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NATIONAL AGRARIAN UNIVERSITY ECONOMICS AND MANAGEMENT  
FACULTY

**Public management and administration Department**

**QUALIFICATION WORK**  
**Education Degree - Master**

**on: Managing the digital transformation of an enterprise:  
new opportunities for competitiveness in the digital age**

Completed: student of  
073 «Management» (EP «Administrative Management»)  
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Reviewer **Habib Usman Abraham**  
Master of Administrative management

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# 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 \_\_\_\_ y.

## TASK

**on qualification work for student**

***Hu Guanhao***

**1. Managing the digital transformation of an enterprise: new opportunities for competitiveness in the digital age:**

*Supervisor* *Olena Slavkova, Dr., Professor*

*approved by the university from*

*№1783/1-OC from 22.08.2025*

**2. Deadline for student completed project (work)**

*October, 13.2025*

**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 2022-2024*

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

- 1. Define the basic concept and the corresponding theoretical basis*
- 2. Conduct data analysis on the management of digital transformation of the enterprise using the example of Great Wall Motor Company Limited*
- 4. Identify the problems and countermeasures of the management of digital transformation of the enterprise*
- 5. Develop new opportunities for competitiveness in the digital age*

*5. Date of assignment:*

*15.01.2025 y.*

### 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                         | August 2024                        | done |
| 2  | Selection and analysis of literary sources, the preparation of the first theoretical chapter              | October - November 2024            | done |
| 3  | Preparation and presentation of draft of the first chapter of the thesis                                  | January – February 2025            | done |
| 4  | Collection and processing of factual material, synthesis analysis of application issues in the enterprise | March – May 2025                   | done |
| 5  | Making the theoretical part of the thesis, summarizing the analytical part                                | June 2025                          | done |
| 6  | Design options improve the research problem                                                               | 25-31 July 2025                    | done |
| 7  | Completion of the project part of the thesis, design chapters                                             | 09 August 2025                     | done |
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| 9  | Checking the authenticity of the thesis                                                                   | 23 August 2025                     | done |
| 10 | Deadline for student completed the thesis                                                                 | 05 September 2025                  | done |
| 11 | Defense of the thesis                                                                                     | 30 October 2025                    | done |

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## ABSTRACT

**Hu GUANHAO. Managing the digital transformation of an enterprise: new opportunities for competitiveness in the digital age**

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

Currently, digital transformation in enterprises is gaining widespread attention. At the macro level, digital transformation has opened up new development paths for the national economy, promoted the optimization and upgrading of the industrial structure, and enhanced the country's competitiveness on the international stage. For enterprises, digital transformation not only enables them to better adapt to market dynamics but also more effectively meet consumer needs, thereby enhancing their sustainable development capabilities. Traditional manufacturing companies, characterized by high labor costs and low levels of automation, have led to stagnant economic development in my country. With shifting consumer trends, optimized manufacturing processes, and evolving business models, the automotive industry faces numerous challenges. To address these challenges, digital transformation has become a key strategy for driving industry upgrades and high-quality growth for enterprises. By examining Great Wall Motors' digital transformation and drawing on theories of technological innovation, organizational change, and process reengineering, this article explores the implementation path of digital transformation across various business segments, the mechanisms by which digital transformation impacts performance, and the impact of digital transformation on performance. The author first explains the research background, significance, literature review, research methodology, and research content. Next, the article introduces Great Wall Motors, the background of its digital transformation, and the current state of the industry, analyzing its drivers, transformation path, and underlying mechanisms. By comparing Great Wall Motors' financial and non-financial performance horizontally and vertically, the article assesses the impact of digital transformation on its overall performance. Ultimately, the study aims to clarify how digital transformation impacts Great Wall Motors' performance and provide practical insights for strategies and policies related to digital transformation in the automotive manufacturing industry and more broadly. An analysis of Great Wall Motor's digital transformation reveals that its digital transformation primarily encompasses five areas: R&D, procurement, production, marketing, and process management. This digital transformation has had an overall positive impact on Great Wall Motor's performance. However, to support Great Wall Motor's future development, the company is advised to optimize its financing structure and strengthen financial risk management to ensure sufficient solvency funds to prevent damage to its reputation. Furthermore, this study of Great Wall Motor's digital transformation offers several insights: first, a company's digital transformation must be customer-driven; second, it must be centered around its core business; and finally, building its core competitiveness is crucial to ensuring the successful implementation of digital transformation.

**Key words:** managing, digital transformation, enterprise, new opportunities, competitiveness in the digital age

## АНОТАЦІЯ

**Ху ГУАНХАО. Управління цифровою трансформацією підприємства: нові можливості для конкурентоспроможності в цифрову епоху**

**Кваліфікаційна робота за спеціальністю 073 «Менеджмент», ОП «Адміністративний менеджмент» СНАУ, Суми-2025 - Рукопис.**

Наразі цифрова трансформація на підприємствах привертає широку увагу. На макрорівні цифрова трансформація відкрила нові шляхи розвитку для національної економіки, сприяла оптимізації та модернізації промислової структури, а також підвищила конкурентоспроможність країни на міжнародній арені. Зі зміною споживчих тенденцій, оптимізацією виробничих процесів та розвитком бізнес-моделей автомобільна промисловість стикається з численними викликами. Для вирішення цих викликів цифрова трансформація стала ключовою стратегією для стимулювання модернізації галузі та високоякісного зростання підприємств. У цій статті як приклад використовується Great Wall Motors, ключовий гравець в автомобільній промисловості. Досліджуючи цифрову трансформацію Great Wall Motors та спираючись на теорії технологічних інновацій, організаційних змін та реінжинірингу процесів, ця стаття досліджує шлях впровадження цифрової трансформації в різних сегментах бізнесу, механізми, за допомогою яких цифрова трансформація впливає на продуктивність, та вплив цифрової трансформації на продуктивність. Автор спочатку пояснює передумови дослідження, значення, огляд літератури, методологію дослідження та зміст дослідження. Далі стаття представляє Great Wall Motors, передумови її цифрової трансформації та поточний стан галузі, аналізуючи її рушійні сили, шлях трансформації та основні механізми. Порівнюючи фінансові та нефінансові показники Great Wall Motors горизонтально та вертикально, стаття оцінює вплив цифрової трансформації на її загальну ефективність. Зрештою, дослідження має на меті з'ясувати, як цифрова трансформація впливає на продуктивність Great Wall Motors, та надати практичні поради щодо стратегій та політики, пов'язаних з цифровою трансформацією в автомобільній промисловості та в цілому. Аналіз цифрової трансформації Great Wall Motor показує, що її цифрова трансформація охоплює в першу чергу п'ять напрямків: дослідження та розробки, закупівлі, виробництво, маркетинг та управління процесами. Ця цифрова трансформація мала загалом позитивний вплив на ефективність Great Wall Motor. Однак, для підтримки майбутнього розвитку Great Wall Motor, компанії рекомендується оптимізувати структуру фінансування та посилити управління фінансовими ризиками, щоб забезпечити достатні кошти платоспроможності та запобігти пошкодженню репутації. Крім того, це дослідження цифрової трансформації Great Wall Motor пропонує кілька висновків: по-перше, цифрова трансформація компанії має бути орієнтована на клієнта; по-друге, вона має бути зосереджена навколо її основного бізнесу.

**Ключові слова:** управління, цифрова трансформація, підприємство, нові можливості, конкурентоспроможність у цифрову епоху

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## INTRODUCTION

With the rapid evolution of digital technology, the world is witnessing a wave of digital transformation driven by governments and industry leaders, injecting innovation into traditional industries. In 2013, Germany launched its Industry 4.0 strategy, signaling its commitment to digitally upgrade traditional industries to seize the opportunities of the digital economy. Also that year, China launched a special action plan for the integration of industrialization and informationization, guiding traditional enterprises to explore new development paths using internet technologies. In 2015, with the introduction of "Made in China 2025" and "Internet Plus," the government's support for the adoption of modern digital tools such as big data, cloud computing, and the Internet of Things in various industries, including manufacturing, became more explicit. Between 2016 and 2024, China further emphasized the development of informatization and the integration of digital technologies with the real economy. The term "new quality productivity" was first mentioned by General Secretary Xi Jinping during his inspection tour in Heilongjiang in September 2023. On January 31, 2024, Xi Jinping emphasized the need to accelerate the development of new-quality productive forces and solidly promote high-quality development during the 11th collective study session of the Political Bureau of the CPC Central Committee. New-quality productive forces are advanced productive forces characterized by high technology, high efficiency, and high quality, driven by innovation, breaking away from traditional economic growth models and productivity development paths, and conforming to the new development philosophy. Improving new-quality productive forces through digital transformation will be the inevitable path for the future development of Chinese enterprises. Manufacturing is the leading industry in my country's national economy, the mainstay of the real economy, the primary battlefield for technological innovation, and a key area of supply-side structural reform. High-quality development of the Chinese economy requires the support of high-quality manufacturing. Although China's manufacturing industry has long been the world's largest, it continues to face challenges of large scale but

insufficient strength, and a wide variety but limited quality. These issues are becoming increasingly prominent as the international and domestic environments evolve. The challenges facing China's manufacturing industry are particularly significant under the impact of the Industrial Internet and intelligent manufacturing. Compared to trade protectionism and trade friction, the impact of the technological revolution is even more profound. Technological advancements are reshaping the organizational structure of the manufacturing industry. Currently, next-generation digital technologies such as big data, artificial intelligence, mobile internet, cloud computing, and 5G are widely applied across multiple sectors, providing unprecedented development opportunities for the manufacturing industry. Integrating these advanced technologies can significantly improve efficiency across all stages of the manufacturing industry, from R&D to production and sales, promoting the transformation and upgrading of traditional manufacturing and contributing to high-quality national economic development. This article will use Great Wall Motor's digital transformation as an example, analyzing the company's digital transformation path through case studies. It will also compare and analyze the company's performance indicators before and after digital transformation, examining the specific impact of digital transformation on corporate performance and its underlying mechanisms. This study aims to provide a reference for the digital transformation of Great Wall Motor and other automotive manufacturers.

**Goal of the qualification work.** The primary goal is to develop and substantiate a practical management model (or set of recommendations) for effectively managing the digital transformation process within a specific enterprise (or industry) to significantly enhance its long-term competitiveness and market positioning in the modern digital economy.

**The main task** of the qualification work is to develop theoretical and methodological foundations and practical recommendations for effective management of the digital transformation processes within an enterprise (or specific industry) with the goal of ensuring its sustainable development and enhancing its competitiveness in the dynamic digital environment.

**Object.** The Object of the study is the process of managing the digital transformation of an enterprise and the set of managerial relationships that arise during the implementation of digital technologies and the restructuring of business models.

**Subject.** The Subject of the study is the theoretical, methodological, and applied aspects of forming, implementing, and evaluating the effectiveness of digital transformation management strategies within an enterprise, specifically aimed at increasing its competitiveness in the digital age.

**Research Methods.** To ensure the reliability and validity of your findings, a combination of theoretical and empirical research methods should be employed: theoretical Methods (Literature Review and Analysis), systemic analysis and synthesis: used to structure and generalize existing theoretical knowledge on digital transformation, competitive strategy, and change management; comparative analysis: used to compare different digital transformation models (e.g., McKinsey's 7S, various maturity models) and best practices across different industries or geographies; deduction and Induction: used to move from general theories of management (deduction) to specific conclusions about the observed enterprise (induction) and vice versa.

**Theoretical significance.** Revealing the impact path of digital transformation on automobile companies With the rise of technologies such as 5G, artificial intelligence, and the Internet of Things, my country's economy is moving towards high-quality development. To achieve this goal, companies must be able to effectively integrate information technology with traditional industries in order to cope with the comprehensive challenges brought by digital transformation. Although the paths of digital transformation are diverse, there are relatively few studies on the impact path of digital transformation of automobile companies on enterprises. Therefore, this study is of great significance to conduct in-depth research in this field and can enrich the theoretical research in the field of digital transformation. (2) Expanding the research on factors affecting corporate performance Existing literature mainly explains the impact on corporate performance based on corporate strategy, corporate

management, R&D investment, and executive influence, while there are relatively few studies on the impact under the digital background. In addition, most of the existing literature focuses on the relationship between corporate information sharing platforms and corporate performance, and the research on the relationship between comprehensive intelligent digital transformation and corporate performance is relatively limited. Therefore, based on existing research, this study studies the impact path of digital transformation on corporate performance, further enriching and expanding the theoretical research in the field of corporate performance research.

