Study of Eco-evolution Path of Home Textile Industry under the Background of Internet Plus

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Abstract. Under the background of "Internet+", home textile industry witnesses the revolutionary stages of value creation, value realization and value transmission. During the revolution, the industrial value chain has been reset, all-media transmission, C2B mass customization, O2O mode and collaborative creation of intelligent value, and other innovative development paths have emerged. Through the study of the eco-evolution path of home-textile industry, the current paper explores how traditional home-textile enterprises upgrade themselves properly in the Internet era, which can provide references to other traditional enterprises in need of upgrading and development.

Keywords. Internet plus, Home textile industry, Online customization, Intelligent manufacturing, O2O mode.

1. Introduction
At the third session of the 12th NPC meeting on March 5, 2015, Prime Minister Li Keqiang first proposed the "Internet +" action plan, aiming at promoting the integration and innovation of Internet and traditional industries [1]. In the new round of the global scientific and technological revolution and industrial reform, the internet is subverting how people live their life and think. The integration of mobile interconnection technology, Internet of things, big data and product production and sales channels has promoted the fundamental transformation of product design, manufacturing, sales and consumption patterns. The deep integration of internet and traditional industries is the main trend of future industrial chain development. Under the background of "Internet +", the home textile industry has fully collaborated with the Internet in value creation, value realization and value transmission, completing the collaborative innovation in design and production mode, circulation channel and whole industry chain [2]. As a factor of production, the Internet has become an inevitable choice for innovation and intellectual creation in transforming every link of the value chain of the home textile industry.

2. Transformation and Upgrading Path of "Internet" Home Textile Industry
The home textile industry chain includes the basic value chain, additional value chain and support system, as shown in figure 1. Basic value chain includes 6 first-tier industrial chain links, namely, market research, raw materials development and supply, design and R&D, product production, brand operation, channel sales, etc.; additional value chain includes 7 industrial chain links, namely, popular information services, home textile media, home textiles fair, performance, education and training, advertising and public relations agents, management consulting, etc.; Support system includes 5 industrial chain links, namely, textile machinery, standards detection, policies and regulations, logistics, financial services and so on.
In the industrial society, the general transformation and upgrading path of home textile industry is to upgrade from the first stage OEM to the second stage ODM, and then to the third stage OBM. At present, domestic textile industry has the ability to design independently, and it has nurtured a number of national and regional brands, such as LUOLAI home textiles and MENDALE home textiles, which have completed their transformation and upgrading from OEM to ODM, and then to OBM. In the internet age, the upgrading of home textile industry mainly relies on the reshaping of the Internet technology and thinking on the whole textile industry value chain, including every value plates from brand communication, product marketing, channel construction and the design and development, applying the Internet innovative elements in home textile industry [5-6]. With the development of new Internet technology, the Internet technology has gradually deepened its transformation, infiltration and reform on the textile industry, from simplicity to complexity, from the external activities to the internal flow of enterprises, from communication, sales channels and other business aspects to the integration and whole process collaboration of the entire supply chain. The upgrade path of “Internet+” home textile industry has been shown in figure 2.

