

## Exploring the Innovation Path of “Internet + Manufacturing” Business Model Based on Value Creation

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**Abstract:** How to help the manufacturing industry reshape the business model with the help of Internet thinking and value creation, and become a common problem faced by manufacturing companies in the context of “Internet + manufacturing”. Through various case studies, this paper discusses the “Internet + Manufacturing” value to create a business model structure and the path of innovation.

### 1. Introduction

With the popularity of the mobile Internet, the integration of Internet thinking into various fields has become a new trend of innovation and manufacturing. Since the introduction of “Made in China 2025” and “Internet +”, how to use Internet technology to improve the production and sales level of China's manufacturing industry and use value to create a new business model has become the focus of government and enterprises. The innovative ideas of value creation are not defined in a unified way, but generally believe that the concept of value creation includes more and better services and service platforms for customers and suppliers, enabling users and enterprises to establish a symbiotic ecology through platforms. Develop together. The “Internet +” thinking is the main driving force to break the geographical limitation of platform communication and break the communication channels of enterprises, customers and suppliers. This paper starts from the “Internet + Manufacturing” value creation business model, and explores the innovative development path of this business model.

### 2. “Internet + Manufacturing” value creation business model architecture analysis

While changing the lifestyle of people, the Internet has also brought new inspiration to the development of industrial manufacturing and the innovation of business models. The Internet has gradually become one of the main places for people's life exchanges and transactions, greatly reducing the time, cost and intermediate links of transactions, and making a qualitative change in the modern business model. Under the “Internet +” fusion innovation model, “Internet + Manufacturing” and “Internet + Service” are becoming the core direction of enterprise innovation and development, and the resulting “Internet + Manufacturing” value creation business model came into being. In this new business model, companies try to open up the relationship between manufacturing and service through the Internet, enabling customers to establish relationships with manufactured products through the Internet platform provided by the company, and gradually develop into customer feedback. The virtual community of capabilities. Under the “Internet + Manufacturing” value creation business model, manufacturers/suppliers, alliance companies and other product/service providers directly establish feedback interactions with customers and consumers, and comprehensively utilize online and offline resources for the manufacture of the entire product. Provide a value mining platform to establish the ecological dependence of products and make the use value of products continuously improve through the collective creation of users and enterprises. Based on the above analysis, this paper proposes the “Internet + Manufacturing” value to create a business model structure, as shown in Figure 1.