**Practical significance.** Provide reference for the digital transformation of the automobile manufacturing industry. As a representative enterprise in the automobile industry, Great Wall Motors has a complete industrial chain and advanced manufacturing equipment, and is an important representative in the industry. Since the beginning of its digital transformation in 2021, Great Wall Motors has achieved many results, including a complete digital management system and intelligent production lines. By exploring the path of digital development, Great Wall Motors has improved its corporate performance and achieved sustainable development. As a successful case, Great Wall Motors' experience can provide reference for the digital development of the automobile manufacturing industry and promote the improvement of the overall level of the industry.

Provide experience for the industry's macro-digital transformation policy. From a global perspective, the world is in an era of rapid development of information technology, and the manufacturing and construction industries are important economic pillar industries. The reform and upgrading of these two fields is an inevitable trend of future economic development and is also the key to economic development. However, there are still some problems in the implementation of digitalization in my country's automobile manufacturing enterprises. Therefore, this study studies the digital transformation path of Great Wall Motors, which can provide meaningful reference for relevant departments to formulate digital transformation guidelines that adapt to the industry situation and promote the digital development of the industry.

Qualification work has been approved at scientific conferences:

1.Hu Guanhao. Digital transformation management: redefining enterprise competitiveness in the digital age a case study of Great Wall Motor Company Limited. *Актуальні проблеми та перспективи розвитку обліку, аналізу та контролю в соціально-орієнтованій системі управління підприємством* : Матеріали VIII Всеукраїнської науково-практичної конференції. Частина 2. Полтавський державний аграрний університет (25 березня 2025 р.). Полтава, 2025. С.325-326

2.Hu Guanhao Managing workforce resources in modern business conditions: a case study of great wall motor company limited. *Матеріали XII Всеукраїнської науково-практичної конференції “Екологічні та соціальні аспекти розвитку економіки в умовах євроінтеграції”* 29-31 жовтня 2025 року м. Миколаїв.

Qualification work consists of an introduction, six chapters, list of references that includes 51 publications, applications, 10 tables, 4 figures. Full volume of 65 pages.

## CHAPTER 1

### **DEFINITION AND THEORETICAL FOUNDATION OF MANAGING THE DIGITAL TRANSFORMATION OF ENTERPRISE NEW OPPORTUNITIES FOR COMPETITIVENESS**

The digital economy has become an important driving force that cannot be ignored. Faced with an increasingly complex external environment, enterprises need to gain new competitive advantages through digital transformation (Liu Jie et al., 2023) [1]. Liu Junhang et al. (2023) believe that an important factor for enterprises to carry out digital transformation is the rapid development of modern digital technology, and the widespread application of modern digital technology is also a necessary condition for transformation [2]. Digitalization and big data analysis have not only promoted the digitalization process of enterprises, but have also penetrated into the daily organizational management and business models of enterprises. my country is ushering in a wave of digital transformation, and all fields are actively promoting the reform of industries and enterprises (Li Xiaohua, 2021) [3]. According to the analysis of Chen Zhixiang and Chi Jiayu (2016), the main driving forces of digital transformation include the increase in labor costs and the increase in environmental resources [4]. In addition, Xu Meng (2022) proposed in his research that the continuous development of the digital economy and the continuous evolution of social needs are the core factors that drive enterprises to implement digital upgrades [5]. Liang Jianjiao (2022) discussed in detail the key driving factors of the digital transformation of the manufacturing industry, especially from the two dimensions of technological innovation and industry demand. He believes that the rapid evolution of information technology is not only an important driving force for digital transformation, but also enhances the breadth of digital application in different industries; in addition, the combination of information technology and manufacturing has stimulated the comprehensive innovation of enterprises and promoted in-depth digital transformation from top to bottom [6]. Yang Zhuofan (2022) elaborated on the

two major factors that drive the digital transformation of enterprises. The first is the profound impact of the popularization of digitalization on consumer behavior, which in turn requires suppliers to continuously optimize service and product quality to meet new market demands, prompting the digital reform of the supply chain. The second is the innovation-driven transformation strategy, which emphasizes the enhancement of industry interconnection through platform construction and industrial chain service integration, forcing enterprises to reshape their development strategies to meet digital challenges [7]. The scale of the global digital economy continues to expand, and various industries are facing unprecedented challenges and opportunities. In such a rapidly changing environment, if enterprises want to maintain their competitiveness, they must respond through high-quality transformation and upgrading. This transformation is not only about technological updates, but also about comprehensive adjustments to corporate strategies to ensure sustainable development in a dynamic market. The research results of Han Jiaping et al. (2024) show that the application of digital technology can help companies more effectively integrate external consumer information and deeply explore consumer needs, so that companies can quickly respond to consumer requirements [8]. Zhang Qinglong (2022) pointed out that the key to digital transformation is to reform the company's performance methods through digital technology, with the aim of improving customer experience and meeting their customized needs [9]. In addition, Yang Bin and Wang Lin (2022) proposed that strengthening customer experience is the core of improving corporate operational efficiency, and the purpose of digital transformation should focus on optimizing services and products through real-time customer data feedback [10]. Xie Kang et al. (2022) also proposed that during the implementation of digital transformation, customer service methods should be updated through innovative business processes, aiming to establish an innovative service system for the digital economy [11]. With the rapid expansion of the global digital economy, digital technologies have become an indispensable part of all industries. As Zhao Xisan (2019) stated, these technologies help companies solve development problems and maintain sustainable development in a changing market environment [12]. At the

same time, Thomas and Christian (2016) found that corporate management plays a key role in promoting digital transformation. This transformation not only improves the company's operational capabilities, but also provides new ideas for attracting customers and expanding markets by reducing costs and improving efficiency [13]. These views emphasize the importance of adapting and adopting digital strategies for the future success of companies. Innovation in digital technology has led to improvements in corporate business processes, thereby improving the company's operational efficiency (Tobias et al., 2022) [14]. He Fan and Qin Yuan (2021) discussed the information island effect caused by information asymmetry in enterprises and discussed how digitalization can effectively reduce the cost of accessing key business resources [15]. On the other hand, the research of Qi Yudong et al. (2022) shows that through digitalization, enterprises can reduce the cost of converting consumers and improve the efficiency of consumers' use of products, thereby increasing the overall value [16]. Based on these research results, further analysis shows that digital transformation can reduce the operating costs of enterprises and improve the cost-effectiveness of the operation process.

The concept of digitalization stems from advances in information technology. In the late 1990s, the rapid development of information technology garnered widespread attention, particularly in the manufacturing industry, where informatization became increasingly prominent, prompting numerous experts to conduct in-depth research. Scholars emphasize that the core of manufacturing informatization lies in the in-depth application of information technology throughout the entire production process, encompassing product design, manufacturing, operations, and services. This informatization approach improves efficiency and promotes innovative production methods such as large-scale personalized customization and cross-border collaborative R&D. The core of digitalization is the transformation of various types of real-world information (such as physical data, business processes, and knowledge and experience) into a computable and storable digital form through the internet and information technology. This data is then processed and analyzed by computer programs, edited and managed more efficiently and accurately, and shared and

transmitted through digital platforms. Its goal is to improve organizational operational efficiency, optimize decision support, and achieve comprehensive informatization and intelligent applications. Enterprises can leverage digital technologies to store and analyze data from operational and management activities, transforming actual operations into storable and interactive digital information, thereby optimizing production, operations, and management decision-making processes.

**The Concept of Enterprise Digitalization.** Enterprise digitalization, in essence, involves the use of digital technologies to deeply optimize and reshape an enterprise's business operations, processes, organization, and culture, aiming to achieve the dual goals of efficient management and innovative development. Currently, the widespread application of digital technologies such as cloud computing, big data, artificial intelligence, and the Internet of Things has profoundly impacted and transformed the operational models and business models of enterprises. This encompasses everything from the advancement of business digitalization, the establishment of digital decision-making mechanisms, the flexible transformation of organizational structures and culture, the widespread implementation of digital marketing, and the emergence of innovative products and services. Enterprise digitalization is not limited to a single level; it is a multi-layered, comprehensive transformation process. Through digital transformation, enterprises can significantly improve operational efficiency, enhance flexibility, and stimulate innovation, thereby gaining a competitive edge in the market, better meeting customer needs, and achieving long-term sustainable development.

Digital transformation lacks a single, unified concept because its specific forms vary. The concept of "digital twin" was first proposed in the United States in 2011, and numerous articles have since appeared on the subject. Digital transformation involves leveraging new digital technologies to improve and transform key business operations. For example, improving customer experience, streamlining operations, creating new business models, and changing organizational structures all impact business performance. Previously, understanding digital transformation in businesses

was largely technical, interpreting it as applying digital technologies to specific aspects of a company's operations. In recent years, many scholars have gradually realized that digital transformation in businesses involves more than simply applying digital technologies; more importantly, it involves applying them to a company's processes, products, and services. With the continuous advancement of digital technology, digital transformation is gaining increasing attention. The World Development Report: Digital Dividends defines digital transformation as fully leveraging the widespread adoption and application of digital technologies to achieve comprehensive integration, integrating digital technologies into organization, production, and management, and empowering businesses with new production capabilities, thereby transforming existing business processes. The ultimate goal of digital transformation is to update productivity and production relations, aligning them with the digital economy and society. An enterprise's digital transformation involves applying existing digital technologies to its strategies and operational objectives, leveraging them to enhance its capabilities in various areas, including production, operations, and management, enabling digital technologies to support its growth. Digital technologies provide new ways for enterprises to access, control, and manage various resources. However, the ultimate goal of digital transformation is not simply to meet a company's short-term operational goals. It also requires transforming human thinking, repurposing and integrating existing data resources, and exploring new frontiers through the integration of the Internet of Things and the digital economy, thereby enabling the company to achieve new breakthroughs.

During the course of business, when profound changes occur in the internal and external environment, companies must fundamentally and comprehensively reform and adjust their strategic goals, business models, organizational structures, and management models to achieve long-term growth. This process, known as strategic change, is not only a tool for enterprises to adapt to environmental changes but also a crucial stage in achieving advantage in a highly competitive market. Changes in market demand, the competitive landscape, and the adaptation of directives and regulations to the external environment have profoundly impacted corporate

activities. Simultaneously, changes also occur in a company's internal resources, technological expertise, and cultural expertise. When these internal and external factors undergo significant changes, a company's existing strategic position, business model, and organizational structure may no longer be applicable and may even become an obstacle to its development. Therefore, companies need to fully understand market changes and promptly adjust their strategic direction to ensure a dynamic balance with the external environment, including market migration, product portfolio optimization, and expansion into new business areas. At the same time, companies need to reallocate internal resources, enhance core competitiveness, and adapt to the new market environment. Innovation is a key driver of strategic transformation. Companies need to break free from the limitations of traditional thinking and actively explore new business models and management methods. By introducing new technologies, processes, and models, companies can not only enhance employees' innovative awareness and skills, stimulate their creativity, and support talent participation in the company's strategic transformation, but also reduce costs, improve efficiency, and enhance market competitiveness. Liu Xuchen (2023) emphasized in his research that strategic transformation implies a profound and complex social transformation. To support this transformation, organizations need to accurately grasp the pulse of the times, choose the right scientific development direction, and, based on this, develop a comprehensive environment closely aligned with social realities to ensure the smooth development and successful implementation of strategic transformation. Different companies have their own characteristics when formulating strategies, but some of the basic principles are universal and worthy of in-depth study and learning by all companies during the transformation process.

(1) The long-term principle The so-called long-term principle emphasizes that enterprises should have a far-reaching vision in the strategic planning process and avoid being limited to short-term interests. Some strategies may not produce significant returns in the short term, but if they can actively support the long-term development of the company, its strategic transformation is worth success. Entrepreneurs need to have a long-term vision. The company's main goal is to

improve the company's basic competitiveness, actively manage the company's comprehensive reform, and place the company's long-term development in a strategic position. Only by following the principle of long-term sustainable development can the company maintain a steady pace in the fierce market competition and achieve sustainable prosperity and success.

(2) The principle of reshaping When an enterprise decides to undergo strategic transformation, it often means that its current development status can no longer adapt to the needs of future development. Therefore, choosing change means fundamentally transforming the existing strategy into a comprehensive transformation of the entire business model, which not only constitutes the actions and thinking of employees, but also fundamentally changes the prospects for problem solving and problem solving. Only from the perspective of senior management can we gradually promote the comprehensive reform of the business environment, business model and even business culture, so that the company can achieve stable transformation and lay a solid foundation for future sustainable development.

(3) Risk principle Strategic transformation is like a double-edged sword. It contains huge opportunities but also carries considerable risks. In fact, opportunities and risks are often complementary. Enterprises will not easily and frequently adjust their strategic direction during their life cycle. If a company decides to start restructuring, its future development direction will undergo profound changes. Successful strategic transformation helps optimize the company's resource allocation and improve risk prevention capabilities. However, if the transformation does not meet expectations, the company may encounter difficulties. Therefore, restructuring and business strategy are not the initial decision, but a thorough assessment of major risks. When conducting strategic transformation, organizations must consider the pros and cons to ensure that the transformation is smooth and effective.

