

A Research on Digital Transformation Strategies of Retailing Industry: Based on the Case Analysis of Walmart and Amazon

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Abstract: With the development of the digital economy, more and more traditional enterprises have begun to undergo digital transformation, hoping to improve their competitiveness and promote the sustainable development of enterprises under the new situation. As an important part of traditional enterprises, retail enterprises also actively participate in the digital transformation process. Some well-known retail companies have made certain achievements in digital transformation, but there are still some companies that do not know how to carry out digital transformation and how to exert their efforts. This article adopts the literature research method and dual case analysis method to analyze the efforts of internationally renowned retail companies Walmart and Amazon in digital transformation, and summarizes the specific strategies of retail companies in digital transformation, including technology, concepts, and services. In other aspects, it can help other traditional retail companies clarify the direction of digital transformation and upgrading and provide experience and reference.

Keywords: Retailing Industry, Digital Technology, Omni-Channel

1. Introduction

The term "digital economy" first appeared in the 1990s and was proposed by American scholar Don Tapscott in his book *Digital Economy: Prospects and Risks in the Era of Network Intelligence*. In 2002, American scholar Beomsoo Kim defined the digital economy as a special economic form, the essence of which is "the transaction of goods and services in an information-based form." With the popularization of the Internet and the development of information technology, the connotation and extension of the digital economy have been continuously deepened and expanded. In 2016, the G20 Digital Economy Development and Cooperation Initiative adopted by the G20 leaders in Hangzhou Summit pointed out that "Digital economy refers to a series of economic activities that use digital knowledge and information as key production factors, use modern information networks as important carriers, and use the effective use of information and communication technology as an important driving force for efficiency improvement and economic structure optimization". This definition of the digital economy has been widely recognized by the international community. Currently, the digital economy is booming and has become one of the important engines of economic growth.

In the context of the digital economy, traditional industries have begun to undergo digital transformation to improve their competitiveness and achieve their own sustainable development. The

retail industry, one of the traditional industries, is no exception. Since 2016, "new retail" has become synonymous with retail in the digital era [1]. "New retail" technology is greatly changing the landscape of the retail industry. New technologies such as micro-cloud computing, robots, 5G, VR, AR, MR, IoT and drones are greatly reshaping the retail industry [2]. The offline-to-online retail system is an important way used in today's society [3]. The key elements of "new retail" include online and offline integration, user-centeredness, advanced technology, and improved customer needs [4]. The development of the digital economy has brought opportunities to the digital transformation of retail companies, but it has also brought challenges. Affected by multiple internal and external factors, some retail companies have not succeeded in the digital transformation process, resulting in declining performance and hindering corporate development. Therefore, research on digital transformation strategies of retail enterprises is particularly important and urgent. Developing correct strategies and clarifying development directions are crucial to the success of digital transformation of retail enterprises.

This article adopts literature review and case analysis methods, combs through relevant literature, analyzes and compares the transformation practices of Walmart, which represents the successful digital transformation of physical retailers, and Amazon, which represents the successful digital transformation of online retailers, and summarizes the digital transformation of the two. Successful strategies, thereby providing inspiration and reference for other retail enterprises in their digital transformation.

2. Strengthening the Innovation and Application of Digital Technology

As a practical activity for enterprises, digitalization takes into account the requirements of modern technology. The era of Industry 4.0 is based on the innovation of technology combinations, and the development of digital technology plays an important role in enterprise transformation [5]. With the sweeping wave of digitalization, digital technology has become the core driving force for continuously promoting enterprise innovation, transformation and upgrading [6]. Enterprises should be committed to embracing new digital technologies, improving digital capabilities, and becoming leaders in innovation [7].

Currently, new generation digital information technologies such as artificial intelligence, big data, blockchain, cloud computing, and the Internet of Things are booming and have been widely used in the retail industry. As an important driving force and technical support for the transformation and upgrading of retail enterprises, digital technology has enabled traditional retail enterprises to improve production and operation efficiency, reduce costs, improve user experience, innovate business models, and develop in the direction of digitalization, diversification, and intelligence.