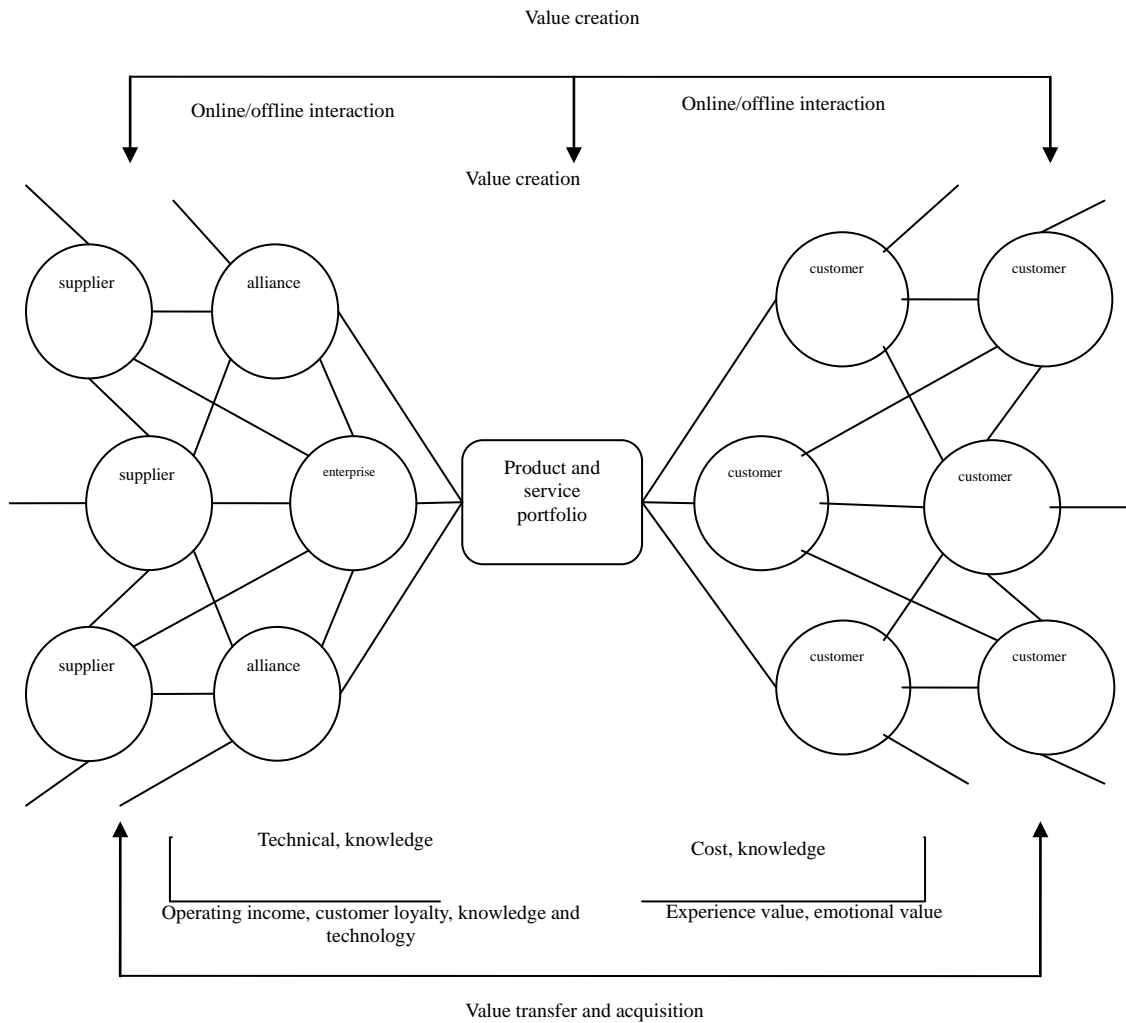


Figure 1 “Internet + Manufacturing” business model architecture

## 2.1 Customer-oriented service system

In the Internet era, the value of virtualized information services has become more prominent, which not only contributes to the comprehensive utilization of product resources, but also helps to provide timely and efficient after-sales service for customers. In general, in addition to serious quality problems, the after-sales problems of most products can be guided and solved through simple consultation. This method is extremely efficient compared to the traditional offline after-sales model, and can not only provide customers with a unique service experience. It also improves the feedback efficiency of product-related issues, enabling customers to obtain “one-stop” services such as product consultation, technical support, product upgrade maintenance, and logistics and transportation through the Internet platform. The customer-oriented service system is also reflected in the openness of the products, such as smart phones on Xiaomi's smartphones and routers, giving users a large degree of independent adjustment, making the system of Xiaomi's smartphones private. Optimization, and intelligent routers can also be customized to install other open systems, and these customized products that users participate in research and development can be used in related product communities, greatly enriching the use value of products, and gradually forming an ecological rely. Some of the products that are privately optimized by users are also absorbed by product designers, so that the next generation of products can better meet user needs.

## 2.2 Social value creation

In the information age, customers as pure value consumers are gradually becoming history, and

