

# Design of Knowledge Marketing Implementation Framework Based on Data Mining

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**Abstract:** With the advent of the era of knowledge economy, knowledge management plays an increasingly important role in enterprise management activities. As a new marketing concept derived from the development of knowledge economy, knowledge marketing has been paid full attention by academia and industry. In the knowledge-based economy society, knowledge will be regarded as one of the most important production resources to be managed and developed. Since computers have been widely used in the fields of life and production, people store and collect data through computers, and a large number of database technologies are used to realize data storage for management, office and research. Data mining technology can mine many types of knowledge, which can meet the needs of different customers and different levels of marketing objectives. For all kinds of knowledge, many corresponding mining technologies can be adopted. Based on the analysis of data mining technology and its driving force in marketing, this paper studies the basic knowledge that data mining technology can mine and the basic process of mining knowledge.

## 1. Introduction

With the advent of the era of knowledge economy, knowledge and information have gradually become the basic elements of production. In the knowledge economy society, knowledge will be regarded as one of the most important production resources to be managed and developed. Data mining is a process of extracting potentially useful information and knowledge from a large number of, incomplete, noisy, fuzzy and random data [1]. It includes a large number of database selection, detection, simulation, so as to discover unknown patterns and help people form understandable information [2]. The competitive advantage of a country or an enterprise comes from the effective development and management of knowledge resources. Due to the change of marketing background and the improvement of customers' consumption concept and taste, marketing will make corresponding adjustments, showing a new development trend [3]. As the most important strategic resource, knowledge resources are capitalized, which will be the internal driving force for the sustainable development of modern enterprises. Consumers are eager to get familiar with and master the performance, use method and maintenance knowledge of the purchased or intended goods through a quick and effective way [4]. The new and deep-seated demands of consumers due to the limitations of knowledge create a broad potential market for knowledge marketing [5]. It is a general trend for enterprises to implement knowledge management and marketing and enter the division system of knowledge economy.

Traditional marketing is the product of industrial society, which has experienced the development stages of production concept, product concept, marketing concept, green marketing concept and social marketing concept [6]. With the advent of the era of knowledge economy, the role of knowledge management in enterprise management activities is becoming more and more important. As a new marketing concept derived from the development of knowledge economy, knowledge marketing has been paid full attention by academic and industrial circles. The products produced in this environment have the characteristics of large knowledge content, rich information, multiple functions and complex use, while the majority of consumers do not have enough ability to identify

their own needs and master the relevant knowledge of commodities [7]. The application of data mining technology in knowledge marketing stems from the driving force generated by the change of marketing environment. Data mining technology can mine more types of knowledge, which can meet the needs of different customers and different levels of marketing objectives. For all kinds of knowledge, many corresponding mining technologies can be used [8]. As the most important strategic resource, knowledge resources are capitalized, which is the internal driving force for the sustainable development of modern enterprises. Based on the analysis of data mining technology and its driving force in marketing, this paper studies the marketing knowledge that data mining technology can mine and the basic process of mining knowledge.

## **2. Framework of knowledge marketing**

Enterprise knowledge is divided into two parts: tacit knowledge and explicit knowledge, in which tacit knowledge communicates among employees through the way of knowledge community within the enterprise to achieve knowledge sharing. Explicit knowledge is mainly transmitted through technical platforms, mainly internal and external networks of enterprises. Knowledge marketing takes popular science as the forerunner, educates consumers through advertising, pre-sales training and other means, and emphasizes the connection between producers and consumers in technology and knowledge, which is easy to form a wide range of market demand. Knowledge marketing not only brings considerable economic benefits to enterprises and the whole society, but also fundamentally improves the knowledge quality of the whole society, and its benefits are difficult to estimate. The guiding ideology of traditional industrial technological inventions is to use resources as much as possible in order to obtain the maximum profit, without considering environmental benefits and ecological benefits.

Knowledge-based economy, which integrates science and technology, comes into being in an era when many natural resources are almost exhausted and the environmental crisis is getting worse. Enterprise knowledge utilization refers to imparting product knowledge to the market and customers, publicizing the corporate image, enhancing the brand awareness, and improving customer satisfaction and loyalty through marketing based on the production of enterprise knowledge products and services. Knowledge marketing is the same as ordinary marketing, its main body is enterprises, and its object is various products and services provided by each enterprise [10]. Because the products and services provided by each enterprise are different, the objects of each enterprise are different. The purpose of implementing knowledge management in knowledge-based economy enterprises is to establish an enterprise income increasing network. Once these networks are built, enterprises will enter a virtuous circle of profits in a certain period of time, and the company's income, profits and shareholders' income will increase greatly [11]. The way to realize knowledge marketing is in the process of selling products, consulting services, adding knowledge value and increasing potential customers. The value of knowledge marketing is to stimulate consumers' desire and motivation to buy. In other words, it is to let more consumers buy the company's products, so as to realize the company's profit. An intelligent information retrieval platform supported by dynamic XML documents is proposed. The platform structure is shown in Figure 1.

