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Digital Transformation of Express Industry

Chen Huang, Xuelian Zuo, Tongtong Chen

Zhejiang Yuexiu University, Shaoxing, Zhejiang, 312000, China

ABSTRACT

As a key component of the modern service industry, the express industry plays an increasingly important role in economic and social development. In recent years, due to the continuous evolution of the Internet, big data, artificial intelligence and other technologies, the express delivery industry has entered a period of opportunity and challenge of digital transformation. Digital transformation can not only improve the operational efficiency and service quality of the courier industry, but also bring consumers a more convenient and efficient courier service experience. This paper provides an in-depth analysis of the digital transformation of the courier industry, the background of the times, the system sorted out the many challenges it faces, and targeted coping strategies, in order to provide constructive reference for the sustainable development of the courier industry.

KEYWORDS

Express industry; Digital transformation; Efficiency

1. THE BACKGROUND OF THE DIGITAL TRANSFORMATION OF THE EXPRESS INDUSTRY

In recent years, e-commerce has developed rapidly at an astonishing rate, profoundly changing people's shopping methods and consumption habits. Under such a trend, consumer demand for courier services has shown a continuous explosive growth. Such as the incremental pressure on efficiency brought about by the increase in business volume. During the e-commerce promotion activities, the volume of orders will increase dramatically in a short period of time, but also makes the workload of sorting and distribution increased dramatically. Another example is the increase in customer demand for service quality and experience. In terms of information transparency needs, consumers want to be able to know the location of the parcel, transportation status and other information at any time. In terms of demand for personalized services, the needs of different customers are becoming increasingly diversified and personalized. Then there is the enhanced demand for globalized business expansion. Against the macro background of the deep integration of big data, Internet of Things and other information technologies with the research and development, production, logistics and distribution, as well as precision marketing of cross-border e-commerce, the incremental market of cross-border e-commerce in the future presents an extremely broad space for development. In addition to the price factor, consumers pay more attention to the quality and efficiency of the service in the express delivery service. Therefore, express delivery enterprises only to provide more professional, efficient and reliable service, can meet the needs of consumers.

In the development of globalization, information technology innovation also brings new opportunities for enterprises, modern digital transformation is an important choice. Compared with the traditional Internet information technology, digital transformation is not only an application conversion, but also a self-innovation process, which can help enterprises realize comprehensive changes in business management. At the same time, along with the rapid development and extensive use of digital

technology, the Internet of Things, cloud computing, artificial intelligence, blockchain and other technologies to the digital transformation of express delivery enterprises to provide a strong technical support. It can be seen that the digital way to solve the efficiency problem, from the traditional mode to the Internet mode change, is the transformation and upgrading of logistics enterprises, looking for new competitive advantages, to achieve high-quality development of the road.

2. THE CHALLENGES FACING THE DIGITAL TRANSFORMATION OF THE EXPRESS INDUSTRY

(1) Technical level

Technology is rapidly changing. In today's era of rapid development of information technology, express delivery enterprises are like rowing against the current, not to advance is to retreat. Artificial intelligence, big data, Internet of Things, blockchain and other cutting-edge technologies continue to emerge, express delivery enterprises must always maintain a keen insight, keep pace with the pace of technological development, and constantly learn and apply new technologies. Otherwise, the slightest laxity will be left far behind by competitors. However, the absorption and transformation of technology is not an easy task, it not only requires companies to spend a lot of time and energy for research and testing, but also requires companies to have strong technical strength and innovation.

System integration is difficult. Express enterprises usually have multiple business systems, such as order management system, transportation management system, warehouse management system. These systems may come from different suppliers, data formats and interface standards are often inconsistent, which makes the integration between the system is much more difficult. To realize digital transformation, it is necessary to integrate these dispersed systems to achieve data interoperability and collaborative business operations. However, this is undoubtedly a huge challenge to the technical capabilities and resource investment of enterprises. On the one hand, enterprises need to have a professional technical team that can deeply understand the characteristics and needs of each system and formulate a reasonable integration plan; on the other hand, enterprises also need to invest a lot of money to buy relevant software and hardware equipment to ensure the smooth progress of system integration.

Data quality and security issues are highlighted. Digital transformation cannot be separated from a large amount of data support, and the accuracy, completeness and timeliness of data directly affect the correctness of decision-making and the normal operation of business. In the process of collecting, storing, transmitting and using data, express delivery enterprises are increasingly focusing on the role played by technology in information security and user privacy protection, such as data loss, data leakage and data tampering. In addition, how to ensure the privacy protection of data and comply with relevant laws and regulations is also an important issue that enterprises must face.

(2) Financial level

Large upfront investment. Digital transformation requires enterprises to invest a large amount of money for the purchase of hardware equipment, software systems, technical services and so on. For example, the construction of intelligent warehousing facilities need to purchase advanced automation equipment, installation of intelligent control systems, etc., which requires a huge amount of capital investment; the purchase of automated sorting equipment can improve the efficiency of the sorting, but the price is expensive; to build a big data analysis platform need to buy high-performance servers, hire professional data analysts, etc., but also requires a lot of money. For some small and medium-sized express delivery enterprises, financial pressure may become the main obstacle to digital transformation, making it difficult to move in the digital wave.

