

Study on Analysis of Domestic Furniture Types and Classification Methods

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Abstract: Furniture refers to the essential equipment for human beings to maintain normal life, engage in production practices, and carry out social activities. With the development of the social economy, furniture has also been constantly developing and innovating in the footsteps of the times. Nowadays, there are a wide variety of materials, complete varieties, and diverse uses. Furniture is an indispensable part of people's lives, an important foundation for establishing work and living spaces, and plays an important role in various aspects of daily life. Since the reform and opening up, the furniture industry has been developing for 40 years. With the development of the economy and the improvement of people's living standards, furniture enterprises have also injected more achievements into the design of product appearance, structure, and refined functions. Various types of furniture products have demonstrated an unprecedented level of specialization. Faced with such a diverse range of furniture, how users find entry points and products that meet their own needs has become an important factor. The classification of furniture products has always played an important role in the macro development and management of the national economy and industry, and is also beneficial for users to have an overall macro concept of the product system before choosing furniture products. This article is based on the summary of practical experience in various projects, focusing on the product characteristics and usage requirements of existing industries. It analyzes and classifies the main products according to different principles and methods, as well as the application of product classification in practice.

Keywords: Furniture, Furniture Classification Methods, Secondary Classification, Multi-Level Classification

1. Introduction

Furniture refers to the essential category of appliances and facilities for human beings to maintain normal life, engage in production practices, and carry out social activities. Furniture has also been constantly developing and innovating in the footsteps of the times, with a wide variety of categories, materials, and a wide range of uses. It is an important foundation for establishing a work and living space. Furniture is composed of four factors: material, structure, appearance, and function, among which function is the precursor and the driving force for the development of

furniture; Structure is the backbone and the foundation for achieving functionality. These four factors are interrelated and mutually constraining. Due to the fact that furniture is designed and manufactured to meet people's certain material needs and usage purposes, it also has factors in terms of material and appearance form [1-3].

The type, quantity, function, form, style, and production level of furniture, as well as the occupancy situation at that time, also reflect the social lifestyle, level of social material civilization, and historical and cultural characteristics of a country and region in a certain historical period. Furniture is a symbol of the level of social productivity development in a

certain country or region during a certain historical period, a microcosm of a certain way of life, and a manifestation of a certain cultural form. Therefore, furniture embodies rich and profound sociality [4].

Since the reform and opening up, the furniture industry has been developing for 40 years. With the development of the economy and the improvement of people's living standards, furniture enterprises have also injected more achievements into the design of product appearance, structure, and refined functions. Various types of furniture products have demonstrated an unprecedented level of specialization. Faced with such a diverse range of furniture, how users find entry points and products that meet their own needs has become an important factor. The classification of furniture products has always played an important role in the macro development and management of the national economy and industry, and is also beneficial for users to have an overall macro concept of the product system before choosing furniture products [5-7].

This article is based on the summary of practical experience in various projects, focusing on the product characteristics and usage requirements of existing industries. It analyzes and classifies the main products according to different principles and methods, as well as the application of product classification in practice.

2. The Necessity and Scientificity of Furniture Product Classification

The classification and compilation of goods is an important task in national economic management, which plays a very important role in the development and management of the national economy [8].

2.1. The Necessity of Furniture Product Classification

The significance of furniture product classification lies in the basic practical application level, which has the following functions: 1. It can provide reference for production enterprises to position their own products, provide goals for their own design direction, and use classification data to scientifically manage their products and optimize sales layout. 2. The majority of users provide more accurate positioning and characteristic information in product selection, making it easier for users to choose products more efficiently. 3. Provide data and management basis for various enterprises, including sales platforms such as the Internet and furniture stores. 4. Provide research materials on the level of industry development and product refinement for industry development research institutions, furniture product testing institutions, and the formulation of relevant national standards [9].

2.2. Scientific Classification of Furniture Products

The classification of furniture products needs to abandon the previous single classification method and use modern scientific methodology for guidance. From the perspective of the characteristics of furniture products themselves, on the

one hand, they should comply with the universality of traditional furniture products, such as material, structure, and other characteristics. On the other hand, we also need to consider the unique characteristics of furniture products, such as humanization, aesthetics, and so on. In terms of classification methods, it is also necessary to fully utilize data statistics methods and combine computer data functions to analyze and summarize the categories of furniture products.

3. Main Classification Methods for Furniture Classification

3.1. Primary Classification Standards and Methods for Furniture Products

There are many classification standards for furniture products. According to the main raw materials used, the structure of the product itself, the human-machine interaction of the product, the product style, the product's usage space and objects, the product style and installation trial, etc., the furniture products can be roughly classified into the following categories (Table 1) [10-12]:

Standard 1: Furniture products were classified by the raw materials used in furniture products: solid wood furniture, artificial board furniture, soft furniture, steel wood furniture, steel furniture, aluminum furniture, other metal furniture, bamboo rattan furniture, new material (plastic, fiberglass, PP) furniture, stone and ceramic furniture.

