

Inventory cost management of fashion enterprises from the perspective of value chain -- A case study of Company A

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Abstract: This paper uses literature review, case and data analysis methods to analyze the inventory cost of fashion enterprises from the perspective of value chain. Taking Enterprise A as a case study, this paper analyzes its inventory cost behavior, analyzes variable cost elements and fixed cost elements, and then deconstructs specific data to determine the proportion of fixed cost and variable cost in the inventory cost structure of enterprise A, and draws a conclusion that the proportion of fixed cost and variable cost in the inventory cost of enterprise A is equal. Finally, this paper puts forward some suggestions to optimize the inventory cost management of enterprise A.

Key words: cost management; Value chain; Variable cost; Fixed costs

1. Introduction

The rise of the information age makes people pursue a more diversified lifestyle. People's requirements for fashion categories are gradually increasing, and fashion enterprises are also grasping the tuture, ushering in unprecedented opportunities and challenges. Fashion enterprises urgently need to optimize inventory cost management, balance the proportion of raw materials, labor and fixed assets input, to achieve the purpose of reducing cost and increasing efficiency. Therefore, the analysis of fashion enterprises' cost behavior is conducive to the sustainable development of enterprises.

2. The inventory cost analysis of fashion enterprises based on value chain

2.1 Value chain analysis

The value chain is first mentioned in Professor Porter's Competition and Advantage, in which enterprise behavior is divided into five basic activities and four auxiliary activities, in which the main business is the core business, namely the five basic activities, including material supply, production and operation, logistics, storage and transportation, marketing and post-production service, etc. And the auxiliary activities include infrastructure, human resources, technology development and procurement management.

2.2 Analysis of fashion enterprise value chain

Fashion enterprises are mainly engaged in the processing of clothing and footwear products. In the value chain, fashion enterprises are the same as other enterprises. The difference is that each link consumes different costs. The value chain activities of fashion enterprises can be roughly divided into basic activities and auxiliary activities. In terms of material supply, fashion enterprises need to consume the cost of cotton spinning, wool spinning, printing and dyeing, silk and clothing accessories (zippers, buttons, accessories, etc.). In terms of production and operation, it is necessary to consume the clothing processing cost of front-line personnel, the design cost of clothing personnel, the electricity and water cost, the input cost of the factory, and the cost of the management personnel of the production workshop. Logistics support mainly exists in the consumption of product and supply chain management. Marketing consumption costs are mainly the investment in advertising, rental stores, brand management and e-commerce. Finally, the after-sales service consumption is mainly customer service and consumer support, which is the specific aspect of the five basic activities of fashion enterprises. The second is the auxiliary activities, the enterprise infrastructure consumption is reflected in financial resources (plant investment), quality management (production equipment, plant management), law, administration (administrative personnel investment). The specific consumption of technology development is reflected in new product design, process equipment design, and investment in big data centers. Finally, the procurement management is the consumption of materials, materials and services. The specific value chain operations of fashion enterprises are summarized in the following table.

2.3 Cost behavior analysis in the value chain analysis of fashion enterprises

Here is the analysis of the cost behavior in the value chain of fashion enterprises, is to see whether the cost in each value chain is fixed cost, variable cost or semi-variable cost behavior analysis. Obviously, the material supply of basic activities is variable cost, including the materials related to the procurement of raw materials, parts and finished products. Because it is directly related to the production of products, its cost consumption quantity is linear with the number of products produced. The production of equipment in a production operation is a fixed cost. In logistics guarantee, the management of logistics, products and supply chain is related to management, and its cost should be fixed cost. Similarly, in market promotion activities, advertising costs and rental store costs should also be attributed to fixed cost costs. After-sales service is related to consumer support of products, in order to better manage services. Therefore, it can be attributed to fixed costs. In the face of plant input in enterprise facilities, quality management and enterprise administration are all classified as fixed costs for analysis. The cost of technology development. As A company adopts outsourcing system in a lot of labor, and the output increases further, the cost of research and development will also increase. Because as a management service, its cost should be attributed to the management cost, should belong to the fixed cost.

3. Analysis of Company A's inventory cost

3.1 The variable cost elements of Company A's inventory

Company A is a comprehensive, multi-brand sporting goods group mainly engaged in the design, production and sales of sports shoes, clothing and other sports equipment. The company has a wide range of business, which basically covers the whole industrial layout of the textile and footwear industry. As it is the production of shoes and clothing, raw materials for cotton, hemp, dyes and other textile supplies have a large purchase, as well as polyester, acrylic fiber, polyester cotton, shoelaces and other basic materials. The variable cost factors of A company mainly include materials such as clothing and shoes, processing personnel on the production line, research and development costs related to product production, and variable manufacturing expenses related to products.

Table 1 Composition of Company A's inventory cost

Composition of Inventory cost	Content composition
Direct material	The cost of materials such as cotton, hemp, dyes, polyester, shoe tips, zippers, buttons, etc., and R&D material expenditures
Direct labor	Product manufacturing labor costs, research and development personnel costs, etc
Manufacturing expenses	Power cost, machine maintenance cost, water cost, electricity cost and fuel cost of production workshop, depreciation of equipment and workshop, etc

Because it is A fashion enterprise, besides the cost of direct labor of A company, including technicians on the production line and laborers, the most important thing is the research and development cost, which is regarded as variable cost here. The most important thing for fashion enterprises is to be good at predicting the preferences of consumers, and the design fee for designers needs to be a key investment. A good design can not only drive the economic benefits of enterprises, but also effectively reduce inventory and reduce corporate risks, so it is necessary to focus on research and development costs.