In recent years, Walmart has actively established partnerships with companies such as Microsoft and Google. Based on Microsoft's Azure OpenAI technology and Walmart's own retail-specific model, the two companies jointly launched an AI-based search engine. Customers can search according to specific usage scenarios, and the system will recommend related products based on scenarios, historical searches, etc. Consumers are provided with a personalized curated list of merchandise. Walmart and Google have mainly launched voice shopping services. In addition, Walmart also uses blockchain technology and Internet of Things technology to trace and monitor the source and location of goods in real time to ensure product safety and is more conducive to supply chain management.

Amazon is a leader in the innovation and application of artificial intelligence and cloud computing digital technologies. For example, in terms of artificial intelligence, Amazon has developed an algorithm based on deep learning and uses generative artificial intelligence as a powerful innovation tool. Currently, through algorithms and generative artificial intelligence, customers can talk to Alexa as easily as talking to friends and get the information they need. Based on this, Amazon has also

innovated payment methods and developed Amazon One and Just Walk Out technology. The former is a contactless payment service that can be paid with the palm of hand. The latter allows customers to go out directly without going to the cashier to settle after purchasing goods, and the deduction will be automatically deducted from the customer's account, improving customers' shopping experience. At the same time, with the help of artificial intelligence and machine learning, product sorting and delivery are also safer and more efficient. In terms of cloud computing, Amazon has created the AWS cloud platform, which provides more than 200 comprehensive services and is the most comprehensive and widely used cloud platform in the world. Amazon not only uses multiple services provided by AWS for data collection, analysis and storage, and improves its products and services, but also provides cloud services to millions of customers around the world.

3. Creating A Comprehensive and Integrated Digital Ecosystem

Iansiti and Levien define a business ecosystem as a loose network of suppliers, distributors, outsourcing companies, manufacturers of related products and services, technology providers, and many other organizations that influence the creation of a company's own products and Delivery is also affected. Omar Valdez-de-Leon believes that a digital ecosystem is a loose network of interacting organizations that are digitally connected and implemented through modularity, and that they influence each other. Murthy and Madhok believe that the digital platform ecosystem, as an emerging organizational form, shifts the focus of value creation from within the dominant enterprise to co-creation with external complementors. The definition of digital ecosystem in Harvard Business Review is: a digital ecosystem is composed of suppliers, customers, trading partners, applications, third-party data service providers and all related technologies.

As Figure 1 shown, the digital ecosystem relies on digital technology and integrates internal and external resources of the enterprise to strengthen the connection between the upstream and downstream industrial chains, thereby improving the operational efficiency of the enterprise and achieving information sharing, value co-creation and win-win benefits. By establishing a digital ecosystem, Walmart has integrated the entire value chain of the enterprise into a whole, allowing information to be circulated and shared among suppliers, enterprises, and customers. On the one hand, Walmart has established a close partnership with its suppliers. Through the "retail link", suppliers can directly enter Walmart's system to understand the sales of their products in each store, grasp product demand trends, and provide timely information. Adjust production and distribution plans to meet customer needs. Walmart's inventory costs have also been reduced, and goods can be replenished in a timely manner. On the other hand, customers can check product-related information and conduct online shopping. At the same time, Walmart can understand customer needs, collect customer behavior, and analyze it to optimize sales strategies and implement precise ordering.

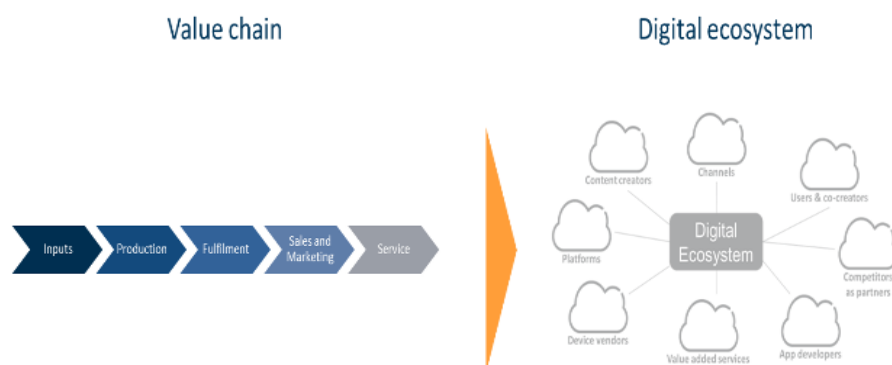


Figure 1: Digital ecosystem [8].

