

Research on the path and mechanism of digitalization of traditional enterprises—A case study based on the digital transformation of Haier Group

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Abstract: With the rapid development of digital economy, the digital transformation of traditional enterprises is an inevitable requirement to adapt to the changes of the times, realize new industry-driven and consumer-oriented demand upgrades. At the same time, digital transformation of traditional enterprises is also the key to whether enterprises can ultimately achieve cost reduction and efficiency. Focusing on the digital transformation of traditional enterprises, this paper firstly discusses the current status of the literature on digital transformation of traditional enterprises, Haier Group has started to explore the road of digital transformation early and is a model enterprise of digital transformation. What path and mechanism should be used for digital transformation of traditional enterprises. This paper finds that the key point of digital transformation is to realize digital empowerment and go through three stages of networking, platform and ecology to realize digital transformation step by step.

Keywords: traditional enterprises; digital transformation; mechanism and path; digital empowerment

1. Introduction

At present, the world is in the wave of the fourth industrial revolution, and information technology is driving earth-shaking changes in traditional industries. At present, the digital economy has not only injected new vitality into the global economy, but also become a new engine and driving force for the high-quality development of China's economy. The digital transformation of traditional enterprises can not only reduce costs and increase efficiency, improve the efficiency of production links, but also broaden sales channels, promote sales, and provide new innovation drivers for enterprise development. At present, a large number of enterprises are on the road to digital transformation, and more than half of the Global 1000 companies have adopted digital transformation as a core strategy. However, according to relevant data, although most traditional enterprises understand the importance of digital transformation, they have little understanding of the path of digital transformation. Therefore, this paper will focus on the digital transformation path, and on this basis, explore the path and mechanism of digital transformation of traditional enterprises by studying the case of Haier Group.

2. The literature review

At present, there are three main aspects of digital transformation of traditional enterprises, one is to qualitatively study the driving force, mode, type, development trend, problems, implementation path and policy suggestions of digital transformation, and the other is to quantitatively study the impact and impact mechanism of digital transformation of traditional enterprises on enterprise performance and innovation. The third is to explore the capabilities required in the process of digital transformation, establish a digital transformation evaluation system, study the process of digital transformation of enterprises in different fields, find and enrich practical cases and data.

In the development stage of the digital path, Wu Changqi (2022)^[1] et al. believe that the essence of enterprise digital transformation is to explore how an enterprise can adjust itself to adapt to changes in the technological environment when facing changes in the technological environment, and the change will definitely go through the stages of deconstruction, change and reconstruction. The digital transformation of enterprises will go through three stages, namely the pilot period, the expansion period and the integration period. Garzoni (2020)^[2] believes that the path of SME transformation is four stages,

namely digital awareness, digital inquiry, digital collaboration, and digital transformation. In this process, we must first understand digitalization, share digital goals, change management methods and working methods, realize collaboration between departments, and finally realize the reconstruction of digital processes and management changes.

In terms of the development direction of digital path, according to the existing literature, there are four main ways to promote the digital transformation of enterprises, such as industrial Internet, industrial Internet, smart manufacturing, and reverse manufacturing. It should adhere to the development strategy of digital economy, create a digital empowerment platform of free intellectual property rights and build a digital ecosystem. The digital transformation of enterprises should be promoted with a focus on smart manufacturing, and the role of industrial parks should be fully emphasized to accelerate digital transformation and create a virtuous cycle of digital ecology. Ghobakhloo (2021)^[3] describes 11 factors that determine the success of digital transformation of SMEs in the context about Industry 4.0, and finds that elements such as change management capabilities, digital strategic planning capabilities, and IDT maturity play a very key role in achieving digital transformation.

It can be seen that there are still relatively few studies on the path of digital transformation of traditional enterprises, and focus on digital empowerment and phased digital transformation, but few digital transformation path analysis is carried out with actual cases, and this paper aims to fill the gap in this regard.

3. Case study of digital transformation path of traditional enterprises

3.1. Case Background

Founded in 1984, Haier is the world's leading provider of solutions for a better life. The company has always focused on people, from a small enterprise on the verge of bankruptcy to an ecological enterprise leading the new era. Since 2012, Haier has embarked on the road of digital transformation, pioneering the "human-unit-in-one" model, fully using new technologies. Haier started early and achieved remarkable results on the road of digital transformation of traditional enterprises, which is of great reference and research value.

