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Construction and Application of Mental Model of Career Decision Making Based on Artificial Intelligence

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Abstract: In the era of new technology, career assessment services are faced with the challenge of diversified and personalized needs of customers, which requires a new theoretical perspective to respond [1]. Based on DeepSeek artificial intelligence technology driven career assessment as the background, this paper discusses the construction method and significance of career assessment enterprise customer mental model. Starting from the theoretical basis of mental model, this paper analyzes the cognitive, behavioral and emotional components of customer mental model and its role in career assessment service, and expounds the theoretical contribution of DeepSeek and other artificial intelligence technologies to the construction of mental model. Research shows that big data analysis based on artificial intelligence can describe the implicit psychological model of customers, enrich the theoretical tools for career decision support, and help realize the accuracy and individuation of career assessment services [2]. This study provides new ideas for the transformation of career assessment industry, reveals the theoretical significance of integrating customer mental model into career planning service to improve decision support effect, and looks forward to the future development direction of career assessment service driven by artificial intelligence.

Keywords: DeepSeek; Career assessment; Customer mental model; Artificial intelligence; Career decision support

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1. Introduction

With the rapid development of society, the importance of career planning has become increasingly prominent. Studies have pointed out that career planning theory should be improved from new perspectives such as career situation practice to meet the needs of personalized career development. At the same time, the application of artificial intelligence and big data technology is also profoundly changing the field of vocational assessment, bringing new research paradigms and possibilities for psychological assessment. In recent years, China has launched the first large model of youth career planning "career AI", which has significantly promoted the

innovation of assessment services [3]. At the international level, in the face of the complexity of career decision making and the uncertainty of the job market, the academic community has begun to advocate an AI-driven decision support system [4] and actively explore the transformation path of AI-enabled career assessment services [5].

In view of this, this paper focuses on the DeepSeek driven career assessment scenario, discusses the core elements of customer mental model, its value in assessment services, the role of artificial intelligence in promoting model construction, and the theoretical significance of customer mental model in career decision support, and finally puts forward the prospect and enlightenment of industry transformation and development.

2. Theoretical basis and constituent elements of customer mental model

Mental model, an important concept in psychology and cognitive science, refers to an individual's internal cognitive representation of the objective world and how it works [6]. This theory was first proposed by Craik and has attracted wide attention since it was systematized by Johnson-Laird. Mental model is a structured cognitive system gradually formed during the interaction between an individual and the environment. It can help an individual understand the outside world and reason. At the same time, it is constantly updated and revised according to experience, thus affecting cognition and behavior [7]. Specifically, the customer mental model can be regarded as the cognitive blueprint of the professional world and their own career in the customer's mind.

The customer mental model mainly covers three dimensions: cognition, emotion and behavior, which is similar to the ABC model of attitude. Among them, the cognitive component includes the understanding and belief of career-related information, the emotional component involves the emotional experience and value preference in career selection, and the behavioral component is represented by career decision making and action tendency [8]. Research shows that these three dimensions interact and are inseparable: cognition is the foundation of emotion and behavior, and emotion influences information processing and drives behavior. Therefore, the customer mental model is a comprehensive psychological system composed of cognition (such as professional cognition, self-cognition), emotion (such as interests, values) and behavioral tendencies (such as decision-making style). However, human mental model also has limitations such as incompleteness and instability, which may lead to cognitive bias, so it needs scientific correction and improvement in the construction process [9].

3. The contribution of artificial intelligence (DeepSeek) in the construction of mental models

3.1. Limitations and challenges of traditional career assessment

In recent years, the development of cloud computing and big data technology has provided the possibility to solve the above problems. Studies have shown that cloud-based online assessment platforms can collect and process assessment data with higher efficiency, and the results are highly consistent with traditional paper-and-pencil assessment [10]. A comparative study by Jiang Pingping et al. (2021) found that cloud computing psychological assessment method not only has the advantages of high efficiency and low cost, but also its assessment results are basically consistent with traditional methods, which verifies the reliability and validity of the application of new technologies [11]. This shows that the introduction of information technology can greatly improve the convenience and coverage of assessment services without reducing the quality of assessment, and create conditions for the construction of real-time updated customer mental models.

3.2. DeepSeek: AI-driven customer mental model construction

DeepSeek, as an artificial intelligence technology that combines deep learning and big data analysis, can "deeply explore" customer psychological characteristics from massive and multi-source data, providing strong support for the construction of mental models. Compared with traditional methods that rely on a limited number of questionnaire items, DeepSeek can draw a more three-dimensional psychological portrait of customers by combining information from multiple aspects such as assessment questionnaires, career histories, behavioral measurements and online behavioral data.