### 2.1.3 Enterprise performance

Enterprise performance covers the operating value created and the operating achievements achieved by the enterprise during a certain operating period. Corporate performance reflects a company's overall capabilities and is a key indicator of its

operating conditions. It encompasses several aspects: profitability, market recognition and scale, employee quality, and customer satisfaction.

Generally speaking, corporate performance can be divided into two major areas: financial performance and non-financial performance. Financial performance primarily reflects a company's operational level and profitability through indicators in financial statements. Non-financial performance includes aspects such as product quality, market share, customer satisfaction, employee satisfaction, and social recognition.

Performance evaluation serves the following functions: First, it serves as an evaluation function. Performance appraisal is an effective means of assessing both companies and individuals. The company's operating level and employee performance significantly impact the operating conditions of the organization being evaluated. Therefore, implementing performance appraisals can effectively improve managers' management skills.

Performance appraisals provide a comprehensive, accurate, and objective assessment of the performance of the organization being evaluated, effectively eliminating human influence and interference. Second, it serves to uncover potential. Performance appraisals can be used to compare the assessed company with other companies, encouraging them to focus on their weaknesses, tap into their potential, and ultimately improve their performance. Third, they play a guiding and motivating role. Performance appraisals can direct the fundamental purpose of the appraisal to work performance, motivating all departments to improve and achieving optimal resource utilization.

Contingency theory, also known as contingency theory, contingency management theory, and leadership contingency theory, was originally proposed by renowned management guru Fiedler in his books *Leadership Effectiveness* and *Leadership Effectiveness*. This theory was developed in the late 1960s and early 1970s based on the empiricist school of thought. Its emergence was driven by the turbulent economy, frequent political shifts, and the oil crisis in the United States, creating unprecedented social unrest and creating a highly unstable business

environment. Against this backdrop, traditional management theories that sought to be universally applicable proved inadequate, leading to the emergence of contingency theory. After more than 20 years of development, contingency theory has formed three major management models, namely: the "Leadership Contingency Theory" proposed by American scholar Fiedler, which emphasizes adjusting leadership style and leadership strategy according to the actual situation in the operation of the enterprise - external environment, organizational structure, employee quality, employee acceptance of tasks, relationship between leaders and employees, etc.; the "Goal-Path" theory proposed by Canadian scholar House, which also emphasizes adjusting leadership strategy according to specific situations; and the "Leadership Participation" theory proposed by Fee and Yetton, which further emphasizes the importance of employee participation and situational adaptation. The core ideas of contingency theory mainly include the following points: (1) Change with specific situations: Contingency theory believes that the internal elements and external environment and conditions of each organization are different. Therefore, there are no principles and methods that are applicable to any situation in management activities. The key to successful management lies in a full understanding of the internal and external conditions of the organization and effective response strategies. (2) Considering situational factors and the influence of those being led: Contingency theory not only considers the personal factors of the leader, but also emphasizes the need to consider the influence of situational factors and the influence of those being led, and to find a leadership model that adapts to changes in the environment. (3) Emphasizing the practicality and artistry of management: Contingency theory believes that management is not so much a theory as it is a highly practical technology, an art of change. A good leader must change his or her leadership style in a timely manner according to the different environments, constantly adjust himself or herself, and adapt to external changes in a timely manner. Contingency theory is considered an important extension of system theory, and companies must develop over time. In an era of rapid development of information technology, companies must actively introduce innovative concepts and technologies based on their own

conditions to promote transformation and development. This requires companies to abandon outdated business models, optimize resource allocation, and achieve sustainable and stable development. Today, digital and intelligent technologies have penetrated into all aspects of society, not only changing people's lifestyles, but also profoundly affecting the company's organizational structure, production methods, and business processes. Therefore, companies like Great Wall Motors need to remain sensitive to environmental changes and implement a digital strategic transformation. They must break away from traditional management structures and adopt a unified, efficient, and fast-flowing information organization to better adapt to market demands and new trends in social development.

### 2.2.2 Process Reengineering Theory

Process reengineering theory was first proposed by Michael Hammer and James Champy in their 1993 book, "Reinventing the Company: A Manifesto for a Corporate Revolution." These two Harvard management scholars, facing the challenges of American companies transitioning from a seller's market to a buyer's market, first proposed the concept of process reengineering. Its core principle lies in the profound restructuring of a company's business processes. These two experts believe that by comprehensively optimizing and upgrading every link in a company's entire industrial chain, operating and production costs can be effectively reduced while improving product and service quality, thereby significantly enhancing operational efficiency. This transformation aims to continuously adapt corporate processes to changes in the external environment and evolving customer needs. As each era has its own unique characteristics, the meaning of process reengineering continues to enrich and deepen. With the introduction of this theory, more and more companies have begun to realize the importance of process reengineering and have begun to try and apply this theory in actual operations. Based on strategic adjustments and changes in business models, companies have fundamentally reconsidered the way they provide products or services and rebuilt a new business process system. The core essence of process reengineering theory mainly includes the following aspects:

- (1) Customer-centric: Process reengineering emphasizes redesigning and

optimizing the company's business processes from the customer's perspective to meet customer needs and expectations.

(2) Breaking the traditional management method: Process reengineering advocates breaking the company's management method of setting up departments according to functions, replacing it with a business process-centric approach and redesigning the company's management process.

(3) Pursuing global optimization: Process reengineering pursues global optimization rather than individual optimization. It requires confirming the company's operating processes as a whole and improving the company's operational efficiency and business performance through optimization and reengineering.

(4) Fundamental, thorough and significant: Process reengineering has the characteristics of being fundamental, thorough and significant. It requires fundamental breakthroughs and changes to the original process to achieve significant improvement results. In practice, process reengineering typically involves the following steps: business blueprint and process planning, current process description and problem analysis, process optimization and reengineering, supporting process design, and process informatization. These steps aim to help companies comprehensively streamline and transform their business processes, thereby enhancing their competitiveness and market position.

Daily operations involve multiple departments, including R&D, procurement, production, sales, after-sales service, and finance, resulting in complex and diverse processes. The goal of process reengineering is to leverage advanced technologies to implement targeted improvements and reshape processes based on the company's specific circumstances. This process helps break down barriers between departments within the company and achieve interconnectedness across all processes. By thoroughly analyzing the source of these processes, companies can more effectively reduce expenditure and sales costs, thereby generating positive side effects on overall performance. Based on the core concept of process reengineering, this article will delve into how Great Wall Motors, after introducing RPA (Robotic Process Automation) throughout its business processes, achieved cost reduction and

efficiency gains in key areas such as R&D, production, supply, sales, and finance, ultimately leading to significant improvements in corporate performance.

### 2.2.3 Value Creation Theory

Value creation theory primarily stems from value management theory and embodies the specific application of value management in businesses.

Value management theory emphasizes creating and enhancing corporate value through effective management practices, while value creation theory further clarifies the specific processes and methods of value creation. Value creation theory focuses on studying how companies effectively create value.

In the early days, scholars explored the concept of value creation. Although a unified definition has yet to be reached, it is generally accepted that value creation is the fundamental manifestation of business activities and the driving force behind a company's sustainable development. As research deepened, scholars began to explore the theoretical framework and practical applications of value creation from various perspectives. In the field of financial management, value creation is defined as the residual profit generated by a company after deducting the cost of capital, emphasizing the importance of capital costs in value creation. Enterprises have begun to apply value creation theory to actual management, and enhance their value creation capabilities by optimizing strategies, improving management methods and governance structures. The value creation paths under the new retail and new growth background, such as solving customer problems, creating consumer experiences, and improving operational efficiency, provide enterprises with specific practical directions. With the development of digital technology, value creation theory has also ushered in new development opportunities. Digital technology drives the transformation of new business planning for enterprises, and digital brand marketing planning activates strong interactions between brands and users, providing new impetus and paths for value creation. The core essence of value creation theory can be summarized as follows:

1. Value creation is the foundation of enterprise development: Only by continuously creating value can enterprises remain invincible in market competition.

Value creation is the source of power for the sustainable development of enterprises and the key to maximizing shareholder wealth.

2.Value creation requires the integration of internal and external resources: Enterprises need to effectively integrate internal and external resources through a joint operating system at three levels: corporate strategy, corporate management, and governance structure, in order to gain more control over resources and enhance the market position and social influence of enterprises.

3.Value creation requires attention to capital costs: Enterprises need to pay attention to capital costs in the process of creating value. Only when the company's profits are higher than its capital costs can it truly create value for investors.

4.Value creation requires attention to customer needs: Customer needs are an important driving force for enterprise value creation. Enterprises need to have a deep understanding of customer needs and meet customer needs by solving customer problems and creating consumer experiences, thereby enhancing the company's value creation capabilities.

5.Value creation requires continuous innovation: In the digital age, enterprises need to continuously innovate to adapt to market changes. By driving the transformation of new business planning and digital brand marketing planning through digital technology to activate strong interaction between brands and users, enterprises can create more value. By applying interactive action mechanisms from the three aspects of corporate strategy, management and management structure, organizations can effectively integrate internal and external resources, improve resource control, enhance market position and social influence, and emphasize that companies can achieve the redistribution of ownership and value in the social production process by providing high-quality products and services. Technological innovation plays a vital role in the process of creating value. Companies are able to manage varying production and operating costs, appropriately utilize human resources, and control resources and information technology to improve product efficiency and create added value. At the same time, companies must consider key indicators such as return on investment, capital cost, growth rate, and sustainable

growth, which directly impact the efficiency of value creation.

Value creation theory comprehensively demonstrates the fundamental element of social wealth creation: work is the source of value. When social productivity reaches a certain level, work consciously shifts from actively processing work objects to creating value, achieving production, and appropriation. Furthermore, it demonstrates the laws of value and the creation and development of added value, which are crucial aspects of understanding value-added theory.

## CHAPTER 2

### ANALYSIS OF THE IMPACT OF GREAT WALL MOTORS' DIGITAL TRANSFORMATION ON PERFORMANCE

#### **2.1. Introduction to Great Wall Motors and industry background and current status of Great Wall Motor's Digital Transformation**

Headquartered in Baoding, Hebei Province, Great Wall Motor Co., Ltd. (hereinafter referred to as "Great Wall Motors") is a company listed in Hong Kong and mainland China. In 2003 and 2011, it was listed on the Hong Kong Stock Exchange and the Shanghai Stock Exchange, respectively, becoming the first Hong Kong-listed company issued by a private automobile manufacturer. Today, Great Wall Motors is China's largest manufacturer of SUVs and pickup trucks. Great Wall Motors currently offers a full range of six models: Haval, WEY, Great Wall Pickup, ORA, Tank, and Salon. As of the end of 2024, Great Wall Motors had total assets of RMB 185.357 billion, over 100 holding companies, and over 80,000 employees. Great Wall has a professional automotive R&D center that integrates manufacturing and marketing, and also provides related parts. The company primarily specializes in SUVs, sedans, and trucks. Great Wall Motors has always adhered to a "people-oriented" approach, striving to maximize customer satisfaction. With vehicle safety at its core and customer satisfaction at its heart, Great Wall's robust technological capabilities and excellent test data have fueled its sales growth. Despite the global economic downturn, the auto industry's booming business, and the abolition of tax-free purchase policies, Great Wall Motors continues to rank among the top automakers. As one of the first Chinese automakers to expand overseas, Great Wall Motors has developed integrated R&D, production, and sales capabilities, and has gradually established its brand influence abroad. Great Wall Motors has sales outlets in over 60 countries, including Europe, Africa, Australia, the Middle East, and Central and South Asia, with cumulative international sales of nearly 1.4 million vehicles. In terms of product planning, Great Wall Motors has established a "13+5"

international manufacturing model, with 13 complete vehicle manufacturing plants and five KD plants. Great Wall Motors also plans to establish complete vehicle production bases in Europe and South America, and has prioritized expanding its overseas markets. Utilizing the unique characteristics of the internet, Great Wall Motors has invested heavily in intelligent technology, continuously enhancing its competitiveness. The company has established eight intelligent research centers and R&D laboratories around the world, achieving remarkable results. While maintaining its commitment to high-quality products, Great Wall Motors is also actively adapting to the trends of digitalization, intelligence, and internationalization. In this new era of connectivity, it has established a rapid growth strategy, striving to secure a leading position in the future market.

With the advent of "Industry 4.0," countries and regions around the world have proposed policies and targets for transitioning to a "digital economy." With the widespread adoption of emerging technologies such as 5G, cloud computing, and big data, companies' production and marketing methods are no longer able to adapt to growing market demand. Companies must redefine their operations and seek new profit growth points.