3. Build an All-media Home Textile Communication Platform

There is a great difference between brand communication and building in the Internet era and in the industrial era. In the industrial era, brand communication mainly relied on the paper media, television and other single channel of mass platform, especially the advertisements of CCTV. Advertisements of CCTV had played a very great role in brand communication, in which the bid for the "king of tenders" had become a key factor in the success of brand building. It can be said that whoever mastered the advertising resources of CCTV would be the real king of brands. For example, in 2006, Xu Zhiwei became the “king of tenders” with a bid of RMB 0.187 billion, successfully building Longliqi into a well-known household brand. The traditional media marketing era has the single media marketing model based on CCTV advertisements as the core, local TV stations as the auxiliary, and the effect of
brand communication of CCTV advertisement was much greater than that of local TV stations. However, with the popularization of innovative content marketing mode in the internet era, self-made IP has become the main way of brand communication and marketing, and the advertising and marketing effect of "king of tenders" has been weakened gradually. The single-channeled brand communication has ceased to exist and the all-media media mode has emerged at the right time. There are more and more ways for consumers to obtain information under the mode of all-media communication and the information has a stronger penetration power. But the consumer focus is getting worse, therefore, how to better convey brand characteristics and value to consumers with demand is very crucial. To this end, brand communication needs to infiltrate seamlessly, and display and disseminate contents in an all-round, three-dimensional and multi-channeled way by comprehensively employing various forms such as texts, pictures, sound, light, electronic devices and others. To deal with this new mode of media communication, home textile brand should consider the difference of media in formulating the brand communication plan, and develop a scheme which accords with the communication characteristics of the media. The future home textile brands must choose all touching media, all channel and all media when selecting media and have multi-directional communication with consumers instead of relying on the repeated broadcasting of TV advertisement. In the all media era, home textile brands requirement is personalized and customized transmission, which is also a new trend for the future advertising and brand building. The home textile brands should refer to the Internet brand marketing modes regarding to their transmission paths, realizing the one-stop all-media marketing across TV, PC (personal computer), tablet computer and mobile phone, and implement the media strategy of multi-screen interaction. For example, when home textile brands promote their brands offline, they should make full use of the current popular live broadcast resources and have real-time interaction with users, changing people from offline to online, and at the same time, channelling online fans to offline, and achieve the communication between the screens of mobile phone through the friend circle among fans. At the same time, the communication of home textile brands should start their comprehensive integration from the source of their brand strategies, including the integration of different dimensions, such as communication philosophy, technology, content and media form, etc., and at the same time, allow the content for brand communication to reach the target consumers accurately. Cross-media integration through content, channels and platforms can be conductive to the building of an all-dimensional brand media communication platform and the provision of customized information services to consumers.

4. Strengthen Multi-channel Integration

Under the influence of Internet, the textile retail model has also been reshaped, and online retailing has broken the market pattern of the offline retail industry. Most home textile products, such as towels, bedding, etc., are standardized products suitable for online sales, so online channel has become a major sales channel of development and application in home textile enterprises. In recent years, the online sales of FUANNA, LUOLAI home textiles and other brands grow quickly. According to the statistics of i-Research, in 2014, the online trade of textile products in China was about RMB 82.91 billion. The application of online channel has opened up a new way for the marketing of home textile products. The organic integration of online and offline channels has injected new impetus into home textile sales, and multi-channeled integrated marketing is a major trend for the future development of home textile sales.

4.1. Selection of Online Retail Mode

At present, domestic textile e-commerce mode can be divided into: home textile channel of integrated online shopping platform (such as JD.com, dangdang.com, Amazon, Taobao, T-mall, etc.); official websites of enterprise of home textile brands (such as LUOLAI, FUANNA, Beyond Home Textile, etc.); home textile vertical e-commerce websites (Dapu.com and Vegaga, etc.). The trend of future development of online retailers is that the integrated e-commerce platforms will further expand their
product categories and brands to provide one-stop shopping. The platform-type e-commerce pays more attention to the cooperation with brand enterprises, building a brand pavilion with higher reputation for well-known brands. The independent vertical online retailers are now facing the operating pressure brought by platform-type online retailers and will gradually transform to the brand suppliers, expecting to reduce costs and increase sales with the traffic from JD.com, dangdang.com, SUNING and other online platform retailers [3-4].