Standard 2: Furniture products were classified according to its human-machine interaction: tables, chairs, cabinets, sofas, beds, coffee tables, and other categories.

Standard 3: Furniture products were classified by usage space and object: home furniture, homestay furniture, office system furniture, hotel apartment furniture, education system furniture, library system furniture, financial system furniture, health care system furniture, preschool system furniture, legal system furniture, experimental system furniture, real estate system furniture, public area system furniture, exhibition system furniture.

Standard 4: Furniture products were classified according to their own structure: frame type, board type, board wood combination type, injection type, and inflatable type. Furniture products were classified according to the production process of furniture: standard, modular customization, and overall customization.

Standard 5: Furniture products were classified by style: European classical style, Nordic style, American style, traditional Chinese style, new Chinese style, and modern panel style.

Standard 6: Furniture products were classified by the installation form of furniture: movable furniture, fixed furniture.

Furniture products have different classification standards and focus on different application areas: Standard 1 and Standard 2 are applicable to industries and general furniture fields. Standard 3 is applicable to the classification of commercial furniture, Standard 4 is applicable to inspection

institutions and enterprise production fields, Standard 5 is applicable to areas such as home type or determined design style, and Standard 6 is applicable to the first level classification of large-scale engineering comprehensive construction fields. The different classification standards and methods used in the first level classification are relatively independent and mutually inclusive.

3.2. Secondary and Multi-Level Classification of Furniture Products

Based on the first level classification of furniture products according to different classification standards, a second level classification is required. The secondary classification of products can be carried out by applying the standards and methods of the primary classification. This type of recommendation can create more levels of classification.

4. Application of Furniture Classification

Furniture classification plays a very important role in the application of both suppliers and buyers. Scientific furniture classification can improve efficiency and reduce production and management costs for enterprise product positioning, overall refinement of production processes, and ERP software management processes [13]. Scientific furniture classification plays a role in reducing energy consumption, improving efficiency, and saving costs for buyers in the early research stage of procurement activities, selecting professional suppliers, and establishing the product architecture of e-commerce procurement platforms. Here are two simple examples to demonstrate how to classify furniture based on needs on both the enterprise and user sides:

Table 1. Main classification standards for furniture.

Classification Standard	Classification Principles	Main Classification	Application Area
Standard 1	According to the use of raw materials for furniture	Solid wood furniture, artificial board furniture, soft furniture, steel wood furniture, steel furniture, aluminum furniture, other metal furniture, bamboo and rattan furniture, new material (plastic, glass, PP) furniture, stone and ceramic furniture.	Industry and furniture general field
Standard 2	According to human-machine functions	Tables, chairs, cabinets, sofas, beds, coffee tables, and other categories.	Industry and furniture general field
Standard 3	According to usage space and objects	Home furniture, homestay furniture, office system furniture, hotel apartment furniture, education system furniture, collection system furniture, financial system furniture, health care system furniture, early childhood system furniture, judicial system furniture, experimental system furniture, real estate system furniture, public area system furniture, exhibition system furniture.	Classification of commercial furniture
Standard 4	According to the product's own structure or production process	Frame type, board type, board wood combination type, injection molding type, inflatable type, standard type, modular customization type, overall customization type.	Inspection institutions and enterprise production fields
Standard 5	According to the style of furniture	European classical style, Nordic style, American style, traditional Chinese style, new Chinese style, modern board style.	Suitable for fields such as home type or determining design style
Standard 6	According to installation form	Mobile furniture, fixed furniture.	First level classification of comprehensive construction fields in large-scale engineering

Table 2. Classification of Enterprise Furniture.

	Furniture Products
Primary classification	Household furniture Bedroom furniture Restaurant furniture Living room furniture
Secondary classification	Kitchen furniture Study furniture Bathroom furniture Office system furniture First level management office furniture Secondary management office furniture Third level management of office furniture Staff office furniture Reception and conference furniture Restaurant furniture Furniture for employee dormitories Display furniture

Table 3. Multi-level classification of household furniture.

	Household Furniture					
	Bedroom furniture	Restaurant furniture	Living room furniture	Kitchen furniture	Study furniture	Bathroom furniture
Three level classification	Tables, cabinets, chairs, sofas, beds	Tables, cabinets, chairs	Tables, cabinets, chairs, sofas			
Four level classification	For example: solid wood writing desk, leather bedside table, steel and wood coffee table, etc					
Five level classification	For example: solid wood writing desk (New Chinese style), board wood writing desk (Nordic style), etc					

Table 4. Multi-level classification of office system furniture.