To achieve the goals of becoming a "manufacturing power" and a "network power," China is continuously deepening the integration of informatization and industrialization. The automotive industry, one of the nation's key pillar industries, suffered another severe blow in the 2020 economic climate after two years of decline. The decline in national economic development, the continued growth of online ride-hailing platforms, and the increasing convenience of car rentals all contributed to the decline in vehicle sales. Due to insufficient investment, a standardized organizational structure has yet to be established, a core parts manufacturer of sufficient scale has yet to be formed, and a rational allocation of specialized and hierarchical divisions of labor has been inadequate. This has resulted in low competitiveness in the domestic automotive manufacturing industry in the global market, and the development of the auto parts industry has stagnated. Therefore, the automotive industry urgently needs to leverage new technologies to promote digital reform, using digital means to reduce

costs and improve efficiency. By establishing closer relationships with customers, the industry can transform its business model and drive digital transformation.

Further advancement of digitalization is a strategic choice for the country as it seeks new economic growth points in the digital and intelligent era. In this new round of technological revolution and industrial transformation, the traditional automotive industry chain is being replaced. User experience has become a key indicator and competitive advantage in the new automotive industry chain. Technologies such as artificial intelligence have become the most important means of promoting communication and integration between upstream and downstream sectors of the industry chain. The construction of digital factories is in full swing, enabling customized, customer-to-business (C2B) and unmanned factories. Automotive companies can use digital means to connect manufacturing with consumer consumption, enabling control and tracking of every aspect of vehicle production and manufacturing. This ensures controllability and traceability of the manufacturing process and promotes the widespread development of digital factories.

Digitalization in the automotive industry leverages existing and emerging digital technologies to pervasively integrate digital elements into the production and sales process, unlocking new business value while optimizing and restructuring the entire value chain.

Due to the industry's high complexity, significant capital requirements, and strong demand for intelligence, the application of digital technologies will have a profound impact on the industry. The widespread adoption of emerging digital technologies is driving significant growth in intelligent development and digital transformation. The development of digital technologies will drive progress in intelligent connectivity and smart driving, and will accelerate the coordinated development of 5G+ connected vehicles. With the advent of the era of intelligent driving and smart cockpits, the application of digital technologies has significantly facilitated the effective utilization of fragmented in-car time. In our fast-paced lives, travel time is often fragmented, such as during commuting, short trips, or waiting. By introducing advanced digital technologies, these seemingly insignificant fragments of

time can be transformed into valuable resources, providing passengers with a richer, more convenient, and more personalized service experience while also creating new business opportunities for the automotive industry. The digital revolution is rapidly penetrating the automotive industry, becoming a major driving force for change. According to a forecast by iResearch, by 2025, the contribution of China's automotive industry to the digital economy will reach nearly 6.7 trillion yuan, marking a significant turning point in the digitalization of the automotive industry. The practical application of digitalization in the automotive industry will bring even greater economic benefits.

Table 2.1 - Digital Transformation Progress of Selected Automakers

| Automaker          | Digital R&D                            | Digital Production                        | Digital Supply Chain                  | Digital Management           | Digital Marketing                                      |
|--------------------|----------------------------------------|-------------------------------------------|---------------------------------------|------------------------------|--------------------------------------------------------|
| Mercedes-Benz      | ...                                    | MO360 Data Platform                       | AI Technology for Sorting Efficiency  | ...                          | OTR+ (Easy Palm) & Mercedes me Connect                 |
| FAW-Volkswagen     | ...                                    | E-Lane Smart Production Logistics         | OTD Online Customization              | IT-Driven to IT+Business     | Digital Retail Stores                                  |
| Changan Automobile | CAE Simulation System                  | Smart Factory                             | Jinggong Cabinet (Digital Management) | Changan Intelligent Cloud    | Virtual Digital Human "Gong Cheng Shi"                 |
| Great Wall Motor   | Virtual Simulation & Collaborative R&D | 5G Flexible Factory & Smart Manufacturing | Enterprise Procurement Platform       | AWS PaaS & DingTalk Platform | Full-Link Digital Marketing (Public to Private Domain) |

Source: Compilation of public information on the Internet

After joining the WTO, China actively participated in the process of global integration, ushering in a new era of reform and development. With the changing international environment, the country has comprehensively adjusted its industrial structure. Enterprises with outdated technology, poor quality, wasteful resources, and severe environmental pollution must be resolutely eliminated, and outdated technologies and processes must be completely eliminated. During this process, enterprises must accelerate technological innovation and actively develop new

processes and products. They must also vigorously develop new and high-tech industries, particularly new energy, new materials, and information technology. Great Wall Motor's digital transformation is closely related to the Chinese government's incentives for related industries, such as new energy vehicles and intelligent connected vehicles. Under the national strategies of "new infrastructure" and "dual circulation," Chinese government departments at all levels are vigorously promoting the promotion of digital technology across all industries, accelerating the pace of industrial informatization. Since 2015, my country has successively promulgated relevant policies, including "Made in China 2025 (2015)", "Internet Plus" Action Plan (2015), "Guiding Opinions on Promoting the Development of Big Data (2020)," "Several Opinions on Accelerating the Development of the Digital Economy (2022)," "Three-Year Action Plan for the Construction of New Internet of Things Infrastructure (2023-2023)," and "Overall Layout Plan for the Construction of Digital China (2023)." These measures are designed to accelerate the digital transformation of Chinese enterprises, enhance their competitiveness and profitability, and ultimately achieve digital transformation.

Great Wall Motors, a leading company in China's automotive industry, is accelerating its digital transformation by continuously strengthening its R&D, production, sales, and service of automotive products, improving its operational efficiency and core competitiveness. Great Wall Motors' achievements in this process are closely related to the support and assistance of the government.

As the initiators and decision-makers of a company's digital transformation, entrepreneurs' understanding of and level of participation in digital transformation will directly impact the success of that transformation. A company's digital transformation is not simply a change in production model; it is also a shift in strategic thinking, affecting the company's future development direction. It must be authorized and approved by top management, requiring senior decision-makers to have a clear understanding and a proactive approach to digital transformation. At the Great Wall Motors Development Strategy Conference on June 28, 2023, Wei Jianjun stated that Great Wall Motors should firmly forge ahead on the path of the "New Four

Modernizations" and "globalization." The company will accelerate corporate reform to achieve the goals of "two opennesses": first, building the brand, developing the enterprise, and strengthening R&D; second, strengthening the company's brand management through digital transformation. On this basis, Great Wall Motors should accelerate institutional innovation, reshape its corporate culture, enhance its core values, and instill the principles of integrity, openness, innovation, and a win-win ecosystem in every organization, unit, and cell within the company. Accelerate talent innovation, forge a better DNA with a more diverse culture and updated philosophies, and achieve Great Wall Motor's transformation from a Chinese automobile company to a global technology company. Wei Jianjun believes that technological and organizational changes will, like a needle, prick and awaken those who wish to rest on their laurels, even if every needle strikes blood. However, he also firmly believes that this needle must be driven home. Great Wall Motor must demonstrate the courage and determination to break with the old and forge ahead, fully committed to its self-revolution.

China is in the digital age, and increasing user demand for product differentiation and personalization is placing higher demands on manufacturers for efficiency and high-quality service. Producing customized products at the fastest speed to meet customer needs can significantly improve operational efficiency and foster customer retention. Digital transformation is a key means of achieving personalized customization and efficient operations. It enables real-time interaction of internal and external information, enabling flexible manufacturing and customer customization while also optimizing vehicle production processes. It can effectively manage complex manufacturing processes, shorten delivery cycles, and thus achieve efficient operations. At the same time, customers demand continuously improved vehicle performance, guaranteed stability during use, and reduced potential for failures. Therefore, Great Wall Motors must provide customers with high-quality vehicles. In terms of after-sales maintenance, customers demand prompt resolution of vehicle failures and convenient service. To meet customer demands for personalization, quality, and efficiency, Great Wall Motors needs to establish a digital

platform for end users through digital transformation, fully meeting their individual needs and providing a personalized experience.

With the accelerating pace of global economic integration, my country's automotive industry has experienced unprecedented rapid development. Many world-renowned foreign automakers have flocked to China to establish factories and negotiate business, rapidly expanding in various forms. As China continues to develop and its national strength grows, local companies are also developing their own international markets and implementing internationalization strategies to strengthen their capabilities. Furthermore, while there are strong competitors worldwide, there are also numerous opportunities. This presents a once-in-a-lifetime opportunity for Great Wall Motors, which aspires to expand overseas and become a world-class automaker. Great Wall Motors holds a leading position among Chinese domestic companies, having held the top spot in domestic SUV sales for 15 consecutive years. While consolidating its position domestically, it has also accelerated its international expansion. Great Wall Motors has undergone a series of digital transformations to consolidate and expand its domestic market, leveraging this digital transformation to establish new sales networks around the world. Great Wall Motors has also established strategic partnerships with numerous foreign companies and, in conjunction with initiatives such as the Belt and Road Initiative, is actively expanding its international market. This has both significant practical and far-reaching historical significance, aligning with international development trends and making Great Wall Motors a key player in showcasing Chinese brands.

## **2.2 Analysis of the Impact of Great Wall Motor's Digital Transformation on Non-Financial Performance**

Based on relevant literature, this study focuses on the driving forces behind Great Wall Motor's digital transformation and the unique characteristics of the automotive industry. We selected three non-financial dimensions for in-depth analysis: social recognition, brand influence, and innovative development capabilities.

A company's social reputation is based on two key dimensions: First, superior product quality is fundamental to its credibility and directly correlates with customer satisfaction. Second, unparalleled customer service is indispensable, effectively enhancing the satisfaction and recognition of partners and consumers. Both of these aspects require companies to focus on long-term accumulation and improvement to promote sustainable long-term development. As a leading independent brand in China's automotive industry, Great Wall Motor has amassed a significant reputation within the industry. In recent years, with the in-depth implementation of its digital strategy, the company has established a leading position in industry competitive advantage, its global reputation has grown, and it has earned widespread acclaim and recognition.

Table 2.2 - Selected Honors Received by Great Wall Motor from 2019 to 2024

| Year | Honors and Awards                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2019 | <ul style="list-style-type: none"><li>In May 2019, Great Wall Motors ranked among the TOP 5 of the 2019 Best Chinese Brands List.</li><li>The 1.5GDIT engine was awarded the "Top 10 Engine" title in the "China Heart" Annual Top 10 Engine Selection.</li></ul>                                                                                                                                                                                                                                                                           |
| 2020 | Great Wall Motors won the ADMEN International Award, known as the "Oscars" of the advertising industry.                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2021 | <ul style="list-style-type: none"><li>HAVAL H9 won the 2021 Golden V Award for Chinese Brand Hardcore SUV.</li><li>Ranked among the Top 100 of the 2021 China Listed Companies Brand Value Total List.</li><li>WEY P8 was named one of the 2021 National Top 10 New Energy Vehicles.</li><li>HAVAL brand was shortlisted for the 2022 BrandZ China Top 50 Global Brands.</li></ul>                                                                                                                                                          |
| 2022 | <ul style="list-style-type: none"><li>WEY VV7 won the Gold Award for Chinese Exterior Design.</li><li>The GW4N20 engine was awarded the "China Heart" 2022 Top 10 Engine.</li><li>GWM Product Digital Center officially received ASPICE CL2 assessment certification.</li></ul>                                                                                                                                                                                                                                                             |
| 2023 | <ul style="list-style-type: none"><li>GWM's 1.5T Lemon Hybrid DHT System was selected as a "China Heart" 2023 Top 10 Engine.</li><li>GWM Lemon Hybrid DHT won the 2023 World Top 10 Transmission Award.</li></ul>                                                                                                                                                                                                                                                                                                                           |
| 2024 | <ul style="list-style-type: none"><li>Australian media Drive announced the 2024 "Best Mid-Size SUV" award, with the 3rd Generation HAVAL H6 winning first place in comprehensive scoring.</li><li>ORA "Europe Experience Center Design" won the 2024 German Brand Award – Silver Award, the first time a Chinese automotive brand received this honor.</li><li>Tank 300 achieved the highest safety standards in all tests by the Australasian New Car Assessment Program (ANCAP) and received ANCAP 5-Star Safety Certification.</li></ul> |

Great Wall Motors leverages its comprehensive internet presence to generate appeal. This approach, by enhancing its brand image, attracts more customers, and increases brand exposure to foster public awareness and acceptance, thereby

strengthening its market influence. Great Wall Motors has successfully integrated its "Internet Plus" strategy, significantly improving the dissemination of product information and stimulating consumer purchasing desire. Through user interaction, customer loyalty has been significantly enhanced. This initiative not only boosts sales but also opens up unlimited possibilities for the long-term development of the Great Wall Motors brand.

