it will help promote the development of enterprise management innovation, improve the competitiveness and operational efficiency of enterprises, and promote sustainable economic development. At the same time, research also needs to consider the actual situation and management characteristics of enterprises, and propose practical and feasible management innovation plans and measures in a targeted manner.

2. Methodology

The study adopted a descriptive research design to investigate how traditional enterprises undergo management innovation through the process of informatization. This method involves observing and documenting important aspects of the phenomenon, without actively manipulating variables. To achieve this, the researcher defined the research goals, collect data that covers financial

THE QUEST Journal of Multidisciplinary Research and Development
ISSN 1908-3211 (Online) | ISSN 1908-322X (Print)
P-ISSN: 1908-322X and E-ISSN: 1908-3211
Vol.3 No.1 (2024)
Received: 04-20/ Revised: 06-20/ Accepted:06-30-2024
https://neust.journalintellect.com/quest

metrics and supply chain-related information, select a diverse set of manufacturing firms to participate, use statistical analyses and visual aids to analyze the data, interpret the findings, recognize the study's limitations and implications, and finally summarize the results in a structured report.

2.1. Sampling Procedure

Purposive sampling was utilized in selecting the respondents of the study, which aimed to determine the sample population required for the purpose of the research. This non-probability sampling method was employed based on the characteristics of a population and the objective of the study (Crossman, 2018). The use of purposive sampling in promoting traditional enterprise management innovation through informatization had several advantages. First, it helped ensure that the participants possessed the relevant skills and knowledge to contribute meaningfully to the project's goals. Second, it enhanced the project's credibility and legitimacy by guaranteeing an objective and transparent selection process. Lastly, it allowed the researcher to focus on the most relevant participants, reducing the time associated with the study.

2.2. Respondents

In this research, the respondents of the study were sourced from the five (5) traditional enterprises in diverse industries, which comprised the following: (1) five members of top executives, as they were responsible for policy making and introducing management innovation, (2) ten IT employees of the company, who were knowledgeable about the traditional enterprises' business processes and technology, and (3) ten employees from the production and operation department, who were knowledgeable about the effects of informatization on the enterprise

Table 1.

Distribution of respondents

THE QUEST Journal of Multidisciplinary Research and Development
ISSN 1908-3211 (Online) | ISSN 1908-322X (Print)
P-ISSN: 1908-322X and E-ISSN: 1908-3211
Vol.3 No.1 (2024)
Received: 04-20/ Revised: 06-20/ Accepted:06-30-2024
https://neust.journalintellect.com/quest

SELECTED TRADITIONAL ENTERPRISES	SAMPLE
Enterprise A	25
Enterprise B	25
Enterprise C	25
Enterprise D	25
Enterprise E	25
TOTAL	**100**

2.2.1 Research Site

This study was conducted in Shanxi, China, which served as an appropriate locale for investigating the traditional enterprises' management innovation through informatization. Shanxi, a province located in northern China, was widely known for its rich coal reserves and production. The province had transitioned to other sectors such as power, machinery manufacturing, and chemical industries in recent decades (Chen WenWen, 2022).

In the past, Shanxi witnessed an upsurge in the amount of investment in modern businesses as the local government increasingly encouraged the sustainable development of the economy (Yang et al., 2019). However, despite this development, traditional enterprises remained firmly rooted in Shanxi. The traditional enterprises in the province were mainly operating in three main sectors: agricultural products, handicrafts, and mining and coal power, mainly due to the province's favorable climate, abundant natural resources, and industrial strengths. There was an increasing trend towards the modernization of traditional industries in the province to improve their efficiency and to integrate them into the larger national economic landscape (Zhang et al., 2019).