	Office System Furniture							
	First level management office furniture	Secondary management office furniture	Third level management of office furniture	Staff office furniture	Reception and conference furniture	Restaurant furniture	Furniture for employee dormitories	Display furniture
Three level classification	Tables, cabinets, chairs, sofas	Tables, cabinets, chairs, sofas	Tables, cabinets, chairs, sofas	Tables, cabinets, chairs, sofas	Tables, cabinets, chairs, sofas	Tables, cabinets, chairs, sofas	Tables, cabinets, chairs, sofas, beds	Tables, cabinets, chairs, sofas
Four level classification	For example: artificial board platform, steel filing cabinet, steel and wood desk, etc							
Five level classification	For example: artificial board platform (government office style), steel and wood computer desk (minimalist style), etc							

4.1. Application of Furniture Classification in Enterprise System Construction (Enterprise Side)

Company A is a comprehensive furniture manufacturing and sales enterprise in a certain region, with a production history of 40 years. It produces a wide range of products, with some of its main customer groups coming from direct home users and some targeting corporate office users. With the development and refinement of the industry, facing more intense market competition, labor and management costs have significantly increased, and traditional "order based" production cannot meet the new market requirements. In this environment, in order to improve efficiency, enterprises have scientifically classified their products based on customer groups over the years [14].

Enterprises are divided into two categories based on their two major user groups, namely household furniture and office system furniture, according to the target audience of their furniture products (first level classification) (Table 2). In the home furniture sector, companies subdivide secondary classification standards and their main products based on the usage space and human-computer interaction principles of home users (Table 3). In the office furniture sector, companies have classified their office products into two levels and multiple levels based on the usage characteristics of office users and local user procurement policies (Table 4).

After completing the scientific classification of furniture, the enterprise has updated its ERP management system, refined and numbered products, introduced intelligent production lines, improved production processes and management processes, and developed product training manuals for unused marketing teams. This not only enables management and marketing personnel to quickly understand the company's products, but also enables them to use the help of marketing personnel, Accurately recommend products that meet the needs of target customers.

Guided by a scientific and refined product classification and supporting improvements to relevant processes, Company A has reduced costs by approximately 8% and increased production labor efficiency by 11%. On the basis of maintaining stable sales, it has significantly increased the company's profits.

4.2. Application of Furniture Classification in Furniture Centralized Procurement Activities (User Side)

On the user end, the main application areas of furniture classification are: 1. the demand for furniture products in large-scale comprehensive engineering projects; 2. Classification and channel procurement of e-commerce platforms. For furniture in large-scale comprehensive engineering projects, during the preliminary research process, it is necessary to position it based on its usage function. Taking a newly built school as an example, the school furniture is positioned as education system furniture. According to the lower classification of education system furniture, office series furniture (used for teaching, administrative and other office personnel), teaching furniture (used for indoor courses for teachers and students) Seven major areas include laboratory furniture (for teachers and students' experiments), apartment furniture (for teachers and students' rest), restaurant furniture (for teachers and students' dining), library furniture (for school libraries), and exhibition system furniture (for school history museums). On the basis of these seven major regions, each region will be further subdivided, and based on this, the entire school's furniture demand framework will be more clearly established, facilitating various purchasing activities in the later stage. For e-commerce platforms, they face a larger customer base and more complex demands. Both supply and demand sides position and screen products through online platforms, while the platform requires more levels of furniture product classification to facilitate internal channel procurement and customer screening. If users have an understanding of the classification of furniture products, they can use more precise keywords for searching (such as "office steel filing cabinets" and "home living room three person sofas"), and find their target product in the least amount of time [15].

5. Conclusion

Furniture is an indispensable product in daily life, and the classification of furniture products has always played an important role in the macro development and management of the national economy and industry. It is also beneficial for users to have an overall macro concept of the product system before choosing furniture products. Based on the summary of

practical experience in various projects, this article analyzes the product characteristics and usage requirements of existing industries according to different principles and methods, classifies the main products, and introduces the application of product classification in practice.

In summary, for different purchasing and selling entities, including industries, enterprises, and furniture users, understanding and scientifically categorizing the purchasing and selling relationships generated by these three can improve management level and reduce energy consumption internally. From the perspective of the transaction process, it can greatly improve communication efficiency and precise selection. At the same time, the scientific classification of furniture products also lays the foundation for the future development direction of cloud data and artificial intelligence in the furniture industry. Scientific and reasonable furniture classification should be actively promoted, applied, and developed in industries, enterprises, and users.

Author Contributions

The Manuscript was written through contributions of all authors. All authors have given approval to the final version of the manuscript. Gang Li and Menglei Xu contributed equally and should be considered as co-first authors.

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