Amazon relies on AWS network infrastructure to build a cloud technology ecosystem and create a multi-field, all-round enterprise digital ecosystem. Amazon has 67 core partners, and its digital ecosystem covers cloud computing, advertising services, logistics services, content services and other fields. By integrating the resources of itself and its many partners, Amazon develops in multiple fields to provide customers with more comprehensive and better products and services, and to provide strong support for its own sustainable development.

4. Establishing An Omni-Channel Sales System and Expanding Shopping Channels

Under the current background of further development of the digital economy and changes in consumer consumption habits, it is the only way for retail enterprises to carry out omni-channel retail and promote the digital transformation of retail enterprises [8]. Under the traditional retail model, products or information in online or offline sales channels are independent and not unified. With the digital transformation of retail enterprises, the barriers between online and offline sales channels have been broken down, and resources such as products and services have been effectively integrated. Customers can enjoy a consumption experience that integrates virtual and real and more considerate services to meet the diverse needs of customers [9]. At the same time, online and offline data interact, offline shopping data is synchronized with online channels, and online shopping data will also be synchronized to offline. Enterprises can understand consumers through mining and analysis of consumer shopping behavior and data. Based on product preferences, it can achieve on-demand production and precision marketing, reduce inventory backlog and marketing costs, enable enterprises to gain greater benefits and improve market competitiveness.

Walmart proposed, the store closest to customers is the store in their pockets, and they are transforming the digital storefront. With the popularity of the Internet, changes in consumer habits, and the impact of the new coronavirus epidemic on maintaining a certain social distance and isolation policy, Traditional shopping, delivery, and pickup methods have changed. As a representative of traditional offline retail companies, Walmart has actively expanded its e-commerce business in recent years, vigorously promoted online sales, and is committed to establishing an online and offline omni-channel sales system. It launched services such as online ordering, store pickup, online ordering, and store delivery, achieving seamless connection and deep integration of online and offline sales channels. In terms of online sales channels, in addition to launching the online shopping website Walmart.com, developing corresponding shopping APPs, and acquiring e-commerce platform Jet.com, it also continuously optimizes search engines, shopping interfaces, and video displays of products to enhance customer shopping experience. In terms of offline sales channels, Walmart has not abandoned them. Instead, it has redesigned, renovated and upgraded its stores, and collaborated with different product brands to create consumer experience activities and create a good shopping environment for customers, so that customers can gain the pleasure of offline shopping.

As a typical representative of online retail companies, Amazon has a huge e-commerce platform and provides a variety of products, including not only its own brand products, but also products from other brands. Customers can place orders through its website or APP, and then the purchased goods will be delivered to the area by dedicated personnel. In order to meet the shopping needs of different customers and enhance the company's own competitiveness, Amazon has also opened many physical stores. In 2015, Amazon opened its first offline physical bookstore. Later, Amazon acquired health food supermarket Whole Foods and has about 500 offline physical stores. Since then, Amazon has opened a number of offline stores, including Amazon Fresh supermarkets, Amazon "Four-Star" stores, etc. The products sold in Amazon's "Four-Star" stores are all "Internet celebrity products" that have received four stars or above based on online customer ratings. This can provide customers with shopping suggestions and help them choose the products they need that are well-received.

5. Changing Marketing Strategies to Provide Customers with Diversified and Personalized Products and Services

People, goods and places are the three elements of the retail industry. In the traditional retail industry, "goods" are the core, and the main thing is that the goods can be sold [10]. The needs of "people", the object of commodity dumping, are often ignored. With the development of the economy, the number and types of goods are increasing, and market competition has intensified. In order to better sell goods, companies have gradually paid more attention to customer needs and are committed to providing customers with diversified and personalized products and services. Thereby improving customer satisfaction, increasing customer stickiness, and making them loyal customers of the brand. In the context of the digital economy, "people" have become the core. Customers are no longer just consumers, but have changed from transaction objects to participants in the entire business activities, triggering changes in "field" and "goods", plays an important guiding role in enterprise production and operation activities [11]. Therefore, if the retail industry wants to successfully carry out digital transformation and upgrade, it needs to pay attention to the diverse and personalized consumption needs of customers. Establishing complete customer portraits and improving customer evaluation and feedback mechanisms on product and service quality are important ways to achieve the above goals.