3. Results and Discussion

3.1 Profile of the respondent-enterprises in China

The profile of respondent-enterprises includes four organizations: Shaanxi Provincial People's Hospital, Southern Medical University Southern Hospital, China Nuclear Industry Fifth Construction Co., Ltd., and Shenzhen Xinzhongdian Photovoltaic Technology Co., Ltd. The organizations differ in terms of form of

THE QUEST Journal of Multidisciplinary Research and Development
ISSN 1908-3211 (Online) | ISSN 1908-322X (Print)
P-ISSN: 1908-322X and E-ISSN: 1908-3211
Vol.3 No.1 (2024)
Received: 04-20/ Revised: 06-20/ Accepted:06-30-2024
https://neust.journalintellect.com/quest

business, years of operation, products/services, scope of operation, and technology adopted. Shaanxi Provincial People's Hospital and Southern Medical University Southern Hospital are both healthcare providers offering a range of medical services to patients. China Nuclear Industry Fifth Construction Co., Ltd. Specializes in nuclear power plant construction and engineering services, while Shenzhen Xinzhongdian Photovoltaic Technology Co., Ltd. Focuses on solar energy products and solutions. The organizations have adopted various technologies related to informatization to improve efficiency, reduce costs, enhance safety, and optimize performance in their respective industries. These technologies include electronic medical records, telemedicine, medical imaging, medical robotics, health information systems, building information modeling, virtual reality, internet of things, artificial intelligence, big data analytics, cloud computing, and solar panel monitoring systems. The adoption of these technologies reflects the organizations' commitment to providing high-quality services while also reducing costs and environmental impact using digital solutions.

3.2 Factors influence the adoption of informatization in traditional enterprises.

3.2.1Organizational Culture

The culture of open communication and rewarding employees for adopting new technologies has the highest WM at 3.60, indicating that these practices promote innovation and development. However, the culture of resistance to change is somewhat high, suggesting that most employees are not open to changes. The lack of skills and knowledge required to effectively use and integrate new technologies is also evident, indicating a need for technological training. The culture of commitment to digital transformation is not fully evident, highlighting a need for leadership investment in this area. The overall WM of 3.36 reflects a mix of positive and negative cultural factors, which may not be advantageous for technological adaptation. The organizational culture affects employee mindset and behavior towards information technology, with a learning-oriented culture making it easier for employees to adapt to new technologies. (Li Na, 2019)

3.2.2 Leadership Commitment

Based on the findings as can be gleaned from the results the leaders effectively communicate the importance of digital transformation to all

THE QUEST Journal of Multidisciplinary Research and Development
ISSN 1908-3211 (Online) | ISSN 1908-322X (Print)
P-ISSN: 1908-322X and E-ISSN: 1908-3211
Vol.3 No.1 (2024)
Received: 04-20/ Revised: 06-20/ Accepted:06-30-2024
https://neust.journalintellect.com/quest

employees and stakeholders, provide resources to support digitization efforts, actively engage in the digital transformation process, and respond to employee feedback. These practices have a high WM at 3.91, indicating that leadership commitment is critical to the success of informatization initiatives. The overall WM of 3.42 reflects that leadership commitment provides vision, strategy, resource allocation, change management, risk management, collaboration, and continuous improvement. It enables organizations to leverage the full potential of new technologies and processes while minimizing the risks associated with change.

3.2.3 Financial Resources

The findings of the study shows that the indicators of financial resources in four respondent enterprises regarding digital transformation. Investing in cutting-edge software tools and platforms to automate processes and improve efficiency has a high WM at 3.80. The overall WM of 3.36 reflects that financial resources are critical to informatization initiatives, enabling organizations to invest in technology, staffing, implementation, integration, ongoing maintenance, and risk management strategies. Without sufficient financial resources, organizations may not be able to fully realize the benefits of informatization initiatives or mitigate the risks associated with change.

3.2.4 Technological Infrastructure

The findings shows that the indicators of technological infrastructure in four respondent enterprises regarding digital transformation. Strong cybersecurity measures are implemented as part of the technological infrastructure to prevent network threats and data breaches, which is crucial for information security and reliability. Outdated technological infrastructure hinders the ability to fully adopt new digital technologies and compete in the market, requiring timely upgrades and transformations to adapt to new technology and market demands. Limited technological infrastructure can effectively integrate new digital technologies and minimize interference with existing processes, reducing the time and cost of digital transformation. The overall WM of 3.24 reflects that respondent-enterprises have limited accessibility in terms of technological infrastructure, but they still find ways to make informatization fully implemented in their respective organizations.