From 2019 to 2024, Great Wall Motors, leveraging its strong brand power, has ranked among the top 500 Chinese brands for six consecutive years, with its brand value continuously increasing (as shown in Figure 2.1). In 2024, with a brand value of 66.581 billion yuan, it ranked 127th. The Top 500 Chinese Brands ranking enjoys significant authority and widespread influence in China. Its evaluation system rigorously considers key factors such as a company's industry category and leading position, sales revenue, operating profit, and brand history. The continued growth of Great Wall Motor's brand value demonstrates the significant impact of digital transformation on enhancing the company's brand image.

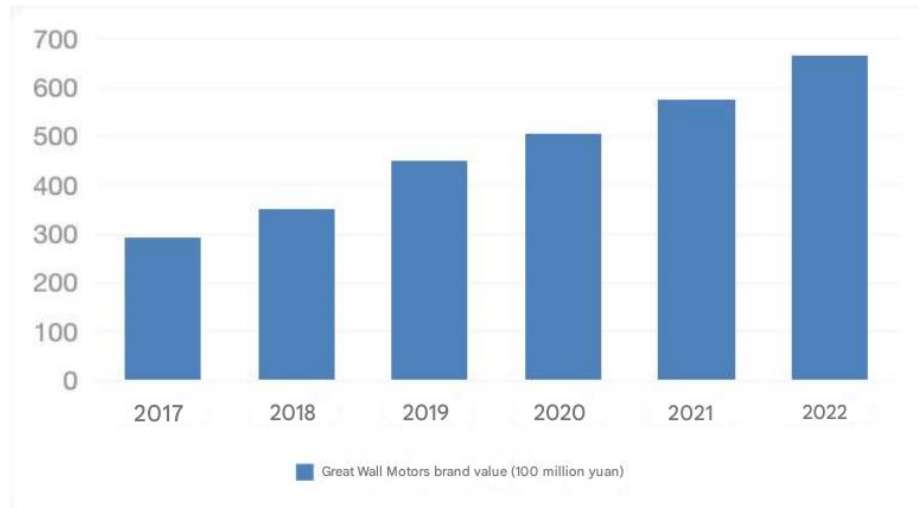


Figure 2.1 - Great Wall Motors' Brand Value Changes from 2019 to 2024

Innovation capabilities are considered the core driving force behind the steady development of enterprises. Numerous academic studies confirm that technological innovation plays a key role in driving digital transformation and improving economic efficiency and intrinsic value. Digital transformation in R&D enhances corporate

value by directly driving growth by stimulating innovation potential. This study focuses on an in-depth analysis of Great Wall Motor's patent applications over the years to explore the correlation between its R&D investment and technology transfer efficiency, thereby evaluating Great Wall Motor's innovation capabilities. The annual increase in patent applications highlights Great Wall Motor's continuously improving efficiency in technology transfer in R&D, which directly reflects the continued strengthening of its innovation capabilities. As shown in Figure 2.2, Great Wall Motor's patent applications have shown a steady upward trend over the years, with particularly significant growth since the launch of its digital transformation in 2021. It reached a historical peak in 2024, directly reflecting the substantial improvement in Great Wall Motor's innovation capabilities during its digital transformation.

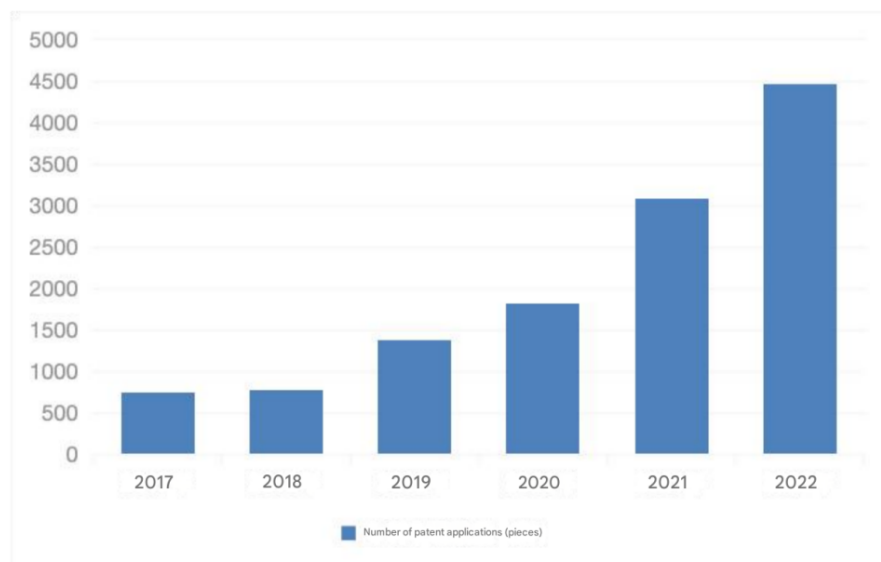


Figure 2.2 - Great Wall Motors' annual patent applications from 2019 to 2024

However, when measuring a company's innovation, solely relying on the growth in patent applications over the years is clearly insufficient. While the number of patent applications reveals a company's innovative strength and ambition, it cannot fully measure the actual benefits of innovation and its market transformation. Therefore, this article focuses on a more rigorous and precise evaluation benchmark—the quality assessment of granted patents. The quality of granted patents essentially

reflects a company's ability to transform innovative technologies into practical benefits, as well as the competitive advantages and economic value of these technologies. Excellent patents typically unlock significant market potential and drive significant economic returns. They not only ensure the uniqueness of a company's technological achievements and prevent plagiarism, but also safeguard a company's stable and lasting competitive advantage. This article evaluates the quality of Great Wall Motor's granted invention patents, utility model patents, and design patents. Based on statistics and analysis, Great Wall Motor has achieved remarkable results in technology transformation. As shown in Table 6-2, the number of granted patents in each category has shown rapid growth since 2021. Whether it's invention patents, utility model patents, or design patents, Great Wall Motors has demonstrated strong innovation and technological prowess. The application and acquisition of these patents have not only brought about technological breakthroughs and progress for Great Wall Motors, but also laid a solid foundation for enhancing the company's market competitiveness and economic benefits.

Table 2.3 - Great Wall Motors' Authorized Patents from 2019 to 2024 (Number)

| Year | Invention Patents | Utility Model Patents | Design Patents |
|------|-------------------|-----------------------|----------------|
| 2019 | 203               | 426                   | 123            |
| 2020 | 67                | 579                   | 208            |
| 2021 | 197               | 533                   | 221            |
| 2022 | 272               | 549                   | 315            |
| 2023 | 332               | 1167                  | 677            |
| 2024 | 339               | 1565                  | 359            |

In summary, we can conclude that Great Wall Motor's digital transformation, through large-scale R&D investment, has built the platform and technological foundation required for digital transformation, improving the company's innovative achievements and technological innovation capabilities. Ultimately, this has enhanced the company's core competitiveness and development potential, strengthened its development momentum, and improved its performance.

This paper examines Great Wall Motor's financial data from 2019 to 2024 and introduces the EVA model for evaluation and analysis. The EVA calculation formula is as follows:  $EVA = NOPTA - WACC \times TC$  (Equation 6-1).

To better reflect a company's operating status and the inherent relationship between its costs and revenues, the EVA model requires appropriate adjustments to its net income. Great Wall Motor is a typical example, with significant technological investment and a long payback period. According to relevant accounting systems and reporting materials, Great Wall Motors' current research expenses were fully included in the current period's profit and loss. However, based on actual development, these expenses will have a significant impact on the company's future development and operations. Therefore, the company is considering reversing these expensed R&D expenditures to better reflect the company's value creation. Under accounting principles, companies make impairment provisions for assets such as accounts receivable, inventory, and goodwill. However, since these losses are not actual asset losses, they must be offset when calculating net income after tax. Furthermore, since interest expense has already been deducted from the cost of liabilities, interest expense must also be reversibly included in financial expenses. Data disclosed in Great Wall Motors' annual reports show that the company incurred significant non-recurring gains and losses from 2019 to 2024. Because these non-recurring gains and losses are not generated by the company's daily operations, they are excluded from the calculation of net income after tax. A comprehensive analysis of the actual operating and profitability of listed companies has been conducted. Net operating profit after tax = Net profit + (interest expense + adjustment for research and development project expenses - adjustment for non-recurring income  $\times$  50%)  $\times$  (1-25%).

Based on the above adjustments, Great Wall Motor's net operating profit after tax for 2019-2024 is calculated as shown in Table 2.4.

As shown in the table above, Great Wall Motor's net operating profit after tax has generally increased over the past five years, rising from 6.156 billion yuan in 2019 to 10.896 billion yuan in 2024. This demonstrates Great Wall Motor's strong operational performance and positive impact on the company's profitability. In recent years, the company has gradually adapted to market changes, with rapid growth becoming particularly evident in 2024. Driven by digital transformation, the company

has achieved significant results and maintained even stronger growth momentum.

Table 2.4 - Calculation of Great Wall Motor's net operating profit after tax for 2019-2024 (Unit: 100 million yuan)

| Item                                                                                 | 2019  | 2020  | 2021  | 2022  | 2023  | 2024   |
|--------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|--------|
| After-tax Net Operating Profit (NOPAT)                                               | 61.56 | 54    | 53.08 | 61.49 | 78.94 | 108.96 |
| of which: Net Profit Attributable to Parent Company's Shareholders                   | 50.27 | 52.07 | 44.97 | 53.62 | 67.26 | 82.66  |
| Minority Shareholder Gains/Losses                                                    | 0.16  | 0.41  | 0.33  | 0     | -0.01 | -0.13  |
| Interest Expense                                                                     | 1.903 | 4.616 | 1.737 | 2.632 | 4.716 | 7.163  |
| Research and Development (R&D) Expenses                                              | 33.65 | 17.43 | 27.16 | 30.67 | 44.9  | 64.45  |
| Non-recurring Gains/Losses Adjustment (Subsidies, Disposal of Property Gains/Losses) | 3.907 | 2.529 | 3.421 | 4.939 | 11.61 | 8.859  |

This development trend fully demonstrates Great Wall Motor's continuously improving operational and management capabilities, laying a solid foundation for future development.

Total capitalization consists of debt and equity. To better reflect changes in a company's value and its operating conditions, appropriate adjustments to the total capitalization are necessary. Projects under construction are organized based on the company's operating characteristics and actual circumstances. Currently, all of the company's projects under construction are unfinished, and the capital costs of these investments do not generate revenue for the company or increase its value.

Great Wall Motors is rapidly transforming towards digitalization, with numerous projects remaining unfinished and requiring substantial investment. Therefore, these projects under construction cannot be included in the valuation and should be directly excluded. The calculation formula is: Total Capital = Average

Owners' Equity + Average Total Liabilities - Average Interest-Free Current Liabilities  
- Average Projects Under Construction.