4.2. Achieve Online and Offline Multi-channel Integration
According to the research of “From multi-channel to cross-channel—the change of consumption behaviour of consumers” co-launched by ECC Handel and Hybris, one out of every three consumers shopping at the counter would search online information before their purchases. More and more consumers are accustomed to getting relevant information through the Internet before shopping, especially before buying high quality products and valuable products, more than 60% of consumers will search online in advance [5]. In the eyes of consumers, offline channels and online channels are not set up in an independent and parallel manner. When they make a purchase decision, they will have an overall consideration on several randomly-chose sales channels. Usually, consumers will compare the properties and performance of goods online and have physical experience offline. Offline product experience and services can directly stimulate the purchases of consumers. Therefore, while vigorously developing the online e-commerce channels, the home textile enterprises should consolidate its own offline channels at the same time, so as to fully realize the organic integration of online and offline channels and to meet the different purchasing needs of consumers.

Home textile enterprises should consider the following four aspects in expanding the application of e-commerce: ① explore the law of e-commerce development and improve the e-commerce transaction system, logistics and distribution system, credit monitoring system and other supporting systems to promote a healthy development of e-commerce norms; ② set up the official online shopping malls, platform mall stores, community malls, mobile-end platforms and other channels, to achieve coverage of the entire network and facilitate the simultaneous management of commodity promotion and consultation; ③ encourage multi-channel integration of business model innovation and promote the practice and popularization of online and offline O2O modes to facilitate the integration of customer resource, supplier resource and the service system; ④ attach importance to the layout of the mobile e-commerce platform and develop independent mobile shopping APP and WAP with mobile social platforms (such as WeChat), and open up new ways for the construction of home textile sales channels.

In the consolidation of offline channels, home textile companies should focus on the construction of product experience and services, continuously improve the offline service experience, and launch a new mode of offline experience. For example, MENDALE home textile has achieved very good results in the matching of online and offline marketing. After completing the online CPS strategic deployment in 2016, MENDALE home textile once again proposed an offline layout strategy. It plans to open 1,000 offline stores to achieve online and offline integration. Its online business will focus on product presentation and its offline services will be promoted to the best and be continuously upgraded. In MENDALE’s offline experience hall, you can have different tactile experiences from different fabrics; at the same time, when having an interactive screen experience next to the products, customers are allowed to select the product categories, styles and colours that they are interested in by touching the large screen. When the customers pick up the products on the display shelf, the screen will automatically display the detailed graphic description of the products, and the customers can place an order while still reading the information about the products. In addition, the offline experience shop has a dedicated trial sleep experience zone. Customers can enjoy a 2-hour trial sleep service through reservation. During the entire experience, there will be a special lecturer explaining the fabric characteristics in detail, so that the customers can experience the offline services of extreme quality. The offline stores also provide high-quality after-sales services to customers. Online shoppers can return and exchange goods at the offline stores, and VIP customers can enjoy free cleaning services on a regular basis. Online channels and offline channels have their own advantages in the shopping of
consumers. The layout of offline stores provides guarantees for fast logistics and distribution as well as high-quality product services. The application of online channels provides an effective communication path for brand promotion and product popularization. Close cooperation between online and offline advantages allows consumers to have a real experience on the convenience of online services and the extreme quality of offline products and after-sales services, which fully caters to the new mode of future retail development.

5. Personalized Scale Customization
The demand of consumers on products is focused on personalization and cost-effectiveness. However, from the perspective of supply end, the two are natural contradicted to each other. To make products more personalized and cost-effective, the production should be flexible and in large scale. Companies that can solve this contradiction well can be very successful. Personalized scale customization is to realize personalized production of products at the cost of scale production, and establish a R&D and design process based on the Internet, so as to achieve large-scale customization (see figure 3).

![Figure 3. Large-scale customization.](image)

The application of Internet in the development of home textile products provides a favourable guarantee for enterprises to achieve a parallel development mode. Based on the C2B e-commerce platform, home textile enterprises have developed a consumer-oriented development mode of the network environment and realized scale customization. Development mode of home textile products based on C2B has been shown in figure 4. At present, there are two modes in corporate practice: advance sales and online customization. This consumer-oriented targeted production and manufacturing can effectively solve the problem of home textile inventory, pinpoint the target consumers, optimize product R&D and production, strengthen the management of upstream and downstream supply chains, and reduce the production costs and circulation costs of home textile enterprises in product R&D, thus increasing corporate profits. At the same time, based on the online platform, consumers can actively participate in product design, production and pricing, independently choose or provide the information that they want to present on the products (pictures, text, etc.), production technique (hot drilling, printing, embroidery), colours, and models, etc., have two-way communication and interaction with home textile enterprises, and better meet the personalized and diversified demands of consumers.