3.2 The fixed cost elements of A company's inventory

Like most fashion enterprises, the fixed production costs of Company A also include the input of plant, the salary of management personnel, the depreciation cost of equipment, the cost of the leased right assets, and the logistics, products, administrative expenses and so on. The investment in fixed production cost can effectively reflect the production capacity of the enterprise, and the investment in fixed assets can reflect the confidence of the enterprise in production and operation, which plays an important role in measuring whether the enterprise has excess production capacity. Therefore, we need to summarize the amount of equipment input, make effective use of the data of fixed production cost, analyze the problems existing in the input of fixed production cost, and reasonably control the input of fixed production cost. In this paper, the inventory cost structure of Company A will be analyzed according to its variable costs (direct labor, direct materials, variable manufacturing expenses) and fixed costs (plant input, management salaries, equipment depreciation, rental expenses).

3.3 Analysis of Company A's inventory cost structure

The direct materials used in inventory are derived from the following formulas based on the financial statements, labor costs are derived from the notes to the financial statements, sales income and gross profit are derived from the financial reports, and variable manufacturing expenses are derived from the financial statements of the enterprises. The characteristics of the inventory cost structure of Company A are shown in the following table.

Beginning Raw material + Purchased of Raw Material in Current Period= Used of Raw Material in Current Period + Ending Raw Material

Table 2 Breakdown of inventory cost structure

Units (millions)	2017	2018	2019	2020
Revenue from sales	16693	24100	33928	35512
Direct material	26	39	10	148
Direct labor (including R&D labor)	2005	2633	3956	4437
Variable manufacturing expenses	856	1074	2157	2644
Variable cost of inventory	2887	3746	6123	7229
Fixed cost of inventory	5565	7667	9110	7632
Gross profit	8241	12687	18695	20651
Percentage of variable cost of inventory	34.2%	32.8%	40.2%	48.6%

Source: According to the financial statements of Company A

It can be seen that the sales revenue of Company A is increasing from 2017 to 2020, and the growth is slow from 2019 to 2020. The gross profit shows the same trend. Both variable cost and fixed cost are increasing year by year. The fixed cost accounts for about 60% of the inventory cost of Company A on average. In 2019 and 2020, the input of fixed cost decreases, and in the variable production cost, it can be seen that the input of Company A to direct labor accounts for a relatively large amount, and the increase is obvious with each year, and the direct labor increased by more than twice in 2017. Then there is the variable manufacturing cost, which gradually increases with the increase of Company A's business volume.

3.4 Capacity analysis based on fixed cost

Company A's fixed cost of inventory is mainly the input of factory production line, machinery and equipment. The fixed cost of Company A accounts for about 60%, and its inventory management has certain risks. From 5.565 billion yuan in 2017 to 9.11 billion yuan in 2019, the fixed cost input of Company A has a rapid growth trend. The proportion of fixed cost and variable cost is shown in the figure below. At the same time, due to the expansion of Company A's business scale and the increasing degree of DCT operation and fully automated production, Company A's fixed cost input is also gradually increasing. Company A has a large proportion of fixed asset investment, which has certain early risks.

4. Suggestions on optimization of Company A's inventory cost structure

4.1 Reasonable allocation of resources to control fixed costs

The proportion of fixed costs of company A has been rising gradually since 2017. Although the investment in fixed costs needs to increase with the increase of the scale of enterprises, the problem of insufficient utilization of fixed assets is common in fashion enterprises in recent years. The situation of Company A is not obvious, but it is necessary to maintain the original situation and reasonably arrange the input of fixed costs.

4.2 Reasonable control of direct labor cost input

The labor cost of Company A is mainly composed of wages and welfare expenses. Generally speaking, the labor cost of Company A takes a large proportion in the total cost. By 2020, the human resource cost has reached 3.9 billion yuan, and in 2020, their salary and welfare expenditure has reached about twice of that in 2017. Although it is said that with the increasing competition, enterprises should invest more costs to improve the treatment of employees and stimulate everyone's work enthusiasm and creativity, but also pay attention to the areas that should be actively invested to avoid unreasonable cost expenditure.

4.3 Control the cost of leased assets

Company A's lease costs mainly include the lease of stores, office buildings, and production buildings. With the expansion of business, Company A's rental demand for office buildings and production buildings also increased significantly, and the rising housing prices led to the rise in rent, which further increased the investment in rental costs.

4.4 Create a green production environment for energy conservation and emission reduction

Company A should check the maintenance equipment frequently to avoid unnecessary costs, such as buying new equipment. Secondly, the water and steam pipe network should be eliminated to improve the utilization rate of resources. Finally, in the production process, strengthen the daily inspection, control temperature and humidity air conditioning, put an end to the equipment running empty car, the phenomenon of eternal light, to create a green production environment.

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