3.2.5 Government Policies

THE QUEST Journal of Multidisciplinary Research and Development
ISSN 1908-3211 (Online) | ISSN 1908-322X (Print)
P-ISSN: 1908-322X and E-ISSN: 1908-3211
Vol.3 No.1 (2024)
Received: 04-20/ Revised: 06-20/ Accepted:06-30-2024
https://neust.journalintellect.com/quest

The findings show the indicators for government policies in four respondent enterprises regarding digital transformation. The Chinese government has implemented supportive policies and initiatives for digital transformation, promoting digitization and intelligence in enterprises, industries, and society. However, regulatory compliance costs and lack of clear policies have created uncertainty and deterred investment in digital transformation for traditional enterprises. The government provides tax incentives and financial support for organizations investing in new digital technologies, making it easier to fund digital transformation projects. Restrictive government policies related to data privacy and security can impede digital transformation efforts and hinder the adoption of new digital technologies. (Dang Chunyan, 2021) The overall mean for government policies is 3.26, indicating mixed views on the impact of government policies on digital transformation efforts, with areas where improvement is needed to fully support digital transformation efforts.

3.3 Benefits to Traditional Enterprises of Informatization

3.3.1 Quality on Products/Services

The finding shows that informatization has led to improvements in the accuracy and consistency of production processes, enhanced customization capabilities based on customer needs, and increased traceability and transparency in the supply chain leading to better quality control. These initiatives have resulted in significant improvements in product and service quality for the respondent enterprises, with an Overall Mean of 3.39, indicating consistent and significant improvement.

3.3.2 Productivity

The result shows that information simplification and automation of production processes, centralized and real-time data management, and improved employee collaboration and communication through digital tools and platforms have led to significant improvements in productivity for the respondent enterprises, with an Overall Mean of 3.32, indicating consistent and significant improvement.

3.3.3 Cost Saving

THE QUEST Journal of Multidisciplinary Research and Development
ISSN 1908-3211 (Online) | ISSN 1908-322X (Print)
P-ISSN: 1908-322X and E-ISSN: 1908-3211
Vol.3 No.1 (2024)
Received: 04-20/ Revised: 06-20/ Accepted:06-30-2024
https://neust.journalintellect.com/quest

The result shows that reducing paper usage, improving productivity, and implementing just-in-time inventory management systems have led to significant cost savings for the respondent enterprises, with a grand mean of 3.45, indicating consistent and significant cost savings. These initiatives have helped enterprises to reduce indirect costs, lower labor costs, and optimize inventory levels, ultimately improving efficiency, reducing costs, and enhancing competitiveness.

3.3.4 Innovation

The finding shows that informatization has led to significant improvements in innovation for the respondent enterprises, with a grand mean of 3.34, indicating consistent and significant improvements. These initiatives have helped enterprises to increase access to digital technology and data, improve customer engagement, and respond more effectively to changing market trends and consumer demands through real-time analytics and data insights, ultimately improving efficiency, reducing costs, and enhancing competitiveness. (Ma Dandan, 2018)

3.4 Challenges of Enterprises in Adopting Informatization

Based on the findings of the study, traditional enterprises in China face several challenges when adopting information management innovation. These challenges include resistance to change, lack of digital skills, difficulty in overcoming hierarchical structures, lack of understanding or awareness of benefits, resistance to investing, balancing short-term vs long-term goals, limited budget allocation, difficulty in securing funding, competition for resources, outdated IT infrastructure, difficulty in integrating new technologies with legacy systems, limited availability of skilled personnel, lack of supportive regulatory environment, and limited availability of government funding. These challenges are multifaceted and include cultural and conceptual barriers, organizational structure and management processes, lack of technology and talent, data security and privacy protection issues, capital investment and cost issues, and employee training and education issues.