Compared with general production management, knowledge management has great intellectual advantages. The premise of implementing knowledge management is that enterprises should have a large number of knowledgeable employees, and business decision-makers must have rich management experience. Relevance knowledge is called "market portfolio Rule", which mainly analyzes the relationship between potential marketing items and the relationship between different products purchased by consumers. This kind of knowledge is of great significance in formulating the promotion strategy of products that are interdependent when consumers buy [12]. The data mining process in knowledge management analysis is shown in Figure 2.

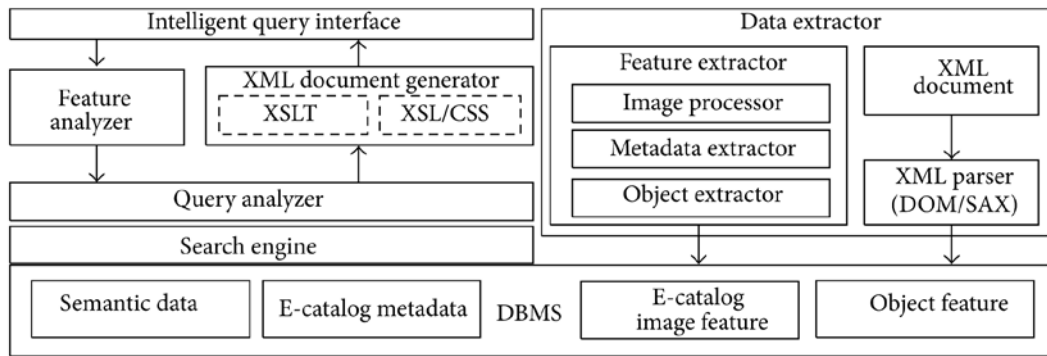


Figure 1 Intelligent Web digital image information retrieval platform

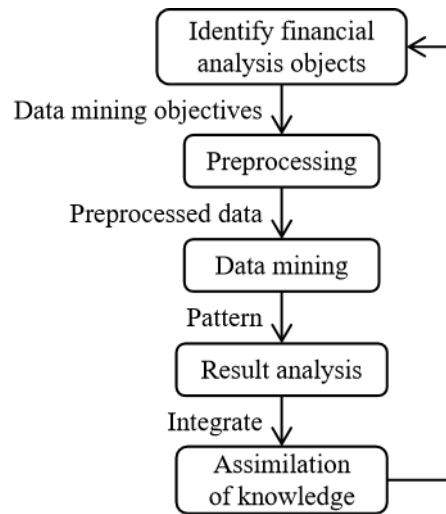


Figure 2 Data mining process in knowledge management analysis and management

Knowledge management refers to the establishment of an open and trusted internal environment by influencing employees' working attitudes and behaviors, so that employees can voluntarily cooperate, share and develop knowledge resources to complete more difficult tasks, so as to achieve higher goals and produce better benefits. Knowledge marketing is a kind of promotion behavior that merchants spread the scientific and technological knowledge contained in new products and its influence on people's lives to consumers in a simple way, so that consumers not only know why, but also know why, and then germinate the demand for new products. Enterprise knowledge publishing mainly refers to the continuous push of organizational knowledge or personal knowledge within and between organizations to improve the quality of employees, especially by shaping the knowledge of marketers to improve marketing performance and finally realize the value of knowledge. In this process, the interactive coupling among knowledge management, knowledge production and knowledge sales is the key to embedding knowledge into products and services, which makes products or services add value because of their knowledge content.

### 3. Realization path of knowledge marketing framework

#### 3.1 Knowledge integration and docking

In the era of knowledge economy, everyone can't live without knowledge. Knowledge-based enterprises tend to have broad vision, and they rely on market orientation while changing their marketing concepts. Due to the inertia development of enterprise organization, the related elements of marketing will show certain self-similarity characteristics, namely fractal. For example, products always show periodic consumption trend and fashion, decrease and increase of inventory, classical and trendy design, etc. Knowledge marketing not only pays attention to the distribution of materials, but also emphasizes the distribution of knowledge, re-establishing new product concepts, market

standards and market order. Enterprises, especially high-tech enterprises, must set out to establish a complete set of scientific research, production and marketing systems that adapt to the times. Enterprise marketing organizations should effectively integrate and connect customer knowledge, competition knowledge, market knowledge and marketing knowledge, organically integrate different knowledge from different subjects in different ways, and finally form organizational knowledge that can provide nutrition for marketing organizations, which needs to follow the fractal law of marketing elements [14]. To cultivate a new marketing concept, we need to start from the top of the enterprise, and then instill this concept in every employee. In a subtle way, the whole company will have this new marketing concept. The fractal law of marketing elements requires enterprises to grasp the law of knowledge development in time and predict future related knowledge, so as to create favorable conditions for docking different knowledge of all parties, integrating different forms of knowledge and digesting and absorbing knowledge. Only when consumers know a certain consumption pattern and evaluate it well can they generate demand.

