Analysis of the Impact of E-Commerce on Industrial Manufacturing Based on Big Data

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Abstract. With the rapid development of Internet technology, e-commerce has become a new marketing channel in today's society, and has penetrated into various industry fields, ushering in a new round of marketing model changes. This article aims to analyze the impact of e-commerce on industrial manufacturing based on the background of big data, with a view to providing a little help for manufacturing companies to better play the role of e-commerce. This article conducted a questionnaire survey on some manufacturing enterprises operating in e-commerce in our province, and found that 81.08% of enterprises believe that e-commerce provides a convenient communication platform for enterprises and expands the sales market; 56.76% of enterprises believe that e-commerce has led to vicious competition in the manufacturing industry, and put forward strategies to promote e-commerce. In order to provide a little help for enterprises to further better play the role of e-commerce to enterprises.

Keywords: Electronic Commerce, Industrial Manufacturing, Operating Model, Development Impact

1. Introduction

With the rapid development of Internet technology, e-commerce with its strong advantages and vitality has changed every aspect of human economic life. Simplifies the traditional business activities of information, capital, all in the social and economic commerce is difficult to avoid this appears as if overnight has long net[1-2]. And as a pillar industry of national economy, is facing the severe challenge in the change, also won a rare development opportunity. The new generation of e-commerce, including enterprise internal information transformation, the integration of upstream and downstream industries, supply chain management and the formation of organizational forms of virtual enterprises, is changing the face of enterprise management and will certainly affect the future competitive advantage of
enterprises[3-4]. In this case, the multinational enterprise groups in the western developed countries have entered into e-commerce one after another to achieve industrial upgrading and further development through the application of e-commerce. China's traditional manufacturing industry has also set off a wave of change, with many enterprises taking advantage of Internet technologies and platforms to actively carry out e-commerce operations and promote the sound development of the industry[5-6].

With the wide application of e-commerce in manufacturing enterprises, e-commerce impact on manufacturing enterprise operation has become a concern in academia and the business. With the rapid development of information technology, e-commerce has become a new transaction mode widely accepted by the public[7-8]. With the continuous maturity of e-commerce, the fields it involves are also deepening, exerting a huge impact on the economy, culture and daily life of modern society. It has changed people's traditional shopping, consumption, trade and other habits, and changed people's ideas and concepts. The influence of e-commerce on the development of manufacturing industry is different from that of other industries according to its own industrial characteristics. Especially for small and medium-sized enterprises, e-commerce enables them to understand the worldwide market demand, which creates the possibility for their products to enter the international market and reduces the cost of realization[9-10].

This paper analyzes the characteristics of e-commerce and traditional industrial manufacturing, through the province's part of the use of e-commerce operations of manufacturing enterprises to carry out a questionnaire survey. Through the summary and analysis of the strategy to promote the development of e-commerce for enterprises to further better play the role of e-commerce to enterprises to provide a little help.

2. E-commerce and Traditional Industrial Manufacturing

2.1. Characteristics of E-Commerce

Compared with traditional commerce, e-commerce has four characteristics: global, direct, convenient and equal. The use of the electronic commerce network technology trade both parties through real-time interactive way to complete the whole process of trading, online directly to anyone at any time, any place, can be done via the Internet in e-commerce transaction platform in business activities. Companies can use the Internet to extend the scope of their business activities to the world. In e-commerce, enterprises can directly show and introduce products to customers on the Internet, and then sell them directly to users, and even let customers directly participate in the design and customization of products. Network provides great convenience to enterprises, enterprises can use the network release and look for trading opportunities, through electronic document exchange, tracking goods, funds transfer and other means to complete the entire transaction process, so that enterprises further improve efficiency and reduce costs. The application of network realizes the sharing of information resources. Enterprises can grasp all kinds of market information timely through the network, in-depth, comprehensive, accurate and rapid analysis, prediction and judgment of many factors related to procurement, production and sales, and quickly respond to the enterprise's project decision and business strategy. Ultimately, create more profit opportunities, easily produce, sell and manage, and compete more effectively.
2.2. Traditional Industrial Manufacturing

Traditional manufacturing enterprises, many aspects of its production and management must be involved in various business activities. First, understanding the needs of the market to determine the production plan, in investigating the market commodity price, benefits, on the basis of existing production for the future prospect is forecast. Determine the production plan, must search for raw materials, materials procurement information. In traditional business, the enterprise must learn by telephone contact, the door, please collect the information consulting institutions concerned with other forms. After the goods production come out, need to find the appropriate sales channels, or a promotion, search marketing channel information to get the order. In order to implement the purchase and sale contract, must search the customer's credit information. In order to ensure the normal production and sales, it is necessary to prepare certain raw materials, parts and finished goods inventory. After signing the purchase and sale contracts for raw materials, materials and parts and finished products, the payment for goods must be settled in a timely manner.

3. Research Methods

With the rapid development of Internet technology, e-commerce has penetrated into various fields, and at the same time, e-commerce has a far-reaching impact on the manufacturing industry. This paper mainly USES the literature induction method and the questionnaire survey method. The specific methods are as follows: Literature induction: First, the database is used to search and sort out domestic and foreign literatures, books, newspapers and various text materials obtained through the Internet on the impact of e-commerce on the manufacturing industry, and then the research is summarized through further combing and analysis. Questionnaire survey: This paper conducted a questionnaire survey on some manufacturing enterprises operating with the help of e-commerce in Our province to understand the impact of e-commerce on their enterprises and summarize and analyze the main problems in the development of e-commerce operation. Choose 43 manufacturing enterprises in our province, investigate the form by telephone, online questionnaire distributed, 37 recycling effective questionnaire, questionnaire effective rate was 86.05%. Through the investigation and analysis of the manufacturing enterprises operating with the help of e-commerce in our province, in order to provide some help for enterprises to further play the role of e-commerce to enterprises.