The personalized customization mode provides services for users pursuing high-end product experience. Consumers use the personalized customized platforms of the enterprises to communicate with designers directly online and express to the designers their demand on products. The designers will design their first drafts of the products according to the needs of the customers, which shall be selected by customers to determine the final product style. The fabric makers will, based on the desired styles of the customers, select the appropriate fabrics for production; The advance sales model serves mass users more. Pre-sale products require customers to pay a certain amount of deposit in advance. The manufacturers will purchase raw materials and produce according to the customer's order volume, and avoid the inventory backlog caused by production without objectives.
6. Intelligent Value Creation of Enterprises under "Internet +" Collaboration

"Internet +" collaboration of enterprises aims to connect many different enterprises together through Internet information technology, so that the enterprises can work together to create an ecosystem with the maximum value.

1) Home textile manufacturing. Develop the production mode of flexible manufacturing in home textile industry, encourage the cooperation between home textile enterprises and marketing companies, analyse fabric, colour, size and other demands through customer inquiries and purchase data, and realize the production of home textile products on demand. Develop intelligent manufacturing mode in home textile industry, strengthen the cooperation of home textile enterprises with enterprises of automatic control system, energy system, quality assurance system and other related enterprises, make the production process in home textile enterprises more intelligent, and achieve capacity upgrades [7].

2) Home textile logistics. Accelerate the construction of e-commerce transaction platform and promote home textile enterprises to develop services such as online transactions, logistics distribution and credit payment [8-9]. Promote the development of cross-border e-commerce, especially to make the development of cross-border e-commerce more precise with the application of big data. Explore and promote the information interconnection among home textile enterprises, distributors, e-commerce platforms and other physical stores.

Use the Internet to develop new logistics services such as logistics finance, logistics insurance, online trading, settlement payment, logistics and distribution, etc. Innovate Internet home textile logistics and work with home textile enterprises and marketing enterprises in carrying out pilot door-to-door logistics and distribution services of home textile products.

3) Home textile quality tracing. Use Internet of Things and other technologies to establish traceability systems for home textile products and carry out real-time tracking of product inventory, outbound tracking, distribution network, and price information to realize the whole process monitoring and tracking of home textile products from production, circulation to application, as well as branded home textile products security anti-counterfeiting and traceability. Establish quality supervision big data information monitoring platform for home textile industry, publish the details of quality blacklist companies online and establish e-commerce product quality online expressing and authentication system.

7. Conclusion

The involvement of the “Internet +” element has innovated the operating mode of the home textile brands, reorganized the traditional home textile industry chain, and reshaped the value chain of the new home textile industry. Home textile marketing under the Internet era enables consumers to directly participate in product design, raw material preparation, order planning, production and manufacturing, logistics and distribution, and even recycling. Through the integration of the Internet of Things and manufacturing, personalized products of small scale can be profitable. Develop and apply a new mode of industrial and commercial integration in home textile enterprises based on the
idea of "Internet +", so that all links in the entire industry chain can be coordinated and unified. At the same time, the “Internet +” strategy is a complex systematic project in exploring period responded to challenges such as resource and energy crisis and demographic changes, and it describes the development direction of the home textile industry [10-11]. In terms of planning and developing modes, establishing network foundations, establishing industry standards, setting up security guarantees, designing organizational structures, and training engineers, it is necessary to concentrate the power of the industry to actively carry out forward-looking and basic researches to promote the development of home textile industry in industry 4.0.

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