3.2. Study Design

Taking Haier's digital transformation as an example, this paper focuses on exploring Haier's digital transformation process and stages, focusing on its digital transformation paths and mechanisms. Because the paths and mechanisms of digital transformation are "how" and "why" questions, which are inductive and exploratory in nature, this paper adopts a single-case study approach. In addition, the article adopts a research method based on rooting theory, in which the research team organizes interview data and secondary sources, uses NVivo software to first conduct open coding, summarizes the core essentials to form a primary code, continuously iterates through data, concepts, and literature until enough secondary concepts are refined, aggregates the secondary codes inductively into a tertiary level, and finally distills the theoretical framework to summarize the Haier Group digital transformation path and mechanism.

3.3. Haier Group's digital transformation path and mechanism

Haier Group's digital transformation is divided into three stages: the first stage is from 2005 to 2012, which is the globalization strategy stage, and the strategy of "people-alone unity" is proposed; the second stage is from 2012 to 2019, which is the implementation of network and platform strategy; the third stage is from 2019 and beyond, which is the implementation of eco-brand strategy. The third stage is the implementation of the ecological brand strategy from 2019 and beyond.

In the first stage, Zhang Ruimin, the founder of Haier Group, first put forward the concept of "people-alone unity". In "people-alone unity", "people" refers to employees, "single" refers to customer demand, "people single" means to meet customer demand as the primary premise^[4], in the process to achieve value. The "people-alone unity" means to meet customer needs as the primary premise, in the process to achieve value. Under this model, Haier has only three types of organizations within the company: front-line business (micro-business), platform business (platform owner) and strategic business (creator). Employees' remuneration is calculated based on the value realized. According to the

level of earnings, it can be divided into five tiers: sharing zone, commission zone, attainment zone, capital preservation zone and loss zone. Employees who implement loss zone projects are only able to receive a basic salary, while projects in other zones are able to bring different levels of benefits to employees according to the difference in project income, thus achieving an incentive effect. The key platform for this phase is HOPE Center, which connects resources from more than ten countries and regions, and opens up direct communication channels between users and employees.

In the second stage, Haier entered the platform stage, and the "people-alone unity" entered the 2.0 stage, creating a sharing platform to stimulate the innovation and entrepreneurship of employees and achieving a new upgrade. In this stage, the company made full use of the collaborative role of the platform, through which employees at home and abroad can establish links with resources, and realized the operation of three platforms: financial holding platform, investment platform and white power platform, which are responsible for different business sections, providing a good space for value creation for small and micro^[5]. At this stage, a large number of typical small micros emerged, such as Thor small micros, car small micros, etc. These small micros gave full play to the role of innovation leadership. In addition, Haier pioneered for the first time the Khaos (COSMOPLAT) platform, which is a cross-industry and cross-discipline industrial Internet platform, in which it is possible to realize the joint innovation of schools, enterprises, research institutions, financial institutions and other institutions and organizations, link global resources, make full use of AI, big data, artificial intelligence and other advanced technologies, realize the transparency of production processes, and promote Haier's customers participate in the whole process of product production, promoting the change of Haier's production model, sales model and management model. In addition, it has created platforms such as Haida Source Platform, U + Smart Home Platform, and Crowdsourcing. The platform has broadened the possibility of cooperation and cooperation boundaries, providing space for value creation.

In the third stage, Haier enters the ecological stage and is gradually establishing a user-centered co-creation and win-win ecosystem and realizing open platform value creation on the Internet. In this stage, Haier pays more attention to innovation capability and realizes the continuous construction and improvement of each platform, gradually forming an open resource allocation network in the world to achieve a high-efficiency balance between supply and demand, and ushering in the continuous collision and progress of technology in the whole process of opening up, bringing a continuous source of forward momentum. In the new era, Haier's philosophy is "integrity ecology, win-win evolution"^[6]. Haier attaches great importance to the role of sharing economy and experience economy. The sharing economy aims to achieve "resource sharing", while the "experience economy" attaches importance to the user's experience, and the role of trust is crucial in both the sharing economy and the experience economy. In 2020, Haier Group launched the world's first scenario brand, Tri-Wing Bird, which can provide users with a full range of smart home solutions and personalized services, such as the ability to "update" the layout of a room with a single click. "Update" the room layout and generate smart home solutions. In addition, many value-added services are also attached, such as consumers can use the "clothing network", "food network" and other service networks, which can innovate and expand the service area, forming a complete industry chain of home, shopping and health, opening up a new era of ecological digitalization. The following Table 1 clearly shows the characteristics of the three phases corresponding to Haier's digitalization.