4. Analysis of Survey Results and Suggestions

4.1. Analysis of Survey Results

Based on the background of big data, we conducted a questionnaire survey on some manufacturing enterprises that assisted the operation of e-commerce in our province, and summarized and analyzed the returned questionnaires, as shown in Table 1 and Figure 1.

**Table 1. The impact of e-commerce on some manufacturing enterprises in our province**

| The impact of e-commerce on manufacturing | Percentage |
|------------------------------------------|------------|
| E-commerce can reduce promotional costs and inventory costs | 86.49% |
| Companies can better understand customer demand for products and increase the speed of response to market changes | 67.57% |
E-commerce provides a convenient communication platform for enterprises and expands the sales market 81.08%
E-commerce leads to vicious competition in the manufacturing industry 56.76%
Solved the obstacles of time and space, and expanded the extension of the company in the market 75.68%
Reduced procurement time and reduced procurement costs 83.78%

| Impact                                                                 | Percentage |
|-----------------------------------------------------------------------|------------|
| Reduced procurement time and reduced procurement costs                 |            |
| Solved the obstacles of time and space, and expanded the extension of |            |
| the company in the market                                              |            |
| E-commerce leads to vicious competition in the manufacturing industry  |            |
| E-commerce provides a convenient communication platform for enterprises|            |
| Companies can better understand customer demand for products and increase the... |            |
| E-commerce can reduce promotional costs and inventory costs            |            |

Figure 1. The impact of e-commerce on some manufacturing companies in our province

It can be seen that 86.49% of enterprises believe that e-commerce can reduce promotional costs and inventory costs. Through interviews, it is learned that although the establishment and maintenance of the company's website requires a certain investment, compared with other sales channels, the use of e-commerce systems to promote the promotion of enterprise products, its cost will be greatly reduced. 67.57% of companies believe that companies can better understand customer demand for products and increase the speed of response to market changes. Through interviews, it was learned that e-commerce can enable enterprises to better understand customers' product needs, and customers can also obtain enterprise products in a timely and convenient manner, thereby improving customer satisfaction. At the same time, it can be produced according to various personalized needs of customers, which improves the speed of response to market changes. 81.08% of enterprises believe that e-commerce provides a convenient communication platform for enterprises and expands the sales market. In the traditional industrial manufacturing field, there is a lack of communication and communication, especially in different fields of the industry. It is also lacking, and the industry monopoly due to poor communication. E-commerce makes communication in various industries in industrial manufacturing more convenient, information is more accurate and rich, and more transparent. In the traditional sales model, most of the agents and manufacturers cooperate with each other as middlemen to sell to scattered customers. The sales model between the enterprise and the middleman is mainly business
contact, carried out by business personnel. E-commerce provides enterprises with an online sales market, which crosses regional barriers and provides business opportunities and opportunities for enterprises. 56.76% of companies believe that e-commerce has led to vicious competition in the manufacturing industry. E-commerce connects the industrial manufacturing markets in various regions. As the market matures, there is a vicious competition in the entire industry. 75.68% of enterprises believe that e-commerce has solved the barriers of time and space and expanded the extension of enterprises in the market. Using the Internet, companies can easily keep in touch with customers at any time and any place, expand the scope of business activities to the world, and increase new sales opportunities. It effectively solves the obstacles of time and space, expands the extension of the enterprise in the market, and increases the contact between suppliers, manufacturers and customers, establishes a more flexible and extensive partnership, and promotes the optimization of resource allocation and Further division of labor. 83.78% of enterprises believe that e-commerce has shortened procurement time and reduced procurement costs. Electronic procurement of raw materials reduces procurement costs. On the Internet, the company is easy to contact more suppliers, it will be easier to find suppliers, and the information transfer between companies will be faster. Online procurement will help companies find lower-priced goods, and find new sources and channels of new alternative materials with better quality, lower prices, and more timely and stable supply through comparison to further reduce procurement costs. Moving corporate procurement online will make it easier for companies to manage their procurement activities scattered in different departments and locations. Enterprises can not only use centralized purchasing behavior to reduce the purchase price of raw materials, but also further understand the internal cost structure of the enterprise and reduce the overall cost.

4.2. Promote Better Play of E-Commerce

(1) Establish an enterprise website and train talents

To build a company's own website, the company that builds the website must actively optimize and market the company's website. Improve the company's intranet construction, optimize the company's management information system, maximize the use of e-commerce advantages, and lay a solid foundation for commercialization. At the same time, enterprises should train the compound talents needed for e-commerce and actively reserve talents.

(2) Adapt to market demand and actively improve production organization and management

To adapt to market demands, we must pay close attention to the "flexibility" of production lines. In order to adapt to changing market demands, manufacturing production must become flexible. The production system must adapt to changes in demand, accelerate product type changes, and maintain smooth transitions. The manufacturing industry must adopt advanced technology and flexible design to be flexible. Use the e-commerce platform to organically link suppliers and customers, quickly respond to market demands, design and manufacture new products, and continuously improve existing products to meet market demands.

5. Conclusion

All in all, the widespread application of e-commerce in enterprises has caused more and more enterprise managers to start thinking about the impact of e-commerce on business operations.
E-commerce will bring new development opportunities to industrial manufacturing enterprises. If industrial manufacturing enterprises want to keep up with the development trend, they must develop e-commerce applications without losing the opportunity. When using e-commerce, it is necessary to fully consider its own characteristics and needs, combined with the actual situation to conduct networked transactions. At the same time, in the process of applying e-commerce, it is necessary to adopt a combination of multi-mode and multi-trend ideas, and exert its own huge advantages to promote the overall progress and development of the enterprise.

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