value creation is gradually on the stage of corporate business model. Under the popularity of social platforms such as WeChat and Weibo, the communication cost between enterprises and customers is almost zero, which provides a channel for enterprises and customers to jointly explore the value of products. Enterprises and customers work together to tap the value of products. There are precedents in the business. In the foreign countries where the automobile modification industry is very developed, many car customers often go to the car modification base to discuss the car modification plan spontaneously because of the love of the car, and the automobile manufacturing enterprise Suggestions that are feasible in the digestion and absorption of these programs will also allow sufficient space for modification of the car and the production of corresponding modified accessories. This car modification culture not only promotes the development of foreign automobile manufacturing industry, but also provides a basis for the continuous upgrading of automobile manufacturing, and finally lays a strong automobile design and manufacturing capability in countries such as Germany and France. However, this value co-creation model has strong dependence on offline conversion channels, and there is no basis for promotion in China where car modification outlets are not rich. However, this value-created business model is used by Internet manufacturing companies such as Xiaomi and Huawei. These companies realize the personalization of products by interacting and communicating product-related issues among customers through the establishment of corresponding product virtual communities on the Internet. Customization and performance mining can be realized by some users with high level of technology, and shared in the virtual community, making value sharing socialization and sharing, and finally becoming a good helper to maintain the positive image of the brand. The company will also regularly publish the internal product evaluation of relevant product optimization in the virtual community, so that users have the opportunity to participate in the company's official optimization of products and advance the value of the product. The social value co-creation not only exists in large enterprises such as Xiaomi and Huawei, but also has a good performance in the assembled computer market. For example, under the theme of assembling computers in Baidu Post Bar, merchants and consumers often design their own computer assembly solutions, and various cost-effective assembly solutions are available in an endless stream, and the assembly solution does not necessarily make the solution providers profitable. However, in the end, consumers have gained strength, and the providers of assembly solutions have also gained a reputation, making value creation truly socialized.

### **2.3 Cross-border business ecosystem network**

The value of “Internet + manufacturing” is not only reflected between enterprises and customers, but also between enterprises and enterprises, between enterprises and schools. The cross-border business ecosystem between enterprises and enterprises has been shown during the integration of the industry chain. In the past when information technology and transportation were not developed, enterprises in the supply chain often chose to serve each other better. Probably close to each other to facilitate product transportation and business dealings. In the Internet era, as the spatial limitations of information have been broken, the establishment of ecological relationships between enterprises and enterprises has become more possible. For example, Tencent, Alibaba and other Internet companies have long been committed to the establishment of their cross-border business ecosystem network. Tencent has attracted a large number of manufacturing companies to build their own virtualized social network system, whether it is a strong user group of WeChat platform. The public number platform or the enterprise supplier customer communication group provides the basis for the enterprise to establish its own value co-creation system, and the WeChat platform itself improves its business ecology in the mobile payment field through the communication platform established by these enterprises and users. This has led to the gradual formation of a cross-border business ecosystem network, and the same example has been shown on Alibaba. The cross-border business ecosystem network also exists between enterprises and learning. In many large-scale manufacturing enterprises that focus on production and R&D, cooperation with schools to develop products is a mainstream R&D model. Enterprises can not only obtain sufficient research and development strength through the school. The technical talent reserve can also expand the brand

image of the local products through the reputation of the school and the Internet. The school can obtain the financial support of the enterprise and a certain employment distribution, so that the enterprise and the school can achieve a win-win situation. For example, Huawei, a large-scale communication equipment manufacturer in China, has cooperated with universities at home and abroad. The breakthrough in the research and development of its 5G technology is even based on a mathematical paper by a professor from Turkey, the establishment of a cross-border business ecosystem between schools and enterprises. It directly promotes the rapid development of enterprise product research and development, so that the competitiveness of enterprise products can be maintained for a long time.

### **3. The innovation path of manufacturing enterprise business model based on “Internet +” thinking**

#### **3.1 Value Proposition Novelty Driven Business Model Innovation**

There are many innovations in the business model driven by the novelty of value proposition. The first is the innovative model of “product + growth service”. Take the automobile manufacturing company Toyota Motor as an example. It not only provides private customized services for car manufacturing and manufacturing. It also provides financial services such as loans and insurance for the purchase and after-sale of automobiles. In the modernization of the sharing economy, the company provides car rental and shared car services. The generalization of such products is driven by the novelty of value proposition. which performed. The second is the “integrated solution model”, which opens up all the upstream and downstream aspects of manufacturing and provides customers with a “one-stop” solution. For example, the well-known laser equipment manufacturer Dazhu Laser, its laser marking equipment and robot equipment have strong market competitiveness, domestic tobacco production enterprises in order to advertise on the cigarettes specifically require the Dazhu laser to carry out the full-line production transformation design of cigarette manufacturing, And achieved good results. This novel-driven business model that provides a “one-stop” solution has high requirements for the company's own R&D capabilities and is widely used by various design management consulting companies overseas. Apple is also one of the best. The last mode is the “smart hardware + software + service” model, which requires strong software and hardware in the Internet, the Internet of Things and production design and manufacturing. Domestic Xiaomi Company adopts this method. It provides hardware software and corresponding services for family smart life with a series of intelligent products such as smart speakers, intelligent routing and Xiaomi bracelet, so that customers can fully experience the voice in their lives. The convenience of manipulation. The performance of novelty claims is diverse. The relevant performances are shown in Table 1. It can be foreseen that in the era of Internet of Things after the popularization of 5G, cloud computing, virtual reality technology, augmented reality technology and Internet of Things technology will once again subvert humanity. The business model, when value proposition innovation will once again promote the service and development of many enterprises.