Long return on investment cycle. Digital transformation is a long-term process that requires a certain time cycle from the introduction and application of technology to the generation of actual economic

benefits. In this process, enterprises need to continuously invest capital and resources, and it may be difficult to see significant returns in the short term. This is a great test for the financial situation and business management of enterprises.

(3) Talent level

Shortage of professionals. The digital transformation of the courier industry requires composite talents who understand both courier business and information technology, such as data analysts, algorithm engineers, system architects and so on. This type of talent is in short supply in the market, and it is difficult for enterprises to recruit and retain these talents. On the one hand, express delivery enterprises need to give competitive salary and excellent development space, in order to recruit outstanding talent; on the other hand, the enterprise also needs to strengthen the training of internal talent, through training, learning and other ways to enhance the technical level and business ability of employees. In addition, the existing staff within the enterprise may lack the relevant technical knowledge and skills, and need to carry out a lot of training and learning, which also increases the cost of talent training.

Poor employee adaptability. Digital transformation will bring changes in work styles and business processes, and employees may be resistant to new technologies and processes and have poor adaptability. For example, the application of intelligent sorting equipment may lead to the replacement of the jobs of some sorting workers, who need to relearn new skills and knowledge to adapt to the development needs of the enterprise.

(4) Organizational management level

Organizational structure does not adapt. The traditional express delivery enterprise organizational structure is usually divided according to function, the departments are relatively independent of each other, communication and collaboration efficiency is low. Digital transformation requires enterprises to establish a more flexible and efficient organizational structure, breaking down the barriers between departments to achieve cross-departmental collaboration. This requires enterprises to adjust and optimize their organizational structure, which involves the deployment of personnel, redistribution of responsibilities, etc., and may lead to internal contradictions and conflicts.

Backward management concepts.Digital transformation is not only the application of technology, but also a change in management philosophy. The management of some courier companies may lack digital thinking, insufficient knowledge of digital transformation, still using traditional management and decision-making mode, it is difficult to adapt to the development requirements of the digital era. This requires professional digital solution providers and express enterprises in-depth cooperation, hand in hand to develop a new business model based on digital platforms, building a digital core operating system covering data analysis, customer experience, process automation, equipment data, new solutions, etc., prompting the traditional courier business to digital agile organization to a comprehensive transformation. At the same time, management still needs to recognize the importance of digital transformation, actively promote the digitalization process of the enterprise, while learning to use digital tools for management and decision-making, to improve the operational efficiency and competitiveness of the enterprise.

(5) External cooperation level

Difficulties in synergizing with upstream and downstream enterprises. The express delivery industry is a long industry chain, involving upstream and downstream enterprises such as e-commerce enterprises, suppliers and retailers. Digital transformation requires express enterprises to work closely with upstream and downstream enterprises to achieve information sharing and business synergy. However, due to the different interests of the enterprises, incompatible information systems and other reasons, resulting in greater difficulties in synergistic cooperation, affecting the efficiency and effectiveness of the entire industry chain.

3. THE MEASURES OF DIGITAL TRANSFORMATION OF THE EXPRESS DELIVERY INDUSTRY

(1) Technological upgrading and innovation

Increase investment in technology research and development. Express delivery enterprises should attach great importance to technology research and development, specialize in the establishment of a strong technology research and development department, and do not hesitate to invest sufficient funds for in-depth research and active development of new technologies. At the same time, the development of a powerful big data analysis platform, the use of this platform can be a huge amount of express delivery business data for deep mining, a better understanding of customer demand and market trends, for the enterprise's strategic decision-making to provide accurate data support.

Improve the ability to apply emerging technologies. The express delivery industry should keep pace with the times and proactively apply emerging technologies such as artificial intelligence, big data, Internet of Things, blockchain and so on. For example, artificial intelligence creates an intelligent customer service system that responds quickly and accurately to users with the help of natural language processing and machine learning algorithms. Big data analyzes customer behavior and demand to optimize delivery routes and reduce costs. Internet of Things technology installs sensors for parcels, real-time tracking and monitoring, improves logistics transparency, and lets users know the location status of parcels at any time.

Boldly explore the application potential of blockchain technology in the express delivery industry. Blockchain technology has the characteristics of decentralization, non-tampering, traceability, etc., which can ensure the authenticity and security of express delivery data. For example, in the supply chain, blockchain technology realizes the traceability of goods and ensures quality and safety. It can also solve the trust problem in the express delivery industry and improve transaction security and efficiency.

(2) Financial security and management

Reasonable planning of capital investment. Formulate a budget plan for digital transformation, and clarify the direction of investment in technology research and development, equipment acquisition, and talent training. Invest funds in phases, piloting at the initial stage and expanding the scale after success. Avoid the pressure of excessive one-time investment, ensure the sustainable development of the project, and provide stable financial support for the digital transformation of enterprises.