Table 2.5 - Calculation of Great Wall Motor's Adjusted Total Capital from 2019 to 2024 (Unit: 100 million yuan)

| Indicator Name                                            | 2019   | 2020   | 2021   | 2022   | 2023    | 2024   |
|-----------------------------------------------------------|--------|--------|--------|--------|---------|--------|
| Total Adjusted Capital                                    | 522.57 | 628.85 | 632.09 | 696.56 | 814.67  | 881.47 |
| of which: Avg. Equity Attributable to Parent Shareholders | 482.1  | 508.25 | 534.6  | 558.7  | 597.3   | 636.6  |
| -> Equity at Period End                                   | 491.3  | 525.2  | 544    | 573.4  | 621.2   | 652    |
| -> Equity at Period Start                                 | 472.9  | 491.3  | 525.2  | 544    | 573.4   | 621.2  |
| of which: Avg. Minority Shareholders' Equity              | 0.91   | 1.44   | 0.82   | 0      | 0.02    | 0.09   |
| -> Minority Equity at Period End                          | 1.23   | 1.64   | 0      | 0      | 0.04    | 0.14   |
| -> Minority Equity at Period Start                        | 0.58   | 1.23   | 1.64   | 0      | 0       | 0.04   |
| of which: Avg. Total Liabilities                          | 531.25 | 602    | 589.05 | 776.85 | 1049.85 | 1167   |
| -> Liabilities at Period End                              | 612.9  | 591.1  | 587    | 966.7  | 1133    | 1201   |
| -> Liabilities at Period Start                            | 449.6  | 612.9  | 591.1  | 587    | 966.7   | 1133   |
| of which: Avg. Total Notes Payable                        | 40.23  | 40.43  | 71.13  | 133.4  | 217.35  | 284.35 |
| -> Notes Payable at Period End                            | 38.8   | 42.05  | 100.2  | 166.6  | 268.1   | 300.6  |
| -> Notes Payable at Period Start                          | 41.65  | 38.8   | 42.05  | 100.2  | 166.6   | 268.1  |
| of which: Avg. Total Accounts Payable                     | 264.85 | 265.8  | 253.2  | 293.15 | 351.35  | 331.95 |
| -> Accounts Payable at Period End                         | 279.6  | 252    | 254.4  | 331.9  | 370.8   | 293.1  |
| -> Accounts Payable at Period Start                       | 250.1  | 279.6  | 252    | 254.4  | 331.9   | 370.8  |
| of which: Avg. Total Advance Receipts                     | 58.85  | 44.46  | 40.19  | 63.16  | 77.08   | 75.71  |
| -> Advance Receipts at Period End                         | 54.58  | 34.34  | 46.04  | 80.28  | 73.88   | 77.53  |
| -> Advance Receipts at Period Start                       | 63.12  | 54.58  | 34.34  | 46.04  | 80.28   | 73.88  |
| of which: Avg. Total Taxes Payable                        | 21.43  | 24.3   | 20.32  | 21.49  | 28.02   | 23.58  |
| -> Taxes Payable at Period End                            | 23.08  | 25.51  | 15.12  | 27.86  | 28.18   | 18.98  |
| -> Taxes Payable at Period Start                          | 19.78  | 23.08  | 25.51  | 15.12  | 27.86   | 28.18  |
| of which: Avg. Total Interest Payable                     | 19.2   | 19.67  | 20.78  | 23.13  | 28.73   | 37.12  |
| -> Interest Payable at Period End                         | 18.72  | 20.61  | 20.94  | 25.31  | 32.15   | 42.09  |
| -> Interest Payable at Period Start                       | 19.67  | 18.72  | 20.61  | 20.94  | 25.31   | 32.15  |
| of which: Avg. Total Other Payables                       | 23.07  | 27.43  | 26.99  | 32.99  | 44.92   | 55.16  |
| -> Other Payables at Period End                           | 25.68  | 29.17  | 24.81  | 41.17  | 48.67   | 61.64  |
| -> Other Payables at Period Start                         | 20.45  | 25.68  | 29.17  | 24.81  | 41.17   | 48.67  |
| of which: Avg. Other Current Liabilities                  | 15.38  | 14.34  | 26.52  | 45.77  | 48.04   | 50.5   |
| -> Other Current Liabilities at Period End                | 16.53  | 12.15  | 40.88  | 50.65  | 45.43   | 55.56  |
| -> Other Current Liabilities at Period Start              | 14.23  | 16.53  | 12.15  | 40.88  | 50.65   | 45.43  |
| of which: Avg. Construction in Progress                   | 48.69  | 46.43  | 33.27  | 25.92  | 37.02   | 63.87  |
| -> Construction in Progress at Period End                 | 48.79  | 44.06  | 22.47  | 29.36  | 44.67   | 83.06  |
| -> Construction in Progress at Period Start               | 48.59  | 48.79  | 44.06  | 22.47  | 29.36   | 44.67  |

Based on the above adjustments, the calculation results for Great Wall Motors' total capital from 2019 to 2024 are shown in Table 2.5.

Based on Great Wall Motor's debt and equity capital from 2019 to 2024, the weights of debt and equity capital relative to total capital can be calculated, as shown in Table 2.6

Table 2.6 - Weights of Debt and Equity Capital Respectively

| Indicator Name                       | 2019   | 2020   | 2021   | 2022   | 2023   | 2024   |
|--------------------------------------|--------|--------|--------|--------|--------|--------|
| Total Equity Capital (Billion RMB)   | 483.01 | 509.69 | 535.42 | 558.70 | 597.32 | 636.69 |
| Equity Capital Ratio                 | 92.43% | 81.05% | 84.71% | 80.21% | 73.32% | 72.23% |
| Total Debt Capital (Billion RMB)     | 39.57  | 119.17 | 96.68  | 137.86 | 217.35 | 244.78 |
| Debt Capital Ratio                   | 7.57%  | 18.95% | 15.29% | 19.79% | 26.68% | 27.77% |
| Total Adjusted Capital (Billion RMB) | 522.57 | 628.85 | 632.09 | 696.56 | 814.67 | 881.47 |

### 2.3 Calculation of Weighted Cost of Capital (WACC)

The weighted average cost of capital primarily includes the cost of debt capital and the cost of equity capital. As can be seen from the total assets accounting table, due to the varying maturity dates and interest calculation methods for various types of liabilities, a detailed classification is performed. In classifying liability costs, the benchmark interest rate for bank loans with maturities of less than one year is used as a representative of short-term liability costs, while the benchmark interest rate for bank loans with maturities of five years or more is used as the benchmark for long-term liability costs. The interest rate on bonds payable is accurately calculated based on the company's bond prospectus. The weighted cost of debt capital is then determined based on the proportion of each type of liability, as shown in Table 2.7.

The capital asset pricing model is often used as a core tool when calculating the cost of equity capital. Its calculation formula is as follows:  $R = R_f + \beta \times (R_m - R_f)$ . It should be noted that the risk-free rate is, in reality, only an ideal investment rate of return; such a rate of return does not exist in the real capital market. Because government bonds are more stable and less risky, the government bond interest rate is generally used in place of the risk-free rate in relevant literature.

Table 2.7 - Calculation of Great Wall Motor's After-Tax Debt Capital Cost from 2019 to 2024

| Indicator Name                                                | 2019   | 2020   | 2021   | 2022   | 2023   | 2024   |
|---------------------------------------------------------------|--------|--------|--------|--------|--------|--------|
| Short-term Borrowings (Billion RMB)                           | 130.40 | 128.00 | 11.80  | 79.01  | 52.04  | 59.43  |
| Add: Current Portion of Non-current Liabilities (Billion RMB) | 1.43   | 2.39   | 31.80  | 8.92   | 36.68  | 48.84  |
| Long-term Borrowings (Billion RMB)                            | 4.24   | 21.58  | 12.06  | 107.80 | 86.56  | 154.10 |
| Bonds Payable (Billion RMB)                                   | 0.00   | 0.00   | 0.00   | 0.00   | 34.76  | 35.11  |
| Short-term Borrowings Ratio                                   | 96.89% | 85.80% | 78.33% | 44.92% | 42.24% | 36.40% |
| Long-term Borrowings Ratio                                    | 3.11%  | 14.20% | 21.67% | 55.08% | 41.21% | 51.80% |
| Bonds Payable Ratio                                           | 0.00%  | 0.00%  | 0.00%  | 0.00%  | 16.55% | 11.80% |
| Short-term Borrowing Interest Rate                            | 4.35%  | 4.35%  | 4.35%  | 4.35%  | 4.35%  | 4.35%  |
| Long-term Borrowing Interest Rate                             | 4.75%  | 4.75%  | 4.75%  | 4.75%  | 4.75%  | 4.75%  |
| Bonds Payable Interest Rate                                   | 0.00%  | 0.00%  | 0.00%  | 0.00%  | 2.85%  | 2.50%  |
| Cost of Debt Capital                                          | 4.36%  | 4.41%  | 4.44%  | 4.57%  | 4.27%  | 4.34%  |
| Income Tax Rate                                               | 25.00% | 25.00% | 25.00% | 25.00% | 25.00% | 25.00% |
| After-tax Cost of Debt Capital                                | 3.27%  | 3.31%  | 3.33%  | 3.43%  | 3.20%  | 3.25%  |

The market risk premium is selected based on GDP growth rate, while the risk coefficient  $\beta$  is obtained from the Guotai An database. This data selection method facilitates a more accurate assessment of market risk and provides reliable data support for subsequent analysis and research. Based on the above data, the cost of equity capital for Great Wall Motors is calculated as shown in Table 2.8.

Table 2.8 - Great Wall Motors' Cost of Equity Capital Calculation Table for 2019-2024

| Indicator Name                  | 2019  | 2020  | 2021  | 2022  | 2023  | 2024  |
|---------------------------------|-------|-------|-------|-------|-------|-------|
| R <sub>f</sub>                  | 2.38% | 2.38% | 2.38% | 2.38% | 2.38% | 2.38% |
| R <sub>m</sub> - R <sub>f</sub> | 5.36% | 4.75% | 3.11% | 3.82% | 4.30% | 3.28% |
| $\beta$                         | 0.87  | 0.94  | 1.11  | 1.2   | 0.86  | 1.11  |
| R                               | 7.04% | 6.85% | 5.83% | 6.96% | 6.08% | 6.02% |

Substituting the above calculation results into the weighted average cost of

capital formula:

Weighted average cost of capital = After-tax debt cost of capital  $\times$  Debt ratio + Equity cost of capital  $\times$  Equity ratio (Formula 6-5) yields Table 2.9.

Table 2.9 - Great Wall Motor's weighted average cost of capital calculation for 2019-2024

| Indicator Name                          | 2019   | 2020   | 2021   | 2022   | 2023   | 2024   |
|-----------------------------------------|--------|--------|--------|--------|--------|--------|
| Cost of Debt Capital (After-Tax)        | 3.27%  | 3.31%  | 3.33%  | 3.43%  | 3.20%  | 3.25%  |
| Proportion of Debt Capital              | 7.57%  | 18.95% | 15.29% | 19.79% | 26.68% | 27.77% |
| Cost of Equity Capital                  | 7.04%  | 6.85%  | 5.83%  | 6.96%  | 6.08%  | 6.02%  |
| Proportion of Equity Capital            | 92.43% | 81.05% | 84.71% | 80.21% | 73.32% | 72.23% |
| Weighted Average Cost of Capital (WACC) | 6.76%  | 6.17%  | 5.45%  | 6.26%  | 5.31%  | 5.25%  |

Table 2.10 - Great Wall Motors EVA Calculation Table, 2019-2024

| Indicator Name             | 2019   | 2020   | 2021   | 2022   | 2023   | 2024   |
|----------------------------|--------|--------|--------|--------|--------|--------|
| NOPAT                      | 61.56  | 54.00  | 53.08  | 61.49  | 78.94  | 108.96 |
| TC (Total Capital)         | 522.57 | 628.85 | 632.09 | 696.56 | 814.67 | 881.47 |
| WACC                       | 6.76%  | 6.17%  | 5.45%  | 6.26%  | 5.31%  | 5.25%  |
| EVA (Economic Value Added) | 26.24  | 15.17  | 18.65  | 17.85  |        |        |

The EVA trends of Great Wall Motor from 2019 to 2024 are shown in Figure 6-13. It can be seen that Great Wall Motor's EVA and net profit trends generally follow the same trajectory, initially declining and then increasing.

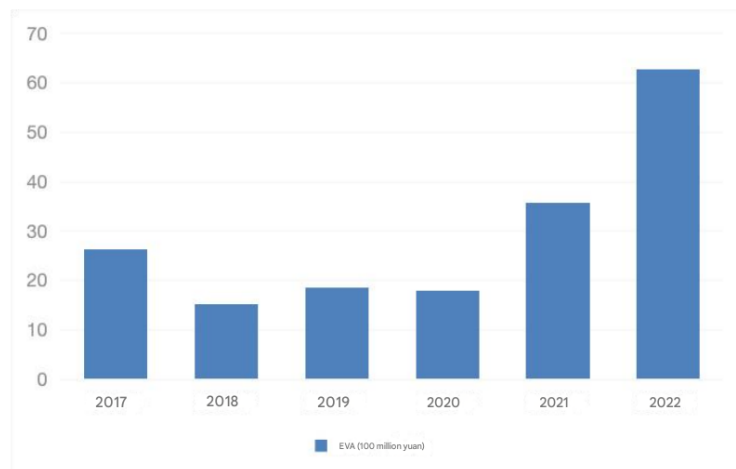


Figure 2.3 - Great Wall Motor's EVA Changes from 2019 to 2024

Overall, Great Wall Motor's EVA has shown a positive trend since its digital

transformation. This is due to the digital transformation implemented across all aspects of Great Wall Motor's operations, including R&D, design, production, manufacturing, and product sales. The company's operating returns far exceed its capital costs, achieving true value-added. The economic value added declined slightly in 2022, primarily due to the sudden outbreak of the COVID-19 pandemic, which significantly impacted the global economic environment. The automotive industry was also impacted, leading to a decline in overall demand. After the pandemic was gradually brought under control in 2023, Great Wall Motor was able to achieve optimal economic value added in a short period of time. Therefore, digital transformation can, to a certain extent, help companies achieve value creation, with significant results.