#### **3.2 Value creation subject connection dividend-driven business model innovation**

Value creation subject connection bonus innovation is mainly reflected in the connection convenience brought by the Internet. Because Internet technology greatly reduces the cost of information interaction, enterprises can be optimized through Internet technology in technology research and development, operational efficiency and financial structure. The promotion of Internet technology to enterprises is manifested in technology open source sharing. Whether it is a large open source website such as GitHub or a company's own cloud platform research and development website, it provides a platform for many technicians to improve their programming capabilities. The open software development kit (SDK) and the API interface provided for an application provide the basis for further enterprise opening and application popularization. This innovative mode belongs to the platform network connection mode, Apple's software application. Ecology is one of them. In the innovation of business model, the main performance is the innovation of vertical connection with

customers' supply and demand. Whether it is the online Xiaomi Forum or the offline Xiaomi Home, it provides enterprises with more opportunities to contact with customers, which not only enhances the customer experience. Can also train many fans. In the supply and measurement of horizontal connections is the integration of the supply chain, so that the cost can be greatly reduced, the most common case is the agricultural super-combined, such as Beijing supermarkets and long-term cooperation with more than 90 production bases, more than 70% of the fruits and vegetables are produced by agricultural products The production base is “direct supply and direct supply”, so that consumers can not only obtain low-priced agricultural products, but also ensure the quality of products. In addition, Handu Yishe uses network operation and flexible supply chain system to integrate supply chain resources such as design teams, apparel brand companies and OEM manufacturers, thus establishing the brand design and production ecosystem of Handu Yishe.

Table 1 Value proposition novelty-driven business model innovation

Innovation driving factor	Innovation mode	Mode description	Typical enterprise
value Advocate Novelty	Product + value added service	Provide product-related services, meet customer diversified needs through services, enhance product differentiation, and increase corporate profit growth points	Toyota
	Integrated solution	Design a personalized total solution, integrate various products to form a complete functional system, and continue to provide related services throughout the product life cycle, providing customers with “one-stop” service	Huawei
	Intelligent hardware + software + service	Connect various types of intelligent hardware through software, and guide users deep through services Participate in creating a unique experience environment based on the Internet of Things for users	Millet

Table 2 Business model innovation driven by the creation of a connected entity

Innovation driving factor	Innovation mode	Mode description	Typical enterprise
value Co-creation main body connection dividend	Supply and demand vertical connection	Connect with a large number of customers, enhance customer experience, increase customer stickiness, gain fan economy, and obtain massive consumption information	Millet
	Supply side lateral connection	Cross-border collaboration with related companies, integrating the advantages of various enterprises, providing low cost and high efficiency	Handu Clothes House
	Platform network connection mode	Transforming products into a resource integration platform, shifting from focusing on product sales dividends to chasing connection bonuses	apple

#### 4. Conclusion

In summary, the use of “Internet +” enables enterprises to open communication channels between suppliers, enterprises and customers, enabling enterprises to establish brand ecology through service platforms and integrate supply chains. The value creation concept enables enterprises and customers and suppliers to support each other and develop together. Not only can the value of the products be deeply explored, but also the research and development capabilities of the company can be improved. I believe that in the near future, open source, sharing, value creation, “Internet +” will become the core concept of enterprise ecological community and open source network operation development, and “Internet + manufacturing” will also be successful.

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