Since its founding in 1962, Walmart has been committed to changing customers' lives. In 2000, Walmart.com was established, and Walmart began to provide customers with a seamless shopping experience, allowing customers to shop online, in stores, and on mobile devices for a pleasant shopping experience. In the 2010s, Walmart launched Walmart Pay and home delivery services to give customers a better shopping experience. In the 2020s, Walmart began to expand the ecosystem that supports customers, enhancing processes that allow them to shop anytime, anywhere and how they choose. At the beginning of 2024, Walmart proposed the concept of "adaptive retail". This kind of retail is not just e-commerce or physical stores. It is a sales model that seamlessly integrates the best aspects of all channels and is committed to creating personalized, A seamless and flexible shopping experience. In addition to its hypermarkets, Walmart has also opened Sam's Club stores, which are known for providing high-quality goods and services to meet the diverse needs of different customers.

In terms of improving customer shopping experience and satisfaction, Amazon mainly achieves this through personalized recommendations, customized services, and providing exclusive services for Prime members. Based on customers' product purchase history and browsing history, relying on big data and algorithms, it recommends more similar products and services to customers so that they can find the products they need quickly and easily. In addition, Amazon also provides DIY customization services. Customers can choose the style of the product according to their own preferences, and can use the platform designer to check the product design effect and make modifications in real time. For members, Amazon provides fast, free and flexible delivery options, exclusive events and discount shopping, and enjoys a large number of entertainment resources such as books, movies, music, etc., in order to increase user stickiness.

6. Strengthening the Consensus of Internal Personnel on Digital Transformation

Whether the retail industry can successfully carry out digital transformation, in addition to formulating corresponding strategies and goals, strengthening the innovation and application of digital technology, and providing customers with diversified goods and services, internal personnel of the enterprise are also key elements. They are the concrete implementation of the digital transformation strategy. Executives and Stakeholders. First, it is the understanding of digital transformation among senior corporate officials. Executives mainly play the role of decision-making and taking corresponding risks in the digital transformation process [12]. Digital transformation has

increased the amount of data acquired by enterprises and expanded data sources. Senior officials have to consider more factors when making decisions, increasing complexity and taking greater risks. Secondly, it is employees' understanding of digital transformation. According to stakeholder theory, digital transformation strategy can be better implemented and effective after it is recognized by other stakeholders [13]. According to social cognitive theory, employees will review digital strategies. If the benefits outweigh the threats, employees will have a supportive attitude, which is conducive to the digital transformation of the enterprise [13]. Employees may be worried that digital transformation will allow machines to replace human labor, and thus they will lose their jobs, so they are unwilling to carry out digital transformation and hold a resistant attitude. Therefore, whether employees within the company agree with the concept of digitalization is crucial to the success of the company's transformation.

Walmart and Amazon have taken many initiatives to improve employees' awareness of corporate digital transformation. First, there is the guidance of senior leaders. By sharing their understanding and experience of digital transformation, senior executives tell employees the value of digital transformation and encourage employees to actively embrace digital transformation. Second, provide digital training courses for employees. In this way, employees can have a good understanding of digital transformation and master the corresponding digital technologies and tools to better carry out their work. In addition, corporate culture and leadership principles emphasize innovation and invention, and encourage employees to put forward their own ideas and suggestions, so that employees can participate in digital construction.

7. Conclusion

The digital transformation of the retail industry is an inevitable requirement to improve corporate competitiveness and meet the needs of consumption upgrades. It is the general trend of the development of the digital economy and economic globalization. Through a dual case analysis of Walmart and Amazon, this article discovers the commonalities between these two retail giants in digital transformation, and thus summarized the strategies for digital transformation of retail enterprises. The first is to rely on digital technology, the second is to establish a digital ecosystem and integrate resources, the third is to improve the omni-channel sales system, the fourth is to be customer-centric, and the fifth is to strengthen the consensus of internal personnel on digital transformation. It is hoped to provide reference for other retail companies in their digital transformation. Retail companies also face some risks and challenges in the process of digital transformation. For example, the research and development of digital technology is a relatively slow process, requiring a large amount of investment in the early stage; how to protect customer privacy while analyzing customer consumption data and preferences; how to face the risk that the company's original business model may be subverted. These are questions that retail companies need to think about.

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