## CHAPTER 3

### COMPANY PERFORMANCE ANALYSIS AND CASE STUDY OF GREAT WALL MOTORS DIGITAL TRANSFORMATION

#### **3.1. Great Wall Motors' digital transformation implementation path**

Since 2021, Great Wall Motors has officially embarked on a digital development model, reforming its extensive operational practices and shifting the focus of corporate reform to digital transformation. The company is promoting the online and intelligent development of five value-added activities: R&D, production, procurement, marketing, and process management. This digital transformation has continuously enhanced Great Wall Motors' core competitiveness, improved its performance in international markets, and given its products and services a global competitive advantage.

The widespread use of the internet has broadened consumers' access to product information, allowing them to gain detailed insights into various brands and make thorough comparisons before making a selection. At the same time, consumer needs are becoming increasingly personalized, accelerating technological advancements and shortening product development cycles. This requires Great Wall Motors to increase its investment in scientific research and innovation.

Digital transformation is, in essence, a profound transformation that requires companies to completely reshape their operating models from the inside out. Technological innovation plays a crucial role in this transformation. Ultimately, technological innovation relies on talent. Amidst the wave of digital transformation, Great Wall Motors has keenly grasped this opportunity. Consequently, it has actively engaged in a global expansion, forging deep collaborations with scientific research institutions in numerous countries. These efforts have resulted in the establishment of research centers in numerous countries, forming a global research system spanning seven countries and ten locations. This system, centered in Baoding, radiates to

countries including the United States, Austria, Germany, South Korea, India, and Japan, establishing a global R&D platform. Through in-depth collaboration with research institutions in these countries and increased R&D spending, the growth rate of R&D investment has significantly increased (as shown in Figure 4-1). This has enabled Great Wall Motors to draw on the latest global technological wisdom and research findings, providing strong technical support for the company's digital transformation.

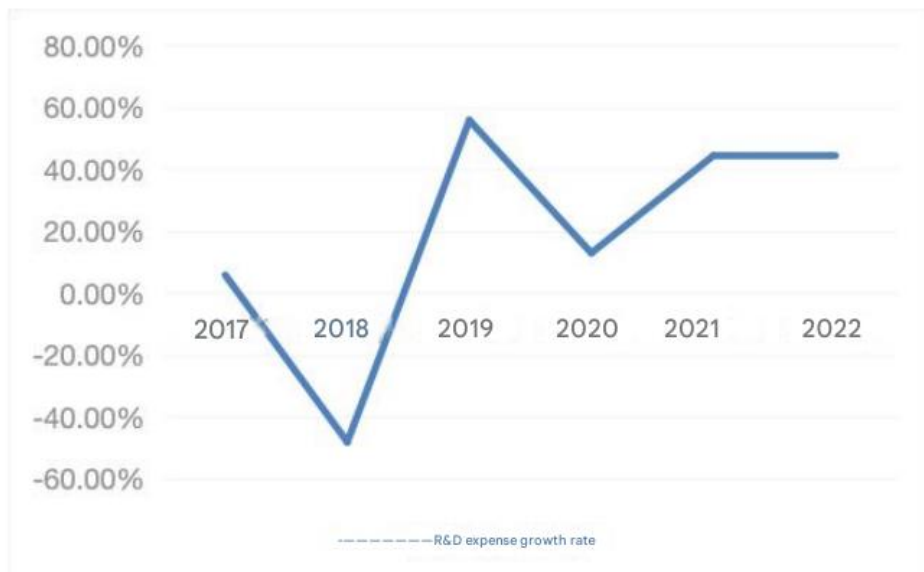


Figure 3-1 Great Wall Motor's R&D Expenditure Growth Rate from 2019 to 2024

Great Wall Motor is planning a group-level PDM (Product Data Management) system to categorize and manage product data. It integrates design tools and other group-level projects, such as the G-BOM (chip digitalization system), to build a collaborative automotive design and R&D platform across departments, regions, and the entire industry chain. For process development, the TCM digital process information platform is being established to promote the integration of the product data platform (3DE) and the process information platform (TCM). This will ensure a 30% reduction in new product R&D cycles, a 40% reduction in R&D costs, a 30% increase in personnel efficiency, and an increase in BOM accuracy to over 90%.

Great Wall Motor is building an efficient and intelligent AI middle platform through both imported and self-developed AI capabilities to support the intelligent

upgrade of the automotive industry across all scenarios. The AI middle platform is packaged as a public service, enabling on-demand subscription of AI services. Great Wall Motors is leveraging multiple technologies, including AI, RPA, data, and robotics, to create a new type of workforce capable of replacing manual labor in the digital world. In R&D, this platform generates a high-quality knowledge graph by integrating R&D data and hundreds of billions of real-world vehicle data. This knowledge graph establishes relationships and accurately identifies business scenarios, enabling on-demand sharing and easy access. This creates digitally intelligent R&D experts to help human engineers solve difficult R&D problems.

In its supplier business segment, Great Wall Motors has established the Great Wall Procurement Mall, integrating it with its existing procurement management platform, ERP platform, and OA workflow. This new enterprise procurement platform is designed to fully support the company's electronic, catalog-based, and self-service procurement models. Its functions encompass product management, product resource library, price control, budget control, procurement requisitions, and approvals, strengthening the detailed management of every aspect of the procurement process. Purchasing through the mall model enables collaboration on subsequent orders, encompassing the entire process from order submission and confirmation, shipping, logistics, receipt, reconciliation, settlement, and evaluation, all in a digitalized manner, while also ensuring full traceability. The procurement mall facilitates real-time online procurement and supply collaboration among demand-side users, procurement-side users, and supplier-side users. The procurement mall offers catalog-based, self-service procurement for a company's non-production, general-purpose, and contract-related materials. It primarily provides online business processes for demand-side users, including product selection, purchase application submission, review of approval progress, receipt, and logistics tracking. Figure 4-2 shows the specific operational process of the procurement mall.

After a purchase request is placed on the procurement platform, the system transfers the request data to the OA system. After approval, it's transferred back to the procurement platform. During the warehousing phase, the system integrates with the

ERP system. Order data is transferred to the ERP system, and once the goods are received in the ERP system, the receipt information is transferred back to the procurement platform. During the settlement phase, the system integrates with the ERP financial system. Information matching the three documents is transferred to the ERP system to generate invoice vouchers, improving operational efficiency in the procurement process.

The procurement mall's collaborative platform focuses on improving procurement execution collaboration efficiency between enterprises and suppliers. It provides procurement users with online business processes such as price agreement management, product listing management, purchase request management, order management, reconciliation, invoicing, and payment. For suppliers, it offers online services such as price agreement confirmation, product upload, product registration, price agreement, order confirmation, goods delivery, and reconciliation and invoicing. This not only promotes data connectivity across business departments, achieving close integration between businesses and strengthening departmental collaboration, but also unifies financial and business processes at the system level, achieving close integration between business and finance.

### **3.2. Digital Transformation Path for Production**

Great Wall Motors is committed to upgrading its smart factory. By integrating digital platforms with intelligent equipment, it is promoting the digital transformation of production processes, enabling automated equipment operation, real-time information transparency, and intelligent production management. Through these transformations, Great Wall Motors is creating a low-carbon, environmentally friendly, standardized, and highly intelligent modern smart production base. Great Wall Motors utilizes an advanced Building Information Modeling (BIM) system. The core concept of BIM is to leverage digital technology to provide a complete, realistic engineering information database for the model. This three-dimensional model, containing engineering information, effectively improves the level of engineering

information integration, providing a platform for engineering information exchange and sharing among stakeholders in construction projects. BIM's information sharing platform ensures that all participants have access to the necessary information in real time and accurately, significantly reducing potential problems caused by information transmission errors. Great Wall Motors has achieved remarkable success with this system: preventing and resolving 2,493 issues, such as drawing errors, design redundancies, and communication difficulties, thereby improving project execution efficiency and quality. This system facilitated the successful completion of 237 planning schemes, accurately aligned with actual project requirements, ensured smooth project progress, and provided technical support for successful implementation.

Great Wall Motors deployed a Manufacturing Information Management System (MES) system. By integrating and analyzing data from the upstream ERP system, the MES system forms the final production process for the workshop. The production process encompasses all workshop activities, including equipment, procurement, and assembly. The MES system monitors equipment operating status in real time, manages personnel scheduling and attendance, and provides real-time monitoring and control of the production workshop. It collects equipment operation data, product quality data, and employee performance data, providing real-time feedback to managers' computers or mobile devices, enabling them to promptly identify problems and potential risks and make swift adjustments and decisions. By implementing the MES system, a collaborative manufacturing management platform has been established to optimize the entire workshop manufacturing process and ensure smooth production. In short, the MES system provides Great Wall Motors with a comprehensive and efficient production information management platform, helping to improve Great Wall Motors' production efficiency.

In the past, sales and production departments often operated independently, resulting in poor communication and insufficient collaboration. The sales team focused on managing customer data and receiving and processing orders, while the production department focused on the actual conversion of orders and the

manufacturing of products. However, data synchronization delays between key business processes led to inconsistent information and data deviations, directly impacting the accurate execution and delivery of orders.

Great Wall Motors' innovative APS system has completely reshaped this situation. The system focuses on comprehensively monitoring the automaker's production efficiency and achieving deep and seamless collaboration between production and sales. The APS system enables real-time synchronization of sales and production data and interdepartmental collaboration. It is deeply integrated into the planning process of every aspect of the automobile manufacturing plant, achieving automated and refined management and improving the efficiency of problem handling.

For real-time response, Great Wall Motors has implemented a "5-day plan lock" management model through the APS system. All production stages, including welding, painting, and final assembly, have been standardized into a five-day continuous process.

This five-day buffer period successfully reconciles the relationship between sales and production, ensuring that orders are quickly incorporated into the production planning process.

The lock period is carefully calculated. Excessive processing time may lead to vehicle delivery delays and affect customer satisfaction; conversely, an excessively fast pace may disrupt the production rhythm and result in unnecessary waste of resources. In addition to the fixed five-day plan, there is also a series of continuous, flexible daily plans. This plan can allocate demand and production capacity in real time, making the production process more flexible and more adaptable to rapid market changes. By combining these two plans, Great Wall Motors has achieved automated scheduling across the entire manufacturing process, improving production efficiency. Overall, Great Wall Motors has achieved seamless integration between sales and production through the APS system, optimized internal processes, and increased its external market responsiveness. This transformation has given the company an advantage in the fiercely competitive market and provided customers

with a superior service experience.

With the development of the commodity economy, automakers must develop new sales channels to meet the purchasing needs of more users. The new online marketing models fostered by the internet offer insights for traditional manufacturers in expanding their sales channels. Great Wall Motors has proactively planned its online marketing strategy, explored new methods, and invested heavily in increasing the promotion of products critical to its performance (see table 2.2).

Table 3.1 - Great Wall Motors' Sales Expenses from 2019 to 2024

| Digital Marketing Matrix            |        |         | Content                                                                                                                                                                                                                                                                 |
|-------------------------------------|--------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Multi-Platform Marketing            | Online |         | Utilize platforms like WeChat, Weibo, Kuaishou, Douyin (TikTok), and Xiaohongshu (Little Red Book) for online marketing. Increase targeted ad spending across these platforms and launch official corporate live streams.                                               |
| Influencer + Executive Live Streams |        |         | Collaborate with internet influencers (KOLs) to drive product sales. Involve senior executives in live commerce; their deep knowledge of the company and products enables more accurate communication of product information and brand value, enhancing consumer trust. |
| 24/7 Showroom                       | Online | Digital | Utilize a virtual reality (VR) showroom, allowing customers to experience the car in real-time from home, creating an immersive, on-site experience.                                                                                                                    |

Great Wall Motors is innovating in online marketing and exploring new opportunities, including content marketing, event management, and e-commerce platform development. In terms of content marketing, Great Wall Motors has developed high-quality columns on social media platforms such as Douyin, Weibo, WeChat, and Kuaishou, integrating automotive industry news and user browsing needs. This high-quality marketing matrix showcases the company's brand and products through the planning and creation of high-quality content, accelerating product promotion and sales. Great Wall Motors' marketing accounts incorporate a diverse content strategy, including detailed product presentations, attentive after-sales service, culturally rich sharing, authoritative releases of group news, in-depth industry insights, and interactive topic discussions, catering to a wide range of user interests and needs. By integrating its products with new marketing methods, this marketing approach not only disseminates product information, increases brand

awareness, and attracts more customers, but also reaches forward-thinking consumers and users, enhancing communication with customers and building closer ties between the company and consumers and users. Furthermore, through daily operations, various digital marketing platforms accumulate a wealth of user data, providing the foundation for refined marketing, significantly improving marketing conversion efficiency, and effectively reducing conversion costs. In terms of event planning, Great Wall Motors has adopted a diverse online strategy, including livestreaming sales and innovative virtual showroom experiences, driving event operations through diverse formats. They design and execute specific campaign strategies for key marketing milestones, such as organizing and implementing major IP-based events like the New Year's Eve opening promotion, Singles' Day (Singles' Day), and the 618 Shopping Festival. These promotion-driven events leverage online media and diverse channels for in-depth promotion, increasing brand exposure and product sales. By integrating brand and product promotion, they are creating industry-leading online events to maintain their leading position in the automotive sector. They dynamically adjust their online marketing strategies based on product sales trends, leveraging innovative online platforms to enhance product engagement with target customers. They utilize rich and diverse multimedia content to vividly showcase product features, directly driving sales growth. Regarding e-commerce platform development, Great Wall Motors' official platform is currently undergoing active improvement and transformation, aiming to create a comprehensive marketing platform integrating product display, online shopping, transaction tracking, and after-sales service. The platform offers a variety of Great Wall Motor models, using 3D visualizations and detailed specifications to provide users with an intuitive understanding of each model's features and advantages. Users simply select their preferred model on the platform and easily complete the booking process, eliminating the need for tedious offline travel, providing a convenient online car purchase experience. Furthermore, Great Wall Motor's official platform incorporates a non-discriminatory customer marketing model, allowing users to access the platform anytime, anywhere, browse product information, and make purchases as long as they have an internet connection.