Expand diversified financing channels. Proactively seek external financing to broaden the source of funds. Bank loans, equity financing, bond financing and other financing methods can be considered. Fully demonstrate the enterprise's digital transformation plan and broad development prospects to financial institutions in order to win their trust and support and strive for more financial support.

Cooperate with professional investment institutions.Through cooperation with investment institutions, you can not only obtain financial support, but also draw on their rich experience and extensive resources in the field of digitalization. Investment institutions usually have professional investment teams and industry experts, who can provide enterprises with advice and support in strategic planning, market expansion, technology introduction, etc., and help them accelerate the pace of digital transformation.

(3) Talent cultivation and introduction

Internal talent cultivation. Develop a systematic and complete talent training program to provide employees with all-round technical training and broad career development opportunities. For example, organize internal training courses and invite industry experts and technical gurus to give lectures and share the latest technology trends and practical experience. Technical exchange activities are carried out to encourage employees to learn from each other and make progress together. In these ways,

improve the technical level and business ability of employees, and cultivate a high-quality talent team for the digital transformation of the enterprise. At the same time, establish effective incentives to stimulate the enthusiasm of employees to actively participate in digital transformation projects. Give generous rewards to employees who excel in digital transformation, so that employees feel that their efforts and contributions are recognized and rewarded. It also encourages employees to put forward innovative ideas and suggestions, and supports and rewards valuable innovative solutions to stimulate employees' innovative vitality and creativity.

External talent introduction. Formulate attractive talent introduction policies to attract outstanding digital talents to join the company. Provide competitive remuneration packages, favorable working environment and broad development space to attract composite talents who know both express business and information technology. For example, we provide high-end talents with benefits such as high salary, stock options, housing subsidies, etc., create a comfortable office environment, equipped with advanced equipment and tools, and create good working conditions. At the same time, cooperation with universities and research institutions to carry out targeted training and introduction of talent programs. Such as signing agreements with colleges and universities to build internship bases, providing internship opportunities for students, and selecting the best talents to join the company after graduation after investigation and cultivation, so as to reserve talent power for the digital transformation of enterprises.

Digital transformation is generally initiated by the management. Enterprises to realize digital transformation landing need to work together from top to bottom, increase investment in research and development, pay attention to the recruitment and training of innovative talents, and enhance the data capabilities of employees. Only in this way can we ensure that the enterprise digitalization has the ability to continue to update and iterate, maintain innovation vitality, and have a first-mover advantage.

(4) Organizational structure optimization and management change

Adjust the organizational structure to achieve cross-departmental cooperation. Establish an efficient organizational structure to adapt to digital transformation, break down barriers between departments, and achieve close cross-departmental cooperation. At the same time, form a cross-departmental project team, consisting of professionals from different departments, to jointly promote the implementation of digital projects. The project team can flexibly deploy resources according to the needs and characteristics of the project to improve work efficiency. Optimize business processes and improve work efficiency. Comprehensive sorting and in-depth optimization of traditional express delivery business processes, the use of digital technology to achieve process automation and intelligence, reduce manual intervention, and improve work efficiency and accuracy. For example, the introduction of electronic face sheets, automated sorting systems and intelligent distribution equipment, etc., to achieve fully automated operation of express delivery business, digital management of each link, improve logistics efficiency and reduce operating costs.

Change management concepts and improve digital literacy.Strengthen the management's digital training to improve the management's digital literacy and management capabilities. Management should take the lead in learning and applying digital technology to promote the digital transformation of the enterprise. For example, organize management to participate in digital training activities to understand the latest trends and technologies and master management methods. Encourage the use of digital tools to improve the science and accuracy of decision-making. Establish a digital culture to create a favorable atmosphere for innovation and cooperation. Encourage employees to put forward innovative ideas and suggestions, actively try new technologies and methods, and jointly promote the digital transformation of the enterprise. For example, set up an innovation incentive fund to reward employees for their innovative achievements, and conduct innovation competitions to stimulate enthusiasm. Strengthen team building, promote departmental communication and cooperation, and form a synergy to promote the implementation of digital transformation projects.

(5) External cooperation and synergy

Work closely with upstream and downstream enterprises.Strengthen close cooperation with upstream and downstream enterprises such as e-commerce enterprises, suppliers and retailers to realize information sharing and business synergy. For example, cooperate with e-commerce enterprises to realize real-time docking of orders and synchronous updating of logistics information, so that express delivery enterprises can prepare in advance after customers place orders and improve distribution efficiency. And cooperate with suppliers to optimize supply chain management and improve logistics efficiency. By sharing inventory information, production plans, etc. with suppliers, we can realize visual management of the supply chain, reduce inventory costs, and improve the responsiveness of the supply chain.

Promote the development of industry standards and improve digitization. Through cooperation with upstream and downstream enterprises, formulate unified industry standards to realize data interconnection and collaborative business operations. For example, formulate unified standards for electronic manifests and logistics information exchange standards to ensure smooth flow of data between different enterprises and improve logistics efficiency. At the same time, actively participate in activities organized by industry associations to promote the promotion and application of industry standards and create a good environment for the digital transformation of the express industry.

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