### 3.2 Knowledge utilization and distribution

The ultimate goal of enterprises is to realize profits, that is, knowledge must be embodied in the form of value to meet the requirements of enterprises. This requires that the knowledge of products and services injected in the stage of knowledge production must be utilized and released to customers, so that customers can understand and accept the value of knowledge content in products, thus bringing economic benefits to enterprises. In this changeable market, it is necessary to induce customers to consume by spreading knowledge and imparting skills, so as to occupy the market. This requires enterprises to have more knowledge-based products, so that consumers can learn some knowledge in the process of buying and profiting. Enterprises need to consider the configuration of high-end product lines, mid-end product lines and low-end product lines when determining their own product lines, and tap the technological marketing points of products.

Enterprises can choose to add high-tech content to high-end products, so as to enhance the advanced and high-end nature of products, and also to grab more market profits for enterprises. The theoretical model of customer behavior intention is shown in Figure 3.

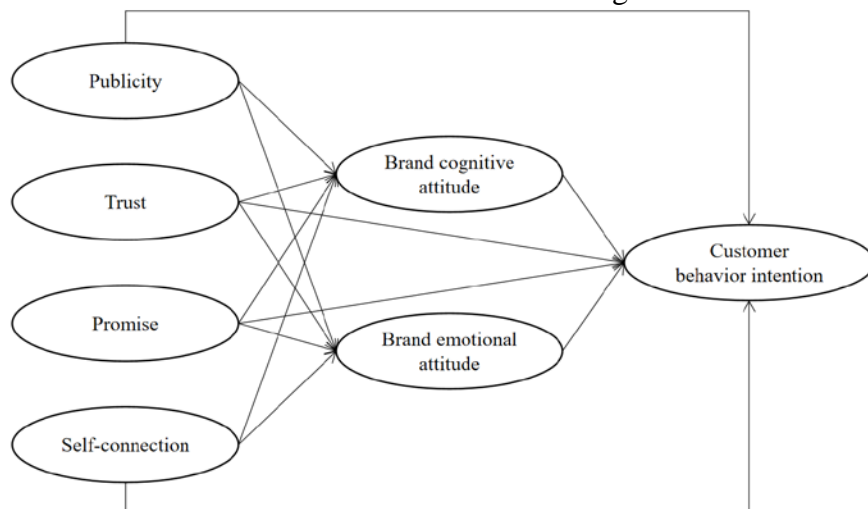


Figure 3 Theoretical model of customer behavior intention

The utilization and release of knowledge is the link of knowledge transforming from knowledge value to economic value, and it is also the fundamental goal of marketing team. The realization of knowledge value is also the power source and foundation of knowledge production activities. Therefore, enterprises should fully grasp the ways and means of knowledge utilization and distribution, and improve the efficiency of knowledge sales. In the knowledge marketing of products, it is best for enterprises to make marketing plans for the whole enterprise's products in the new product development stage [15]. In the era of knowledge economy, the first requirement of knowledge marketing is that marketers can adapt to the ever-changing society. After understanding

the development trend of the market, it is necessary for enterprises to have a certain degree of understanding of marketing concepts and marketing strategies brought about by technological innovation. Enterprises should strengthen the investigation of customer psychology, impart product knowledge and publicize corporate image from the perspective of customer demand, and strengthen the summary of marketing experience to promote the metabolism of marketing knowledge and improve marketing philosophy.

#### **4. Conclusions**

Nowadays, with the development of Internet, our society has entered the knowledge society. Learning is no longer just a matter of school education, but a task of the whole society. The expansion of information is unimaginable, so enterprises can only develop new marketing methods at this time. Knowledge marketing is more of a marketing concept, providing guidance for marketing activities. How to realize knowledge marketing and what changes should be made in the traditional marketing organization and environment, which are the key issues to be discussed. Enterprises should strengthen the investigation of customer psychology, impart product knowledge and publicize corporate image from the perspective of customer demand, and strengthen the summary of marketing experience to promote the metabolism of marketing knowledge and improve marketing philosophy. The fractal law of marketing elements requires enterprises to grasp the law of knowledge development in time and predict future related knowledge, so as to create favorable conditions for docking different knowledge of all parties, integrating different forms of knowledge and digesting and absorbing knowledge. Only when knowledge is market-oriented, can knowledge be economically realized. As a new form of marketing in the era of knowledge economy, knowledge marketing will have unlimited market vitality.

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