This model significantly reduces customer acquisition costs and effectively improves sales efficiency. Great Wall Motors not only provides users with a time-saving, labor-saving, and cost-effective vehicle purchasing channel, but also earns user trust through continuous service optimization. Great Wall Motors' initiative to create an official platform will not only enhance the brand's market competitiveness but also set a benchmark for e-commerce transformation across the automotive industry. Great Wall Motors will continue to focus on developing its e-commerce platform to provide users with convenient and efficient shopping services.

Customer relationship management (SCRM) is a central component of improving customer service. To this end, Great Wall Motors has introduced a social customer relationship management (SCRM) system as a core tool for enhancing communication and interaction with customers.

The SCRM system goes beyond a purely technical role; it plays a key role in Great Wall Motors' marketing and service transformation. Through WeChat Enterprise and mini-program customer service, it connects customers, enabling real-time, two-way communication and interaction. Data analysis creates precise customer profiles, enabling Great Wall Motors to gain a deep understanding of customer needs and tailor personalized services for them, achieving precision marketing. The SCRM platform enables Great Wall Motors to efficiently manage marketing and after-market services, optimizing marketing strategies across the entire product sales process and achieving seamless integration between marketing, service, and customer platforms.

The successful implementation of the SCRM project marks a new stage of innovation and improvement in Great Wall Motors' marketing strategy and customer service. The project's goal is to strengthen the company's foundation and enhance its core competitiveness by standardizing marketing service business processes and integrating unified data management and standards. This not only accelerates the company's adaptation to market dynamics and meets the diverse needs of users, but also provides strong support for Great Wall Motors' transformation to a customer-centric marketing model. This has improved Great Wall Motors' sales efficiency, accuracy, and user experience, thereby strengthening its market position and

increasing customer satisfaction.

Companies pursuing digital transformation cannot rely solely on technological upgrades; they should integrate cutting-edge digital tools such as big data and the Internet of Things and innovate management structures. In this process, companies must continuously interact dynamically with the external environment, adapt to the ever-changing technological advances and market demands, restructure internal structures, remove barriers to reform, and deeply explore hidden value, thereby seizing opportunities and enhancing competitive advantage amid fierce competition. Great Wall Motors addresses process management issues in two ways: first, integrating end-to-end processes, and second, unifying data.

Great Wall Motors has designed 12 first-level process points, with two key end-to-end approaches emphasized. The first, from customer to customer, is the most crucial end-to-end process. This ensures that internal management is customer-aligned, driven by market demand, and dedicated to serving customers. Through the application of information technology, direct interaction with consumers enables efficient transmission of demand information, helping the company gain a deeper understanding of consumers' true needs and thereby optimize the user experience. For example, management strategies should directly consider the medium- and long-term needs of customers and the market; integrated product development focuses on addressing key needs through the collection of user and market demands; and integrated product marketing provides services and products with the goal of achieving user satisfaction and winning the market. Secondly, end-to-end connectivity between internal processes. The interaction and sharing of resources within the ecosystem can, to a certain extent, mitigate the uncertainty of expanding new businesses and enhance the overall synergy. The effective application of digital and intelligent technologies can improve the operational efficiency of the entire system, achieving shared value through the co-creation and sharing of resources. For example, while management strategy provides market information for integrated product development, integrated product development can also directly provide feedback on execution results to management strategy.

To achieve end-to-end process integration, Great Wall Motors and Yanhuang Drive collaborated to introduce the AWS PaaS platform and integrate it with their dedicated DingTalk platform. Using the AWS PaaS platform, they integrated existing systems, as shown in Figure 4-6. All processes were integrated into the Great Wall Motors middle platform, processed through the infrastructure, and ultimately output through DingTalk. This resulted in a comprehensive digital work platform for Great Wall Motors' internal and external users, integrating online organization, communication, collaboration, business, and ecosystem. The AWS PaaS application, leveraging low-code and integration capabilities, empowered Great Wall Motors' middle platform architecture. Through architectural-level convergence, the overall IT architecture was upgraded, sharing a PaaS capability center and enabling subsidiaries to build their own IT systems, achieving unified management of the group and subsidiary information architectures. DingTalk, as the output component, provided strong technical support for Great Wall Motors' dedicated DingTalk platform. The platform is highly flexible and scalable, allowing for customization based on the company's specific needs, meeting the complex requirements of end-to-end processes and enabling collaborative work across departments. By introducing the DingTalk platform, Great Wall Motors successfully transitioned from a siloed system architecture to a flatter one. This transformation not only streamlined operational processes and reduced labor costs, but also improved process efficiency and quality. Furthermore, the platform's data sharing and collaboration features facilitated communication and cooperation between departments, effectively implementing end-to-end process management.

Data unification can standardize and normalize data management across multi-system architectures, standardizing master data management and ensuring the consistency of business data across various departments' digital systems. This avoids data silos and duplication, improves data efficiency, and enables the sharing of real-time financial and business information across departments and organizations, facilitating financial analysis and ultimately improving the execution quality of business processes.

Great Wall Motors' data unification encompasses the entire process from data generation, collection, cleansing, modeling, to application. First, data generation requires online integration of core value chain operations and the digitization of business operations. Next, data cleansing and governance, or data standardization, are necessary. After data standardization, data modeling is performed. Based on business logic, raw data is linked through business scenarios and business rules to create a data model. This data is then consolidated and uploaded to the network. Finally, Great Wall Motors develops data applications to improve business efficiency and reduce operating costs. Using blockchain technology, Great Wall Motors has built a Great Wall Alliance Chain (see Figure 4-7). This platform stores all key data within the ecosystem, allowing each organization to maintain its own data ledger, and any changes can be traced. This ensures data authenticity, immutability, and traceability, eliminating concerns about data authenticity. Data is standardized and integrated, enabling full lifecycle management. Furthermore, by identifying data as core or non-core assets, corresponding data management and security protection strategies are developed. After data desensitization, it is monetized, adding greater industry value. The blockchain's distributed ledger records each organization's contribution to the data. In summary, based on the analysis and collation of the digital transformation paths of Great Wall Motors' R&D, production, procurement, marketing, and management links, the following digital transformation path map of Great Wall Motors is obtained.

## CONCLUSIONS

With the advancement of digital technology and the advent of the digital economy, market competition has intensified. Choosing a suitable strategy for development has become crucial, and digital transformation has become a strategic choice for many companies.

This paper aims to deeply analyze the current status of Great Wall Motor's digital transformation and explore its digital transformation process, further clarifying the specific impact mechanism of digital transformation on corporate performance. Through this research, we hope to provide clearer practical experience for digital transformation in the automotive manufacturing industry. Based on the above analysis, we draw the following three conclusions:

First, by analyzing the motivations behind Great Wall Motor's digital transformation, this paper concludes that Great Wall Motor's digital transformation was not accidental. Instead, it was the inevitable result of strong national policy support, changes in market consumer demand, the need to enhance corporate value, and the awakening of entrepreneurs' awareness of digital transformation. Second, in terms of the impact on performance, Great Wall Motors' digital transformation has seen R&D digitalization enhance its innovation capabilities, resulting in higher R&D efficiency, an increase in R&D personnel, and a rise in patent licensing projects. Second, production digitalization has improved production efficiency, boosting both production capacity and efficiency. Third, procurement digitalization has reduced procurement management costs and improved procurement efficiency. Fourth, marketing digitalization has enhanced customer acquisition, increasing brand value, revenue, and market share. Fifth, process management digitalization has improved management efficiency and enhanced decision-making capabilities. From a performance perspective, the company's overall performance indicators have been consolidated and improved to a certain extent. EVA analysis shows that EVA is continuing to rise, maintaining a strong competitive position during the transformation period. Third, while Great Wall Motors' digital transformation has

been generally successful, its debt repayment capacity has declined. While the company's digital transformation has put some pressure on its short-term debt, it has generally been able to repay principal and interest on time. From a long-term debt repayment perspective, Great Wall Motors' digital transformation has significantly increased its long-term debt pressure. Therefore, while leveraging their financial leverage, companies must also closely monitor debt repayment and, while improving profitability, optimize their financing structure to mitigate financial risks.

Due to the complex and volatile current landscape, the risk of misjudgment can increase when companies undergo digital transformation, making it difficult to successfully implement the transformation. Great Wall Motors, a leading automotive manufacturer, understands that customers are a crucial pillar of its development. Therefore, throughout its digital transformation, Great Wall Motors has consistently adhered to the core philosophy of "customer satisfaction," prioritizing customer needs and interests as the guiding principle for its digital transformation. For traditional companies, gaining customer loyalty requires a deep understanding of their customers and continuously improving their capabilities through a user-centric approach. This allows them to more accurately capture customer preferences and create products that meet market demand.

Digital transformation has become an integral part of modern enterprises, especially the digital transformation of core businesses. An enterprise's core business is the cornerstone of its survival and development, representing its core competitiveness. Therefore, during digital transformation, enterprises must ensure that transformation is closely integrated with their core business. This not only ensures targeted and effective transformation but also helps maintain their competitive advantage. Enterprises should first conduct a thorough analysis of the characteristics of their core business to clearly define the goals and direction of digital transformation. Subsequently, they should develop a series of detailed digital transformation plans centered around their core business, focusing on improving production efficiency, optimizing supply chain management, and enhancing customer service. The close integration of digital transformation with core business is key to

achieving sustainable development. By thoroughly analyzing the characteristics of their core business, developing detailed digital transformation plans, focusing on the deep integration of new technologies with their core business, and prioritizing the development and recruitment of talent, enterprises can seize opportunities in the wave of digital transformation, maintain their competitive advantage, and achieve sustainable development.

Many companies can learn valuable lessons from successful digital transformation cases, which demonstrate how technological innovation can streamline business processes, increase efficiency, reduce costs, and enhance the customer experience. However, while these success stories provide valuable insights, it's important to recognize that their unique paths are difficult to replicate completely.

To survive in an increasingly competitive environment, companies, whether already embarking on or in the process of digital transformation, need to establish their own unique core competencies. The key to successful digital transformation lies in creating differentiated advantages, which not only differentiate the company in the market but also provide a significant source of capital for transformation. At the same time, companies should consider the effective allocation of internal resources in their decision-making and make adaptive strategic decisions based on external market dynamics. In summary, to achieve competitive advantage in their industry, companies must rely on their own developmental qualities, strengthen their core competencies, and achieve greater competitive advantage.

Research on Great Wall Motors faces numerous challenges due to limitations in individual expertise and information access. First, Great Wall Motors' access to information during its digital transformation was limited, relying primarily on publicly available data and lacking in-depth analysis of its internal data. Secondly, this article focuses only on data from Great Wall Motors between 2019 and 2024, a relatively narrow timeframe. This may reduce the accuracy of the analysis and, in turn, limit the depth and breadth of the research. These issues urgently need to be addressed in future research to more comprehensively analyze the essence and impact of Great Wall Motors' digital transformation.

This article uses Great Wall Motors as a case study to examine the drivers and effects of its digital transformation, identify challenges in the transformation, and propose countermeasures. However, due to limitations in data selection and collection, this article offers the following suggestions for future research. It is hoped that subsequent research will provide a deeper analysis of Great Wall Motors' digital transformation from other perspectives, obtain more comprehensive data and information, and ultimately provide a more comprehensive assessment of the company's digital transformation, further deepening the research.

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