In this process, artificial intelligence plays a theoretical contribution that is difficult to achieve with traditional methods. First, AI improves the comprehensiveness and sophistication of mental model construction. In the past, it was difficult for consultants to handle a large number of heterogeneous information sources at the same time, but DeepSeek can analyze the cognitive, emotional and behavioral data of customers in parallel in the background to form an overall portrait [12]. According to the study of Jiang Liming et al. (2022), researchers have begun to explore data-driven psychological assessment based on online behavioral data and smart device data, in order to obtain higher prediction accuracy. This means that artificial intelligence can make up for the lack of a single dimension of traditional assessment information and correlate different aspects of customer psychological characteristics to model. Second, AI empowers mental models to evolve dynamically. By continuously tracking data on customers' interactions with their professional environment, DeepSeek allows the mental model to be updated over time to reflect changing trends in customers' cognition and emotions. This theory makes the career guidance from a one-time evaluation to continuous companionship, so that the model is closer to the current psychological state of decision-making. Third, AI enables the discovery of complex mental patterns. Deep learning is able to extract the underlying factors from complex data patterns, such as differentiating different types of occupational interest combinations or value combinations through clustering algorithms, thus enriching the theoretical understanding of the types of mental models of customer groups. As Suomala and Kauttonen (2022) point out, combining big data with machine learning can yield insights from complex human behavior data that have been difficult to obtain in the past [13]. This provides a new perspective for the theoretical development of occupational psychology: Artificial intelligence can help verify or discover new rules about career decision-making, such as cognitive biases that are common when a certain type of personality client transitions in the workplace, thereby feeding career decision-making theory.

It is worth mentioning that DeepSeek and other AI technologies, while improving model accuracy, have also aroused concerns about algorithm bias, privacy and ethics. How to ensure the fairness and transparency of AI models is a problem that needs careful consideration in the construction of mental models. But overall, AI-enabled customer mental models provide a new tool for career assessment services, greatly improving the accuracy of career decision support. For example, an AI-based career planning intelligent system has been developed, which can provide personalized career path advice according to students' characteristics, significantly improving the effectiveness of career guidance and the scientificity of decision making [14]. Although algorithms and privacy issues need to be further managed, this just shows the important potential of artificial intelligence in the field of career guidance.

3. Theoretical significance of mental model construction: career decision support and service precision

The integration of customer mental model into career decision support system has not only practical value, but

also important academic significance. First, traditional career decision models often assume that individuals rationally weigh career options, while clients' intrinsic cognitive and emotional preferences actually profoundly influence the decision-making process. By building a client mental model, consultants can gain a deeper understanding of an individual's internal logic and provide more precise decision support.

Secondly, customer mental model provides scientific basis for the accuracy of assessment service. By accurately grasping the cognitive needs, emotional demands and behavioral tendencies of customers, assessment agencies can realize personalized services to more effectively solve the specific problems of customers in career decision-making.

Thirdly, the construction of client mental model also helps to test and develop occupational psychology theory, especially to verify the applicability of occupational theory in practice. In addition, this focus on the client's mind is in line with the trend of career development theory to shift from the traditional Matching paradigm to the Life-Design paradigm, that is, to pay more attention to the individual's subjective world and meaning construction. With the help of AI technology to build customer mental models, we can design career paths from the perspective of customers and improve the internal consistency and sustainability of career planning. Some studies have pointed out that artificial intelligence is promoting the transformation of career development mode from static to personalized dynamic path [15]. Therefore, the introduction of client mental model reflects the integration and innovation of career counseling theory and technology, and has significant academic and practical value.

4. Conclusion and prospect

This paper focuses on the DeepSeek driven career assessment enterprise customer mental model, and makes it clear that customer mental model is composed of three dimensions: cognition, emotion and behavior, and is an important influencing factor for career decision. Research shows that DeepSeek and other artificial intelligence technologies can efficiently extract the internal psychological characteristics of customers, achieve accurate and personalized support for career decisions, and enrich the career guidance theory.

In the future, the career assessment industry can deepen its development in the following aspects: First, strengthen the integration of AI and manual consultation, and realize the combination of intelligence and humanistic care; Second, improve data ethics and privacy protection to enhance customer trust; The third is to expand the application scenarios of customer mental model and support the development of enterprise talents; Fourth, strengthen interdisciplinary cooperation and constantly promote collaborative innovation between theory and practice.

In short, DeepSeek driven customer mental model building will promote career assessment services to be more intelligent, people-oriented and accurate, helping individuals and enterprises grow together.

Disclosure statement

The author declares no conflict of interest.

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