3.5 Proposed Strategic Plan Based on the Findings

THE QUEST Journal of Multidisciplinary Research and Development
ISSN 1908-3211 (Online) | ISSN 1908-322X (Print)
P-ISSN: 1908-322X and E-ISSN: 1908-3211
Vol.3 No.1 (2024)
Received: 04-20/ Revised: 06-20/ Accepted:06-30-2024
https://neust.journalintellect.com/quest

The proposed strategic plan outlines various challenges that traditional businesses face in implementing information technology initiatives, and provides strategies to overcome them. These challenges include resistance to change, limited budget allocation, difficulty in balancing short-term business priorities with long-term IT initiatives, insufficient or outdated IT infrastructure and systems, limited availability of skilled IT personnel, lack of regulatory environment or policies to support digital transformation, and limited government funding or other incentives for IT initiatives. Strategies to address these challenges include developing a change management program, establishing a dedicated committee for budget allocation, fostering a culture of collaboration and communication among stakeholders, conducting a thorough assessment of current systems, developing a talent management strategy, collaborating with industry associations and government agencies, building a network of regulatory experts, and developing a proactive approach to engagement with regulatory agencies. These strategies are implemented by various departments within the organization over a period of one to three years, with regular reviews to assess progress and make necessary adjustments

4. Conclusions

The following conclusions were derived based on the findings of this study:

1. Traditional enterprises in China face multifaceted challenges when adopting information management innovation, including resistance to change, lack of digital skills, difficulty in overcoming hierarchical structures, lack of understanding or awareness of benefits, resistance to investing, balancing short-term vs long-term goals, limited budget allocation, difficulty in securing funding, competition for resources, outdated IT infrastructure, difficulty in integrating new technologies with legacy systems, limited availability of skilled personnel, lack of supportive regulatory environment, and limited availability of government funding.
2. Organizational culture plays a critical role in promoting or hindering technological adaptation. While some practices such as open communication and rewarding employees for adopting new technologies promote innovation and development, others such as resistance to change and lack of skills and

ISSN 1908-3211 (Online) | ISSN 1908-322X (Print)
P-ISSN: 1908-322X and E-ISSN: 1908-3211
Vol.3 No.1 (2024)
Received: 04-20/ Revised: 06-20/ Accepted:06-30-2024
https://neust.journalintellect.com/quest

knowledge required to effectively use and integrate new technologies hinder technological adaptation.

3. Leadership commitment is essential for the success of informatization initiatives. Leaders effectively communicate the importance of digital transformation to all employees and stakeholders, provide resources to support digitization efforts, actively engage in the digital transformation process, and respond to employee feedback.

4. Financial resources are critical to informatization initiatives as they enable organizations to invest in technology, staffing, implementation, integration, ongoing maintenance, and risk management strategies.

5. Technological infrastructure is crucial for information security and reliability. Strong cybersecurity measures are implemented as part of the technological infrastructure to prevent network threats and data breaches.

6. Government policies have mixed views on their impact on digital transformation efforts. While supportive policies and initiatives for digital transformation promote digitization and intelligence in enterprises, industries, and society, regulatory compliance costs and lack of clear policies have created uncertainty and deterred investment in digital transformation for traditional enterprises.

References

Cheng WenWen. (2022) Research on the Impact of Financial Science and Technology Investment on the Innovation Efficiency of High-tech Industries, F276.44; F812.45

Crossman, A. (2018). Different Types of Sampling Designs in Sociology and How to Use Them: An Overview of Probability and Non-Probability Techniques. ThoughtCo.

Dang Chunyan. (2021) Research on Enterprise Informatization Construction and Enterprise Management Innovation Strategy [J], No.011, 58-59

Li Na. 2019 (3). Research on the Evaluation of the Innovation Effect of Traditional Enterprise Management Based on Informatization [J] Business Research, 70-71

Ma Dandan.2018 (6). Analysis of Traditional Enterprise Management Innovation Strategies under the Wave of Informatization [J] Modern Economy, 167-168

THE QUEST Journal of Multidisciplinary Research and Development
ISSN 1908-3211 (Online) | ISSN 1908-322X (Print)
P-ISSN: 1908-322X and E-ISSN: 1908-3211
Vol.3 No.1 (2024)
Received: 04-20/ Revised: 06-20/ Accepted:06-30-2024
https://neust.journalintellect.com/quest

Zhang Jianhua, Chen Xiaohui 2016 (6). Research on Enterprise Management Innovation Strategies in the Information Age [J] Technology Perspective, 70-71

Li, Y., & Yang, Y. (2019). Challenges and solutions for informatization in traditional enterprises. Journal of Computer Information Systems, 30(2), 25-32.