Table 1: The stage of Haier's digital transformation.

	Time Period	Core Features	Typical Evidence	Main platforms
Phase I	2005-2012	Networking	"people-alone unity 1.0"; a flat structure; three kinds of organizations in the company: the front-line management body (micro-business), the platform management body (platform owner) and the strategic management body (creator)	HOPE Center
Phase II	2012-2019	Platforming	"people-alone unity 2.0" ; made full use of the collaborative role of the platform and realized the operation of three major platforms; emerged a large number of typical small and micro; created the COSMOplat platform for the first time	COSMO platform; Haier source platform, U + smart home platform, other platforms
Stage 3	After 2019	Ecological	Gradually establish a user-centered co-creation and win-win ecosystem to achieve open platform value creation on the Internet; attach great importance to the role of sharing economy and experience economy; launch the world's first scene brand - Three Wing Bird	The world's first scene brand - Tri-wing bird, clothing network, food network

Haier's "three steps" route can give many traditional enterprises digital transformation ideas, from networking to platform, and finally to ecological construction ideas, is a gradual, step-by-step process

of gradual improvement. In this process, the traditional production model is transformed through digital empowerment, and the digital platform is used as a springboard to realize the digital transformation of traditional enterprises with demand as the guide.

4. Conclusion and Insight

4.1. Main Conclusions

Through the research of the article, it can be found that the research on digital transformation of traditional enterprises mainly focuses on three major aspects, on the one hand, it is a qualitative research on the dynamics, path, development trend and problems of digitalization of traditional enterprises, on the second hand, it is a quantitative research on the impact of digital transformation of traditional enterprises on enterprise performance and innovation; on the third hand, it is an exploration of the evaluation system of digital transformation capability. This paper focuses on the issue of digital transformation path, and discusses the path of digital transformation of traditional enterprises with the case of Haier Group, focusing on digital empowerment and digitalization in phases. At the beginning of digital transformation, the concept of digitalization should be fully propagated, making the ideology of digitalization deeply rooted in people's hearts. To change the original traditional organizational structure and obsolete production model of enterprises, taking consumers' demand as the baseline of production. Breaking the inherent situation and introducing new technologies and platforms are the keys to this stage in order to fully realize the goal of networking. The core feature of the second phase of digital transformation is platformization, which enables digitization, standardization and routinization through the continuous development, improvement and innovation of platforms. The third stage of digitalization is ecologization, the core of which is to establish a co-creation and sharing ecosystem to achieve industry-wide and globalized resource linkage and sharing, and progress in the process of mutual communication and collision. This stage also attaches great importance to the role of sharing economy and experience economy, and this stage is the long-term goal pursued by digital transformation.

4.2. Theoretical contributions

Firstly, this paper studies the digital transformation of traditional enterprises from multiple perspectives, synthesizes and summarizes the current research in related fields in the literature, and provides solutions to understand the research trends, research gaps and other issues in this field. The current research on digitalization of traditional enterprises explores the drivers, paths, and impacts of digital transformation from both qualitative and quantitative aspects, but there is a lack of both theory and cases regarding the digitalization paths of traditional enterprises, which is why this paper focuses on path research.

Secondly, this paper combines the findings of literature on digital transformation paths, and based on the case study of Haier Group, it puts forward the paths that traditional enterprises can refer to for digital transformation, and enriches the theory in terms of digital transformation paths. It is found that traditional enterprises can realize digital transformation in stages, and enterprises transform their enterprise project implementation methods and management organization contents by links, and apply the role of digital platform well, which can maximize the utility in the end.

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